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2019/2020 University of the Pacific Stockton General Catalog

University of the Pacific

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UNIVERSITY OF THE
PACIFIC

Stockton General Catalog
2019-2020

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STOCKTON GENERAL CATALOG 2019-2020

Academic Divisions of the University

Arthur A. Dugoni School of Dentistry

College of the Pacific (Arts and Sciences)

Conservatory of Music

Eberhardt School of Business

Gladys L. Benerd School of Education

Graduate School

McGeorge School of Law

School of Engineering and Computer Science

School of International Studies

Thomas J. Long School of Pharmacy and Health Sciences

University College

Accreditation

The University of the Pacific is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC), located at 985 Atlantic Ave., Suite 100, Alameda, CA 94501; 510-748-9001.

University Campuses

Procedures, rules, regulations, services, tuition, etc., vary on the three campuses of University of the Pacific. This catalog states those for the schools and colleges listed in this catalog. The University reserves the right to change fees, modify its services or change its programs at any time and without prior notice being given.

Statement of Non-discrimination

Pacific does not discriminate on the basis of race, color, religion, national origin, ancestry, age, genetic information, sex/gender, marital status, veteran status, sexual orientation, medical condition, pregnancy, gender identity, gender expression or mental or physical disability.

In accordance with the above University policy and in compliance with all applicable laws, all educational services will be provided and all employment decisions (including recruitment, training, compensation, benefits, employee relations, promotions, terminations) will be made without regard to the individual's status protected by law. To the extent provided by law, the University will reasonably accommodate qualified individuals with disabilities which meet the legal standards for documentation, whenever the individual is otherwise qualified to safely perform all essential functions of the position.

This notice is given pursuant to the requirements of Title IX of the Educational Amendments of 1972, Title VII of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973 and amendments and other laws, orders and regulations governing discrimination. The University of the Pacific has designated the Director of Human Resources to coordinate the University's efforts to comply with laws, orders and regulations governing discrimination. Any person having a complaint should contact in writing:

The Director of Human Resources

University of the Pacific
3601 Pacific Avenue
Stockton, CA 95211

Because the catalog is compiled well in advance of the academic year it covers, changes in programs, policies, and the academic calendar may well occur.

All catalog information is subject to change without notice or obligation.

About University of the Pacific

Preparing our students: success after graduation

University of the Pacific provides a superior, student-centered learning experience that integrates liberal arts and professional education to prepare students for lasting achievement and responsible leadership in their careers and communities.

At six months after graduation, more than 90 percent of Class of 2018 survey respondents reported being employed or accepted to a graduate or professional school, completing a post-graduate internship or fellowship, or serving in a military or community service experience. In 2018, Pacific alumni salaries ranked No. 3 in California compared to similar institutions, according to the White House College Scorecard. The Wall Street Journal and Times Higher Education ranked Pacific No. 18 in the West for 2019 and the 2019 U.S. News & World Report Best Colleges rankings place Pacific at No. 13 among private and public colleges and universities in California.

Looking back: our unique history

University of the Pacific was established in 1851 as California's first chartered institution of higher learning. It was founded by pioneering Methodist ministers remains the only Methodist-related university in California. Originally located in Santa Clara, the university later moved to San Jose and, in 1924, moved to Stockton, making it the first private four-year university in the Central Valley.

An innovator and leader in higher education, Pacific provided California with its first chartered medical school in 1858, its first coeducational campus in 1871, and its first conservatory of music in 1878. It was the nation's first to offer an undergraduate teacher corps program, the first to send an entire class to an overseas campus, the first to establish a Spanish-speaking inter-American college, and the first to offer a four-year graduation guarantee.

Pacific has enjoyed extraordinary stability in administration. Pamela A. Eibeck began her service in 2009 as the sixth president since the university's move to Stockton in 1924 and the 24th since its founding in 1851.

Under the leadership of President Eibeck, Pacific continues to expand its academic offerings in Sacramento and San Francisco as guided by our strategic plan. The plan capitalizes on Pacific's highly regarded academic programs, formative student-teacher relationships and multiple locations to position Pacific as the best teaching-focused university in California.

Looking forward: innovating with the times

Today, University of the Pacific is a highly ranked national university that remains deeply committed to its personal, student-centered approach. Campuses in Stockton, Sacramento and San Francisco strategically position Pacific in three of California's, and the nation's, most important and dynamic markets. The university earns widespread recognition for its deep commitment to teaching and learning, its history of innovation and the accomplishments of its alumni.

Pacific has added more than a dozen new academic programs across its three campuses over the last three years. Once the exclusive homes to Pacific's law and dental schools, the Sacramento and San Francisco campuses now reach new students with graduate programs in data science, physician assistant studies, audiology, music therapy, education, public policy, and public administration. These programs help address the region's critical need for leaders in technology, health care, education, government and nonprofit sectors.

In fall 2017, the Stockton Campus launched Media X, an undergraduate program that integrates the analysis, performance, production, marketing, and management of traditional, digital, and emerging media. In 2018, Pacific began a renovation to transform the university library into a modern, technologically equipped, learner-centered resource for 21st-century teaching and learning.

Beyond academics: Pacific's community impact

In addition to academics, Pacific is making a positive community impact across the Northern California region through tens of thousands of hours of public outreach, innovative new programs and the efforts of students, faculty and staff across the university.

For example, the Thomas J. Long School of Pharmacy and Health Sciences has provided more than a decade of outreach events through its Mobile Medicare Clinics that have saved more than 6,600 Medicare recipients nearly \$7 million in prescription drug costs. Since 2010, more than 3,000 of the most vulnerable and underserved in our communities have received health care services through our Virtual Dental Home program, a revolutionary new care delivery system developed by Pacific's Center for Special Care. And McGeorge's legal clinics on important topics, such as immigration law, benefit the community while preparing students through meaningful experiential learning.

Our schools, majors and programs

Pacific's eleven schools and college on its three campuses offer students their choice of 80-plus programs of study, including 25 graduate programs and 10 accelerated program options. For example, students can go directly into certain professional programs, including pharmacy, dentistry and law, while accelerated programs in business, engineering and education make it possible to earn both undergraduate and graduate degrees in five years.

College of the Pacific (1851)

The College of the Pacific is the oldest and largest academic unit, encompassing 18 departments and 30 majors in the natural sciences, social sciences, humanities, and the fine and performing arts. Based upon its foundation of a rigorous liberal arts curriculum, the College champions experiential learning through undergraduate research and creative activity, fieldwork, internships, and study abroad. The College prepares graduating students to command a broad perspective in their professional careers, ready to assume the responsibilities of leadership.

Conservatory of Music (1878)

Pacific's Conservatory of Music has been delivering an outstanding music education for more than 140 years. Degree programs are offered in performance, composition, jazz, education, music industry studies, music therapy and history. Conservatory faculty artists/scholars provide a rigorous and supportive learning environment. Students have access to a recording studio, technology and composition labs. Seminars and master classes with accomplished alumni and visiting artists along with numerous performance and other experiential opportunities help prepare graduates for professions in music.

Arthur A. Dugoni School of Dentistry (1896)

The nationally renowned Arthur A. Dugoni School of Dentistry, named in honor of its dean of 28 years, is committed to providing a world-class dental education for its students and comprehensive, affordable patient care for adults and children. The Dugoni School is highly regarded for its humanistic model of education that respects the dignity of each individual and for innovation in dental curriculum, including comprehensive patient care and competency-based education. Its programs include an accelerated year-round pre-doctoral DDS program that enables students to complete four academic years of instruction in three calendar years and a high-demand Master of Physician Assistant Studies program.

McGeorge School of Law (1924)

McGeorge educates lawyers for large and small law firms, government agencies and corporate legal departments around the world. McGeorge's success is built on its distinguished faculty, high-quality students, committed and involved alumni, and a beautiful, spacious campus with state-of-the-art classrooms and student facilities. McGeorge is a dynamic law school that is changing and growing to meet the challenges of the global economy and to educate the lawyers who will be tomorrow's leaders.

Gladys L. Benerd School of Education (1924)

The Benerd School of Education, named in honor of an alumna's endowed gift, has educated future professionals in learning, education, and leadership roles for more than 90 years. Benerd School faculty prepare students for service in public and private education and learning-related professions in other sectors; provide programs for current educational professionals to update and upgrade their understanding, knowledge and skills; and promote and engage in research leading to better education and learning.

Thomas J. Long School of Pharmacy and Health Sciences (1955)

The Thomas J. Long School of Pharmacy and Health Sciences is named in honor of the financial commitment of the Thomas J. Long Foundation and the Long family. The School offers a three-year accelerated pharmacy program, provides speech-language pathology students early clinical experience, prepares highly-trained audiologists and produces practice-ready physical therapists. The School is committed to creating a leadership focused, success-centered environment for its diverse student body. Students are empowered to succeed through meaningful, experiential learning in state-of-the-art laboratories. The School's programs have received continuous national accreditation.

Graduate School (1956)

The Graduate School collaborates with University of the Pacific's academic schools and colleges to offer more than 30 master's, doctoral, and graduate certificate programs, serving graduate students on Pacific's Stockton, San Francisco and Sacramento campuses. The school serves as the central, student-centered resource for graduate admission, education and services at the University and works to promote and support the success and development of Pacific's diverse graduate population.

School of Engineering and Computer Science (1957)

The School of Engineering and Computer Science empowers its students to solve problems by developing their own projects and working alongside professors on contemporary research. The School's faculty take each student's education personally and are committed to mentoring them both inside and outside of the classroom. With its distinguished cooperative education program, students also get to "learn and earn" through a paid professional internship, built right into the curriculum, with one of the School's 200-plus industry partners worldwide.

University College (1972)

University College was founded to meet the needs of a growing number of adult learners returning to higher education to finish their bachelor's degrees or seeking continuing education to advance their careers. Today the college remains committed to serving non-traditional students and working adults by offering degree completion programs along with a full suite of continuing education and certificate programs for working adults, corporate training and lifelong learners.

Eberhardt School of Business (1977)

The Eberhardt School of Business was renamed in 1995 in recognition of the Eberhardt family's endowed gifts. Fully accredited by the Association to Advance Collegiate Schools of Business, the School boasts a \$3.7 million Eberhardt Student Investment Fund, a dedicated Career Management Center, top-rated faculty, state-of-the-art classroom technology, and exceptional experiential learning opportunities. The School offers valuable leadership development and business resources through its centers and institutes, including the Center for Business and Policy Research, the Center for Entrepreneurship, the Westgate Center for Leadership and Management Development and the Institute for Family Business.

School of International Studies (1987)

A school within the College of the Pacific, the School of International Studies is devoted to the interdisciplinary study of international affairs. International, interdisciplinary and intercultural immersion, acquisition of at least one second language and at least a semester of study abroad prepare students to succeed in a variety of professions in industry, government, not-for-profit organizations and educational institutions. The School's programs help students develop strong analytical reasoning ability and written and oral communication skills while building intercultural competence and personal confidence. Its students are frequent recipients of prestigious fellowships.

GENERAL INFORMATION

Introduction

The University of the Pacific is committed to educating students by offering baccalaureate and post-baccalaureate degrees in the liberal arts and sciences and in professional education. Through studies devoted to comprehensive learning, specialized study, scholarly and creative activity and lifelong educational development, the University strives to provide a total educational environment for students – one that encourages maximum academic, personal and social development in an intellectual community of students, faculty and staff.

An undergraduate's formal education at Pacific consists of three parts:

1. The major program or area of specialization,
2. The General Education Program, which consists of the Pacific Seminars and the Breadth Program, and
3. Elective courses through which a student may pursue a variety of individual interests.

The departmental majors and professional degree programs are designed to give students either extended experience in an academic discipline or preparation for specific careers. The General Education Program is designed to provide undergraduate students with common intellectual experiences and breadth of knowledge, regardless of their areas of specialization. These goals are engendered through exposure to different ways of organizing knowledge and the development of competencies such as writing, critical and quantitative reasoning, retrieval of information, oral communication, understanding diversity, and working in groups. The University assumes its graduates will move into a changing world that will require of them the capacity to add to and to adapt their existing knowledge and professional skills. The General Education Program is a major factor in providing Pacific's students with the basis for lifelong learning. The diversity of educational programs and the organizational structure of the University allow students a broad choice in the selection of elective courses beyond those required for their major programs and for general education. Students are encouraged to participate in service learning and in work-based learning such as internships.

The University's campus in Stockton combines many of the advantages of a larger university with those of a small liberal arts college. A variety of programs in the arts and sciences, plus a number of professional schools, provide students with a wide range of choices in selecting their majors and in pursuing other educational interests. Active graduate programs in a variety of disciplines contribute an additional dimension of academic richness for the undergraduate student.

Although about 85% of Pacific's undergraduate students are from California, the Stockton campus student body of approximately 5,000 is large enough to include a cosmopolitan mixture of students from throughout the United States and from many foreign countries. At the same time, the relatively small size of the student body and the fact that nearly 47% of undergraduate students live on campus creates the atmosphere of a small residential campus in which most students quickly begin to feel at home. Small classes, a faculty deeply committed to undergraduate teaching, and a wide variety of extracurricular organizations and activities further aid students in becoming an integral part of the University community both academically and socially.

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All students are urged to read these general regulations carefully. Failure to be familiar with this section does not excuse a student from the obligation to comply with all the described regulations.

Although every effort has been made to ensure the accuracy of this catalog, students are advised that the information contained in it is subject to change. They should therefore consult the Registration

Information section of the Office of the Registrar web page for any term to relate these regulations to calendar dates. The University reserves the right to revise its regulations and programs in accord with sound academic standards and requirements.

University of the Pacific's Four-Year Guarantee

The purpose of the Four-Year Graduation Guarantee ("Guarantee") is to facilitate a student's goal to graduate in four years with a Bachelor's degree. To be eligible for the Guarantee, a student must satisfy each of the following conditions:

1. Declare and be admitted to a major by the beginning of the sophomore year by filing a Change of Program form. You may change majors if, at the time you make a change, you can still meet the requirements of the new major and graduate within four calendar years.
2. Remain in good academic standing (2.00 GPA - major and institutional) at the University.
3. Complete 32 semester hours of units each year for four years as required by the college and major, and meet all degree progress checkpoints.
4. Meet with your faculty advisor prior to registration each term to review your course plan and monitor progress.
5. Register for courses within **two days** of the assigned early registration appointment. Enroll in available courses needed for the program of study; accept any available section that can be accommodated in your course schedule. Sole exceptions: Students who are on Study Abroad or off campus participating in a full-time co-op may require a few additional days to register.
6. Make timely annual application for all necessary financial assistance, to avoid registration problems.
7. Apply for graduation by the stated deadline published in the academic and/or term calendars.
8. Monitor your own progress toward degree using the electronic degree check audit system ([DegreeWorks](#)) and [ROAR](#) (Roam On Line Articulation Reports) regarding transfer work to help you stay on track.
9. Notify faculty advisor if unable to register for a required course needed in the major or for graduation.

•**Special exclusions:** Five year programs and students following individualized learning programs.

If the student satisfies all of the foregoing conditions, but is unable to graduate due to unavailability of a course, the University will offer one of the following remedies:

1. Enable the student to graduate in four years by substituting a different course or an independent study assignment, as determined by the department and the college offering the student's major.
2. Allow the unavailability of the course to delay the student from graduating in four years, in which case the University will waive Pacific tuition and mandatory fees in order for the student to graduate within the next academic year.

The University may choose, in its sole discretion, which of the two foregoing remedies it will offer the student under this Guarantee, and the remedy chosen by the University will be the student's sole remedy under this Guarantee. The University is under no obligation to provide one of the foregoing remedies unless the student submits a written request for an

accommodation to the Provost prior to beginning of classes in the last term of the student's four year plan.

Academic Residence Requirement

The minimum residence requirement for a bachelor's degree program requires 32 out of the last 40 units to be earned in residence at University of the Pacific. This means once a student has reached 40 units less than what is required for his/her degree only 8 more units may be accepted from a four year accredited institution. Additional community college or four year institution courses satisfy content requirements only and do not apply to the minimum units required for the degree. Example: If 124 units are required for the degree once a student has reached 84 units, only 8 more units can transfer in (from a four year accredited institution). If 128 units are required for the degree once a student has reached 88 units, only 8 more units can transfer in.

Normally these 32 units must be taken on the Stockton campus, but study in Pacific-affiliated programs elsewhere in the United States or abroad may count toward the residency requirement if the student has taken at least 32 units on the Stockton campus at the time of graduation.

The school or college from which the student is to graduate may stipulate that the units in residence must include certain specific requirements in the major program and/or a certain minimum of units within the school or department of the major.

Academic Standing

At the end of each semester, an undergraduate or professional pharmacy student's academic standing is designated as one of the following: good standing, good standing with warning, probation, subject to disqualification (temporary status) or disqualification. The criteria for these academic standings are based upon a combination of the cumulative Pacific GPA and the term GPA and vary according to a student's classification. Unless admitted on probation, a student is in good standing during the first semester of attendance. Students who are subject to disqualification are reviewed by an appropriate committee and are either disqualified from further enrollment at the University or are allowed to continue for the next semester on probation. The criteria for the different academic standings are outlined below:

Good Standing:

- term GPA of 2.00 or higher and a cumulative Pacific GPA of 2.00 or higher

Good Standing with Warning:

- term GPA below 2.00 and a cumulative Pacific GPA of 2.00 or higher.

Probation:

If prior semester is 'Good Standing':

- Freshman-Junior: term GPA is below 2.00 and cumulative Pacific GPA below 2.00

If prior semester is 'Good Standing with Warning' or 'Probation':

- Freshman: term GPA is below 2.00 and cumulative Pacific GPA between 1.50 and 1.99
- Sophomores: term GPA below 2.00 and cumulative Pacific GPA between 1.80 and 1.99
- Juniors: term GPA below 2.00 and cumulative Pacific GPA between 1.95 and 1.99

- All undergraduates: term GPA of 2.00 or higher and cumulative Pacific GPA below 2.00

Subject to Disqualification (temporary status):

If prior semester is 'Good Standing':

- Seniors: term GPA below 2.00 and cumulative Pacific GPA below 2.00

If prior semester is 'Good Standing with Warning' or 'Probation':

- Freshmen: term GPA below 2.00 and cumulative Pacific GPA below 1.50
- Sophomores: term GPA below 2.00 and cumulative Pacific GPA below 1.80
- Juniors: term GPA below 2.00 and cumulative Pacific GPA below 1.95
- Seniors: term GPA below 2.00 and cumulative Pacific GPA below 2.00

Disqualified:

Each school determines whether a student subject to disqualification is disqualified. If not disqualified, a student subject to disqualification is placed on probation for the following term. If disqualified, a student is not allowed to register for further study at the University during a regular term while disqualified, but may attend the "open enrollment" summer sessions.

A student who has been disqualified may appeal immediately for reconsideration and possible reinstatement on probation within the same school or college or in another school or college of the University. A disqualified student who has been out of the University for one semester or more, excluding summer terms, may apply for readmission to the University through the Office of Admission. If readmitted, such a student enters on probation and needs to make up the earlier deficiency in order to attain good academic standing.

Acquisition of Graduate Credit as an Undergraduate

Undergraduate students meeting all of the following requirements may petition the Dean of the Graduate School by submitting the *Application to Receive Graduate Credit as an Undergraduate Student* to open a graduate transcript (i.e., receive credit in graduate-level courses toward a graduate degree) before the last day to add classes of the last semester as an undergraduate:

- The student must be within 9 units of completing the baccalaureate degree.
- The student must be in the last two semesters of the baccalaureate degree at University of the Pacific.
- An *Evaluation of Degree Requirements* form has been submitted to the Office of the Registrar prior to the last day to add classes. This must be submitted before or with the *Graduate Credit as Undergraduate* application. (This serves as permission by the undergraduate advisor for the student to take graduate-level coursework.)
- The student has been accepted into a graduate or credential program.

Graduate credit can be received under the following guidelines:

- The total number of graduate credits for the semester, including coursework completed at other schools, cannot exceed the maximum graduate course load for the department providing the graduate coursework.
- The tuition rate for the entire semester is at the undergraduate rate.

- No more than 12 units (16 units for student teachers) can be transferred from an undergraduate transcript into a graduate degree program.
- Graduate credit will only be granted for graduate-level (200 numbered) courses and above.
- Units cannot be retroactively transferred from an undergraduate transcript to a graduate program. Approvals for graduate credit must be obtained prior to the last day to add classes of the student's last semester.
- Coursework will not count toward graduate credit if the student fails to complete the bachelor's degree by the second semester of taking graduate courses.
- Graduate courses completed under this agreement will not be recorded by the Registrar as graduate coursework until the baccalaureate degree has been completed and matriculation into the graduate program has commenced. Grades from these courses will not be accounted in the undergraduate grade point average, unless the bachelor's degree is not completed.
- Students who do not complete the bachelor's degree by the second term when graduate courses are taken cannot start a graduate program and cannot take additional graduate coursework until the bachelor's degree has been awarded.
- Students bear the responsibility of assuring graduate credits earned as an undergraduate student will transfer to or be counted as post-baccalaureate units by other universities or school districts.

Students are not classified as graduate students until they register for and begin graduate courses following the receipt of their bachelor's degree.

Auditing a Class

Auditing of a course is an option that allows exposure to a course with no course credit awarded. To audit a course, approval must be granted by both the instructor and the chair of the department in which the course is offered via an add/drop form. Auditing is not available in participation courses such as applied music, physical education, art courses of an applied nature, etc. Students auditing a course must pay an auditing fee. Courses taken through auditing may not subsequently be converted to a course credit or grade. The student must indicate at the time of registration if they wish to audit a course, and pay the appropriate fee. An audited course and grade AU (Audit) may not be used to fulfill or waive any degree requirements. An AW (Audit Withdrawal) grade will be assigned for withdrawals.

Cancellation

If you are a newly admitted and confirmed student and do not wish to attend Pacific for a semester and instruction has not yet begun, you must formally request a cancellation of your registration from the university. To cancel your registration (prior to the start of the term) contact the Office of Admission. If you are a continuing student and need to drop your last class after the add/drop deadline you must visit the Office of the Registrar and obtain a date of notification recorded on the Withdrawal form. The notification date is your official withdrawal date used by Financial Aid in the Return of Title IV Aid calculation and the effective date used by Student Accounts for tuition refunds.

Catalog Expiration and Requirements Policy

The catalog lists requirements for active degrees offered by the university. Each catalog goes into effect at the beginning of the fall term the academic year of issue. It expires at the end of summer session

the seventh academic year after publication for students maintaining attendance. Advisors and other university employees are available to help, but students have final responsibility for satisfying degree requirements for graduation.

Students are held to program requirements (general education and major/minor) in effect at the time of first enrollment. Students who change their program/major are held to degree requirements in effect at the time of the change of program. Students may, using a Change of Program form, elect to graduate under degree requirements specified in subsequent catalogs; under no circumstances are the requirements from an earlier catalog applied.

Change of Address

All students must notify the Office of the Registrar immediately of any change in their addresses or those of their parents or guardians. The University assumes no responsibility for materials sent through the mail not received.

Change of Program Objective

A student who has been admitted to one degree program and who later desires to change to another degree, major, concentration, or subsequent catalog must submit an approved Change of Program form with the Office of the Registrar.

Class Attendance

Students are expected to attend classes regularly. Specific attendance policies are determined and provided by individual instructors in their course syllabus at the beginning of the semester.

Class Standing

Undergraduate students are designated freshmen, sophomores, juniors or seniors by the number of units which have been completed toward graduation as follows:

1 – 27.99 units designates a freshman.

28 – 55.99 units designates a sophomore.

56 – 91.99 units designates a junior.

92 – up units designates a senior.

Post Baccalaureate

Other students are classified as Undergraduate Unclassified. See the Undergraduate Unclassified section of this catalog.

Commencement

Commencement exercises to honor students who have earned baccalaureate and professional pharmacy degrees are held each year in May. Students who have earned their degrees in the previous Fall or Summer terms are welcome to participate.

Undergraduate students who have not completed all their degree requirements may participate in commencement if they have accumulated 92 units by the end of the Fall semester prior to May commencement. Students with deficiencies who plan to participate in the May commencement ceremony must apply for graduation by the April deadline.

Course Loads

Fall and Spring Semesters (Undergraduate and Professional Pharmacy students)

Full Time: 12 or more units a semester

Half Time: 6 -11.9 units a semester

Less than Half Time: 5.9 or less a semester

Twelve units constitute a minimum full-time program of studies during a semester for the regular undergraduate and first professional level student and is the minimum required for participation in intercollegiate activities. If a student registers for fewer than 12 units or drops below 12 units financial aid may be reduced. (Students who are less than half-time are not eligible for financial aid.)

The maximum study load during a semester for undergraduates without special permission is 18 units and 19 units for first professional level students. Students who wish to enroll for units in excess of the maximum study load must petition their school/college in advance. Approval is based to a great extent upon the student's past academic record and results in additional tuition charges. If a student is approved to take courses concurrently at another institution, the units at Pacific and the other institution may not exceed 18 units during Fall and Spring or 8 units during each Summer Sessions.

Minimum and maximum study loads for graduate students are defined in the Graduate Catalog.

Course Numbering System

Undergraduate Courses:

Lower Division courses. Courses, numbered 001 – 099, are primarily designed for freshmen and sophomores.

Upper Division courses. Courses, numbered 100 – 199, are typically open to students who have met the necessary prerequisites as indicated in the catalog course description. These courses are designed primarily for juniors and seniors but exceptions may be appropriate for qualified sophomores.

Graduate Courses:

Courses numbered 200 – 399 are primarily designated for graduate students. 300 and above are primarily for students admitted to a doctoral program.

Courses numbered in the 9000 series are used for specific professional development courses that are graduate level, non-degree courses in the Center for Professional and Continuing Education.

Prerequisites

Prerequisites for courses are listed in each course description; the responsibility for meeting these requirements rests on the student. The instructor, chair or dean's office may request that a student who has not completed the prerequisites be dropped from the course.

Variable Unit Courses

Some course numbers are used to describe specific types of courses, as follows:

- 087/187/287 – Internship study. Work experience conducted off campus, under the supervision of a non-full time Pacific faculty member.
- 089/189/289 – Practicum. Work experience conducted on campus, under the direction of a faculty member.
- 092/192/292 – Cooperative education. Work experience on a full-time or part-time basis. The Cooperative Education Program in each school or college differs in unit allowance. See the appropriate school for unit specifics in the general catalog.
- 093/193/293/393 – Special Topics. Departments may offer, on occasion, special topic courses. Courses may reflect the current research of the instructor or the needs and interests of a group of students. Detailed descriptions can be obtained from the chair in which the courses are being offered.
- 191/291/391 – Independent Study
- 195/295/395 – Seminar. Undergraduate/Graduate/doctoral
- 197/297/397 – Independent Research.

Graduate/Doctoral

- 299 – Master’s Thesis
- 399 – Doctoral Dissertation

Note: These numbering standards are general standards and reflect current practice among most units. Some units may have exceptions to these. Students should check for these within their majors for individual unit standards that may differ from these general numbering standards.

Credit by Examination

An undergraduate student in good standing and currently enrolled for four or more units may “challenge” by examination certain courses offered in the current term by the University. Departments have the right to designate which of their courses are appropriate for credit by examination. This policy is subject to the following restrictions:

1. A student may challenge a course covering material in which, because of independent study since high school graduation, or because of work at another college or university which was not accepted for transfer credit, the student feels prepared. It is the responsibility of the student to explain how the material was mastered.
2. A student who wishes to challenge a course should not expect the instructor of the course to provide assistance beyond an explanation of the scope of the examination.
3. A student who wishes to challenge a course may not attend the class meetings of the course.
4. A student may not receive credit by examination in the semester in which the student intends to receive his or her baccalaureate degree.
5. A student may not get credit by examination for a course which the student has already audited or failed with a grade of F or NC.
6. A student may not get credit by examination for a course in a structured sequence if the student has received credit for a higher level course in the sequence.
7. Credit earned by a challenge examination may not be used to meet the University residency requirement.

A student pursues the credit by examination option must obtain a Credit by Examination form from the Office of the Registrar and pay the scheduled \$50.00 service fee (non-refundable).

Successful completion of the examination is then recorded on the transcript with a grade of pass and is made a part of the student’s

academic record in the term in which the examination is requested. Students who pass the exam are charged an additional \$200.00 for the course credit. Such credit is not considered to generate an overload.

Credit Limitations

Undergraduate students can apply a combined total of eight units of ACTY 002-049 General Activity, ACTY 050-099 - Intercollegiate Sports and THEA 005 in the Theatre Arts Department toward graduation. Up to 8 units of activity and intercollegiate sports classes may count toward the COP breadth requirement.

A total of no more than 20 units may be applied toward a degree from any or all of the following: courses taken in accredited correspondence schools, extension correspondence schools, extension courses, and/or courses taken credit by examination. None of these credits, except extension courses taken at the University, is accepted during the term in which the student is completing requirements for graduation in this University.

A total of no more than 30 units of coursework in business administration may be applied toward a degree, except in the case of students majoring in business administration.

A total of no more than 28 units may be applied towards a degree from Advanced Placement (AP), International Baccalaureate (IB), DANTES and/or CLEP tests.

Cross Listed Courses

A cross-listed course is one that carries credit in more than one department or program.

Dean’s Honor Roll

Each undergraduate student currently enrolled in the University who achieves a 3.5 grade point average or above at the close of a term in which twelve or more units of letter-graded (A through F) work have been completed is designated as being on the Dean’s Honor Roll for that term. A notation is indicated on the student’s academic record of this achievement.

Degree Types

Second Bachelor’s Degree (consecutively or concurrent):

Second Bachelor’s degrees are awarded under the following conditions:

1. The student does complete 32 units beyond those required for the degree that has the highest credit requirement. These units must be completed in residence at Pacific.
2. The student does complete all specific requirements of both programs (both general educations and majors).
3. Both degrees must be completed at the same time under the same catalog requirements when earned concurrently.

Multiple Majors:

Students may obtain a baccalaureate degree with multiple majors by completing the requirements for all majors under the same catalog requirements. Majors may consist of departmental majors, interdepartmental majors or majors in different schools. Multiple majors are recorded on the student’s permanent record, but only one degree is awarded. The degree is issued by the student’s primary declared school.

Diplomas

Diplomas are not awarded at Commencement but are available approximately three to four months afterward. Diplomas are mailed to the permanent address on file. Diplomas are not issued if you have outstanding financial obligations to the University. Diplomas left unclaimed are destroyed after five years. Students must re-order and pay for new or replacement diplomas.

The student's diploma lists the degree, the school/college, and, if applicable, major and academic honors. The official academic transcript also lists the major(s), concentration(s) minor(s) and academic honors. Graduation dates posted on the diploma coincide with the last day of the semester. Degrees are posted Fall, Spring and Summer I, II and III. The official graduation date reflects the completion of all academic requirements for the degree and not necessarily the last term of enrollment.

Enrollment Verification

Students who need enrollment verification from the Office of the Registrar must be registered in the term to be verified. Students should print enrollment verifications by logging onto insidePacific, then selecting the National Student Clearinghouse (NSC) Link and print Enrollment verification. Students can also obtain their good student standing certificate here.

Final Examinations

Students are required to take all scheduled exams. Matters of grading and testing procedures are the responsibility of individual instructors. If the instructor chooses to give a final examination, it must be scheduled during the time specified by the University Registrar for the final examination for that course. No student is allowed to take a final examination before the scheduled time.

Grade Point Average

The Pacific grade point average is determined by adding the total quality points and by dividing the resultant sum by the total number of quality hours. As a general rule, the ratio is based on the number of letter graded units completed; e.g., if a student repeats a course both courses will be considered in the overall grade point average.

Grading Policies

Symbols and Definitions:

Undergraduate and first professional level students are assigned grades in keeping with the following provisions. (Grading policies for graduate students are defined in the Graduate Catalog.)

Symbo	GPA	Definition
A	4.0	Outstanding work, highly meritorious
A-	3.7	
B+	3.3	
B	3.0	Very good but not outstanding
B-	2.7	
C+	2.3	
C	2.0	Satisfactory
C-	1.7	
D+	1.3	
D	1.0	Barely passing but counts toward graduation

F 0.0 Failure. Grade count in the grade point average must be repeated with a satisfactory grade to receive credit toward graduation. Also, an F is a default grade given when an instructor does not report a grade.

AU/ AW	Audit/Audit Withdrawal
I	Incomplete work is work not complete due to extenuating and hardship circumstances which prevent the completion of the work assigned within the regular time of the term. Each incomplete grade assigned must be accompanied with a contract statement agreed to by both instructor and student as to: a.) what work remains to be completed, b.) how it is to be evaluated, and c.) a time indicated for completion within but no later than the following deadlines: for fall semester, by July 1 following; for spring semester, by November 1 following; for summer term, by January 1 following. If work is not completed within these stipulated times, the instructor can indicate a grade in lieu of the F/NC which automatically would be imposed with failure to complete the work. All incompletes must be made up before the last day of the semester in which the student intends to graduate.
N	Deferred grading
NC	No credit recognition. Represents unsatisfactory work under pass/no credit option. It is not assignable in the Conservatory of Music.
NG	No credit recognition. Represents unsatisfactory work under pass/no credit option. It is not assignable in the Conservatory of Music.
P	Passing work on the pass/no credit system. P grade is approved only for certain courses and programs of a college or school. Beginning Fall 2016, the University requires a minimum of C- or better to pass a course with a 'Pass/No Credit Grading Option'.
W	Authorized withdrawal from courses after the prescribed period.

Graduation Requirements for Bachelor's Degrees

Candidates for undergraduate degrees must adhere to all of the University's regulations. In particular they must have:

1. Completed the major requirements specified by the school/college/department with a minimum grade point average of 2.0. At least 16 units of the major requirements must be completed at Pacific;
2. Completed a minimum of 30 units in general education including Pacific Seminars 1, 2 and 3 and a path of six or nine courses as specified by the school or college (transfer students should refer to the General Education section for GE requirements);
3. Met Fundamental skills requirements;
4. Achieved a grade point average of at least 2.0 on all letter-graded work completed at Pacific. On non-letter-graded work, the faculty will determine the equivalency;
5. Fulfilled the minimum residence requirement of 32 out of the last 40 semester units prior to receiving the degree; and
6. Accumulated the appropriate number of program units specified by the particular school or college.

Filing for Graduation

Application for Graduation: An Application for Graduation must be filed with the Office of the Registrar as an indication of intent to graduate at a specific term by the April deadline. For undergraduate students, it should be filed upon completion of 92 units (senior standing) and for professional pharmacy students who expect to fulfill degree requirements during the next academic year. This allows time for a review of studies completed and to enable the students to enroll for any requirements not yet completed.

Degree Check: After a student files their Application for Graduation both the program and Office of the Registrar check for the fulfillment of course and GPA requirements, i.e. university wide, major, department, college/school, general education.

Honors at Graduation

University wide honors at graduation for undergraduates and professional pharmacy are awarded on the following criteria. The student must have completed a minimum of 54 letter-graded units at Pacific and will be based on the student's final overall institutional (Pacific) grade point average. The requirements are: Cum Laude (honors) 3.5, Magna Cum Laude (high honors) 3.7, and Summa Cum Laude (Highest Honors) 3.9.

Because Commencement occurs prior to spring semester grading, the commencement program indicates honors as of fall semester grades. The student must have completed a minimum of 36 letter graded units at Pacific at this time. Actual honors confirmed, as shown on diplomas and transcripts, is determined once all coursework has been completed and graded.

Major

A major represents the area of study a student has chosen to pursue for a degree. Students who have not chosen a major are designated as 'exploratory'. A student who decides to change a major or to declare one must submit an approved Change of Program form with the Office of the Registrar. Course and unit requirements for each of the majors offered are in the department's section of the General Catalog.

Minor

A minor represents a prescribed group of courses in a subject area other than the major. A minor is not required for a degree, but may be elected to strengthen preparation in areas related to the major. To earn a minor a minimum of five courses and 20 units and a minor GPA of 2.00 is required. At least a minimum of 10 units must be taken at Pacific. Course requirements for each of the minors offered are in the department's section of the General Catalog. Students who wish to have a minor posted to their academic record must submit an approved Change of Program form with the Office of the Registrar.

Official Grades

Official grades are available to students via insidePacific approximately two weeks after the end of the term. Unofficial grades are available on insidePacific after the end of the faculty grade deadline. The grades posted at that time are merely an indication of grades submitted, and grades still missing. They do not show a GPA, or academic standing.

Pass/No Credit Grading System

Depending upon the regulation of a particular college or school, students may request to receive pass or no credit grades rather than the traditional letter grades. This is available to encourage enrollments in courses

outside the student's area of major or specialization and thus to help broaden the student's general education.

Normally this freedom is limited to one course per student per term and does not include courses within a student's major field. Students must submit an approved Add/Drop form to the Office of the Registrar prior to the add/drop deadline. Beginning Fall 2016, the University requires a minimum grade of C- or better to pass a course with a 'Pass/No Credit Grading Option'.

Regression Rule

Students who complete coursework at an intermediate or advanced level without first completing the lower level introductory courses may not then go back and take the lower level courses for credit. This rule applies primarily to coursework in mathematics, the sciences, and foreign language. It may also apply in other departments in which there is a clear content sequence between courses.

Returning to Pacific

After Cancellation

New Students: If new students cancel their registration and wish to attend Pacific in a future term, they must submit a new application for admission. Previous admission status has no bearing on the decision for admission in the future.

Continuing Students: If continuing students cancel their registration, have been gone from the university for two or more consecutive semesters (excluding summer) and wish to attend Pacific in a future term, they must submit an Application for Return to Active Status (Re-admission), available through the Office of Admission.

After Withdrawal: If students completely withdrew from the University and wish to return in a future semester, they must submit an Application for Return to Active Status(Re-admission).

Registration

Registration is the means by which an individual officially becomes a student at Pacific. Registrants are further identified by school/college of the University, degree status, classification and major.

All students must complete registration activity by the add/drop or withdrawal dates published in the University Academic Calendar and Term Calendars (<http://www.pacific.edu/About-Pacific/AdministrationOffices/Office-of-the-Registrar/Calendars/Academic-Calendar.html>). Students are held accountable to complete every course for which they are registered.

Additional registration activity past these deadlines must be requested by the student and approved through a petition. Petitions may include a service fee. Petitions are normally approved only if it can be shown that the request is warranted due to some special situation or hardship. Approved late withdrawals appear on the student's transcript with the notation "W" but do not count in the units earned or in the GPA.

Registration - Individualized Study

Individualized study courses are designed for special educational needs which are not met by the available curriculum. Students must submit and approved Individualized Study Request form with the Office of the Registrar. *Note: Students on academic probation may not register for Individualized Study. Unclassified students must obtain special permission from the school/college dean's office of which the course is housed.*

Repetition of a Course

In order to repeat a course at the undergraduate or first professional (PharmD) level, students must have received a C- or lower the first time the class was taken. Once a course is completed (with a grade of C or higher) the student may not repeat any prerequisites for that course. The grading option, when repeating a course, must be the same as the one used originally. Any given course can be repeated one time only. Fundamental Skills courses are exempt from the one time repeat rule.

Students must have both a 2.00 cumulative Pacific GPA and a 2.00 major/minor/program Pacific GPA to graduate. Prior to Fall Semester 2015, the grades received for courses repeated were averaged. Beginning Fall Semester 2015, the best institutional grade attempted when repeating a course is used to calculate the cumulative Pacific GPA and the major/minor/program GPA. Both the initial and subsequent repeat grade will remain on the academic record.

Students may exercise their grade replacement rights up to a maximum of the first three repeated courses, while enrolled in undergraduate degree programs at Pacific. Any additional course repeats will be 'grade averaged' for the cumulative Pacific GPA and the major/minor/program GPA. Basic skills are exempt from the three times rule.

A student's Major/Minor/Program GPA is calculated in the following manner:

- When multiple courses can be used to complete a particular requirement, the course with the best grade will be used in the calculation.
- Transfer/Test articulated work will not be used in the calculation.

Additionally for Major and Minor GPA calculations:

- Only courses currently completing the requirements up to the total number of units required for that particular major or minor are used.
- Successfully completed major and minor courses in excess of what is required to complete it are not used in the calculation.

Transcripts

Upon request by the student to the Office of the Registrar, an official transcript of his or her academic record is issued to whomever he or she designates provided that all financial obligations to the University are in order. A service fee per transcript is charged for processing the record. Students can request a transcript online, in person or by mail.

Official transcripts from other institutions become the property of the University and are not reissued or copied for distribution to other institutions. Copies of transcripts of work completed at other institutions must be obtained from the originating institution.

Transfer College Credit Limitations

The complete Transfer Credit Policy can be found on the Office of the Registrar website (<http://www.pacific.edu/About-Pacific/AdministrationOffices/Office-of-the-Registrar/Undergraduate-Transfer-Credit-Policy.html>).

Units are granted in chronological order of when courses were taken. The maximum number of combined units acceptable from community colleges is 70 semester units. After a student has a total of 70 units, including those from Pacific, those accepted in transfer, AP, IB, or CLEP exam scores and additional lower level military course work, no additional units can be earned and applied to the minimum units required for graduation. Once a student has reached 40 units less than what is

required for his/her degree, only 8 more units may be accepted from a four year institution. Courses taken after these limits are reached do not have to be repeated at Pacific since the content of the course may fulfill a requirement, even though no units are allowed in transfer.

Courses that a student takes at other colleges or universities in programs not affiliated with Pacific are not counted in the student's cumulative grade point average.

A current student who is working toward a degree at Pacific and who wants to take a course or courses at another college or university must obtain approval prior to enrolling in such courses. In addition, students must be approved by the deans designee of their school/college to take units at other institutions if those outside units, when combined with Pacific courses in a semester, exceed 18 units.

The Transfer Course Approval form is available on the Office of the Registrar's web site and must be completed to obtain the necessary approval to transfer course units back to Pacific. It is the student's responsibility to have an official transcript sent to the Office of Admission once courses are completed.

Undergraduate Unclassified Students

Undergraduate Unclassified students, who do not hold a Bachelor's degree, may complete up to 27.9 units prior to being required to formally apply for admission to the university. Upon admittance to the university, resident and transfer coursework will be evaluated.

U.S. Military Mobilization:

All students who are called to active duty must start the process by providing a copy of the military summons to the Office of the Registrar's Veterans Affairs (VA) Coordinator, Knoles Hall, first floor, 209-946-2135. Cancellations processed during the first twelve weeks receive a 100% refund and all course sections are dropped before the student leaves for active duty. It is essential that a copy of the military summons be delivered to the Office of the Registrar before departure from campus. This ensures that classes are dropped and that grades of 'F' are not issued.

Students called to active duty toward the end of the semester, who are short submitting final papers or cannot take final examinations, are entitled to receive Incompletes (I) for the semester. Arrangements to receive Incompletes must be made with each instructor and copies of the military summons must be left with the Office of the Registrar. Students receiving Incompletes under these conditions are given four semesters to complete the work and remove the marks of 'I'. If the work is not completed during this special four semester period, the marks of I are automatically converted to marks of W. If the military service period extends beyond the special four semester period, students can file an Academic Regulations Committee (ARC) petition for extension of this special incomplete time period.

Students who leave the University for U.S. military service and follow the procedures outlined above are eligible to re-enroll as returning students. Returning students must file a 'Return to Active Status' application with the Office of Admission. Returning students who have questions about Veterans Affairs benefits should contact the VA Coordinator in the Office of the Registrar at 209-946-2135.

Withdrawal From a Semester or the University

Students who intend to completely withdraw from a semester or from the university have to initiate the process in the Office of the Registrar.

The withdrawal date used by Financial Aid for the Return of Title IV Aid calculation and the effective date used by Student Accounts for tuition refunds are based on the date of your notification to the Office of the Registrar. If a student intends to withdraw from a semester after the last day to withdraw, it must be approved by the Academic Regulations Committee. Courses the student was registered for after the last day to drop appear on that student's transcript with the notation "W" but do not count in the units earned or in the calculation of the grade point average. If a student only withdraws from a semester, he/she has one more semester to keep his/her continuing active status. If the student has completely withdrawn from the University, he/she must file a Return to Active Status application with the Office of Admission.

An official withdrawal from the University is the termination of rights and privileges offered to currently enrolled students which includes, but not limited to, early registration.

Academic Units

College of the Pacific (Liberal Arts and Sciences)

At the center of the broad range of educational opportunities open to students on the Stockton campus is the College of the Pacific, the core division of arts and sciences. Some 1,400 students pursue at least one of the more than 50 major and minor programs offered by the College, and most students in the professional schools also take varying amounts of work within the college of arts and sciences. College of the Pacific offers majors in most of the traditional areas of the physical and life sciences, the humanities and arts and the social and behavioral sciences, as well as a number of inter-disciplinary programs which cut across traditional fields of knowledge.

Conservatory of Music

The Conservatory of Music offers undergraduate degrees in composition, jazz studies, music education, music history, music industry studies, music management, music therapy, and performance, and graduate degrees in music therapy and music education. In addition to these majors, the Conservatory offers minors in jazz studies, music, and music management. Additionally, the Conservatory provides opportunities for students throughout the University via participation in ensembles and in general education courses.

Eberhardt School of Business

Students in the Eberhardt School of Business are educated for management positions in business, government and not-for-profit organizations. Approximately 600 students are enrolled in the School's undergraduate and graduate programs in accounting and business administration.

Gladys L. Benerd School of Education

The Gladys L. Benerd School of Education prepares students for careers in teaching, school psychology and administration at the elementary and secondary school levels and in higher education. Some 500 students, two-thirds of them at the graduate level, are enrolled in the School of Education and a number of other students take work in the School in preparation for a teaching credential while they pursue a major in one of the other schools or colleges on campus.

School of Engineering and Computer Science

The School of Engineering and Computer Science, with some 650 students, offers eight baccalaureate programs: bioengineering, civil engineering, computer engineering, electrical engineering, mechanical engineering, engineering physics, engineering management, and computer science. All engineering degree programs combine academic and practical training with the engineering curricula that require a minimum of seven months of paid engineering related work experience. The school also offers a Master of Science in Engineering Science degree with four different concentrations: civil engineering, computer & electrical engineering/computer science, engineering management or mechanical engineering. A Masters of Science degree is also offered in Data Science.

School of International Studies

The School of International Studies is devoted to the interdisciplinary study of international affairs and offers students three undergraduate majors. Study abroad and competency in at least one second language are central to the curriculum. Students benefit from the school's internationally recognized cross-cultural training program. Graduates pursue a wide range of careers that includes positions in government, business, non-governmental organizations, and academe.

Thomas J. Long School of Pharmacy and Health Sciences

The School of Pharmacy and Health Sciences offers the Doctor of Pharmacy degree. Some 1,025 students are enrolled in the School, including about 350 undergraduates who pursue pre-pharmacy studies in preparation for beginning the professional program. The Department of Speech-Language Pathology is housed in the School as well as the graduate program in Physical Therapy.

Graduate School

The Graduate School supports and oversees Pacific's approximately 1150 graduate students pursuing Master's and doctoral degrees in more than 30 graduate programs on all three campuses. Areas of responsibility include graduate admission processing, graduate student support services, recruitment and marketing strategies, review of graduate policies, and new program development. In addition, the Graduate School provides financial assistance to qualified students through its graduate assistantship program.

McGeorge School of Law and A. Dugoni School of Dentistry

The University includes the McGeorge School of Law, located in Sacramento, and the Arthur A. Dugoni School of Dentistry in San Francisco. Nearly 550 students are enrolled at McGeorge in the full-time and part-time J.D. programs and graduate programs, while the dental school has an enrollment of about 470 predoctoral and international students and 60 post-doctoral residents.

University College

The college offers a variety of courses for credit towards a Pacific degree, including the BS in Organizational Leadership degree completion program for returning adult students, extension and enrichment courses for current Pacific students and members of the community, and courses for UOP International students introducing them to the culture and history of the region. In addition, University College serves as a major

regional center for continuing education units, professional development, customized workforce training and lifelong learning. From single courses, to full certificate programs, with formats including in seat, hybrid and online/distance learning, our programs and services are designed to meet the non-traditional academic, professional and personal development needs of San Joaquin county and surrounding areas.

Admission Requirements

University of the Pacific seeks applications from students who have shown by past achievement that they have attained a high level of scholarship, initiative and maturity, possess good character, and have a serious interest in learning. Admission is selective and each applicant is considered on the basis of a variety of factors which are evaluated through a very personalized review. The University is interested in a student body characterized by diverse ethnic, religious, economic and geographic backgrounds.

Please refer to the Office of Admission website for the most current policies regarding all subjects in the following section of this catalog. The website address is www.pacific.edu/admission.html (<http://www.pacific.edu/Admission.html>).

Undergraduate Admission

www.pacific.edu/admission.html (<http://www.pacific.edu/Admission.html>)

Application Priority Dates

www.pacific.edu/admission/important-dates.html (<http://www.pacific.edu/Admission/Important-Dates.html>)

Fall Freshman Applicants

November 15 Application Priority Date

- All Pre-Pharmacy Applicants/Notification: January 15
- All Pre-Dental Applicants/Notification: January 15
- All Powell Scholarship Applicants/Notification : March 15
- All Early Action Admission Program Applicants /Notification: January 15

January 15 Application Priority Date

- Regular Admission Program (all majors not listed above)/Notification: March 15

Applications are reviewed once they are complete. Most students are mailed notification in mid-March. The University of the Pacific adheres to the May 1 national candidates reply date. It is on or before this date that the University expects a reply to its offer of admission for the fall semester.

Fall Transfer Applicants

February 15

Priority Admission and Financial Aid Application Date to Receive the Best Possible Financial Aid Package (based on individual circumstances and financial aid eligibility)

June 1

- Deadline for All Transfer Applicants and outstanding documents

Spring Freshman & Transfer Applicants

August 1

- Dental Hygiene Transfer Applicants

November 15

- All applicants (excluding Dental Hygiene applicants)/Notification: Rolling

Applications may be considered after these dates but space may be limited. Because of certain special procedures in the handling of applications for international students, these applications should be completed earlier than U.S. applications. Candidates for the Doctor of Pharmacy program should refer to the PharmD website: www.pacific.edu/pharmd (<http://www.pacific.edu/pharmd>) for deadline information.

Early Action Admission Option

University of the Pacific offers a non-binding Early Action plan for high school students with exceptionally strong high school records, test scores and recommendations. Applicants who wish to be considered for Early Action must have a completed application on file with the Office of Admission postmarked by November 15. Early Action applicants are notified in mid-January. Those admitted under this plan have the same National Candidates Reply Date of May 1 as all other admitted students.

Interviews

Prospective students are encouraged to visit the campus, but formal interviews are not usually required for freshman or transfer applicants (except Powell Scholars, Pacific Humanities, Pacific Legal Scholars, and Organizational Behavior). The University reserves the right to ask prospective students to appear for an interview as part of the admissions procedure when such an interview appears appropriate and would assist in determining the applicant's qualifications for admission.

Campus Visits

www.pacific.edu/visitus (<http://www.pacific.edu/visitus>)

Prospective students are invited to visit the campus as guests of the University. It is recommended that prospective students visit the campus when classes are in session, avoiding weekends or University vacation periods. (See Academic Calendar).

For individuals or small groups, student-led tours are available most days, Monday through Friday, morning and afternoon as well as some Saturday mornings. Tours and informational sessions for larger groups are also available, but must be planned at least two weeks in advance with the Office of Admission. During the academic year the Office of Admission is open most days Monday through Friday from 8:30 a.m. to 5:00 p.m. and on selected Saturdays from 9:00 a.m. to noon. Summer hours may differ. Saturday visits and tours are by appointment only. Please go to www.pacific.edu/visitus (<http://www.pacific.edu/visitus>) or call the Office of Admission to schedule a visit to campus.

Appointments, Information and Forms

For information on an area of specific interest, for application forms, or for an admissions appointment, use any of the following information to reach the Office of Admission:

Office of Admission
University of the Pacific
3601 Pacific Avenue
Stockton, CA 95211

Telephone: (209) 946-2211

- Essay: A personal statement as part of the application.

Admission of Freshman Students

Regular Admission

Freshman applicants are those who are either applying while seniors in high school or those who have not taken any college courses since earning their high school diploma or its equivalent. Verification of graduation from an accredited secondary school is required prior to the beginning of the first term of attendance. Exceptions may be made for those who have passed either the General Education Development (GED) Test or the High School Proficiency Exam.

Special emphasis is placed on the coursework selected, the grades achieved in those courses, and the cumulative grade point average. Supporting recommendation from a school counselor or teacher is also important. In addition, the Admission Committee reviews the results of either the SAT or the ACT.

The essay submitted with the University of the Pacific Application is carefully read, and the committee looks at co-curricular activities. Applicants are selected for admission only after a careful review of the entire application file.

A Completed Freshman Application Includes:

1. Form and Fee: www.pacific.edu/apply (<http://www.pacific.edu/apply>)
On-line application. The application must be filled out and submitted by the applicant.
2. Transcripts: An official copy of transcripts for all high school and/or college coursework including courses offered by extension or correspondence, is required. Failure to acknowledge and submit all records is grounds to deny or revoke admission, or for dismissal from the University or revocation of degrees earned. Applicants must also submit transcripts for any college work taken while still in high school. Transfer applicants do not need to have high school transcripts sent, unless requested. Final official transcripts must be submitted prior to the first day of classes, and must show satisfactory work or the University has the right to revoke the offer of admission.
3. Test Score Policies for Applicants
4. Freshman applicants must submit scores from the SAT and/or ACT. If the applicant has taken the SAT or ACT multiple times, Pacific accepts the highest combination of sub scores from all SAT attempts and highest combination of all sub scores from all ACT attempts.
5. Scores received in January from the December SAT or ACT tests are the last scores that are used for admission or scholarship consideration for fall applicants, except Pre-Dentistry and Pre-Pharmacy applicants for whom the November test scores will be accepted. Students for whom later tests are the first and only test taken are exempt from this policy.

Optional:

- Recommendation: www.pacific.edu/recommendation (<http://www.pacific.edu/recommendation>). One academic recommendation from an academic teacher, counselor or advisor is recommended. Those recommending an applicant may use the online form at www.pacific.edu/recommendation (<http://www.pacific.edu/recommendation>)

Special Admission Requirements

- Music Applicants: www.pacific.edu/music (<http://www.pacific.edu/music>) In addition to academic requirements, who apply for admission to the Conservatory of Music must present evidence of music talent and achievement by performing an audition on the principal performing medium. Those who plan to major in composition must also submit an original composition. Auditions are held at the Conservatory at regular intervals throughout the academic year. Students unable to appear in person may substitute a recorded audition. Audition information is available at www.pacific.edu/music (<http://www.pacific.edu/music>) or by calling the Conservatory of Music at (209) 946-2418.

Recommended High School Preparation

Although University of the Pacific does not require a fixed pattern of secondary school courses, applicants are expected to complete a solid college preparatory program. Generally speaking, preparatory courses are those in the fields of English, social sciences, foreign languages, laboratory sciences and mathematics.

It is strongly recommended that the following be included in the secondary school program: four years of English; three years of mathematics including algebra I, II and geometry; at least two years of laboratory science in at least two disciplines (biology, chemistry, earth science or physics); at least two years of the same foreign language; three years of social science; one year of fine or performing arts; and additional academic courses – all aimed at improving analytical abilities, promoting artistic development and strengthening written and oral skills.

Students interested in economics or business administration should take advanced mathematics in high school. Students interested in mathematics, science, engineering, dentistry or pharmacy should include biology, chemistry and physics as well as advanced mathematics in their secondary school program. (See chart for recommended course of study.)

Recommended Courses

Course Others	Science & Technical	All Majors
English	4 years	4 years
Fine Arts/Performing Arts	1 year	1 year
Foreign Language (one)	2 units	2 years
Social Science	2 years	3 years
Mathematics*	4 years	3 years
Laboratory Science**	3 years	2 years
Academic Electives***	1 year	1 year

* Suggested math sequence for science and technical majors: algebra, geometry, algebra II, trigonometry or calculus. Minimum suggest math sequence for all other majors: algebra, geometry, algebra II.

** Biology, chemistry and physics are recommended for all students pursuing science and technical disciplines.

*** Academic elective courses should be in advanced foreign languages, mathematics, laboratory sciences or other solid preparatory courses.

Since the senior year in high school is perhaps the most important in preparing for college, a minimum program of four academic courses per semester is particularly recommended for that year.

Students are also encouraged to take honors and advanced placement courses whenever possible. In reviewing applications, the Office of Admission gives favorable consideration, not only to the overall strength of the academic program, but to the fact that honors and advanced placement courses have been taken.

Advanced Placement, International Baccalaureate and College Credits Earned While In High School

Please see www.pacific.edu/advancedcredit (<http://www.pacific.edu/advancedcredit>) for the latest policies regarding granting of advance credit. College credit (four units per examination) may be granted to students who achieve scores of a four and five on Advanced Placement examinations and/or scores of five through seven on International Baccalaureate exams taken at the higher level. A maximum of 28 units total from Advanced Placement, International Baccalaureate, DANTES and/or CLEP test results may be applied toward a Pacific degree including General Education and major requirements.

In addition, students who have taken college courses prior to high school graduation receive credit toward University of the Pacific graduation, as long as the credit is transferable, is earned at an accredited college and is awarded college credit on a transcript generated by that college. The purpose is to recognize advanced work of quality already accomplished by certain students, to preclude duplication of courses, and to provide increased opportunity for exceptional students to take elective work in their undergraduate programs. (See also the CLEP information below.)

College-Level Examination Program (CLEP)

College credit may be granted, within certain limitations, for the General and Subject Examinations offered through the College-Level Examination Program (CLEP) of the College Board when satisfactory scores have been earned. This program may be utilized by entering freshmen who take the tests prior to matriculation for the purpose of earning advanced standing credit, by regularly enrolled students for accelerating their programs or demonstrating competency in certain subjects, or by candidates for transfer who desire advanced credit or present the tests in support of applications for admission. Further details can be obtained from the Office of Admission.

A total of no more than 20 units may be applied toward a degree from any or all of the following: courses taken in accredited correspondence schools, extension correspondence schools, extension courses, and/or courses taken credit by examination. None of these credits, except extension courses taken at the University, is accepted during the term in which the student is completing requirements for graduation in this University.

A total of no more than 28 units may be applied towards a degree from Advanced Placement (AP), International Baccalaureate (IB), DANTES and/or CLEP tests.

Admission of Undergraduate Transfers

www.pacific.edu/transfer (<http://www.pacific.edu/transfer>)

To be considered for admission a transfer applicant must:

- Be in good academic standing at the college in which he/she/they are currently enrolled
- Have demonstrated academic ability in his/her/their selected major

A Completed Transfer Application Includes:

1. Form and Fee: www.pacific.edu/apply (<http://www.pacific.edu/apply>)
On-line application. The application must be filled out and submitted by the applicant.

2. Official Transcripts from all colleges attended

If transferable credits are less than 30 semester units:

1. High School Transcripts
2. SAT-I or ACT scores

Optional:

- Recommendation: www.pacific.edu/recommendation (<http://www.pacific.edu/recommendation>). One academic recommendation from an academic teacher, counselor or advisor is required. Those recommending an applicant may use the online form at www.pacific.edu/recommendation (<http://www.pacific.edu/recommendation>) or send a written recommendation on official letterhead.
- Essay: A personal statement as part of the application.

Special Admission Requirements

- Music Applicants: www.pacific.edu/music (<http://www.pacific.edu/music>) In addition to academic requirements, who apply for admission to the Conservatory of Music must present evidence of music talent and achievement by performing an audition on the principal performing medium. Those who plan to major in composition must also submit an original composition. Auditions are held at the Conservatory at regular intervals throughout the academic year. Students unable to appear in person may substitute a recorded audition. Audition information is available at www.pacific.edu/music (<http://www.pacific.edu/music>) or by calling the Conservatory of Music at (209) 946-2418.
- Dental Hygiene Applicants: www.pacific.edu/dentalhygiene (<http://www.pacific.edu/dentalhygiene>) Strong candidates who apply for the dental hygiene program are invited to campus for an interview after items one through five (above) have been received. Dental Hygiene applicants have separate application deadlines (September 1 for Spring). After an initial review, strong dental hygiene candidates are invited for interviews that are required for admission into the program.

Transferable Courses and Unit Limitations

The complete Transfer Credit Policy can be found on the Office of the Registrar website (<http://www.pacific.edu/About-Pacific/AdministrationOffices/Office-of-the-Registrar/Undergraduate-Transfer-Credit-Policy.html>).

- In interpreting transfer credit, University of the Pacific generally accepts those courses which are of the same quality and equivalency as courses offered on this campus.
- Courses taught at a community college are not acceptable to replace upper division courses at Pacific.
- The maximum number of units that is accepted from a community college is 70 and no community college credit is accepted after a student has completed 70 units from all institutions attended. Courses are accepted in chronological order.
- A course with a grade of C- or below does not transfer to Pacific. No units are awarded for that course and it does not fulfill any requirements towards a degree.
- If a student repeats a course in which a C- or below was earned, the most recent grade is used and a new GPA for the course is calculated for the transfer admission grade point average only. *Note: Only course content and credit are accepted in transfer; the associated grades do not become a part of the Pacific record.*

- If a student repeats a course in which a C or higher is earned, the second attempt is calculated in the GPA. No units are awarded for the repeated course.
- Transfer applicants who attended universities outside of the United States **must** submit an evaluation of their academic records. Transcripts must be reviewed by one of the articulation review companies listed online at <http://go.pacific.edu/> international evaluation and have an official copy sent directly to University of the Pacific. Students who attended universities outside of the United States **must also** submit course descriptions in English of their completed university work. The course descriptions must come from either the school's website or official catalog. Please send the course descriptions to University of the Pacific's Office of Admission.

Special Admission

Certain transfer applicants, such as veterans, or adult re-entry students and others with special circumstances, are given special consideration for admission when it is determined that they have the potential for satisfactory college work.

Admission of International Students

www.pacific.edu/international (<http://www.pacific.edu/international>)

University of the Pacific welcomes applications from international students and provides complete support services for them through International Programs and Services. The University is authorized to issue appropriate immigration documents to international students for immigration purposes and provides immigration services to enrolled students.

In order to comply with regulations of the United States Citizenship and Immigration Service, University of the Pacific requires international applicants who are not citizens or permanent residents of the United States to submit a detailed Certification of Finances showing sufficient financial resources for study at the University. Other special information and instructions regarding the admission of international students is provided upon request.

Special Requirements for Non-Native Speakers of English

Applicants who are not native speakers of English are expected to provide evidence of proficiency in the English language. Such proficiency may be demonstrated through the academic record, or by means of an English Language Proficiency Exam like the IETLS or TOEFL. For the most current English Proficiency review criteria please visit <http://go.pacific.edu/international>. The University reserves the right to administer its own English language test to new students and to adjust a student's academic program on the basis of test results.

Admission of Veterans

University of the Pacific encourages veterans to apply for admission and is approved under Federal and State laws for the training of veterans. Satisfactory completion of a period of military service is taken into consideration in the evaluation for admission.

Accelerated Programs

Pre-Pharmacy Advantage Programs

www.pacific.edu/prepharm (<http://www.pacific.edu/prepharm>)

Pacific offers three options which provide for guaranteed admission into our Professional Pharmacy (PharmD) Program, if all pre-pharmacy advantage requirements, which include courses taken in sequence at Pacific and minimum GPAs, are met and the formal pharmacy interview (which includes a writing sample) is passed. The current university minimum GPA requirement needed as one part of advancing from any of these Pre-Pharmacy Advantage Programs into our Professional Pharmacy Program is 3.00 overall and 2.70 in selected math/science courses.

The implementation of specific admission criteria for the Pre-Pharmacy Advantage Program are meant to ensure that students have the appropriate time to successfully prepare for advancement into the Professional Pharmacy Program.

Five-Year (2+3) Pre-Pharmacy/PharmD Option

Freshmen are admitted directly into the Pre-Pharmacy Program in the School of Pharmacy and Health Sciences. After two years, they advance into the PharmD Program if they have fulfilled all pre-pharmacy advantage requirements.

Six-Year (3+3) Pre-Pharmacy/PharmD Option

Freshmen are admitted directly into the Pre-Pharmacy Program in the School of Pharmacy and Health Sciences. After three years, they advance into the PharmD Program if they have fulfilled all pre-pharmacy advantage requirements.

Seven-Year (4+3) Bachelor's/PharmD Option

These Pre-Pharmacy applicants are admitted to any major at Pacific and pursue a Bachelor's degree, while also completing the pre-requisites for the Doctor of Pharmacy Program. If they complete their Bachelor's degree in four years (but no more than five years) they are eligible to advance into the PharmD Program if they have fulfilled all of the same Pre-Pharmacy advantage requirements. This option ensures that these students are on track from the beginning of their college careers to earn, at least, a Bachelor's degree.

Please note: There is no formal Pre-Pharmacy Advantage available to a student who attends another institution for a semester or a year or two and then transfers as a science major into Pacific's Arts and Sciences division. We have excellent undergraduate programs to which transfers are welcome to apply, but once here, these students compete with those who apply from other institutions for space in the PharmD Program.

Accelerated Dental Programs

www.pacific.edu/predent (<http://www.pacific.edu/predent>)

Pacific offers three accelerated dental programs to first-time freshmen which combine undergraduate preparation with the only three-year DDS program in the country. Students admitted to any of these programs are admitted to Pacific's Arthur A. Dugoni School of Dentistry if they meet the requirements outlined on the Pre-Dental Advantage website. Students complete their pre-dental courses at Pacific's main campus in Stockton and their professional courses at Pacific's Arthur A. Dugoni School of Dentistry in San Francisco.

Any freshman applicant who selects "pre-dental" from the list of majors on his/her/their application for undergraduate admission is automatically considered for all three programs. Please note that students admitted to the 2+3 program are also automatically admitted into the 3+3 and the 4+3 programs, and those students admitted to the 3+3 program are also admitted to the 4+3 program. It is also important to note that the 2+3 and 3+3 programs do not "accelerate" four years worth of undergraduate

study into two or three years. Students in these two programs take the same course load as most students on campus, they simply take only those specific courses which meet the requirements to advance to the Arthur A. Dugoni School of Dentistry after two or three years.

The following minimum criteria for consideration are valid for students entering in the Fall semester 2018. Pacific reserves the right to change criteria for students entering in subsequent years.

Five-Year (2+3) Pre-Dental/Doctor of Dental Surgery (DDS)

Program allows completion of two years (four regular semesters) of specific Pre-Dental and general education courses on Pacific's Stockton campus. This is then followed by three years (eight semesters in 36 months) at the Arthur A. Dugoni School of Dentistry in San Francisco. Upon successful completion of the five-year program, the student earns a DDS degree.

Six-Year (3+3) Bachelor's/DDS

Program allows for completion of all Pre-Dental and general education requirements, and the courses for a major in either Biological Sciences or Chemistry in three years (six regular semesters). The credit from the first year of dental school can then be used to earn a bachelor's degree, and the DDS degree is earned upon completion of the third year of dental school.

Seven-Year (4+3) Bachelor's/DDS

Program allows students to major in almost any discipline, while they complete all Pre-Dental and general education requirements, prior to entering the DDS program.

Pacific Legal Scholars

Six-Year (3+3) Bachelor's/Juris Doctorate (JD)

<http://go.pacific.edu/LegalScholars>

This program permits highly qualified students to enroll at University of the Pacific's McGeorge School of Law during the fourth year of study at the University and complete a bachelor's degree at the end of the first year of law school. Students must apply for admission to the Pacific Legal Scholars program and meet program admissions requirements, including an admissions interview. To move on to the McGeorge School of Law, students must complete all general education and major course requirements, complete three seminars and an upper division law course to prepare for law school and participate in a number of off-campus law-related activities. They must also complete the application for admission to University of the Pacific's McGeorge School of Law and meet all admissions criteria including the median LSAT score and undergraduate GPA for the prior year's matriculating students. The Pacific Legal Scholars Program is open to students in any major, but some majors may not be possible to complete in three academic years. A 4+3 version of the program is also available.

Admission of Professional PharmD Students

www.pacific.edu/pharmd (<http://www.pacific.edu/pharmd>)

Students who seek admission to the Doctor of Pharmacy degree program who did not enter Pacific as a freshman through the pre-pharmacy advantage program must have completed a minimum of 64 transferable units prior to matriculation. These units must be in specific courses which meet University of the Pacific Thomas J. Long School of Pharmacy and Health Sciences requirements. Therefore, no application to the Doctor of Pharmacy program is accepted unless the applicant has taken, is taking, or plans to take, all of these pre-pharmacy courses prior to enrollment (see specifics in School of Pharmacy section). Students who

have not taken organic chemistry or biology within the last seven years must enroll in refresher courses before entering.

Admission to the Doctor of Pharmacy degree program is competitive. Factors considered in the application review include overall grades, math/science grades, difficulty of course loads, academic performance trends, curriculum selection, recommendations, involvement in clubs, organizations and community service, demonstrated leadership positions, pharmacy work experience, communication skills, and a mandatory interview.

All students applying to the Doctor of Pharmacy program must apply through the Pharmacy College Application Service (PharmCAS): www.pharmacas.org (<http://www.pharmacas.org>). Pacific's application deadlines, and all instructions for applying for this program, is found at www.pacific.edu/pharmd (<http://www.pacific.edu/pharmd>). It is critical that candidates submit all required information in a timely manner. Applications are not reviewed until they are complete. Students who complete their files after published deadlines are considered on a space available basis only. A completed application includes: PharmCAS application and fee, supplemental application form and fee, two recommendations (on required forms), Educational Background Chart, resume, and official transcripts from all colleges and universities attended. International students must also supply an official letter on bank stationary that verifies funding for at least one full year, a copy of their I-20 form, and a copy of their I-94 form, and furnish an international address. Some documents must be sent to PharmCAS and some to Pacific. Students with international coursework are required to submit an evaluation from Educational Credential Evaluators (ECE). Students whose native language is not English may be requested to submit scores from the Test of English as a Foreign Language (TOEFL). The minimum acceptable TOEFL score for admission consideration is 550 (paper-based), 213 (computer-based), or 80 (Internet Based). An IELTS score of 6.5 is acceptable in place of the TOEFL.

All admitted students are required to grant consent for a background investigation and to read and agree to the Technical Standards for Pharmacy Admission and Graduation prior to matriculation. Final approval for admission will not be granted until the background investigation results are reviewed. Additional information on the Technical Standards for the Doctor of Pharmacy program can be found at: <http://www.pacific.edu/Admission/Graduate-Professional/Pharmacy/Pharm-D-Technical-Standards.html> (<http://web.pacific.edu/Admission/Professional/Pharmacy/Pharm-D-Technical-Standards.html>).

Please visit www.pacific.edu/pharmd (<http://www.pacific.edu/pharmd>) for details on application requirements. Direct any questions about the Thomas J. Long School of Pharmacy and Health Sciences to the Coordinator for Pharmacy Admission at (209) 946-2211.

Enrollment Deposit

An enrollment deposit is required of all admitted applicants to hold the applicant's space in the academic program. This enrollment deposit is nonrefundable, unless otherwise noted, and is applied toward the student's first-term tuition upon matriculation to the University. Deposit amounts may vary depending upon the academic program.

Commencement Office

The Office of the President houses the official Commencement Office for the University. For additional information, please call (209) 946-2666 or visit www.pacific.edu/commencement (<http://www.pacific.edu/commencement>).

Division of Student Life

The vision of Student Life at Pacific is to be a leader and advocate within the University of the Pacific and our profession by inspiring and cultivating global student citizens for a lifetime of learning, growth, engagement, and service. The mission of Student Life is to provide transformative educational experiences and essential services that advance student success. Through innovative thinking and dynamic programs, each Student Life member focuses on students' personal growth and educational experience. These values inform our individual roles and departmental functions and unify us as a Division. We realize our mission through:

- **Potential** - We are committed to providing a living, learning, and working environment that encourages both our students and our staff to reach their full potential;
- **Student Development** - We believe in educating the whole student by developing and supporting their emotional, environmental, financial, ethical, intellectual, physical, and social needs;
- **Meaning and Purpose** - We believe in the importance of providing opportunities to those seeking meaning and purpose in ones' life and value the various activities and practices associated with a religious or spiritual tradition including, but not limited to, meditation, reflection, or prayer;
- **Responsible Leadership** - We believe that leadership manifests itself in many forms. It can be taught, developed, and nurtured and is a tool that encourages success throughout a student's education, lives', and future careers;
- **Achievement** – We believe that each student is unique and deserves a comprehensive system of support services that will assist in meeting their educational and personal goals;
- **Diversity and Inclusion** - We are committed to social justice, diversity, and challenging forms of hate and exclusion, and;
- **Community Involvement** - We believe in the value of community service, volunteerism, and in the importance of civic engagement, connection, and participation.

Freshman Orientation

Even after four successful years of high school, for most students, college is the first day of school all over again. Freshmen orientation is specifically designed to address the transition into college life for the first-time college student. During orientation, first year students have the opportunity to meet and develop rapport with current Pacific students, faculty and staff, while also learning about all aspects of campus life. New students also learn about academic majors, expectations, participate in advising, and complete registration for fall classes as a part of the orientation experience.

Transfer Orientation

Transfer orientation is designed to recognize and build on the previous college experiences of transfer students, while at the same time introducing them to the unique aspects of college life at Pacific. Transfer students participate in an orientation program that includes academic advising, course registration and information about how to quickly become engaged in Pacific's academic and campus culture. During Transfer orientation, students have the opportunity to interact with many faculty, students and staff that may play a key role in their college career and time at Pacific.

Family Orientation

Family members who attend Family Orientation leave with an understanding of Pacific culture, knowledge about academic

requirements and expectations, and information about the services and opportunities available to their student. Family members who participate in orientation can also expect to enjoy Pacific hospitality and the company of other families during their time on campus.

Week of Welcome

Week of Welcome (WOW) serves as a kick off to the academic year at Pacific. For all new students, the week is designed to give an opportunity to transition to Pacific, creating a bond with the University and the surrounding community. During WOW all new students will participate in a variety of activities to help prepare them for success at Pacific. The week includes New Student Convocation and an all campus BBQ. For returning students, the week provides time to reconnect with friends, faculty and staff and prepare for the rigors of the coming year.

New Student Convocation

New Student Convocation serves as a formal welcome of all new students into the academic life of the University. During the ceremony, Pacific's values of scholarship, leadership, and citizenship are introduced and highlighted. New Student Convocation is also intended to be a celebration of university life and a formal acknowledgement of the university's commitment to support students in the achievement of their educational goals – both inside and outside the classroom.

Parent Programs

Parents and family members with questions about Pacific resources or programs may seek assistance through the staff of New Student & Family Programs at (209) 946-7619 or by sending an email to parentassociation@pacific.edu. University calendar information, campus news, and special event information can be accessed through the "Parent" page (<http://www.pacific.edu/Campus-Life/Student-Services/New-Student-and-Family-Programs/Parents-and-Families.html>). If you'd like to receive the monthly parent newsletter please email parentassociation@pacific.edu including your student's name and ID number.

Student Outreach and Academic Support Services

Community Service Opportunities

The Center for Community Involvement (CCI) provides in-depth learning in Leadership, Advocacy, and Activism through service to the Stockton community. CCI provides students with opportunities and resources to contribute through community service and volunteer work with a diverse number of non-profit organizations. During the academic year Pacific students tutor youth, conduct on-campus enrichment programs, and volunteer at many non-profits including Habitat for Humanity, Stockton Shelter for the Homeless, St. Mary's Dining Hall, Boggs Track Community Farm, and many more. Additional campus-community involvement opportunities have included students from the School of Education who teach youth to construct balloons and pin wheels during the annual Balloon Fest, Physical Education students who teach swimming to the disabled; Spanish-speaking students who teach adult Mexican-Americans to speak and read English. For more information on current community service opportunities and the Reach Out program see Reach Out Online (<http://pacific.galaxydigital.com>).

In addition, Pharmacy students are actively involved in the community through the Academy of Students of Pharmacy. Programs sponsored by the students include the Aids Awareness, Diabetes Education, the Drug Awareness Children's Carnival and Immunization Certificate programs.

The prominence of the Pharmacy students in these areas has manifested itself over the years by the accumulation of awards and grants.

Community Involvement Program

The Community Involvement Program (CIP), established in 1969, is a comprehensive need-based scholarship and retention program for first-generation college students from the Stockton community who have demonstrated the potential for sustainable leadership, community awareness, and involvement. The Community Involvement Program is only for new incoming University of the Pacific students. Once in the program, students are offered leadership training and various opportunities for students to return to the community as leaders and agents of social change.

Students in the Community Involvement Program are selected based on their participation in the Stockton community, maturity, and potential to contribute his/her time and energy to the Community Involvement Program. CIP students contribute a significant amount of time in the Stockton community through volunteering at various community organizations. For more information contact the CIP Office at:

Center for Student Success
McCaffrey Center, First Floor
Telephone: (209) 946-2436
Fax: (209) 946-2176
Email: cip@pacific.edu

The Women's Resource Center

The Women's Resource Center (WRC) aims to increase awareness and scholarship regarding women's and gender issues, to celebrate and cultivate leadership on campus and beyond, and to empower students to be active participants in bringing about social change. Annual events hosted by the WRC include the Women of Distinction Awards Luncheon as well as programming for Women's History Month, Sexual Assault Awareness, and Domestic Violence Awareness. In partnership with the Office of Title IX, the WRC runs the Title IX Peer Education Program to encourage students to help end gendered violence in our community. Located inside the Intercultural Student Success Center, the WRC is a welcoming space for students to study, relax, and find community.

Military and Veteran Student Support Center

Proud of its designation as being a military friendly institution, the University of the Pacific is dedicated to serving the needs of those who previously were in, or currently are serving in, the United States armed services and their qualified dependents. The Military and Veteran Student Support Center is the hub for Veteran student life and offers help and assistance in the application, certification, and coordination of military and veteran educational benefits, the synchronization of University support services with the needs of Veteran students, and in being a liaison between Veteran students and the Department of Veterans Affairs.

Intercultural Student Success

Intercultural Student Success (<http://www.pacific.edu/Campus-Life/Diversity-and-Inclusion/Multicultural-Affairs.html>) strives to provide enriching educational opportunities for students of all backgrounds. ISS is an inclusive community that advances student success by helping students navigate their identity development and build intercultural competence. The department includes the ALANA (African, Latinx, Asian Pacific Islander, Native American) Center, Black Student Success, El Centro (Latinx Outreach), The Pride Resource Center, and the Women's Resource Center. Together, these areas work to help support students'

intersectional identities through building community, capacity, and advocacy.

The Pride Resource Center (<http://www.pacific.edu/Campus-Life/Diversity-and-Inclusion/Pride-Resource-Center.html>) provides holistic and identity conscious support services to the lesbian, gay, bisexual, transgender, queer, questioning, intersex, and asexual (LGBTQQIA+) community at Pacific. Signature programs and events include: Safe Zone LGBTQ+ Awareness & Allyship Training, National Coming Out Day, Pacific Pride Week, and Lavender Graduation. The PRC strives to be a leader and advocate for LGBTQ+ inclusion and equity within the University of the Pacific and the greater Stockton community.

El Centro (Latinx Outreach and Academic Resource Center)

El Centro's mission is to assist in recruiting new undergraduate students, retain current students, build mutual beneficial partnerships with community organizations, connecting students to internal and external resources, advising Latinx-focused student groups, and in planning and developing rich and relevant programming around Latino/a/x themes and issues. El Centro also helps the University's commitment to diversity, inclusivity, national/ international education and cross-cultural understanding. El Centro is a home away from home for all students on or off campus.

Some of our annual events include Bienvenidos Week, Student Financial Aid and College Awareness Workshop, Raza Unida Conference, Pozole for the Academic Soul, Latinx Heritage Month, and Latinx Graduation.

We are located at Raymond Lodge (El Centro) between Casa Warner and Price House Residence Halls and across from the Vereschagin Alumni House. For more information call 209.946.7705 or check out our website for upcoming events and activities at

<http://www.pacific.edu/Campus-Life/Diversity-and-Inclusion/Latino-Outreach.html>

Black Student Success

Black Student Success offers programs and support services to students of African descent. Throughout the school year, Black Student Success hosts receptions, academic workshops, networking events with members of the Black Alumni Club, and social events. Black Student Success also offers book scholarships of up to \$250 for students in need.

A signature program of Black Student Success is Students Emerging as Pacificans (STEPS) program. STEPS is a 4-day retreat that assists incoming students of African descent with their transition to college life. Pacific faculty, staff, current students, and alumni work directly with STEPS participants, introducing them to University and community resources to enhance their academic and co-curricular success.

Housing

Living on campus is central to student life at Pacific. The University recognizes that living on campus contributes significantly to a student's development, the learning process, and considers the residential living experience to be an important part of its educational opportunities. The University requires all students to live on campus for their first four semesters (not including summer term). There are exceptions to this University policy. They can be found in the Tiger Lore or by contacting Residential Life and Housing.

Residential Life and Housing provides living accommodations for approximately 2,100 students in 11 residence halls, five apartment facilities, and five University-owned Greek facilities. Residence halls are reserved for first-year students. University apartments are for

students who are second-year students and above (including graduate and professional students). Our apartments are separated into units that house either second-year students or junior, senior, and graduate students. Greek housing is limited to students who are active members and were initiated prior to the start of the academic term. All residential facilities are managed by professional, live-on staff members. Each of the University's residence halls and apartments are coeducational, where men and women reside within the same facility. All students living in the residence halls, apartment communities, and University-owned Greek facilities are required to be part of a University-approved meal plan.

Upon acceptance to the University, an applicant will be emailed information describing Pacific's living options, housing rates, and instruction on how to apply online. The Student Housing Agreement is for the complete academic year, including both the fall and spring semesters, for general university students. For Pharmacy students, this agreement also extends through the summer term. The residence halls and most dining facilities are not open during the winter break recess period for both general term and Pharmacy term students.

Detailed descriptions of these facilities, including cost are available from Residential Life and Housing at 209.946.2331 or iamhome@pacific.edu. Housing is guaranteed for first-year students and second-year students only. Upper-division and Graduate students will be considered on space availability.

Dining Services

The Dining Service Program is provided by Bon Appetit, the premier name in university dining. Menus are created by the on-site Executive Chef with an emphasis on taste, quality, and using only the freshest ingredients. The program requires that students who reside in the residence halls and apartments participate. The program also features a dining plan for off-campus students. Multiple student dining options are found at the University Center, whereas "Grab and Go" alternatives available in the Grove.

Pacific's meal plan works like a debit card. This plan is useable at the eating venues in the University Center and throughout other campus dining locations. Each time a student makes a purchase at one of the many dining venues, the amount is deducted from the balance. A receipt is provided that shows the amount used and the remaining balance left on the account.

Students are able to use their meal plan account in a variety of dining locations through the University Center including the Marketplace (the main dining facility), The Lair (the campus pub), and the Calaveras Coffee House. In addition, students can use their account at the Davey Café (located in the Library), the Health Sciences Café (located in the Health Sciences Learning Center), the E.A.T. Food Truck (located on South campus), and the Grove, a University Convenience Store (located in the McCaffrey Center). The Grove offers items such as detergent, household cleaning supplies, toiletries, as well as "grab and go" food options such as fresh made salads, coffee, soups, sandwiches, and desserts.

The Marketplace features a variety of stations to choose from including a **Pomodoro** station that features Italian-inspired meals, a **New York Deli** station that creates both hot and cold sandwiches, a **Wok to Thailand** station that offers specialties from Thailand, a **Smoke House** station that focuses on grill menu options, and other menu options that include a salad bar, home-style soups, freshly baked desserts, and beverages. Within our food stations, you can find vegetarian, gluten-free, and halal meat options.

For more information on meal plans, please contact Residential Life and Housing at 209-946-2331 or iamhome@pacific.edu.

Pacific Health Services (P-HS) and Counseling and Psychological Services (CAPS)

Pacific Health Services (P-HS) and Counseling and Psychological Services (CAPS) are both located in the Cowell Wellness Center building on the Stockton campus. They are each departments within the Division of Student Life. The Cowell Wellness Center building is located across the foot bridge on the north side of the campus at the corner of Brookside and Manchester Roads (1041 Brookside Road). On the Sacramento campus both departments are in the Muddox Building at 3455 5th Avenue.

Pacific Health Services and CAPS have reduced hours during the summer that parallel the hours of the university. In person services are not available on weekends, holidays, retreat days and winter break. Professionally staffed advice lines are available during non-business hours for enrolled students. Professional staff also provide follow-up as needed on the next business day.

Student Health Services

Student Health Services (SHS) is available Monday through Friday. Services are provided on an appointment bases; walk in visits are seen case-by-case, determined by the urgency of the presenting condition. Use the portal MyHealth@Pacific (<https://healthservices.pacific.edu>) to book a visit. Visit the health services' website (<http://www.pacific.edu/healthservices>) for more information. After hours or on the weekends, students can access a contracted Nurse Advice Line at 209.946.2315 option 4. Students enrolled in the Student Health Insurance Plan (SHIP) also have access to 24/7 telemedicine services through LiveHealth Online. Download the app in the App Store or on Google Play.

The Cowell Wellness Center Fee allows students to be seen without paying an office visit or co-pay, regardless of health insurance status. Further costs may be incurred with the purchase of medication, immunizations, procedures, diagnostic testing, or referrals to off campus health care providers. Students must pay these additional costs associated with their care at the time of service and in some cases may submit an itemized receipt for reimbursement to their health insurance plans.

The comprehensive SHS team consists of a Physician, Nurse Practitioners, Medical Assistants, Phlebotomists, an Insurance coordinator, immunization coordinator, and a Registered Dietitian. Health care delivery and medical record management are protected by privacy and confidentiality regulations.

SHS provides a wide variety of medical services including the management of common health problems such as acute minor illnesses and injuries and preventive care including nutrition services, gynecology, contraceptive maintenance, STI testing, immunizations, and routine physicals. Several categories of medication are provided directly through SHS, otherwise prescriptions are filled at local pharmacies. Laboratory services include limited in-house testing and full service processing through local labs.

Management of chronic conditions is provided on a case-by-case basis depending on the complexity of the situation. Typically, students are referred to local specialists for this care. Hospitalization and emergency treatment for life-threatening conditions are not managed at SHS. In those circumstances, care is referred to a local hospital. Staff may arrange for ambulance transport as indicated.

Students are required to meet the immunization and TB clearance as a part of university enrollment requirements. Students should upload documents through the medical portal MyHealth@Pacific (<https://healthservices.pacific.edu>). The fall deadline is 10/15 and the spring deadline is 2/15 each year. Students must check their status and respond to communication through the portal. Failure to become compliant with the immunization policy will result in a registration hold and in some instances a late fee.

Health Insurance

Health insurance is a mandatory non-academic condition for enrollment. To ensure that all students have adequate health care coverage, including ongoing primary and specialty care, and to satisfy the mandatory health insurance requirement, Pacific automatically enrolls all registered students into the Anthem Blue Cross of CA, Student Health Insurance Plan (SHIP). The Student Health Insurance Plan (SHIP) is a comprehensive health plan that provides a full range of medical services, including in/out patient services, specialty care, emergency care, hospitalization, mental health care, vision services and pharmacy coverage. For detailed information about SHIP please visit <https://www.pacific.edu/insuranceenrollment>.

Each term that you are enrolled in classes at Pacific, your student account is automatically charged the fee for SHIP and you will be enrolled automatically*. The fee will appear on your e-bill statement as a separate charge.

Students who have acceptable comparable health insurance coverage may apply for a waiver to opt out of the SHIP plan.

To opt out of the SHIP plan, your private health insurance plan must have all of the following in order to qualify for the waiver:

DOMESTIC STUDENTS

- If the plan is purchased through Covered California, in most cases it must be Silver level or higher
- Deductible no greater than \$2,500 for an individual or \$5,000 for a family unless proof of a Health Savings Account (HSA), Health Reimbursement Arrangement (HRA) or other account designed specifically to cover deductible expenses can be furnished. The amount of money in the account must cover the difference between the University's requirement and your deductible.
- Access to primary care, preventive care, specialty care and inpatient/outpatient care, including mental health services, **within 100 miles of Pacific**.
- Plan must be purchased, operated and headquartered in the United States.
- Medical providers must be able to submit claims in the U.S. to the plan; it cannot be a reimbursement model.
- Coverage must be effective prior to the waiver deadline dates and remain active through the last day of the term.
- This must be a comprehensive insurance plan: travel insurance, assistance programs, and catastrophic only plans are not acceptable.

INTERNATIONAL STUDENTS (F1 Visa status)- Additional requirements to waive SHIP coverage:

- All students attending with an F1 Visa will be required to enroll in the student plan unless they are sponsored by an Embassy or are part of the ISEP program.
- International students must have medical evacuation benefits of \$25,000 or more.

- International students must have repatriation benefits of \$50,000 or more.
- International students may not waive with insurance from their home country. In addition, travel insurance or an insurance with a reimbursement model are not eligible for a waiver.

All online waivers must be received prior to the waiver deadline date. **No exceptions will be made.** The waiver application is available online through MyHealth@Pacific during scheduled waiver periods.

2019-2020 scheduled health insurance waiver periods

Fall

06.01.2019 - 09.06.2019

06.01.2019 - 07.31.2019 (*Dental Students Only*)

Spring

11.01.2019 - 01.31.2020 (*All Students*)

How to access the waiver:

1. Confirm the waiver deadline
2. Visit MyHealth@Pacific
3. Choose the Waiver option on the left.
4. Answer the questions and upload a copy of your insurance card.
5. Your insurance waiver will be audited and we have the right to reverse an approved waiver if we find there is incorrect or misleading information on the application.

If you are unable to access or complete the waiver application, contact the Insurance Office prior to the waiver deadline at 209.946.2027.

Please note: you will receive an insurance card at the mailing address listed within the university system. Please make sure you update any changes with the Registrar's Office.

*Not all students are automatically enrolled. Automatic enrollment is based on the amount of registered units per term. Undergraduate and graduate students must be registered for 9 units or more, Law students must be registered for 6 units or more, and Dental students must be registered for 1 unit or more before automatic enrollment will occur. Students falling below the required units can choose to enroll in the plan but must do so in an active manner by contacting the Insurance Office. Students studying abroad and certain other off-campus students are not automatically enrolled regardless of units but are still eligible for the plan.

For further information, please visit <https://www.pacific.edu/insuranceoffice> or call the Insurance Office at 209.946.2027

Counseling and Psychological Services (CAPS)

CAPS is located on both the Stockton and Sacramento campuses. CAPS appointments are available by appointment or as soon as possible in cases of a psychological emergency. Therapy sessions are confidential and free of charge to students who have paid the Student Health Fee. *CAPS does not bill your insurance for any of our services.* Students may access up to ten individual therapy appointments per year through Counseling and Psychological Services (CAPS). Students are accommodated on a case-by-case basis for situations or conditions requiring additional therapy sessions.

Counseling and Psychological Services (CAPS) assists Pacific students who may be experiencing situational, psychological or interpersonal

difficulties. The goal of CAPS is to enable students to benefit from, and maximize their educational experience at Pacific. CAPS offers individual, couples, and group counseling focusing on a variety of issues. These issues may include: dating, family relationships, depression, anxiety, grieving, sexuality, self-esteem and self-image, eating disorders and body image, sexual abuse or harassment, drug and alcohol concerns, roommate disputes, stress management, assertiveness training, time management, decision making, goal setting, and values clarification. Limited psychiatric consultation and medical management of psychotropic medications may be available.

CAPS provides consultation to other campus offices regarding mental health related concerns. In addition, Counseling and Psychological Services offers educational outreach programs to the university community.

The CAPS staff includes psychologists, and a marriage and family therapist. In addition, experienced doctoral psychology interns work under licensed supervision to provide services. After-hours crisis consultation is available by calling 209-946-2315, extension 2, option 4. For after hours on-campus psychological emergencies contact the Department of Public Safety at (209) 946-3911.

Pacific Wellness

The PacWell Department values collaboration, partnering, and student focused growth. Our team values accountability, communication, being realistic, trust, creativity and innovation. We are creative partners, focusing on whole-student agility and growth, and our aim is to create a campus culture of wellness. We are located on the Stockton campus and housed on the third floor of the Cowell Wellness Center.

PacWell offers a variety of fun, engaging educational opportunities so students and staff can gain skills in one or all of the eight life skill areas: social, emotional, physical, spiritual, career, financial, intellectual and environmental. We offer Tame the Tiger: Mastering Stress the second week of October and Wellness Week during the last week of March. We also offer a variety of quick, engaging activities that include alcohol awareness, hydration, sleep, nutrition, studying well and more during Wellness Corner, which occurs every other Wednesday and is located in Baun Fitness.

Student Health 101 is our online health and wellness magazine that offers a myriad of wellness topics spanning all eight dimensions. Every student, staff, faculty and parent who would like to receive the magazine is placed on our emailing list.

PacWell also offers a myriad of workshops both on campus and inside the Residential Life living communities. Any RA or professional staff who requests a workshop can do so through the Health and Wellness Liaison or the Director of PacWell, or visit the workshop section on our webpage (<http://www.pacific.edu/Campus-Life/Activities-and-Programs/Pacific-Wellness.html>).

PacWell also offers the Pacific Food Pantry (<http://www.pacific.edu/Campus-Life/Activities-and-Programs/Pacific-Wellness/Food-Pantry.html>) to any student struggling with food insecurity. The pantry is located on the second floor of Cowell Wellness Center. Simply show your Pacific ID to the front desk staff and help yourself to one bag of non-perishable food items per week.

The Student Victim Advocate Program

The Student Victim Advocate Program (<http://www.pacific.edu/Campus-Life/Safety-and-Conduct/Victim-Advocacy-Program.html>) is housed within Public Safety on the 3rd floor of the Cowell Wellness Center. The Student Victim Advocate is a trained professional which

provides confidential and free **non-judgmental** support and information to students and employees who may be victims of crime, violence or abuse. The student victim advocate serves all three campuses and strives to treat victims with **compassion and respect**.

The Student Victim Advocate is also available to speak to classes, student groups, and residential communities on topics such as: sexual assault awareness, healthy relationships, personal safety and self defense.

Contact Information

Business Hours: Monday-Friday 8:30am-4:30pm call **209.403.0250** or **209.946.2428**

After Hours: Call counseling services at **209.946.2315 ext. 2, then choose option 4**

24/7 Hot-line: Call the Women's Center hotline at **209.465.4997**

Career Services

The Career Resource Center (CRC), located in the McCaffrey Center, is a comprehensive career center offering services to students and alumni seeking to establish and accomplish employment and graduate education goals. Students are encouraged to engage in the "Tigers on Pace" four-phase career plan, beginning in their freshman year at Pacific.

This instrument emphasizes individuals participating in active career exploration and skill building over their course of enrollment at Pacific, including through internship and other experiential learning opportunities.

The CRC also sponsors and coordinates on-campus recruitment events including career fairs, etiquette dinners, employer information sessions, and on campus interviews. Throughout the year over 150 diverse companies and organizations are engaged on campus and interact with students and alumni. In addition, employment and internship opportunities are easily accessed through postings on Tiger Jobs, and are available 24/7.

Additionally, the CRC provides access to a variety of hard copy job search and career exploration resources in the office or electronically through the CRC website at www.pacific.edu/careers. For more information contact the CRC at 209-946-2361.

DeRosa University Center

The University Center at Pacific is a student-centered extension of the University's mission that highlights personal and academic excellence. Constructed in the heart of the beautiful Stockton campus, the University Center serves as a powerful example of Pacific's commitment to sustainable design, green construction practices and environmental stewardship.

The University Center consists of many interrelated spaces that have been designed to encourage and support a diverse menu of social and educational programs.

The building offers:

- Pacific's first green building
- Full service pub
- Entertainment venues
- Hi tech meeting rooms
- New student bookstore
- Multiple dining spaces
- Ultra gaming lounge
- Exterior seating and social spaces

- Pacific Marketplace, Pacific Commons (dining hall), Calaveras Coffee Co. (coffee shop), The Lair (pub), The Brickyard (pub performance space), The River Room (formal dining room)

Art Gallery

The Richard H. Reynolds Art Gallery is a professional exhibition space featuring a rotating schedule of national, regional, and student artists. Exhibitions, artists' talks, and demonstrations support the academic goals of the Department of Art and Graphic Design and offer unique art experiences to the entire University community. The Gallery is located on south campus in the Jeannette Powell Art Center adjacent to the art and graphic design studios.

Pacific PROMISE Scholars

The University of the Pacific is proud to be a private institution of higher education to provide a support program to assist its students who are former foster care students and others from similar backgrounds. Eligible students can receive many services to assist in their successful transition to Pacific including mentoring, social events, college starter kits and finals baskets. In addition, scholarships may be available for eligible students.

For more information, contact: Pacific PROMISE Scholars
McCaffrey Center, First Floor
Phone: (209) 946-3917
Email: abautist@pacific.edu

SUCCESS

The University of the Pacific is one of only a few private universities in California that have sponsored a federal TRIO program for its first generation college students since 1979. The goal of the program is to assist eligible students in their retention and graduation by providing comprehensive services, grants and activities. Studies by the U.S. Department of Education have shown that students who participate in these programs are twice as likely to remain in college and to graduate than their peers who do not participate in similar programs.

For more information contact the SUCCESS Office at:

McCaffrey Center, First Floor
Phone: (209) 946-2439
e-mail: success@pacific.edu

Upward Bound Program

Upward Bound is a Federal TRIO program that provides fundamental support to Edison high school students with free educational and personal support services. Services offered are tutoring services, college and career preparatory workshops, college campus tours, and individual graduate success plan. In addition, we offer a 6-week summer component at the University of the Pacific.

For more information contact the Upward Bound Office at:

Cowell Wellness Center, 3rd Floor
Phone: (209) 932-3265
Email: upwardboundprogram@pacific.edu

Religious and Spiritual Life

Our goal is to cultivate and support religious and spiritual life at Pacific in all its many forms. We serve the needs of all students, no matter what one's religious tradition, or if you don't consider yourself religious or spiritual at all. While we make no claim to have all of life's answers, we can help point you in the right direction, provide resources for you, and work with you through the questions that will inevitably arise as you grow

during your time at university. We can also help you find people or groups who share your interests. Our hope is that in doing so you will find a level of fulfillment, understanding, and perhaps meet other people who you can journey with in the questions of life.

The multifaith Chaplain's Office in Religious and Spiritual Life provides spiritual care and support for all students. Visit Sears Hall (connected to Morris Chapel) to meet the Chaplains and Affiliate Campus Ministers. Pacific has many active religious, faith, and spiritually-based student organizations including (among others): Asian American Christian Fellowship, Black Campus Ministries, Chi Alpha Christian Fellowship, Fellowship of Christian Athletes, Health Sciences Christian Fellowship, Hillel Jewish Student Club, Indian Student Association, Interfaith Council, Muslim Student Association, Newman Catholic Community, Nest Prayer Family, Open Door Methodist Student Ministry, Orthodox Christian Fellowship, Pacific Christian Fellowship (Intervarsity), Secular Student Alliance, and Sikh Student Association. There are also over 160 different churches, synagogues, and other places of worship and religious organizations in the greater Stockton area. Go to pacific.edu/religiouslife for more information.

Campus Safety

The University is serviced by the Department of Public Safety who are sworn officers. The campus police are dedicated to the goal of maintaining the excellent safe academic environment that the University provides. The department provides many services, which are designed to make the time spent on campus a pleasant and rewarding experience. Students are encouraged to avail themselves of these services. University of Public Safety programs include: sexual assault prevention, self protection, crime prevention, emergency phones, weekend shuttle service around Stockton. Ride Along Program, and special event planning. The office also oversees the S.T.R.I.P.E program which is a safety escort service managed by students. For any further information or questions that you may have, phone Public Safety at (209) 946-2537 or visit our web site link under Student Life at www.pacific.edu (<http://www.pacific.edu>).

Campus Safety and Security Report

University of the Pacific publishes an Annual Safety and Security Report for the Stockton campus that includes statistics concerning reported crimes that occurred on and around the Stockton campus for the previous three years. The Report specifically identifies statistics for crimes that occurred on campus, in certain off-campus buildings owned or controlled by the University and on public property within, or immediately adjacent to and accessible from the campus.

The Report also includes institutional policies and procedures related to campus safety and security. The Report provides information on the University of the Pacific's policies concerning alcohol and drug use, sexual assault and fire safety, including fire statistics. Additionally, the Report outlines University procedures for reporting crimes, providing emergency response, emergency evacuations and emergency notifications.

The report is available on-line at:

<https://www.pacific.edu/campus-life/safety-and-conduct/public-safety-and-services/clery-and-crime-information.html>

You may also contact the Department of Public Safety to obtain a hard copy of the report.

Information on registered sex offenders is available on-line at <http://www.meganslaw.ca.gov>. or from the Stockton Police Department located at 22 E. Market Street.

Activities and Organizations

While giving primary emphasis to the goal of academic excellence, the University recognizes and encourages co-curricular activities through academic, political, recognition, professional, and fraternal activities. There are a wide variety of religious, social, cultural, recreational, special interest and governance organizations.

Student Government

The Associated Students is the student government of the University of the Pacific (ASuop). ASuop is funded by the University of the Pacific students. The organization houses three different entities which are the Arts and Entertainment (A&E), Graphic Design, and Student Government. ASuop has a dual mission:

1. To serve as an official channel for the free exchange of ideas and opinions among the administration, faculty, staff, and students;
2. To provide services and student activities across campus that enrich the social, cultural, and educational aspects of university life.

A per semester fee is assessed to every undergraduate or professional student registered with more than 8.5 units including them as an ASuop member. Income from the fee funds various programs and services, including funding to RSOs and various campus-wide events and entertainment. The success of ASuop depends upon active student involvement. To get involved or for further information, visit the ASuop office located on the second level of the McCaffrey Center, or call (209) 946-2233.

Intercollegiate Athletics

The University is a NCAA Division I institution and a member of the West Coast Conference, the Golden Coast Conference (m/w water polo), and the Mountain Pacific Sports Federation (m/w swimming). A broad range of intercollegiate athletic opportunities are offered in both team and individual sports. Men's sports include baseball, basketball, golf, soccer, swimming, tennis, and water polo. Women's sports include basketball, beach volleyball, cross country, soccer, softball, swimming, tennis, track, volleyball and water polo. Notable among the facilities are the Pacific Aquatics Center with an Olympic-size swimming pool, Klein Family Field (baseball), Janssen-Lagorio Gymnasium, Raney Sand Volleyball Courts, Bill Simoni Field (softball), Eve Zimmerman Tennis Center, and the 6,000-seat Alex G. Spanos Center.

Campus Recreation - Pacific Recreation

Pacific Recreation offers the campus community (Student's, Faculty and Staff) opportunities to participate programs, facilities and services to experience and build on their wellbeing. The program is based out of the Baun Fitness Center which includes Cardio and Strength Fitness Equipment, fitness studios, climbing wall, locker rooms and a racquetball court. Pacific Recreation also offers programming and events in Main Gym, Brookside Field, Gardmeyer Field and shares access to the Janssen-Lagorio Gym. Programs offered including Intramural Sports, Sport Clubs, Tiger X Classes, Personal Training and Tiger Escapes. Pacific Recreation offers the campus community a great to engage and personal wellbeing through active participation in a variety of programs, services and facilities. For a complete list of programs, services and opportunities please visit www.pacific.edu/rec (<http://www.pacific.edu/rec>) for more information.

Theatre Arts

Theatre Arts contributes to the cultural and entertainment life of the campus and community by presenting a regular season of plays and dance concerts in the Long Theatre and the DeMarcus Brown Studio

Theatre. These productions are an experiential laboratory for theatre arts minors and are also open to all students by audition, generally during the first week of the semester. Units applicable toward graduation may be earned through registered participation.

KPAC (Pacific Student Radio)

Students have the opportunity to participate in the activities of KPAC, a student operated and simulcasted radio/TV station. The station allows students to gain practical experiences and test classroom theory. KPAC utilizes a low-powered FM signal, streams online video and audio, and broadcasts across campus via the university's closed circuit TV system.

ASUOP Graphic Design Studio

ASUOP Graphic Design Studio is dedicated to the creation of digital media- specifically as it is related to digital marketing and advertising. A comprehensive program, it includes digital still photography, digital video, editing, and creation of motion graphics and still marketing pieces. ASUOP Graphic Design Studio is an educational environment in which students gain hands-on experience with state of the art equipment.

ASuop Arts & Entertainment (A&E)

ASuop Arts & Entertainment (A&E) entertains, enriches, and educates the University of the Pacific and the City of Stockton with a variety of events. A&E is comprised of a small talented event planning student staff whose mission is to further enhance the social, cultural, and educational aspects of student life while expanding students' knowledge and building leadership skills. With an off-campus trips series that takes students all over California, to a weekly film series, A&E gives new perspective and new experiences to students at Pacific. A&E also produces weekly evening programming in the Lair, where you can find open mic nights, karaoke, and live music! Annual staple programs include Block Party, OASIS, Homecoming, DeStress Fest, a Spring Break trip and a concert. Past artists include: Cheat Codes, IAMSU, DJ Mustard, Kehlani, Cash Cash, A\$AP Ferg, Macklemore, The Cataracs & DEV, John Legend, Talib Kwali, Lupe Fiasco, Common, just to name a few.

For a full listing of upcoming events including the ASuop film series, please check out our website.

Be our friend on Facebook @ASuop Arts & Entertainment or follow us on Twitter, Instagram and Snapchat @ASuopAE.

Orchestra

The University Symphony Orchestra presents a full series of symphony concerts each year. The Symphony also performs for opera and choral performances and for the annual Concerto Competition Winners concert, featuring student artists. University Symphony Orchestra (<http://www.pacific.edu/Academics/Schools-and-Colleges/Conservatory-of-Music/About/Performing-Ensembles/Orchestra.html>)

Bands

The Symphonic Wind Ensemble presents an on-campus concert series and is the Conservatory of Music touring wind ensemble. The University Concert Band presents on-campus and community concert series performing a variety of concert band literature. The Pep Band, run by Student Life, performs at various University athletic events. Students throughout the University are encouraged to audition for participation in all band ensembles. Pacific Bands (<http://www.pacific.edu/Academics/Schools-and-Colleges/Conservatory-of-Music/About/Performing-Ensembles/Bands.html>)

Choruses

The Pacific Singers presents an on-campus choral concert series and is the Conservatory of Music touring choral ensemble. The University Chorus presents an on-campus concert series performing a variety of choral literature. The Oriana Choir (Women's Chorus) presents an on-campus concert series performing choral music for women's voices. Students throughout the University are encouraged to audition for participation in all choral ensembles. Pacific Choral Ensembles (<http://www.pacific.edu/Academics/Schools-and-Colleges/Conservatory-of-Music/About/Performing-Ensembles/Choirs.html>)

Center for Community Involvement

The Center for Community Involvement (<http://www.pacific.edu/Community/Center-for-Community-Involvement.html>) (CCI) is a student-centered learning environment that provides quality, innovative programming which, through student leaders, forms a link between the campus and our Stockton community, where evolving programs provide the spark for education, action and service. The purpose of the CCI is to inspire, support and prepare students to successfully address their concerns through service to their community and the society in which they live.

The Center for Community Involvement is the former Anderson Y Center which has been an important part of the University of the Pacific for over a hundred years. Thousands of students, staff and board members have influenced countless lives within the Stockton community through various clubs and organizations the AYC has sponsored.

The Center for Community Involvement provides staffing for educational support programs throughout the community, particularly with Stockton Unified School District. Additionally, the CCI provides co-curricular community service opportunities to Pacific students through its Reach Out program (<http://pacific.galaxydigital.com>). The CCI is one of the largest employers of Pacific student on campus.

The Center for Community Involvement is part of the Division of Student Life. The CCI receives support from ASUOP, United Way and numerous other supporters and donors.

National Professional Organizations

Alpha Chi Sigma. Chapter for chemistry students who intend to make some phase of chemistry their life work.

Alpha Phi Omega. Alpha Alpha Xi Chapter for students interested in service.

Delta Epsilon Mu. Beta Chapter for students interested in the health fields.

Delta Sigma Pi. Lambda Mu Chapter for business majors.

Kappa Psi. Gamma Nu Chapter for male pharmacy students.

Lambda Kappa Sigma. Alpha Xi Chapter for female pharmacy students.

Mu Phi Epsilon. Mu Eta Chapter for music major students.

Omega Eta Epsilon Chapter for students who are interested or studying linguistics and language-related disciplines.

Phi Alpha Delta. Largest legal fraternity composed of pre-law members.

Phi Epsilon Kappa. Chapter focused on the health, exercise, and sport sciences.

Phi Delta Chi. Alpha Psi Chapter for male pharmacy students.

Phi Mu Alpha - Sinfonia. Beta Pi chapter for members majoring in the Conservatory.

Rho Pi Phi. Pharmaceutical fraternity. Lambda Sigma Delta Chapter.

Sigma Alpha Iota. International female music fraternity.

Theta Alpha Phi. Oldest, nation-wide educational theater honors society.

Theta Tau. Chapter for students interested or studying in the field of engineering.

Social Fraternities

Beta Theta Pi

Omega Delta Phi

Pi Kappa Alpha

Sigma Chi

Theta Chi

Xi Chi Sigma

Social Sororities

Alpha Phi

Delta Delta Delta

Delta Gamma

Gamma Alpha Omega

Kappa Alpha Theta

Rho Delta Chi

Clubs and Organizations

A current list of our clubs and organizations and additional information can be found here (<https://www.pacific.edu/campus-life/activities-and-programs/clubs-and-organizations.html>).

Traditional Events at the University

Celebrate Diversity

A year-round educational campaign designed to promote understanding and sensitivity toward diversity in ability, age, ethnicity, gender, religion, sexual orientation, size, socioeconomic class and other dimensions of human difference. Through cooperative leadership, students and community organizations from diverse backgrounds build lasting alliances that service and empower each individual, the campus, and the community. The year-long campaign culminates with an extended week of programming in the spring.

Student Employment Expo

The Student Employment Expo, a Career Resource Center event, is designed to make search for Work Study, on-campus, and volunteer opportunities within the Stockton Community easier for students. While intended primarily for students who are work-study eligible, the Student Employment Expo offers opportunities for all students in all majors.

Meet Your Future

"Meet Your Future" is a two-week program that consists of resume reviews, mock interviews and employer panel presentations. The purpose of this event is to provide students with relevant, first-hand information about their resumes, interviewing skills, employer information, and industry trends. This is also an opportunity for employers to identify

potential talent for their current and future hiring needs. The annual “Meet Your Future” event is held in the spring semester as a preparation for the Career Faire.

Spring Career Faire

The annual Spring Career Faire is an event that brings more than 100 organizations, representing a wide range of industries to Pacific's campus. The Career Faire is an excellent opportunity for students from all majors to network and explore full-time, part-time, internships, and co-op opportunities. This is an excellent venue for students to learn more about career opportunities that exist within each organization and how to apply to those they wish to pursue.

Homecoming/Parents Weekend/Fall Festival

Homecoming/Parents Weekend provides an October weekend of excitement for students and their parents. A variety of activities take place to celebrate Pacific and the culmination of Greek Week and RHA Spirit Week. The weekend includes concerts, athletic and fine arts events, and the Annual Fall Festival.

Founders Day

An annual spring event that celebrates the founding of the University by Methodist missionaries and the legacy of that heritage at the university. Events include a chapel service for all members of the University community and a luncheon with speakers from the Heritage Society.

Student Activities Fair

The Student Activities Fair is held annually on the third Thursday of the fall semester on the DeRosa Center lawn. The fair showcases student organizations, together with local vendors and artisans. Student organizations use the fair as an opportunity to inform new students about involvement opportunities. The fair also features music, games and giveaways.

Academic Standards

Student Conduct and Community Standards

The Office of Student Conduct and Community Standards manages the student conduct process for students including but not limited to, undergraduate and graduate students on Pacific's three campuses. In addition to the Code of Conduct, specific schools and colleges (e.g., McGeorge School of Law, Arthur A. Dugoni School of Dentistry and Thomas J. Long School of Pharmacy and Health Sciences, etc.) may have policies and procedures that apply to students enrolled in a specific program of study. Pacific has developed policies and procedures to clarify the expectations and standards for students. Each student is responsible for knowing and adhering to all University policies and procedures. The policies are outlined specifically in the Tiger Lore Student Handbook and on the web site at <http://go.pacific.edu/tigerlore> Policies and procedures specific to a course of study are available through the respective school or program.

Honor Code

The Honor Code at the University of the Pacific calls upon each student to exhibit a high degree of maturity, responsibility, and personal integrity. Students are expected to:

- 1) Act honestly in all matters;
- 2) Actively encourage academic integrity;
- 3) Discourage any form of cheating or dishonesty by others;
- 4) Inform the instructor and appropriate university administrator if she or he has a reasonable and good faith belief and substantial evidence that a violation of the Academic Honesty Policy has occurred.

Conduct Standards

Student Code of Conduct, University Policies and/or Local, State or Federal Laws

The violation of established policies or procedures and/or local, state or federal laws may constitute a violation of the Student Code of Conduct or other policies and procedures specific to a course of study, school, or program. Such violations may include conduct occurring off-campus when students are participating, attending or in some manner connected to a University-related activity. Please refer to <http://www.go.pacific/tigerlore> for additional information and definitions.

Campus Behavior Standards

Rather than publish in this catalog a complete and detailed code of the laws, rules, and regulations that students are required to follow, the University declares its intention to uphold all federal, state and municipal laws applicable and expects all students to abide by the Student Code of Conduct and university policies. At the time of admission, each student agrees to follow such standards. Accordingly, any conduct not consistent with responsible and/or lawful behavior may be considered cause for the University to take appropriate administrative, disciplinary, or legal action.

In addition, the University acknowledges and actively upholds the adult status of each student with all the rights pertaining thereto and, in accordance with that status, considers each student responsible for their own actions. With regard to conduct, "student" is defined as full and part-time undergraduate, professional, and graduate students from the time of application for admission to the time of the conferral of a degree and includes periods prior to the start of classes, after classes have ended, between terms, and when a student is not officially enrolled but has an ongoing relationship with Pacific.

University policies and regulations are published in the Student Code of Conduct and available online go.pacific.edu/tigerlore (<http://www.pacific.edu/Campus-Life/Safety-and-Conduct/Student-Conduct/Tiger-Lore-Student-Handbook.html>). Statements pertaining to or clarification of student rights is also published in this document. Additional policies for specific schools and programs are available from each school or program respectively.

Alcohol and Other Drugs Policy

All students, faculty, and staff must comply with all federal, state, and local laws and University policies governing the consumption, possession, distribution, and sale of alcoholic beverages and drugs on University property; at any activity or event on and off the campus sponsored by Pacific; or where a campus community member is representing Pacific as part of an off-campus program, activity, or event.

This notice is provided as a requirement of the Drug-Free Schools and Communities Act of 1990, and the Drug-Free Workplace Act of 1988. Universities that receive federal/state funds in any form are required to comply with the above acts. We must take affirmative steps to prohibit the unlawful possession, use, and/or distribution of illicit drugs and alcohol.

Description of Health Risks

The misuse of alcohol and/or prescription drugs or use of illicit drugs can result in overdose, death, violence, incarceration, loss of a driver's license, failed relationships, petty property crime, school dropout, lowered productivity and quality, increased absenteeism and tardiness, serious psychobiological and neurobiological problems, reduced concentration, impaired judgment, loss of short term and long term memory, diminished reasoning skills, strained family relationships, damaged fetuses, and

other serious life-altering effects. Additional information regarding health risks is available from the Cowell Wellness Center or at DrugAbuse.gov

Criminal Penalties

Federal penalties for the trafficking of controlled substances are dependent upon several conditions including the substance, amount, and whether the matter is a first offense or repeated offense for an individual or other legal entity.

For a **detailed list of penalties**>> (https://www.dea.gov/pr/multimedia-library/publications/drug_of_abuse.pdf)

For information on **California DUI penalties**>> (<https://www.dmv.ca.gov/portal/dmv/detail/dl/driversafety/dsalcohol>)

For information on **California underage drinking laws**>> (<https://alcoholpolicy.niaaa.nih.gov/underage-drinking/state-profiles/california/56>)

Resources for Assistance

- Alcohol Abuse 24 Hour Action Helpline 800.234.0420
- Alcohol & Drug Treatment Center 24 Hour Helpline 800.711.6375
- Counseling and Psychological Services 209.946.2315 ext. 2
- Employee Assistance Program 877-595-5281
- Pacific Health Services 209.946.2315 ext. 1

Pacific's alcohol and drug policies are available online:

- Students enrolled on the Stockton, Sacramento and San Francisco campuses and not affiliated with McGeorge School of Law or Dugoni School of Dentistry: **Student Code of Conduct**>> (<http://www.pacific.edu/Campus-Life/Safety-and-Conduct/Student-Conduct/Tiger-Lore-Student-Handbook-/Alcohol-and-Drug-Policies.html>)
- McGeorge School of Law students: **McGeorge Substance Abuse Policies and Procedures** (http://www.mcgeorge.edu/Substance_Abuse_Policies_and_Procedures.htm)>>
- Dugoni School of Dentistry students: **Dugoni Alcohol Consumption and Drug Use Policy** (<http://sfdental.pacific.edu/employees/hrdocuments/Policy%20Statements/Alcohol%20Consumption%20and%20Drug%20Use%20-%20Student.pdf>)>> (<http://sfdental.pacific.edu/employees/hrdocuments/Policy%20Statements/Alcohol%20Consumption%20and%20Drug%20Use%20-%20Student.pdf>)
- All **University employees**>> (<https://webshare.pacific.edu/sites/policies/Pages/Alcohol%20and%20Drug-Free%20Workplace%20Policy.aspx>)

Academic Standards for Holding Student Office

In order to hold either an elected or appointed office (Associated Students of the University of the Pacific – ASuop; fraternal organizations, residence hall government, etc.), an organization officer must be in good academic standing with the Undergraduate students must be enrolled for 12 or more units (6 for graduate students) to hold an elected or appointed office in a student organization. Students must maintain a 2.25 cumulative GPA to hold an elected or appointed office in a student organization. Individual student organizations may stipulate higher unit or GPA.

Clinical Services

In the School of Pharmacy and Health Sciences, the Speech, Hearing and Language Center, the Stockton Scottish Rite Childhood Language Disorders Center, and the Language-Literacy Center provide assessment and intervention services to children and adults with speech and

language disorders. Aural rehabilitation services for individuals with hearing impairments are also provided. In addition, comprehensive audiological assessment and hearing aid fittings are available for children and adults at the Pacific Hearing & Balance Center.

General Academic Tutoring Center

The General Academic Tutoring Center offers free one-on-one tutoring to currently enrolled undergraduate students on Pacific's Stockton campus (as resources and tutor availability permit). This is a peer-tutoring program; tutors are those students who have succeeded academically with a B+ or better in the class they are tutoring or have been recommended by their Professors. In addition, our tutors go through training to learn how to tutor for different learning preferences, tutoring strategies, and nation-wide best practices for tutoring. Students interested in our tutoring services should visit the second floor of the Library or visit our scheduling system at www.pacific.mywconline.com to schedule an appointment. The GATC's hours during the Fall and Spring semesters are Monday through Thursday 9 a.m. to 9 p.m., Fridays 9 a.m. to 5 p.m. and Sunday 4 p.m. to 9 p.m. Tutors in most subjects are available; however, students are urged to contact the office early in the semester so that tutors can be sought. The General Academic Tutoring Center makes every attempt to locate tutors; however, sometimes tutors may not be readily available in some subjects. Any student interested in becoming a tutor is also welcome to apply through Tiger Jobs. For more information, call (209) 946-2437 or email at tutoring@pacific.edu.

Pacific Technology

The **Pacific Technology** organization provides reliable and responsive information technologies and services to University students, faculty and staff. Pacific Technology maintains e-mail, the learning management system, the university website and Inside Pacific portal, the wired and wireless network, video conferencing, classroom technology, and telecommunications. Pacific Technology also provides IT services related to technology integration, Pacific Print printing services, security and troubleshooting.

Customer Support Center (CSC)

The CSC or I.T. HelpDesk provides mobile and computer hardware/software support for students, faculty and staff. The CSC can be reached by phone at (209) 946-7400 or by email at helpdesk@pacific.edu.

The CSC is staffed from 7:30am to 5:30pm Monday - Friday...we are closed Saturday and Sunday.

The CSC does close during university holidays and seasonal days.

Emergency support is available after hours via a paging system. If you have an I.T. emergency item, call the CSC at (209) 946-7400. You will receive a message stating that you can leave a message, or you may follow the instructions detailed in the greeting to page a technician if your incident is an I.T. emergency.

Additional information related to I.T. Services and commonly asked questions and answers can also be found online at the OITFAQ.

Technical Support

The CSC Helpdesk provides assistance with the following:

- PacificNet ID, UMail, and other account password reset help
- Computer security checking (anti-virus, firewall, spyware, etc.)
- Configuration of PC's workstations and laptops
- Software installations
- E-mail questions

- Advice on new technology purchases
- Telecommunications troubleshooting
- Wireless device configuration and troubleshooting
- To obtain support, contact 209.946.7400 or e-mail at helpdesk@pacific.edu

If you don't see your technical concern listed above, you may still contact the CSC Helpdesk. We may be able to find answers to your questions or refer you to someone else who can help. We are located in the Raymond Common Room and our hours of operation are Monday - Friday 8 a.m to noon, closed for lunch and then open from 1 p.m. to 5 p.m.

Pacific Alumni Association

The Pacific Alumni Association (PAA) includes all alumni of the University of the Pacific. There is no membership fee and services are available to all members. An elected Board of Directors (30) develops programs and benefits with the Office of Alumni Relations staff. Opportunities provided to alumni through PAA include Regional Pacific Clubs, class reunions, special events, communications and a variety of benefits.

The Pacific Alumni Association encourages all alumni to maintain their relationship with the University of the Pacific and with one another. For more information call (209) 946-2391.

University Book Store

The University Bookstore is owned and operated by Barnes and Noble, an excellent source for living and learning needs. It provides students with a wide range of products and services for the classroom. The Bookstore offers several different options to choose from on Textbooks: rental, new, used and eTextbooks. The Bookstore offers a complete line of school supplies. It also carries: art supplies, electronics, an assortment of Pacific emblematic clothing and gift items, greeting cards, office products, and much more. Check us out on [facebook.com/uofpacificbookstore](https://www.facebook.com/uofpacificbookstore) (<https://www.facebook.com/uofpacificbookstore>) and the Bookstore website <http://upacific.bncollege.com>.

University Writing Programs

Mission

The goal of the University Writing Programs is to assist faculty and students at Pacific in the improvement of student writing within their majors and individual disciplines and to encourage more active, engaged learning through writing-intensive courses, the use of innovative teaching methods in writing instruction, and tutorial support from the Student Writing Center for all levels of writing in the various undergraduate, graduate, and professional programs.

Academic Initiatives:

1. The Student Writing Center, supported jointly by the Library and the College, opened on the 2nd floor of the main library in the fall of 2009. It is currently staffed by the Director, a full-time Manager, and twenty or more Writing Mentors, twelve of whom work directly in the Center as drop-in tutors of writing at all levels and ten who work with individual faculty in writing intensive courses across the curriculum.
2. Faculty workshops and consultations support and encourage faculty development of writing intensive courses and collective efforts in writing instruction, curriculum revision, and writing assessment at the departmental, program, and university levels.
3. The program provides support and training for writing instruction in any field or discipline.

Financial Aid

The University maintains a substantial student financial assistance program that includes scholarships, grants, loans and job opportunities. Detailed financial aid information and application instructions are available at www.pacific.edu/About-Pacific/AdministrationOffices/Office-of-Financial-Aid.html (<http://www.pacific.edu/financialaid>).

Students who wish to be considered for academic merit-based scholarships are advised to complete the admission application process by the appropriate deadline or priority date. Students who seek other University scholarships, grants, work-study, or loans or whose parents wish to apply for a Federal Direct PLUS Loan must also file a Free Application for Federal Student Aid (FAFSA) and complete other application procedures as instructed by the Financial Aid Office. In addition, financial aid applicants who are legal residents of California and do not already have a bachelor's degree are expected to apply for a Cal Grant. High schools and colleges have information about the Cal Grant programs and application procedures.

Students are advised to file the FAFSA electronically at the Federal Student Aid Web site. A worksheet and instructions may be downloaded from the Web site, or may be secured at a high school or college or from the University. The priority FAFSA filing date for entering Pacific students is January 15. Pacific awards financial aid to students who apply after the admission and financial aid priority dates; however, late awards may be less favorable.

A student must be approved for admission as a regular student to an eligible degree or certificate program before financial aid can be awarded. Students must enroll on at least a half-time basis to qualify for most financial aid and some awards require full-time enrollment. Aid is usually awarded for the entire school year, with the full-year amount divided equally among the semesters or trimesters of enrollment. Please note that financial aid eligibility is re-evaluated when a student completes pre-professional work and enters a professional program.

Financial aid at the University is available only to U.S. citizens, permanent residents and other eligible non-citizens.

When a financial aid recipient withdraws during a semester, the student's financial aid is adjusted according to federal and state regulations and University policy. Details are available on the Financial Aid website under Student Consumer Information.

Academic Requirements

Federal regulations require the Financial Aid Office to ensure that financial aid recipients maintain acceptable academic standing and make satisfactory progress in their programs of study.

Students placed on academic probation may receive financial aid, but students who are academically disqualified are placed on financial aid disqualification. Financial aid recipients are also expected to complete satisfactorily at least 67% of all units attempted and to obtain their degrees within a specified maximum period of full-time study. Access to financial aid to pay for repeated courses is limited by federal regulations.

For further information, please refer to the Academic Probation and Disqualification Policy Statement in this catalog and the Satisfactory Academic Progress Policy Statement available from the Financial Aid Office.

Educational Equity Programs: Community Involvement Program (CIP)

History

The Community Involvement Program (CIP) was established in 1969 by a group of students, community members, faculty and staff who wanted to provide educational opportunities to the local community. Since implementation of the scholarship program there have been over 1000 CIP Alumni. This program serves the educational needs of students who demonstrate low income and first generation college status.

Purpose

The Community Involvement Program is limited to new incoming freshman or transfer students to the university. The review process for the scholarship places a substantial emphasis on the applicant's educational and financial background. It also examines the applicant's community involvement and awareness, maturity, and potential to contribute his/her time and energy to the Community Involvement Program.

Qualifications

- Demonstration of financial need. Must be eligible for Cal and Pell Grants at the University of the Pacific, and meet the Free and Reduced Lunch income guidelines.
- Clear demonstration of community involvement, volunteerism, and awareness of social issues prior to acceptance at the university.
- Stockton resident (must have resided in Stockton, i.e. Census Tracts #1-38 boundaries) for the past three years. (Does not apply to transfer students from San Joaquin Delta College)
- First generation college student (neither parent/guardian has earned a bachelor's degree from an accredited university).
- Accepted for admission at Pacific.
- U.S. citizen or permanent resident.

For additional information, please contact:

Community Involvement Program
Bannister Hall, First Floor
Phone (209) 946-2436
E-mail: cip@pacific.edu

Student Complaint Procedure Notice

The United States Department of Education requires institutions of higher education to publish and comply with policies regarding student complaints that address the school's program of education.

Any student at Pacific who wishes to bring a formal complaint to the administration regarding a significant problem that directly implicates a) University of the Pacific's program of education and its compliance with the WASC Standards; b) University of the Pacific's policies or protocols; or c) California state laws, should do the following:

1. Submit the complaint in writing to the Vice President for Student Life. The complaint may be sent via email, U.S. Mail, facsimile, or in person to the Office of the Vice President for Student Life (Hand Hall).
2. The complaint should describe in detail the behavior, program, process, or other matter that is at issue, and should explain how the matter directly implicates the student's program of education and the University's compliance with a specific, identified WASC Standards*, University policy/procedure, or state law.
3. The complaint must contain the complaining student's name, student ID#, official Pacific email address, and current mailing address. This

information will be kept confidential, but there must be an identifying name for a response to take place.

*WASC Standards found on the WASC website at: http://wascsenior.org/files/Standards_at_a_Glance.pdf

When an administrator receives a student complaint that complies with the foregoing requirements, the following procedures shall be followed:

1. The Vice President for Student Life will acknowledge the complaint within 3 business days of receipt. Acknowledgement may be made by email, U.S. Mail, or by personal delivery, at the option of the Vice President.
2. Within 10 business days of acknowledgement of the complaint, the Vice President for Student Life, or the Vice President's designee, shall respond to the substance of the complaint, either in writing or in person, and shall indicate what steps are being taken by the University to address the complaint. If further investigation is needed, the complaining student shall, upon conclusion of the investigation, be provided with substantive response to the complaint within 10 business days after completion of the investigation.
3. Any appeal regarding a decision on a complaint shall be brought before the President of the University. The decision of the President will be final. Any appeal must be brought within 10 business days from the date of the response by the Vice President for Student Life.
4. A copy of the complaint and a summary of the process and resolution of the complaint shall be kept in the Office of the Vice President for Student Life for a period of 8 years from the date of final resolution of the complaint.

A complaint may also be pursued in the following manner(s):

1. If your complaint concerns the institution's compliance with academic programs, academic quality and/or accrediting standards, you may submit your complaint to the Western Association of Schools and Colleges (WASC), University of the Pacific's accrediting agency, at www.wascsenior.org/comments (<http://www.wascsenior.org/comments>).
2. If you believe that your complaint warrants further attention or is related to alleged violation of state law, you may contact the Bureau for Private Postsecondary Education for review of a complaint. The bureau may be contacted at:

Most complaints made to media outlets or public figures, including members of the California legislature, Congress, the Governor, or individual Regents of University of the Pacific are referred to the Office of the President.

Nothing in this disclosure limits any right that the student may have to seek civil or criminal action to resolve the complaint.

University of the Pacific has provided this disclosure to you in compliance with the requirements of the Higher Education Act of 1965, as amended, as regulated in CFR 34, Sections 600.9 (b) (3) and 668.43(b). If anything in this disclosure is out of date, please notify the Vice President for Student Life, 3601 Pacific Avenue, Stockton, CA 95211, 209.946.2365.

General Education

All accredited universities require that undergraduate students complete not only a major but also a program of general education to broaden their education. At Pacific, the general education program exposes students to areas of study outside of their major, and it develops essential knowledge and skills that are transferable to students' other courses at Pacific

as well as to their personal and public lives. It is thus the liberal arts foundation of a Pacific undergraduate education.

The general education program has three main components: the Pacific seminars, the breadth program, and fundamental skills. Refer to the general education section for additional information.

The Pacific Seminars

All students who enter the University as freshman must complete the three Pacific Seminars. Freshmen are required to take PACS 001 and PACS 002 in their first year, and PACS 003 in their last year. Students who enter Pacific having completed 28 or more units of transferable, classroom college work that appear on a college transcript, are exempt from taking PACS 001 and PACS 002 but must complete PACS 003. Students participating in the Freshman honors program should complete the honors section of PACS 001 regardless of the number of college units completed.

Students are not allowed to drop PACS 001 or PACS 002 for any reason, even if they plan to transfer to another college or university. Students who would benefit from special attention to writing skills or who place into WRIT 001 are deferred from the Pacific Seminar sequence until their sophomore year.

If students fail PACS 002, they can repeat a different PACS 002 course.

However, students must pass PACS 001 and PACS 002 in order to graduate. There are no substitutions. The Pacific Seminars cannot be repeated if students earn a "D" or higher and they must be taken for a letter grade.

PACS 003 must be taken in the senior year, which means students must have completed 92 or more units to take the course. Students in accelerated programs must take PACS 003 in their last year as undergraduates.

Transfer and Post Baccalaureate students must complete PACS 003.

The Breadth Program

In addition to the Pacific Seminars, students must complete between six to nine courses in the breadth program. Students should check with their school or college dean's office for specific breadth program requirements. With the guidance of their advisor, students select courses from the categories below:

1. *Social and Behavioral Sciences*
 - a. Individual and Interpersonal Behavior
 - b. U.S. Studies
 - c. Global Studies
2. *Arts and Humanities*
 - a. Language and Literature
 - b. Worldviews and Ethics
 - c. Visual and Performing Arts
3. *Natural Sciences and Mathematics*
 - a. Natural Sciences
 - b. Mathematics and Formal Logic
 - c. Science, Technology and Society

Students can take a maximum of two courses from a single department (as defined by subject code, e.g., HIST or ENGL or MPER) to satisfy the breadth requirement; however, there is an exception for area IIC since students may take three 1-unit courses in the same discipline of applied music or dance to meet the requirement. All bachelor's and first professional degree students on the Stockton campus must complete a minimum of two courses in each category. All students must complete a

course in categories IIIA and IIIB. Independent study courses cannot be used to satisfy general education requirements.

Catalog year determines degree requirements; however, general education (GE) courses and transfer course articulations are subject to change. It is the responsibility of the student to be informed of any GE or transfer course articulation changes.

Fundamental Skills

The University evaluates students to identify those with deficiencies in written expression and quantitative skills. These students are required to take courses designed to improve their understanding and performance in these areas. The writing and quantitative skills requirements are part of the University-wide general education program that must be met before a student graduates with a bachelor's degree or a first professional degree.

Elective Courses

Students in most academic programs at the University find that in addition to the courses required for their major and for general education they have space in their schedules for a number of elective courses. The diversity of academic fields and specialties represented on the Stockton campus provides the student with a wide choice in the selection of electives. The University's policy is to allow students in any program to take courses in any other school or college on campus. Some students use this freedom primarily to explore unfamiliar academic areas, some to pursue a variety of secondary intellectual interests, and some to develop another area of emphasis as an academic minor or even a formal second major.

Accelerated Programs

The University offers joint-degree programs between liberal studies, graduate and professional programs that result in accelerated learning. Requirements include varying degrees of demands on the student to take certain courses and maintain grade point averages. This educational linking is offered through the School of Engineering and Computer Science with a blended BS/MSES program, the School of Pharmacy and Health Sciences offers a Pre-Pharmacy Advantage Program, the School of Dentistry offers a Pre-Dental/DDS. accelerated program, and the McGeorge School of Law offers a JD/MPA and an accelerated JD program. Details on these programs are found in each school's section later in this publication. Graduate program details are found in either the Sacramento, San Francisco or Stockton Graduate catalogs.

Honors Programs and Societies

Freshman Honors Program

The **Freshman Honors Program** is designed for academically talented students from all programs and majors who want to be a part of a vibrant intellectual and social community supported by enriching extracurricular programming. We support excellence in academic and extra-curricular endeavors designed to enrich the social, cultural, and intellectual lives of our students.

Honors PACS 001: Freshman Honors Students are required to take Pacific Seminar I in the Honors sections, which allows them to discuss the readings and issues to further develop their reading, writing, and critical thinking skills.

Honors Seminars: Once a month, the Freshman Honors Program hosts a distinguished faculty member from Pacific who presents a lecture on his/her research or scholarship. The topics of the talks span every field from science to humanities, arts to law.

Co-Curricular Programs: We encourage our students to be well-rounded individuals and their academic program is supplemented with a wide range of co-curricular activities, such as sports, performing and visual arts, visual media, community outreach, and culinary arts. The Honors soccer teams compete in the intramural leagues and students in the arts groups stage a yearly theatrical performance and an art exhibition. Honors students can also use their creative talent working on video and web projects and can participate in various community outreach events. The culinary arts co-curricular group learn the necessary techniques, organizes a cooking competition and caters all major events of the Program. We arrange a number of off-campus events to encourage our students to take advantage of the resources in Stockton and Northern California. We host an annual off-campus Honors Retreat, as well as occasional forays elsewhere.

Residential Program: Freshman Honors students are encouraged, but not required, to live in Honors housing, which is responsible for much of the success of the Program. The Honors Residence, John Ballantyne Hall has become well known as the best place on campus for freshmen to live and our students make the transition to college life more smoothly and quickly than do the residents of most halls.

Conferral of Freshman Honors

We expect students to maintain high academic standards and to take the required Honors section of Pacific Seminar I in their first semester. Freshman Honors students are required to take HONR 021 and 023 in their first Fall and Spring semesters, respectively. These one-unit courses encompass the Honors Seminars and the co-curricular program activities. Students who maintain a 3.0+ grade average in their freshman year, pass PACS I Honors, HONR 021, and 023 receive a certificate and an Honors Sash to wear at Commencement, when they graduate.

Program Contact

Balint Sztaray, Director, Professor of Chemistry; 209-946-2856

Dinelle Davis, Program Services Assistant; 209-946-2283

School/Departmental Honors Programs

Some Schools and College of the Pacific departments offer students the opportunity to complete an honors program in a student's major area of study. Schools and programs will determine the eligibility and program requirements, and these programs will generally commence in a student's junior or senior year. Completion of the program will be noted on the student's transcript.

National Honor Societies

Alpha Lambda Delta. For freshmen with an academic average of 3.50 or more.

Alpha Sigma Lambda. For adult learners.

Beta Alpha Psi. For accounting students.

Beta Beta Beta. Biology honor society for students with a Biological Sciences GPA of at least 3.0.

Beta Gamma Sigma. Honor society, recognizes outstanding scholarly accomplishment of those receiving their professional training in business and management.

Eta Kappa Nu. For honor students in electrical engineering.

Lambda Pi Eta. For communication students.

Mortar Board. For seniors winning recognition for scholarship and campus leadership.

Omicron Delta Epsilon. For honor students in economics.

Omicron Kappa Upsilon. For honor students in dentistry.

Order of Omega. For leaders who are members of fraternities and sororities, maintaining a GPA of 3.0.

Phi Alpha Delta. For students in Pre-Law.

Phi Alpha Theta. For honor students in History.

Phi Beta Kappa. For honor students in liberal arts and sciences.

Phi Kappa Phi. Scholarship honor society for the upper tenth of each graduating class who have distinguished themselves, and for outstanding graduate students, alumni and faculty.

Phi Sigma Tau. For students in Philosophy.

Pi Delta Phi. Theta Chi Chapter for honor students in French.

Pi Kappa Lambda. For music students.

Pi Sigma Alpha. For honor students in Political Science.

Rho Chi. For honor students in Pharmacy.

Sigma Delta Pi. For honor students in Spanish Language and Literature.

Sigma Gamma Epsilon. For honor students in Earth Sciences.

Sigma Pi Sigma. For honor students in Physics.

Sigma Tau Delta. Phi Chi Chapter recognizes and encourages outstanding achievement in English language and literature.

Tau Beta Pi. Engineering Honor Society – all engineering majors.

Tau Kappa Omega. For honor students in dentistry.

Theta Alpha Phi. For students in theater arts.

Pacific Core Competencies

Core Competencies

The following are Pacific's university-wide undergraduate core competencies adopted in 2016:

- Critical Thinking
- Information Literacy
- Oral Communication
- Quantitative Reasoning
- Written Communication

The primary purpose of the core competencies is to support undergraduate teaching and learning at all three campuses of the University. These undergraduate core competencies are required by WSCUC but are defined for Pacific by the University Assessment Committee (UAC). Definitions of the core competencies can be found here (<https://www.pacific.edu/about-pacific/administrationoffices/office-of-the-provost/educational-effectiveness/assessment-of-student-learning-/undergraduate-core-competencies.html>) on Pacific's website.

Pacific's commitment to using this common set of core competencies in support of student learning will:

- Give students, faculty, administration and staff a clear and concise understanding of the essential competencies of an undergraduate Pacific education;
- Create a more coherent educational experience for students as schools and divisions align with these competencies;
- Enable Pacific to assess undergraduate outcomes at the university-level to continuously improve teaching and learning.

The UAC is charged with coordinating the assessment of these competencies; however, it is the responsibility of each School/College, General Education, and the Division of Student Life to report how learning outcomes for their programs align with these competencies. Each academic degree program will have additional learning outcomes beyond the university-wide undergraduate competencies stated here. Schools and Divisions may also have additional learning outcomes common to all its programs.

Scholarships and Grants

University of the Pacific students who demonstrate financial need may qualify for federal and state grants. In addition, Pacific offers scholarships and grants from income provided by gifts, endowments and the University's general fund, which includes Pacific Fund gifts. Qualifications vary according to conditions stipulated by donors, but attention is usually given to some or all of the following: academic record, special talents, leadership abilities, vocational objectives and financial need. Academic scholarships may be renewed for full-time enrollment in a bachelor's degree or pre-professional program.

Detailed information about scholarships and scholarship renewal is available from the Financial Aid Office and online at www.pacific.edu/About-Pacific/AdministrationOffices/Office-of-Financial-Aid.html (<http://www.pacific.edu/financialaid>).

Academic Merit-Based Scholarships

Entering freshmen who demonstrate superior leadership ability and a commitment to academic excellence and meet minimum academic criteria may be recommended by their high schools for the Powell Scholarship, valued at \$40,000 per academic year. An application form is available on the Financial Aid website.

Entering students who complete the admission application process by January 15 are automatically considered for the merit-based scholarships listed below.

Freshmen entering the University directly from high school may be considered for Regents Scholarships, valued at \$22,000 per academic year, President's Scholarships, for \$18,000 per academic year, Provost's Scholarships, for \$14,000 per academic year, and Pacific Scholarships, for \$10,000 per academic year. Recipients are selected on the basis of grade point average, test scores, and other criteria.

Transfer Academic Distinguished Scholarships, for \$16,000 per academic year, are awarded to applicants with a college GPA of 3.50 or above, Transfer Academic Excellence Scholarships, for \$14,000 per academic year are awarded to transfer students with college GPAs of 3.00 to 3.49, and Transfer Merit Scholarship of \$12,000 are awarded to applicants with college GPAs of 2.80 to 2.99.

A student who qualifies for more than one academic scholarship receives the most advantageous award.

General Academic Endowed Scholarships

Many of the scholarships listed below provide funding for the Regents', President's, Provost's, Pacific and Bishop's Scholarship programs. Scholarships are also available for students regardless of major. A student is considered an eligible candidate via his/her application for financial aid and maintaining a 3.0 GPA.

Anne and Ray Arnold Endowed Memorial Scholarship. Established by Mrs. Anne Brady Arnold of Stockton in memory of her husband, a former Tracy banker. Augmented by gifts in memory of Mrs. Arnold.

Laura Tull, Walter Pike Austin, and Henrietta T. Austin Endowed Scholarship.

John N. and Jessie L. Ballantyne Endowed Memorial Scholarships. Established during their lifetimes by these Lodi friends of Pacific.

Grace Burns Baun Endowed Scholarship. Established with gifts from her estate.

Gertrude Moore Beans and William Know Beans Endowed Memorial Scholarship. Established by a bequest from an alumna of the Class of 1920.

Lonzo and Julie Beck Endowed Scholarship. Established in memory of her husband.

Henry and Elsie Bell Memorial Endowed Scholarship. Established with gifts from her estate.

Gladys L. Benerd Endowed Scholarship. Established by Gladys Benerd.

William and Dorothy Biddick Endowed Scholarship. Established by William and Dorothy Biddick.

Bishop's Endowed Scholarship.

William M. Black Endowed Scholarship. Established by the bequest of a faculty member's father.

Constance Bowen Endowed Scholarship.

Anton Brawthen Endowed Memorial Scholarship. Established by his daughter Clara Brawthen.

Seba M. Bronson Endowed Scholarship. Established with a trust.

Dahl Burnham Endowed Scholarship.

Robert E. Burns Endowed Scholarship. Established in memory of Robert E. Burns, 20th president of the University, by his widow Grace Weeks Burns Baun.

Norman J. Cain Endowed Memorial Scholarship. Established by Dr. Harvey D. Cain in memory of his son.

Central United Methodist Church Endowed Scholarship.

Class of 1927 Endowed Scholarship. Established and supplemented by members of the class of 1927.

Classes of '49, '50, and '51 Endowed Scholarship. Established by the members of these three classes.

Class of 1965 Endowed Scholarship. Established by various gifts from members of the Class of 1965.

Claypool Endowed Scholarship. Established by an estate gift given in memory of Jane Singleton Claypool and Rosa Shambeau Claypool.

Herman A. and Margaret P. Clover Endowed Memorial Scholarship. Established by Dr. Haworth A. Clover and his wife Carol in memory of his parents.

Robert L. and Lucy S. Colthart Endowed Scholarship. Established with gifts received from their trust.

Elmer C. and Lena E. Courtney Endowed Memorial Scholarship. Established by Lena C. Courtney.

Grace Covell Endowed Scholarship.

S. H. Cowell Foundation Endowed Scholarship. Established by the Foundation and matching gifts.

Juanita and Earnie Cronkite Endowed Scholarship. Established with their estate gift.

Paul L. Davies, Sr. Endowed Memorial Scholarship. Funded by a gift from a special friend.

Hugh and Esther Davis Endowed Scholarship. Established with an estate gift.

Robert C. and Olive V. d'Erlach Endowed Memorial Scholarship. Funded by their bequest.

Clifford L. Dochterman Endowed Scholarship. Established to honor him upon his retirement.

Coach Don Edwards Endowed Scholarship. Established with a gift from Mr. Cecil Harp in memory of his wife Joan E. Harp.

Christopher A. and Cora S. Elliott Endowed Scholarship.

Charles Sumner Esrey Endowed Scholarship.

Fiftieth Reunion Class Endowed Scholarship. Established in 1991 and supplemented annually by each 50th reunion class.

Elliott L. Fisher Endowed Memorial Scholarship. Established by his family and friends.

Samuel Jacob and Gertrude Alice Fox Endowed Scholarship. Established by a gift from his estate.

Emery and Susie Freeman Endowed Scholarship. Established by a bequest from the Susie Freeman estate.

Friedberger Endowed Educational Scholarship. Established by the bequest of Dr. William Friedberger, in memory of his parents, Arnold and Lotta Friedberger.

David Friedrich Memorial Endowed Scholarship. Established by parents, family and friends in memory of David, class of 1988, who lost his life in a water skiing accident in his senior year at U.O.P.

A. P. Giannini Endowed Scholarship. Established by a bequest.

Irving and Fay Goleman Endowed Educational Opportunity Scholarship. Established by Gordon Zuckerman in honor of two Pacific professors emeriti.

Mildred Woodward Graham Endowed Scholarship. Established with a gift from the National Society of Colonial Dames.

Virginia Graves Endowed Middle Income Scholarship.

Sarah Elizabeth Riley Harris Endowed Memorial Scholarship. Established by the will of Grace Dell Stuart in memory of her mother.

Hearst Foundation Endowed Scholarship. Established by The Hearst Foundation.

Ruth M. Heath Scholarship. Established through her bequest.

Francis W. and Mary V. Hellman Endowed Scholarship. Established through their bequest.

Ruth Templeton Henney Endowed Memorial Scholarship. Established through her bequest.

Hoefer Foundation.

Claude H. Hogan Endowed Memorial Scholarship. Established through his bequest.

The Honey Family Endowed Scholarship.

John and Ruth Bay Hoobyar Endowed Scholarship. Established with an estate gift.

Cecil and Alberta Humphreys Endowed Scholarship. Established by a distinguished alumnus and long-time member of Pacific's Board of Regents and his wife, an alumna.

Ruth and Francis H. Jackson Endowed Memorial Scholarship. Established in his memory by his wife Ruth M. Jackson.

Harriot West Jackson Endowed Memorial Scholarship. Established by the late Mrs. Winifred Cumming of Washington, D.C., and Frank West of Pebble Beach, in memory of their aunt.

Clarence and Martha Jones Endowed Scholarship. Established by Clarence and Martha Jones.

Donald S. Jones Memorial Scholarship. Established through an estate gift.

Fletcher Jones Endowed Scholarship.

Dorothy Lea and Anthony J. Ketman Memorial Endowed Scholarship. Established with an estate gift.

Fay Wallace Kiser Endowed Memorial Scholarship. Established by his wife, Beulah Lee Watson Kiser, who served the University as Dean of Women from 1940 to 1948.

Edith E. Knoles Endowed Scholarship. Established through her estate.

Emily Knoles Centennial Endowed Scholarship. Created on her 100th birthday by family and friends, and augmented by gifts in memory of the wife of former Pacific President Tully C. Knoles.

Samuel Kress Endowed Scholarship.

Dr. Harry W. Lange and William H. Pfund Endowed Scholarship.

La Quinta Inns Inc. Endowed Scholarship. Originally established by La Quinta Inns Inc. and augmented by a portion of the rooms rented by Pacific visitors.

Elizabeth Laskin Endowed Memorial Scholarship. Established and supplemented by her parents, Mr. and Mrs. Myron Laskin of Milwaukee, WI, and many friends in memory of this 1956 graduate.

The Leatherby Family Endowed Scholarship. Established with a gift from Russell and Susie Leatherby.

Edward Charles Leighton Endowed Scholarship Fund. Established with an estate gift.

Bessie Lenvig Endowed Scholarship.

William and Carol Linee Endowed Scholarship. Established through the bequest of these long-time Stockton residents.

Garth Rodrick Lipsky Endowed Memorial Scholarship. Established by his mother, Edna Lipsky.

Lenora M. Magee Endowed Memorial Scholarship.

George H. Mayr Endowed Scholarship. Established by the George H. Mayr Foundation in honor of their founder.

Erford and Dorothy Knoles McAllister Endowed Scholarship.

Stanley E. McCaffrey Endowed Scholarship. Established by family, friends and colleagues in honor of the 21st president of Pacific (1971-1987).

John A. McCarthy Memorial Endowed Scholarship.

Robert T. Monagan Endowed Scholarship. Established with honorary gifts from Omega Phi Alpha and Delta Upsilon donors.

Wert E. and Viola Moore Endowed Scholarship. Established by a bequest of long-time Stockton resident, Viola Moore.

Timothy Patrick Murphy Endowed Memorial Scholarship. Established by the parents and many friends of Tim Murphy, class of 1978, whose life at Pacific left an indelible impression.

Marshall O. Nelson Endowed Scholarship.

Orange Aid Endowed Scholarship. Established by community members and friends of the University who volunteered their services. Funded by the sale of student "survival kits" and membership dues.

Pacific Alumni Board Endowed Scholarship. Established by the Alumni Board in honor of Kara Brewer, past Alumni Director.

Pacific Co-op House Endowed Scholarship. Established by former students who resided in Pacific's Co-op House during the 1930s and '40s.

Doris and Frank Peirano Endowed Scholarship. Established by an estate gift.

Irma E. Pennycook Endowed Scholarship. Established by a bequest from this University friend.

Marion Pope Endowed Scholarship. Established by a bequest.

Powell Scholars Endowment Scholarship Program. Established with a gift from the Robert C. and Jeannette C. Powell Trust.

Nina Reid Prather Endowed Scholarship.

Chalmers Price Endowed Scholarship. Established with gifts from his estate.

Sandy Price Endowed Memorial Scholarship. Established by the Caldor Lumber Company and the Mildred Kellogg estate.

Alstyne E. and Frances A. Pruner Endowed Scholarship. Established with an estate gift.

Rhizomia Endowed Scholarship. Established by members of Rhizomia Fraternity.

Lincoln and Stella Ruggles Endowed Memorial Scholarship. Established by Lottie Ruggles in memory of her parents and later supplemented through her will.

Joseph Robert Rupley Endowed Memorial Scholarship. Established by his parents. He was accidentally shot to death in 1965 by Venezuelan police while serving in the Peace Corps.

Rupert and Philamena Russell Endowed Scholarship. Established by the bequests of Mr. and Mrs. Russell.

Walter B. Sampson Endowed Scholarship. Established by a bequest.

George and Georgia Sanderson Endowed Scholarship. Established with gifts from their son Robert E. Sanderson.

William and Jeanne Sanford Endowed Scholarship. Established by friends and members of the Paradise United Methodist Church in honor of their minister and his wife.

Audrey and Henry Schwerin Endowed Scholarship. Established by a bequest.

Charles Schiffman Endowed Memorial Scholarship. Established with an estate gift. Delete scholarship from here.

Dorothy J. and Daniel H. Singleton Endowed Scholarship. Established by a bequest.

J. W. and Florence E. Smith Endowed Memorial Scholarship.

Mary Leach Smith Endowed Memorial Scholarship. Established by Onnie Smith in memory of her mother.

Robert J. and Ernestine Smutny Endowed Scholarship. Established with an estate gift.

Southeast Asian Endowed Scholarship. Established by memorial gifts and proceeds from benefit performances. In memory of the five children killed at Cleveland Elementary School in 1989.

Mary Lou Spiess Scholarship. Established by her son.

R. & R. Stuart Endowed Scholarship.

Esther J. Tarr Endowed Scholarship. Established by Curtis W. Tarr, in honor of his mother and augmented by gifts in her memory.

Elliott J. Taylor and Burta M. Taylor Endowed Scholarship. Established with gifts from their estate.

Charles A. and Harriette E. Thomas Endowed Scholarship. Established by bequest and given in loving memory of their parents.

Thomas S. and Margaret A. Thompson Endowed Scholarship. Established by Mr. and Mrs. Thompson. Mr. Thompson served as Vice President for Development from 1963-1969.

Guy P. and Grace Tucker Endowed Scholarship. Established by a bequest from these University friends.

Twenty-fifth Class Reunion Endowed Scholarship. Established by various 25th Reunion classes.

Alex and Jeri Vereschagin Endowed Scholarship. Established by Mr. and Mrs. Vereschagin, both loyal Pacific alumni and parents.

Zana Taylor Weaver Endowed Scholarship. Established by her will.

Wendy Webb Endowed Memorial Scholarship. Established by her parents, Mr. and Mrs. J. S. Webb of Calabasas, and many friends in memory of a former student.

Dr. Gustav A. and Ellen M. Werner Endowed Memorial Scholarship. Established by family and friends in memory of a popular history professor and his wife.

Steven G. Werner Endowed Scholarship.

Ed and Joan Westgate Endowed Scholarship.

Gene and Arlene Weston Endowed Scholarship.

Robert and Margaret Wicker Endowed Scholarship.

Wickert Memorial Endowed Scholarship. Established by the Carol Wickert Raab Trust.

Wightman Memorial Endowed Scholarship. Established in her brother's memory by Mrs. Bessie Jasmann.

Norma H. Williams Endowed Scholarship.

Theresa Woo Scholarship. This scholarship was established by her estate.

Carlos and Madeline Wood Endowed Scholarship.

Zeta Phi Scholarship. Established by Zeta Phi alumnae.

Annually Funded Academic Scholarships

In addition to the endowed scholarships, the University receives both restricted and un-restricted scholarships annually from a variety of sources.

School and Departmental Scholarships

The scholarships listed below are granted to students who meet major requirements and/or other criteria as well as a minimum GPA of 3.0. It is NOT necessary to submit a separate application form unless specifically noted. Many of these scholarships provide funding for the Regents', President's, and Bishop's Scholarship programs.

Center for Professional and Continuing Education

Osher Reentry Scholarship Program Endowed Scholarship. Established by gifts from the Osher Foundation

College of the Pacific

A. S. H. Graduate Research Endowed Biology Award. Established by Dr. Alice S. Hunter, a respected faculty emeritus.

Art Award Endowed Scholarship. Established by sale of University art holdings and friends of the Art Department.

Julian Smith Bacon, Jr. and Jedediah Smith Society Scholarship. Established with gifts from the Jedediah Smith Society.

Barker-Knoles Endowed Scholarship.

Jess A. Berger Endowed Memorial Scholarship. Established by Dr. Evelyn Berger Brown in honor and memory of her husband.

Gertrude Sibley Billard Endowed Memorial Scholarship. Established in memory of a former professor of English at Pacific.

Frank Black Endowed Memorial Scholarship. Established in memory of a former student.

Maynard A. Bostwick Endowed Scholarship. Established by an alumnus.

Erma Boyce Endowed scholarship.

DeMarcus Brown Endowed Drama Scholarship. Established by Elinor P. Canedy, class of 1944, in honor of the emeritus drama chairman.

Leslie M. Burwell Endowed Memorial Scholarship. Established by Mrs. Leslie M. Burwell.

William P. Christiansen Endowed Award.

Howard and Emma Churchill Endowed Scholarship. Established by a bequest.

Eva and Stout Clack Endowed Scholarship.

Emerson and Edith Cobb Endowed Scholarship. Established by faculty, alumni and friends in honor of long-time chairman (1948-78) of the Chemistry Department and his wife.

Iva B. Colliver Endowed Scholarship. Established by her bequest.

Roselyn J. Cook Endowed Scholarship.

Corson Family Endowed Scholarship. Established with gifts from the Corson family members

Ray and Ruby Dami Endowed Scholarship.

Ellen Deering Endowed Senior Award.

Ellen Deering Endowed Senior Art Award.

Helen B. Dooley Endowed Scholarship.

Max and Victoria Dreyfus Foundation Endowed Award.

Helene and Jack Drown Endowed Scholarship.

Fred J. Early, Jr. and Marguerite C. Early Science Research Endowed Award.

Marie Easterbrook Endowed Scholarship.

Fred L. Farley Endowed Scholarship. Established by Erwin and Tom Farley.

David Friedrich Memorial Endowed Scholarship.

Fresno Methodist Foundation Endowed Scholarship. Established in 1970 from a transfer of the Foundation's assets to the University.

Martin T. Gipson Endowed Memorial Scholarship. Established by friends wishing to memorialize a former Psychology Department Professor.

Jan Good Endowed Award. Established by Janice E. Good for outstanding students majoring or minoring in French or Spanish.

Ralph Guild Endowed Communication Scholarship. Established by Ralph Guild, radio major, class of 1951 and president of INTEREP National Radio Representatives in appreciation to the University and Professor John Crabbe.

Clifford J. Hand Endowed Scholarship.

Clarence Hinkle Endowed Art Scholarship. Established through the estate of Mable Bains Hinkle.

Kathryn Gehlken Howe Endowed Memorial Scholarship. Established by Edna Gehlken, former chair of the Home Economics Department, in memory of her sister.

Wesley O. Janzen Endowed Theology Scholarship. Established with an estate gift from Alicia "Alice" M. Powell.

James Earl Jewell Endowed Scholarship in Technical Theatre.

Harold Klose, Jr. Endowed Scholarship. Established with various memorial gifts.

Sharon Brookhart Krakora Endowed Scholarship. Established by a gift from her husband as a loving tribute to her lifetime achievements.

Geraldine Scott Krause Endowed Scholarship. Established by this alumna of the class of 1936.

Allen and Helen Laursen Scholarship. Established by a stock gift.

F. Melvin and Verna Kopka Lawson Endowed Scholarship.

Los Angeles Pacific Club Pantheon of the Arts Endowed Scholarship. Established by a gift from the Los Angeles Pacific Club.

Bryon R. Meyer Endowed Theatre Scholarship honoring DeMarcus Brown '23. He was a very active and respected professor in the Theatre Arts Dept. at Pacific from 1924-1968.

Charles B. Norman Endowed Economics Scholarship. Established in memory of Dr. Charles B. Norman, who taught economics at Pacific for 32 years.

Doris E. Osborn Endowed Scholarship.

Dr. Vincent D. Panico Endowed Scholarship. Established with gifts from family and friends.

Mr. and Mrs. Michael A. Pappas Endowed Scholarship. Established to support biology students.

Irving Pasternak Endowed Memorial Scholarship.

Ida R. Patton Endowed Memorial Scholarship. Established through the Ida Patton Trust Fund.

Margaret S. Payne Endowed Scholarship. Established by memorial gifts from her husband Dr. Herbert Reinelt & friends.

Walter Arville Payne Endowed Memorial Scholarship. Established by family, colleagues, friends and former students in memory of a long-time member of the history department faculty.

Barbara Bodley Reinelt Endowed Scholarship. Established with a gift from Dr. Herbert Reinelt.

San Joaquin County Medical Society Pre-Medical Endowed Scholarship. Established with a gift from the society.

Karma Cundell Schad Endowed Scholarship. Established in memory of a former art student by her husband.

Arnold C. Scott Endowed Scholarship. Established through his estate.

John E. Seaman Endowed Scholarship. Established with a gift from Leeyee J. Su.

Dr. Benjamin Smith Endowed Memorial Scholarship. Established by relatives and friends in recognition of this former Lodi-Stockton minister who was the recipient of an honorary degree from Pacific in 1937.

John D. Smith Endowed Scholarship. Established with a gift from Leeyee J. Su.

Bud Stefan Endowed Memorial Scholarship. Established by his friends, relatives and wife in his memory.

Derek Forbes Stewart Endowed Memorial Scholarship. Established by his family and friends in commemoration of his life.

Dr. John Hadman Sticht Endowed Memorial Award.

Doris Reyburn Lathy, Margaret Reyburn Collis and Adda Reyburn Thompson Endowed Scholarship.

Esther Myers Umhalt Class of 1918 Endowed Scholarship. Established by a bequest.

Stanley G. Volbrecht Endowed Scholarship.

John D. Valentine Endowed Scholarship for Writing Excellence. Established by a gift from Russell E. and Mary S. Leatherby.

G. Warren and Ruby Zahn White Endowed Memorial Scholarship. Established in memory of Professor White, who taught mathematics and business courses at Pacific for 44 years. He retired in 1966.

Marjorie Webster Williams Endowed Art Scholarship.

Paul Winters Endowed Forensics Scholarship. Established to honor Paul Winters on the occasion of his retirement in the spring of 1989.

R. Coke Wood Memorial Endowed Scholarship. Established with memorial gifts.

Community Involvement Program

The S. H. Cowell Foundation. Established by the Foundation and a combination of estate gifts.

Conservatory of Music

Marietta Atherton Endowed Scholarship. Established by a bequest from a University friend and Stockton patroness of the arts.

Allan Bacon Endowed Memorial Scholarship. Established by Mrs. Allan Bacon and friends and former students of Professor Bacon. He was a professor of organ from 1922 until he retired in 1956.

Dr. J. Russell Bodley Endowed Scholarship. Established by former students and friends and augmented by memorial gifts. Dr. Bodley was associated with Pacific for over 60 years as a student, faculty, Dean of the Conservatory and Emeritus Dean. In 1986, the American Cinema Awards Foundation made a special gift to this fund in honor of actress Janet Leigh, one of his former students.

Maynard A. Bostwick Endowed Scholarship. Established by an alumnus.

Alix E. and Horace I. Brown Endowed Scholarship. Established in memory of these music professors.

Buck Family Young Musicians Endowed Scholarship. Established by a gift from Mrs. Eva Buck.

Roberta Burland Endowed Scholarship.

Ruth J. Camp Scholarship. Funded annually from an outside endowment.

Chrissie W. Collins Endowed Vocal Scholarship. Established by various family gifts.

Elford-Roy Endowed Scholarship. Established by Mr. and Mrs. Robert Elford in honor of their parents.

Calla Guild Music Endowed Scholarship. Established by Ralph Guild to honor his wife, Calla.

Wilhelmina Harbert Music Therapy Endowed Scholarship.

Evelyn Ashmore Heath Endowed Scholarship.

P. Maddux Hogin Endowed Memorial Scholarship. Established by a bequest from Gwen Hogin in memory of her husband, a 1937 alumnus.

Gladys Thelma Ryan King Endowed Scholarship. Established by her bequest.

Lenora M. Magee Endowed Scholarship.

Virginia Short McLaughlin Endowed Scholarship.

Dr. Lawrence H. McQuerrey Endowed Memorial Scholarship. Established in memory of this former music education professor and chair of the department, with gifts from his family, friends, colleagues and students.

Edna B. Meyerholz Endowed Scholarship. Established by the bequest of Mrs. Meyerholz, class of 1911.

Jules F. Moullet Endowed Memorial Scholarship. Established by an estate gift from Louis F. Moullet.

The Naylor Family Endowed Scholarship. Established by Victor and Polly Naylor.

Pooled Endowed Scholarship. Established and augmented by alumni, parents and friends of the Conservatory.

William H. and Pauline Crawford Ramsey Endowed Scholarship.

Elizabeth E. Rice Endowed Memorial Scholarship. Established by Mrs. Marion V. Neufeld in memory of her mother.

Rosalie C. Rohr Scholarship. Established and funded annually by a distribution from her estate.

Bernice L. Rose Endowed Scholarship. Established by a 1925 Conservatory alumna.

Margaret Michael Saladana Endowed Scholarship.

Mildred Murphy Scott Endowed Scholarship. Established by Oliver D. Scott in honor of his wife.

Lawrence and Marilyn Short Endowed Scholarship.

John W. Sloss Endowed Conservatory Scholarship. Established by William and Joseph Sloss in memory of their father.

Doenda Hammond Smith Endowed Piano Scholarship. Established to assist Conservatory Students.

Faye Spanos Endowed Scholarship. Established by her children and proceeds from the Faye Spanos Concert Hall dedication benefit, in honor of the wife of Alex G. Spanos, Pacific alumnus and business leader.

Dr. Lucas and Kathe Underwood Endowed Scholarship.

Richard Van Alstyne Endowed Scholarship.

Eva Varnum Endowed Memorial Scholarship.

Jack and Eleanor Vogel Endowed Scholarship.

C. A. Webster Foundation Endowed Stringed Instrument Scholarship.

Judith and Walter Willmette Endowed Scholarship. Established by Judith and Walter Willmette.

Steven and Maureen Wincor Family Endowed Scholarship. Established to assist Jazz Studies Students.

R. Coke Wood Memorial Endowed Scholarship. Established with memorial gifts. Delete scholarship from here.

Eberhardt School of Business

Bank of America Foundation Endowed Scholarship.

Charles and Carolyn Bloom Endowed Scholarship.

Chambers Family Endowed Scholarship. Established by the Chambers Family Charitable Trust.

Credit Bureau of San Joaquin County Endowed Scholarship.

Robert E. Ferguson Endowed Scholarship. Established in memory of alumnus and Regent Bob Ferguson.

Joseph Kaeslin Endowed Memorial Scholarship.

George B. Lagorio Endowed Scholarship.

Daisy Lum Lee Endowed Scholarship. Established in her memory by family.

Marian and George Malloy Endowed MBA Scholarship.

John and Rhonda Minges Endowed Scholarship.

Andrew and Helen Neumann Endowed Scholarship. Established with their estate

Gregory A. and Amy Lonegran Mitchell Endowed Scholarship.

Andrew and Helen Neumann Endowed Scholarship. Established with an estate gift.

Benedict H. Van Endowed Scholarship. Established with an estate gift.

Jack and Eleanor Vogel Endowed Scholarships.

Robert R. Winterberg Outstanding Senior Award.

Thomas W. Witter Endowed Scholarship. Awarded to needy and deserving School of Business students.

Gladys L. Benerd School of Education

William P. Bacon Endowed Scholarship.

Barker-Knoles Endowed Scholarship.

Benerd School of Education Graduate Student Endowed Scholarship. Established through the Gladys L Benerd Estate.

Benerd School of Education Pooled Endowed Scholarships. Established and augmented by alumni, parents and friends of the School of Education.

Esther Berchtold Endowed Scholarship. Established by this alumna, class of 1926.

Melvin and Jayne Bernasconi Endowed Graduate Scholarship. Established by Mr. and Mrs. Bernasconi.

R. John, Jr. and Margaret Wennhold Charles Endowed Scholarship. Established through their estate.

Clare Ann Christian Memorial Endowed Scholarship. Established in the memory of this 1967 alumna by her husband, family and, friends.

Armando B. Flores Endowed Scholarship. Established to honor his years of services with APS Company.

Quintard and Patricia Gregory Endowed Scholarship.

Al and Lois Erwin Family Endowed Scholarship.

J. Marc and Ruth P. Jantzen Endowed Scholarship. Established in honor of the retired dean of the School of Education.

Susie Leatherby Endowed Scholarship. Established by Russell and Susie Leatherby.

Hilga G. Lister Endowed Scholarship. Established by Dr. and Mrs. Cy Coleman in memory of her mother.

The John and Elizabeth Nagle Family Endowed Scholarship Do not delete this scholarship

Pedro and Edna Osuna Endowed Graduate Scholarship. Established by Professor and Mrs. Osuna.

Alexandra Green Ottesen and Peter Ottesen Endowed Scholarship.

Glen Ainslee Payne Endowed Memorial Scholarship. Established by the Walter A. Payne family.

Marion Pease Endowed Scholarship. Established by several local groups in honor of Pacific emeriti professor of education.

Phi Delta Kappa Endowed Scholarship.

Willis N. and Viola Potter Endowed Scholarship.

Janet Rose Baker Robinson Endowed Scholarship. Established by bequest from a 1936 School of Education graduate.

Victor Russell Robinson Endowed Scholarship.

Tony and Dorothy Rodina Endowed Scholarship.

Barbara Ratto Rosemond Endowed Memorial Graduate Scholarship. Established from memorial gifts.

Charles Schiffman Endowed Memorial Scholarship. Established with an estate gift from Charlie class of '40, who was a generous local teacher and administrator for over 40 years. Charlie believed in the power of education and provided guidance; support and intellectual challenges to all knew him.

J. A. and Mary Thomason Endowed Scholarship. Established by Mr. and Mrs. Thomason.

Bonnie Jean Thompson Endowed Scholarship. Established by Mary Middleton Cunningham, class of 1957.

Virginia Sadler Toomay Memorial Endowed Scholarship. Established with a gift from General John C. Toomay.

Rebecca L. Troutner Memorial Endowed Scholarship. Established by family, friends, and faculty in memory of a 1985 School of Education graduate, an elementary school teacher who died in an automobile accident.

Milton M. Tyler Endowed Scholarship. Established in memory of the former special education professor by his family and friends.

Chuck Verduzco Endowed Memorial Scholarship.

Phyllis L. Vince Endowed Memorial Scholarship. Established by her husband, Mr. Robert Vince.

School of Engineering and Computer Science

Andrew C. Ausman Memorial Endowed Scholarship. Established in memory of this son, a former student at Pacific.

James F. Baun Family Endowed Scholarship. Established with a trust.

Charles and Carolyn Bloom Endowed Scholarship.

Chambers Family Endowed Scholarship. Established by the Chambers Family Charitable Trust.

Gladys and John de Arrieta Endowed Scholarship. Established by an engineering graduate and his wife, both alumni, class of 1940.

Robert H. and Margaret E. Edwards Endowed Scholarship. Established through their estate.

General Mills Endowed Scholarship Fund.

Jack C. Goble Endowed Scholarship. Established with memorial gifts from family and friends.

Roy S. Hamma Family Endowed Scholarship. Established by an estate gift in honor of himself and his three siblings, all of whom received baccalaureate degrees from Pacific.

Robert L. Heyborne Endowed Scholarship. Established in memory of a former dean of the School of Engineering from 1969-1990 with memorial gifts from family, friends, alumni and faculty.

Robert C. Johanson Endowed Scholarship. Established with memorial gifts from family and friends.

Robert and Emily Lovell Endowed Scholarship.

Joseph and Genevieve Madeiros Endowed Engineering Scholarship. Established with an estate gift.

Henderson E. McGee Endowed Fund.

Herman G. and Myrtle E. Nelson Endowed Scholarship. Established through their estate.

Laurie Ann Pecoraro-Nemetz Endowed Scholarship. Established with memorial gifts.

Andres Rodriguez Endowed Scholarship. Established with memorial gifts.

Paul M. Sensibaugh Endowed Scholarship. Established with various gifts in his honor.

Teichert Foundation Endowed Scholarship.

Elsa and David Wheeler Endowed Scholarship.

School of International Studies

Kirk and Laura Bowman Endowed Scholarship.

Arthur J. Cullen Endowed Scholarship.

Rom Landau Endowed Scholarship. Established by Professor Landau through life-time gifts and by his will.

George and Isabelle Wilson Endowed Scholarship. Established by a gift from Mrs. Isabelle Wilson.

Thomas J. Long School of Pharmacy and Health Sciences

Gregory Bard, M.D., Endowed Physical Therapy Scholarship. Established in his honor by his wife.

Donald Y. Barker Endowed Scholarship. Established in honor of a 32-year member of the School of Pharmacy's faculty on his retirement by faculty, friends, family and former students.

Ocea McMurray Brooksbank Endowed Scholarship.

Allen and Hazel M. Caldeira Endowed Scholarship. Established with a gift from her estate.

The Catania Family Endowed Scholarship. Established with a gift from Patrick and Harriet Catania.

H. R. Cenci Family Endowed Scholarship. Established with a family trust.

Charles T. Countryman Endowed Memorial Scholarship. Established by his family and friends in memory of this distinguished pharmacy graduate.

Ray and Ruby Dami Endowed Scholarship. Established through the bequest of Mrs. Ruby Dami.

Mabel and Charles P. Dezzani Endowed Scholarship.

Ted and Georgia Econome Endowed Scholarship. Established with memorial gifts from family and friends.

The Lucy and Joseph Floriddia Memorial Endowed Scholarship. Established by Dr. Donald Floriddia in honor and memory of his parents.

The Flowers Foundation Endowed Scholarship.

Joseph S. Gee Endowed Scholarship.

Jay Patrick Gould Endowed Memorial Scholarship. Established by friends and family.

James C. King Endowed Scholarship.

Steven Edward Lancaster Endowed Scholarship. Established with gifts from Miyuki Lancaster.

J. M. Long Foundation Endowed Scholarship.

Thomas J. and Muriel T. Long Endowed Scholarships. Established by gifts from the co-founder of Long's Drug Stores and emeritus Regent of the University.

Charles Magnasco Endowed Memorial Scholarship. Established by Andrew Magnasco in memory of his brother.

Marvin Malone Endowed Memorial Scholarship. Established with memorial gifts in memory of Marvin Malone.

Erin Michael McGreevy Endowed Memorial Pharmacy Scholarship. Established with a gift from the estate of his wife Lucille McGreevy.

Janet Nimitz Endowed Scholarship. Established by the Dept. of Speech Language Pathology in recognition of her 19 years service to Pacific.

Pacific Golf Tournament Endowed Scholarship. Funded by proceeds from annual tournament.

Mr. and Mrs. Michael Pappas Endowed Scholarship.

Virginia Puich Endowed Scholarship for Academic and Clinical Excellence.

Rexall Pharmacy Endowed Scholarship.

Carl C. Riedesel Endowed Scholarship.

Emmons E. Roscoe Endowed Memorial Scholarship. Established with memorial gifts from family and friends.

Ivan W. and Helen T. Rowland Endowed Scholarship. Established in their honor.

George H. Sanderson Endowed Scholarship for Physical Therapy. Established with an estate gift from his son Robert E. Sanderson.

Charlotte and George Saroyan. Established by a gift from their son, Ralph L. Saroyan, Professor Emeritus, Thomas J. Long School of Pharmacy and Health Sciences.

Ralph L. Saroyan Endowed Scholarship. Established in his honor by various donors.

Warren J. Schneider Endowed Memorial Scholarship.

John H. Shinkai Endowed Graduate Pharmacy Student Scholarship.

John H. Shinkai Endowed Pharmacy Scholarship.

Masao and Ayako Shinkai Endowed Memorial Scholarship. Established by Dr. John H. Shinkai in memory of his parents.

Sixties Alumni Memorial Endowed Pharmacy Scholarship.

Florence Scott Van Gilder "The Tolley Award" Endowed Award.

Richard C. Vessey Endowed Memorial Scholarship. Established by his family and augmented by gifts from his friends in memory of this 1975 School of Pharmacy graduate.

Walgreen Company Endowed Pharmacy Scholarship. Awarded to needy and deserving pharmacy students to assist in finishing their professional studies or participating in vital research within the school.

Bryant Kerry Wong Endowed Memorial Scholarship. Established in memory of Mr. and Mrs. Wong's 4-year-old son who was killed in an auto accident in 1965. Both parents are pharmacists.

University Library

Gladys L. Benerd Student Employee Endowed Scholarship.

Intercollegiate Athletics

Athletic Grants are awarded to qualified student athletes according to the regulations of the National Collegiate Athletic Association (NCAA).

Jim and Lois Berens Endowed Athletics Scholarship. Established by a gift from James and Lois Berens.

Chester Caddas Family Endowed Scholarship. Established by gifts from various donors.

Ellen L. Deering Endowed Athletic Scholarship. Established by bequest.

Marilyn E. Field Endowed Scholarship. To support Women's Athletics.

Jessie Murphy Grogan and Robert Grogan Endowed Memorial Softball Scholarship. Established in her memory by her family and friends.

Larry E. Heller Endowed Scholarship.

Al and Lois Irwin Family Endowed Scholarship.

Bing and Jody Kirk Endowed Athletic Scholarship. Established by a gift from E. Bing and Jody Kirk.

Claudine and Jerald Kirsten Endowed Athletic Scholarship. Established with estate and various memorial gifts.

Chris Kjeldsen Endowed Memorial Scholarship. Established in honor of an alumnus and long-time member of the University faculty.

Ted and Stefanie Leland Endowed Scholarship.

Justin and Shirley Marshall Endowed Scholarship.

Tunney McClendon Endowed Memorial Tennis Scholarship. Established by her husband, Dwayne McClendon and her many friends in loving memory of her life and love for the game of tennis.

Warren T. McNeil Endowed Memorial Scholarship.

Myers' Moose Men Endowed Scholarship. Established through tribute gifts for Jack 'Moose' Meyers Pacific football coach 1950-1961.

Jean Rule Sanders Endowed Women's Tennis Scholarship. Established by her daughters. Awarded to a female member of the team who has excelled in scholastic endeavors and has high moral character.

Doug Scovil Memorial Endowed Scholarship. Established with memorial gifts.

Tom Stubbs Endowed Baseball Scholarship. Established by gifts honoring him as baseball coach, assistant football coach, and professor at Pacific for 33 years.

Bert I. Van Gilder Memorial Endowed Scholarship. Established through a gift from Marian Schroven '29 in memory of her husband.

Special Academic Programs and Activities

Experiential Learning at Pacific

For decades universities have used experiential learning programs as a way to assist students in integrating their academic training with the practical side of the working world. These programs have allowed the students to gain hands-on experience in a relatively risk-free environment while being supervised and mentored by their faculty and the work site professional. As Pacific students prepare themselves for their own career journey, the value of work experience in each student's field of interest has never been greater. Today's employers are more likely to hire students

who combine appropriate classroom training with meaningful experience in the working world.

Cooperative education, internship, and professional training programs have long been a hallmark of academic distinctiveness at the University of the Pacific. In 1999, Pacific's Academic Council approved a revision to the experiential learning programs that will meet the needs of the students far into the 21st century. In addition to traditional internship, cooperative education, and clinical programs, Pacific has expanded offerings to include fieldwork, service learning, research, practicum and study abroad. Now there is virtually something for every major and every academic program. There has never been a more appropriate or easier time to get involved in an experiential learning program.

Pacific's Career Resource Center urges all current and future students to consider adding an Experiential Learning Opportunity (ELO) to their academic pursuits. For additional information about ELO offerings, please contact the Career Resource Center (CRC) office at (209) 946-2361.

Undergraduate Research

The Office of Undergraduate Research supports research and creative activity for undergraduates. In particular, it provides funding for student research projects and hosts the annual Pacific Undergraduate Research & Creativity Conference (PURCC) (<http://www.pacific.edu/Academics/Research-and-Scholarship/Undergraduate-Research/Pacific-Undergraduate-Research-and-Creativity-Conference-%28PURCC%29.html>). In addition, it helps connect students with research and conference presentation opportunities both on and off campus. For more information, contact Dr. Lydia Fox at 209-946-2481.

Education Abroad

University of the Pacific offers students opportunities to study, intern or volunteer abroad for a semester or even an academic year through a global network of partners and providers. Students are encouraged to consider this option to enrich their lives, add an essential dimension to their studies, and prepare for career opportunities in an increasingly global world.

Most students choose to participate in their sophomore or junior year. However, interested students should begin investigation options as early as possible to ensure eligibility and fit. General requirements are sophomore standing and a 2.5 Pacific cumulative GPA. Foreign language requirements vary, but viable options exist for every major on campus. Some programs require course prerequisites and all require a minimum grade-point average. Credit earned through Pacific-approved programs is awarded through Pacific and students pay Pacific tuition while still utilizing scholarships, loans, and aid.

Many education abroad programs offer a broad curriculum, although some have a specific academic focus such as business, ecology, studio arts, or music performance. Internships are also available. And all programs offer students the challenges and benefits of studying and immersing themselves in a culture different from their own.

A Cross-Cultural Training Course (INTL 151) is required for all students studying abroad for a semester or full year. A companion course (INTL 161) is also available to students returning from an education abroad experience. Take both courses to meet your diversity requirement.

For more information on education abroad, please call (209) 946-2246, email edabroad@pacific.edu, or visit www.pacific.edu/ips.

Fellowship Office

The Fellowship Advisor is available to assist students across the university in pursuing national awards that support undergraduate

research and graduate study. Scholarships and fellowships may fund tuition in the U.S. or study abroad, sponsor research projects or internships, and provide mentoring in the recipient's chosen field of graduate study. Students considering graduate school or post-baccalaureate research projects abroad are encouraged to contact the Fellowship Advisor early in their academic careers, ideally at the beginning of sophomore year. For news and events, and to begin your search for fellowships and scholarships, see the Fellowship Office website: <http://web.pacific.edu/x21104.xml>.

For further information, email the Fellowship Advisor, Susan Weiner, at sweiner@pacific.edu, or call (209) 946-2406.

Forensics

On March 25, 1854, a group of students interested in debating and oratory met and appointed a committee to draw up a constitution for a college organization. A week later the Archanian Literary Society was formed. The purpose of the society was for students to "mutually [aid] each other in the acquirement of an easy, graceful, and impressive manner of speaking, as well as skill in the use of language . . ." Thus, was born the development of forensics on the University of the Pacific campus. During the Civil War, a rival society, Rhizomia, was formed on the campus. It was not until the 1920s that the forensics team started to compete against other colleges and universities. Since that time, Pacific Forensics has had national champions in debate (1964) and individual events (1979;1980). Forensics students at Pacific typically travel to tournaments around the *world* throughout the academic year. They compete in Parliamentary Debate, NFA Lincoln-Douglas Debate, Persuasive (Advocacy) Speaking, Informative (Expository) Speaking, After Dinner Speaking, Impromptu Speaking, Extemporaneous Speaking, Dramatic Interpretation, Duo Interpretation, Poetry Interpretation, and Prose Interpretation. Students qualifying for the NPTE (National Parliamentary Tournament of Excellence), the NPDA (National Parliamentary Debate Association) National Championship, and NFA (National Forensics Association) Nationals will compete at those tournaments. Additionally, the top members of the team travel to the World University Debate Championships at least every other year (Xi'an, China 2005; Vancouver 2007; Ireland 2009; Shanghai 2011; Chennai, India 2013; Athens Greece 2015). Scholarships and funding are available for all competitive members.

Publications

The Pacifican is an independent weekly newspaper, published by the university's Student Media Board. It is financed by the ASUOP fee and advertising. Student managed, this publication serves as a laboratory for those interested in journalism. The Pacifican Office is located on the first floor of Grace Covell Hall.

Aerospace Studies (Air Force ROTC)

Air Force Reserve Officer Training Corps is available to University of the Pacific students through a program offered at California State University, Sacramento. The CSUS Department of Aerospace Studies offers three- and four-year programs leading to a commission in the United States Air Force. All coursework (16 semester units total) is completed on the CSUS campus. Leadership Laboratory is normally held during the day on Fridays, physical fitness training and lecture are normally offered during the early morning hours Monday through Friday. Field training is conducted during part of the summer at an active duty air force base, normally between the student's sophomore and junior years.

Upon completion of the program and all requirements for a Bachelor's degree, cadets are commissioned as second lieutenants in the Air Force and serve a minimum of four years on active duty. Graduates who are qualified and are selected, may enter pilot or navigator training after

graduation, or serve in a specialty consistent with their academic major, individual goals, and existing Air Force needs. Graduates may request a delay of entry to active duty to continue their education or may apply for Air Force-sponsored graduate study to begin immediately upon entry on active duty.

Air Force ROTC offers 3-year and 2-year scholarships to qualified students. Applications are accepted in any academic discipline; however, particular emphasis is usually given to applicants in the fields of engineering, computer science, mathematics, and physics.

Due to firm scheduling requirements for the Air Force ROTC program, students are encouraged to work closely with their academic advisors in planning this academic program. Application to the Air Force ROTC program should normally be no later than the first semester of a student's sophomore year. Juniors, seniors and graduate students may also apply under certain conditions. Contact the unit recruiting officer in the Aerospace Studies Department at CSUS, telephone (916) 278-7783, for information on the program or the entry process.

Student Academic Support Services

Advising

During orientation at Pacific, students immediately begin to work with an academic advisor within their School/College for their degree, and the same advisor often remains with students throughout the duration of their study. Advisors assist students in:

- designing a plan of study
- selecting classes
- defining realistic educational goals
- helping explore career options in collaboration with the Career Resource Center
- monitoring completion of graduation requirements.

Students are encouraged to take advantage of the individual attention provided by Pacific's academic advisors and should contact their School/College's Dean's office if they have questions. Students can locate their advisor through insidePacific by looking at their student information under Student records as well as through their placement/articulation page.

Students also have their responsibilities during the advising process, such as:

- becoming aware of the academic rules and regulations, registration procedures and deadlines, and their graduation requirements
- consulting with their faculty advisor prior to registering for classes each term
- monitoring their progress to complete their graduation requirements

Students should strive for a healthy balance of awareness of degree requirements and strong preparation for advising, coupled with professional engagement and thoughtful dialogue with their advisor.

General Academic Tutoring Center

The General Academic Tutoring Center offers free one-on-one tutoring to currently enrolled undergraduate students on Pacific's Stockton campus (as resources and tutor availability permit). This is a peer-tutoring program; tutors are those students who have succeeded academically with a B+ or better in the class they are tutoring or have been recommended by their Professors. In addition, our tutors go through training to learn how to tutor for different learning preferences, tutoring strategies, and nation-wide best practices for tutoring. Students

interested in our tutoring services should visit the second floor of the Library or visit our scheduling site at www.pacific.mywconline.com to schedule an appointment. The GATC's hours during the Fall and Spring semesters are Monday through Thursday 9 a.m. to 9 p.m., Fridays 9 a.m. to 5 p.m. and Sunday 4 p.m. to 9 p.m. Tutors in most subjects are available; however, students are urged to contact the office early in the semester so that tutors can be sought. The General Academic Tutoring Center makes every attempt to locate tutors; however, sometimes tutors may not be readily available in some subjects. Any student interested in becoming a tutor is also welcome to apply through Tiger Jobs. For more information, call (209) 946-2437 or email at tutoring@pacific.edu.

Writing Center

The Writing Center offers free writing tutorial support for all Pacific students in all programs for all levels of writing in the various undergraduate, graduate, and professional programs. The Center is located on the second floor of the main library and assists with any kind of writing project at any stage of the process. Writing Mentors ensure that students receive the best assistance possible either through individual 30 to 60 minute writing conferences or informal writing group facilitation. Mentors don't tell people what to write. Instead, they work with each writer to figure out how the writer wants to proceed with a piece of writing. Mentors treat each student and conversation individually, directing conferences based on the writer's own writing goals. For more information, please contact Melanie Hash, Student Writing Center Manager, at 209-932-2969.

Math Lab

Drop-in tutoring for Math Literacy for College and MATH 005 is always available during open lab hours on the second floor of the library. Drop-in support for other math courses may also be available, so students should feel free to stop by. For more information, please contact Andrew Pitcher, Instructor & Director of Math Skills Program, 209-946-2349.

University Libraries

University Libraries offers personalized experiences that further academic success and scholarly inquiry on the Sacramento, San Francisco, and Stockton campus. Resource collections, research consultation, and digital technology connect people and ideas. Study spaces further a variety of learning styles and teaching activities, from quiet reflection to collaborative work. Special collections houses unique resources, such as the John Muir papers and local history manuscripts. Now, in addition to 300,000 print resources and over 200,000 electronic resources, the libraries offer digital maker space services with 3-D printing, virtual reality software and hardware, and drone research services.

Office of Services for Students with Disabilities in the Division of Student Life

The University does not discriminate against students and applicants on the basis of disability, in the administration of its educational and other programs. The University reasonably accommodates qualified students (including applicants) with disabilities as defined by applicable law, if the individual is otherwise qualified to meet the fundamental requirements and aspects of the program of the University, without undue hardship to the University. Harassment on the basis of disability issues is prohibited by the University's policies.

For purposes of reasonable accommodation, a student or applicant with a disability is a person who: (a) has a learning, physical or psychological impairment which limits one or more major life activities (such as walking, seeing, speaking, learning, or working); or (b) has a record with the University by which the University has officially recognized

such impairment. To be eligible to continue at the University, the student or applicant must meet the qualifications and requirements expected generally of its students, and must also be able to perform the requirements of the individual major or program in which s/he is enrolled.

A qualified student or applicant is an individual with a disability as defined by this policy and applicable law who meets the academic and technical standards requisite to admission and participation in the educational program or activity. Accommodations are such modifications to the course, program or educational requirements as are necessary and effective for the individual, if reasonable to provide at the University and do not alter the fundamental nature of programs. Accommodations do not include exemption from academic evaluation standards or from the code of student conduct.

Pacific expects that, if a student has a disability, the student gives sufficient notice of the need for assistance (preferably prior to the start of the semester) although the University does fully consider the merits of each request at the time it is received. Upon receiving a request for assistance as well as appropriate documentation, the Director of the Office of Services for Disabilities considers the student's need for assistance as it relates to the documented disability. If appropriate, the University may choose to consult with such individuals, internal or external to the University, to provide further assistance needed to evaluate the request for accommodation. The following list is an example of the types of reasonable accommodations and services that university may provide, on a case-by-case basis, to assure equal access:

- Academic adjustments and curricular modifications
- Assistive technology
- Consultation with faculty and staff
- Registration assistance and classroom rescheduling
- Readers, scribes, note-taking, and library assistance
- Test proctoring services

Please note the university does not provide or subsidize personal care devices or services such as ambulatory devices or assistance with bathing, dressing, laundry, etc. Referrals to external agencies, however, are available upon request.

For additional information, please contact:

Daniel Nuss, Director
Office of Services for Students with Disabilities
McCaffrey Center, Room 137
Phone: (209) 946-2879
E-mail: dnuss@pacific.edu

More detailed information as well as our Policy Manual for Students with Disabilities is available on the web at: <http://www.pacific.edu/Campus-Life/Student-Services/Disabilities-and-Testing-services.html>

Referral Center

Student Referral Services serves as a "hub" or central point for faculty and staff to refer students in need of guidance and support in accessing campus resources (such as tutoring, study skills development, counseling services, and various types of advising.) Most referrals are routed to Student Success Coaches in Student Academic Support Services, although referrals for certain student populations (i.e. Student Athletes, Community Involvement Program Scholars, etc.) are sent directly to staff in those departments. Upon referral, outreach will be conducted to connect with the student personally in an effort to help them identify needs, access services, and obtain their academic and personal goals. It is important to note that while repeated efforts will

be made to connect with the student, students are allowed to decline services and resources. The online referral form can be found in Canvas, InsidePacific and through the Student Academic Support Services website found here: <http://www.pacific.edu/Academics/Student-Success/Student-Academic-Support-Services.html>. To speak with a team member about referral services at Pacific, please call (209) 946-2177 or email successcoaches@pacific.edu.

Student Success Coaches

Student Success Coaches work to support students who have experienced academic or personal hardship in an effort to minimize the impact these situations have on a student's academic record. Success Coaches work individually with students to help them assess their needs, overcome challenges and adversity, and connect with appropriate campus and community resources. Success Coaches assist students completing academic petitions, communicating with faculty during personal emergencies, considering partial or full semester withdrawals, and navigating the university's support system. While many students are referred to a Success Coach by a faculty or staff member, students can make appointments to meet with a Success Coach without being referred. To make an appointment with a Success Coach, please call (209) 946-2177 or email successcoaches@pacific.edu.

Testing Services

The Testing Center in the Gladys L. Benerd School of Education is an officially designated national testing center for the Graduate Record Examination in subject matter only. The Testing Center is available for proctoring services for individuals seeking to take an exam of any subject. Proctoring services are open to Pacific students, students attending other institutions, and the general public, whether offered through another college, university, and/or private/public business. Individuals interested in proctoring services should call (209) 946-2559. The Testing Center is located at the Gladys L. Benerd School of Education, Room 101.

International Programs and Services (IPS)

Located in the Bechtel International Center (BIC) between Casa Jackson and Jessie Ballantyne Halls, IPS offers comprehensive services to international students and scholars coming to the United States as well as to Pacific students interested in studying, interning or volunteering abroad. IPS serves as a liaison between University schools, departments and offices, collaborating with them to enhance international and global education across the campus.

Bechtel International Center

The Bechtel International Center functions not only as a home to International Programs and Services but also as a gathering place for a variety of international and global functions. To reserve the Center for eligible events, please contact IPS at extension 62246 or email: ips@pacific.edu. BIC is open from 8:30 a.m. to 5:00 p.m. when classes are in session, except for holidays.

International Students and Scholars Services

IPS offers a variety of services, including immigration advising, to international students and scholars at Pacific, supporting and enhancing their social and cultural integration into the Pacific community. IPS also administers Pacific's Exchange Visitor Program. The objective of this U.S. Department of State effort is to facilitate and increase mutual understanding between Americans and citizens of other countries through educational and cultural exchanges. For more information call (209) 946-2246.

Student Loans

Loan funds may be used to pay tuition, fees, room, board and other related educational expenses. Information about federal loans is available at the Financial Aid website or may be obtained in the Office of Financial Aid.

Federal Direct Ford Loans, Federal Direct PLUS Loans and Federal Grad PLUS Loans

Under these programs, the U.S. Department of Education makes loans available through the University, directly to students and parents. The University of the Pacific Financial Aid Office determines eligibility and provides application instructions. Students may be eligible for Federal Direct Ford Loan funds. Parents of dependent students may apply for the PLUS Loan, while graduate students and professional Pharmacy students may qualify for the Graduate/Professional PLUS.

Health Professions Student Loan

The HPSL program is sponsored by the U.S. Department of Health and Human Services and is administered by the University Student Loan Department. This loan offers a five percent, fixed interest rate and is available for eligible students enrolled full-time in the University's professional pharmacy and dental programs.

Herbert E. and Lillian E. Burbank Memorial Student Loan Fund

Established with an estate gift from their daughter Jeanne C. Burbank.

Robert and Merle Carter Student Loan Fund

Established by two long-time friends of the University whose belief in Pacific and its students motivated them to provide this opportunity for worthy and needy young men and women.

Juanita and Earnie Cronkite Loan Fund

Established with an estate gift to assist deserving students with their education.

Lloyd Ivan Gerry Memorial Loan Fund

Established from the estate of Isa Spencer Gerry in memory of her husband.

Claude H. Hogan Revolving Loan Fund

Established to provide emergency loans, supplemental loans and summer study loans for non-traditional students.

Clara and Frank Mayo Student Loan Fund

Established from a trust to assist students with interest-free loans.

Blanche Pope Neal Student Loan Fund

Established with a gift to assist students.

Ralph M. Parsons Revolving Loan Fund

Established by a gift from the Ralph M. Parsons Foundation to assist sophomores, juniors, and seniors who meet GPA and other eligibility requirements. Preference is given to engineering and science majors.

Edna Ormsby Proctor Endowed Memorial Loan Fund

Established by a gift from her estate to assist the University in training students for full-time Christian service in the area of religious education, preparing for directorships, conference executive work, and other related professions.

SIS Tenth Anniversary Loan Fund

Established to assist students with the cost of attending Pacific.

Francis A. Wagstaff Loan Fund

Established with an estate gift to assist students with expenses.

Methodist Student Loan Fund

A limited number of students who are active members of the United Methodist Church may obtain loans from the Student Loan Fund administered by the Board of Education of that church. Information is obtained from the University of the Pacific Financial Aid Office.

Summer Sessions

The University offers in-person and online courses during the summer that allow Pacific students to fulfill degree requirements and accelerate their academic progress. It also provides an opportunity for individuals from the community to enroll in University courses without being admitted as traditional, degree-seeking students. Summer Session courses are divided among three, five-week sessions immediately following the end of spring semester. For detailed information on Summer Sessions visit go.pacific.edu/summersessions.

Tuition and Fees

The University of the Pacific is an independent institution. Each student is charged tuition that covers about three-fourths of the cost of services furnished by the University. The balance of these costs is met by income from endowment and by gifts from regents, parents, alumni, and other friends who are interested in the type of education this institution provides.

Overall Costs for the School Year

The annual expenses for a student at the University of the Pacific depends upon a variety of factors. Tuition and fees are the same for students regardless of their state or country of residence. Basic expenses are as follows:

Type	Cost
Tuition (1) per academic year 2019-2020, enrolled in 12 to 18 units in each semester	\$48,904
Wellness Center	\$330
ASUOP Student Fee	\$274
Activity & Recreation Fee	\$80
Room and Board	\$13,408
Total per academic year	\$62,996
School of Pharmacy and Health Sciences Annual Tuition (Eleven-month program, three terms)	\$78,354

¹ Arthur A. Dugoni School of Dentistry and McGeorge School of Law tuition and fee schedules are available in the Sacramento and San Francisco catalogs.

There are other fees and charges unique to certain programs. These fees or charges may be determined by contacting Student Accounts or the University office that administers those programs or activities in which the student intends to enroll or engage.

Expenses for books and supplies, special fees, and personal expenses usually average approximately \$5,157 annually.

The University reserves the right to change fees, modify its services or change its programs at any time and without prior notice.

Tuition – Undergraduate Students (per semester)

All schools except Pharmacy and Health Sciences

Type	Cost
Full-time (12 to 18 units)	\$24,452
Part-time (.5 to 11.5 units) per unit	\$1,687
Excess units above 18 units, per unit	\$1,687
Engineering Co-op (full-time) Admitted prior to Fall 2016 tuition rate	\$12,226
Engineering Co-op (full-time) Admitted Fall 2016 tuition rate	\$6,114

Tuition – School of Pharmacy and Health Sciences (per term)

Type	Cost
Full-time (12 to 20 units)	\$26,118
Part-time (.5 to 11.5 units) per unit	\$1,800
Excess units above 20 units, per unit	\$1,800
Pharmacy Clerkship Rotation (full-time)	\$26,118
Pharmacy Technology Fee	\$330
Pharmacy Professional Fee (1)	\$325
Physical Therapy Fee	\$150

¹ Required of all students enrolled in the professional program with 12 units or more.

Tuition – Graduate Students (per semester)

Type	Cost
All schools (16 to 18 units) plus applicable fees	\$24,452
All schools (.5 to 15.5 units) per unit, plus applicable fees	\$1,528
Excess units above 18 units, per unit	\$1,528
Physical Therapy (12 to 18 units), plus applicable fees (Fall, Spring, Summer Terms)	\$24,334
Physical Therapy (1 to 11.5 units)	\$1,520

General Fees (per semester)

Student Health Insurance Plan

Undergraduate Students \$1,260

Graduate and Professional Pharmacy Students \$1,671

Required for all students enrolled in 9 or more units and for all international students with an F-1 Visa taking .5 units or more. It is optional for students enrolled in .5 to 8.5 units. The Student Health

Insurance can be waived with proof of own health insurance if provided by the deadline and if the coverage meets University requirements.

Wellness Center Fee \$165

This fee is required for all students residing in University housing; and for all other students, both graduate and undergraduate, enrolled in 9 units or more.

Wellness Center Fee \$90

This fee is required for all students enrolled in .5 to 8.5 units.

ASUOP Student Fee \$137

This fee is required for all undergraduate students residing in University housing and all undergraduates enrolled in 9 units or more. It is optional for students enrolled in .5 to 8.5 units.

ASUOP Graduate Student Fee \$30

This fee is required for all graduate students and doctoral candidates enrolled in 8.5 units or more. It is optional for students enrolled in .5 to 8.0 units.

Activity & Recreation Fee \$40

This fee is required for all students enrolled in 9 units or more.

Course Audit Fee, per class \$50

Instructor permission is required. Auditing is not available in participation courses such as applied music, physical education, art courses of an applied nature, etc. The student must indicate a desire to audit the course at the time of registration.

Engineering/Computer Science Fee \$150

This fee is required for all students enrolled in the School of Engineering and Computer Science. Students are exempt from the fee while enrolled full time in the off-campus cooperative education program.

Business School Fee \$20

This fee is required for all Business Majors.

Conservatory Fee \$250

This fee is required for all Conservatory Majors.

Practice Room Fee \$10

This fee is required for all Conservatory Majors.

Applied Music Fees

Private lesson¹ fees vary by instrument and are based upon length of lesson. Fees range from \$70 to \$375. Please check with the Conservatory to determine appropriate charges. Applied music lessons must be arranged through the Conservatory Office.

¹ Private lessons and applied class lessons for non-music majors are available only if faculty loads permit and must be arranged through the Conservatory Office.

Special Fees

(Partial List)

Type	Cost
Transcript Fee	\$5
Matriculation Fee	\$100
Petition Fee	\$25
Graduate Continuing Education Fee	\$50
Non-refundable, Credit by Exam Fee	\$50
Additional fee for successful Credit By Exam results	\$200

Undergraduate Confirmation Deposit

A deposit of \$70 is required for all new students once notification of acceptance to the University has been received. The deposit is applied toward the student's tuition and is nonrefundable after May 1.

Housing Deposit

A deposit of \$200 is required for all new students who apply to reside in campus housing. This should be paid once notification of acceptance to the University has been received. The deposit is applied towards the student's housing charges and is nonrefundable after May 1.

Financial Responsibility

Registration, when accepted by the University of the Pacific, constitutes a financial agreement between the student and the University. Registration is considered complete when the bill has been settled. Tuition, fees and other charges the student incurs including but not limited to, housing, meal plans, and bookstore charges are added to the student account and are considered a loan for an educational benefit.

When you register for courses with the University of the Pacific, you are responsible for all "charges" as they become due. The charges include but are not limited to tuition, fees, room and board, meal plans, Laptop Agreement, bookstore charges and library charges (herein "charges"). These charges are for your educational benefit and if you fail to satisfy your financial obligation to the University you will not be provided any benefits from the University. The benefits which may be terminated include but are not limited to, course registration, housing and meal plans, transcripts and diplomas. Any outstanding charges due on your student account will be transferred to a Student Note Loan balance with the Student Loan Department, of the University of the Pacific for servicing. This Student Note Loan balance is subject to daily interest, late fees, collection fees, credit bureau reporting and any legal fees or costs associated with any bankruptcy. Failure to pay these charges when due will result in loss of housing, suspension of meal plans, termination of enrolled student status and will result in being denied access to the deferred payment plan options. It is your responsibility to ensure that all financial aid is properly credited to your account. The University reserves the right to increase their fees and charges. Registration constitutes my agreement to all the forgoing terms and conditions.

You agree, in order for us to service your account or to collect any amounts you may owe, we may contact you by telephone at any telephone number associated with your account, including wireless telephone numbers, which could result in charges to you. We may also contact you by sending text messages or e-mails, using any e-mail address you provide to us. Methods of contact may include using pre-recorded/artificial voice messages and/or use of an automatic dialing device, as applicable. I have read this disclosure and agree that the University of the Pacific or its appointed agents may contact me as described above.

In order to receive a bill that includes tuition and fees prior to the payment deadline, you must early register for courses. Please note that students with delinquent accounts are not permitted to register. It is the students' responsibility to pay by the deadline, regardless of receiving a statement. Students can obtain their current account balance by logging into *insidePacific*. The University sends monthly electronic billing statements. Students receive a monthly email notifying them that their statement is ready for viewing. This statement notification email is also sent to any Authorized Users that the student establishes. Authorized Users do not have access to any other student information through this site. The billing statement can be printed from the computers located in the lobby of the Finance Center or by a request to the Student Accounts Office.

All electronic correspondence is sent to the student's u.pacific.edu email address.

A dispute of any charge on your student account must be submitted in writing to the Student Accounts Office within sixty days from the date of billing. If you fail to comply within the sixty day time period, you may forfeit your rights to dispute the charge in the future.

Payment of Bills

Tuition, fees, and room and board, if applicable, are due in full by the payment deadline. The payment deadlines are August 1st for the fall semester and January 1st for the spring semester for general students. Payment deadline information for other programs is available online on the Student Business Services website located at go.pacific.edu/studentaccounts. Any outstanding balances from prior semesters must be paid in full as well as the current semester payment, by the deadline. Students who have not yet registered can estimate their payment amount by utilizing the Calculation Worksheets available at the Student Business Services website. Payments for the intended enrollment must be made by the deadline, even if the student has not completed their course registration. Late fees will be assessed for payments received after the deadline. Failure to complete financial obligations can result in the cancellation of registration.

The University offers two payment options. The first is payment in full of all charges, less any applicable financial aid, by the deadline. The second option is a four month payment plan. The Monthly Plan requires a 25% down payment in addition to a \$75 non-refundable, deferred fee per semester. Those who utilize the monthly payment plan must enroll **online** through *insidePacific* by the payment deadline. In order for a parent or guardian to enroll in the monthly payment plan, their student must officially establish them as an Authorized User. Subsequent monthly payments are due by the first of the month.

International students may **not** utilize the monthly payment plan. Payment in full is required by the payment deadline.

It is the student's responsibility to ensure that all financial aid is properly credited to his/her account.

Payments can be made by cash, paper check, money order, cashiers check, and electronic checks. Payments must be received by the deadline; postmarks are not acceptable. Payments by check or cash can be made in person at the Cashiers Office, located in the Finance Center. If making payment by mail, please send check or money order to the attention of Student Accounts. Please include the student's university identification number or send a copy of the statement, which can be downloaded and printed, in order to ensure proper payment application.

Students who have not paid in full, completed all financial aid requirements and/or enrolled in the monthly payment plan by the

payment deadline, are assessed a \$150 late payment fee. A late fee of \$50 is assessed for any payments made after the due date.

Failure to make payments as agreed can result in the University of the Pacific canceling all financial arrangements, a student's registration, and denying all University services.

Any payment on the student account that is returned by a financial institution for any reason can lead to cancellation of registration. If registration is cancelled for the semester, the student will not receive credit for those courses. A returned payment fee of \$25 is assessed for the first returned payment. Any payment returned subsequently is assessed a \$35 returned payment fee. After two (2) returned payments, the University can suspend both electronic and paper check writing privileges and institute collection and/or legal actions against the payer. The student's account is then placed on a finance hold thus preventing the student from receiving any services from the University.

The University requires that all accounts be paid in full by the end of the semester. Any account that remains delinquent is transferred to the Student Loan Department for servicing. Once the account is transferred, the Student Account Note or balance is subject but not limited to, principal, interest, late charges, collection fees, credit bureau reporting, and any legal fees associated with the collection of the debt. In accordance with California state law, all unpaid balances accrue 10% interest, per annum, on the balance remaining on the date of transfer. Students are responsible for all fees associated in the collection of the debt. A student with a balance due to the University is not allowed any benefits from the University including but not limited to, registration for courses, copies of transcripts or diplomas, and utilization of University housing and meals, until the balance is paid in full. In addition, all institutional loans or other loans guaranteed by the Federal Government must be in good (current) standing and exit interviews completed prior to the release of diploma or transcripts.

If payments exceed charges on a student account, the account is said to have a credit balance. Credit balances are to be returned to the student based upon the method of payment. The student account is not to be used as a means for cash advances or payments to third parties. Upon request, credit balances resulting from cash payments will be refunded to the student. A credit balance that results from a check payment is refunded after 14 business days. Credit balances that result from *refundable* student loans and scholarships are also refunded upon request. All financial aid must be disbursed on the student account before a refund is processed. Refunds are issued on a weekly basis.

Effective August 1, 2019, any student using CH31 (Vocational Rehabilitation and Employment benefits) or CH33 (Post-9/11 G.I. Bill) is protected from any penalties imposed by our University while waiting for the VA to make tuition and fee payments.

Refund of Tuition and Fees

The following refund schedule pertains only to tuition charges and is applicable when the student drops below full time enrollment or **officially withdraws** from the University. Students who intend to withdraw must notify the Office of the Registrar.

Refunds are based upon a percentage of calendar days. Calendar days of a semester may vary from semester to semester. For exact dates, please refer to the Student Accounts website or contact their office.

Notification and withdrawal before classes begin – No charge.

First day of classes until last day to add – \$150 clerical charge.

After 50% of calendar days no refund, 100% penalty.

Fees are non-refundable after the last day to add courses for the semester.

Housing and meal plan charges are refunded on a prorated basis as determined by the Office of Residential Life & Housing. Refunds are based upon per diem charges and actual approved check out date.

If the student reducing units or withdrawing from the University is a financial aid recipient, the student's financial aid award may be adjusted according to federal and state regulations and University policy. If the student has received more federal financial aid dollars than earned, the unearned aid must be returned to the federal financial aid program or programs from which it was paid. The funds remaining on the student account after federal financial aid is returned might not cover all the charges on the account. Any remaining balance is owed to the University and is due and payable immediately. The Financial Aid Office can provide additional information related to changes in financial aid awards.

University Policy on Disclosure of Student Records

Family Educational Rights and Privacy Act (Buckley Amendment)

The University of the Pacific complies with The Family Educational Rights and Privacy Act (abbreviated FERPA and formerly known as the Buckley Amendment). Educational institutions are required to annually notify enrolled students of their rights under the Federal Family Educational Rights and Privacy Act of 1974 (FERPA), as amended. This page fulfills this obligation and serves as the annual FERPA notification to students at the University of the Pacific, by providing information about the university policy and students' rights with respect to their education records.

"Student" means an individual who is or who has been in attendance at University of the Pacific. A student or resident's FERPA rights begin when the student or resident registers and attends his/her first class. It does not include any applicant for admission to the university who does not matriculate, even if he or she previously attended the university. (Please note, however, that such an applicant would be considered a "student" with respect to his or her records relating to that previous attendance. Students or residents who originally sought admission to one program of study at the university and are denied, but subsequently are admitted and enrolled in a different program of study, have FERPA rights only in their admitted and enrolled program of study.) "Education records" include those records that contain information directly related to a student and that are maintained as official working files by the University. Examples of records that are **not** education records are records about students made by instructors, professors and administrators for their own use and not shown to others; campus police records maintained solely for law enforcement purposes and kept separate from the education records described above; employment records, except where a currently enrolled student is employed as a result of his or her status as a student; records of a physician, psychologist, or other recognized professional or paraprofessional made or used only for treatment purposes and available only to persons providing treatment; records that contain only information relating to a person's activities after that person is no longer a student at the university.

It is the policy of the university (1) to permit students to inspect their education records, (2) to limit disclosure of personally identifiable information from education records without students' prior written consent, and (3) to provide students the opportunity to seek correction of

their education records where appropriate. A student alleging university noncompliance with the Family Educational Rights and Privacy Act has the right to file a written complaint with the Family Policy Compliance Office:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202-5920

1. Students have the right to inspect and review their education records within 45 days after the day that University of the Pacific receives the request for access.

Each student has a right of access to his or her education records, except confidential letters of recommendation received prior to January 1, 1975, and financial records of the student's parents. A student may, by a signed writing, waive his or her right of access to confidential recommendations in three areas: admission to any educational institution, job placement, and receipt of honors and awards. The university does not require such waivers as a condition for admission or receipt of any service or benefit. If the student chooses to waive his or her right of access, he or she is notified, upon written request, of the names of all persons making confidential recommendations. Such recommendations are used only for the purpose for which they were specifically intended. A waiver may be revoked in writing at any time, and the revocation applies to all subsequent recommendations, but not to recommendations received while the waiver was in effect.

Procedure to be Followed:

Requests for access should be made in writing to the Office of the Registrar, and should specify the record(s) the student wishes to inspect. The University complies with a request for access within a reasonable time, at least within 45 days. The Registrar's Office will make arrangements for access and notify the student of the time and place where the records may be inspected.

2. University of the Pacific limits disclosure of personally identifiable information from education records unless it has the student's prior written consent, subject to the following limitations and exclusions.

Directory Information. In accordance with the FERPA, the University has the right to release Directory Information without the student's or resident's prior written consent. The University gives annual public notice to students of the categories of information designated as directory information. This information may appear in public documents or otherwise be disclosed even in the absence of consent unless the student files written notice requesting the University not to disclose any of the categories by the opt-out date, which is three weeks after the first day of the first term of enrollment. While students may opt out at any point subsequent to the opt-out date, late opt-outs will not apply retroactively to information previously released. To block the release of this information ('opt out'), a student must submit a Request for Non-Release of Directory Information (<https://www.pacific.edu/Documents/registrar/acrobat/Non-Release%20of%20Directory%20Information7112018.pdf>) Form (<http://www.pacific.edu/Documents/registrar/acrobat/ferpa-non-release-directory-info.pdf>). The University of the Pacific has designated as "directory information" the following items.

- Student's name
- University ID number
- Mailing and local address
- Telephone number
- E-mail address

- Photograph/Video
- Date and place of birth
- Degrees, honors, and awards
- Major field of study
- Grade level
- Campus of study (Stockton, Sacramento, or San Francisco)
- Dates of attendance, including matriculation and graduation
- Enrollment status (undergraduate, predoctoral, graduate, full-, part-time)
- Most recent educational agency or institution attended
- Participation in officially recognized activities and sports
- Weight and height of members of athletic teams

University Officials. One exception, which permits disclosure without consent, is disclosure to University officials with legitimate educational interests. At Pacific, "University official" is defined as (1) a person employed by the University or in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); (2) a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); (3) a person serving on the Board of Regents; (4) a student serving on an official University committee (academic, grievance, or disciplinary) or assisting another University official in performing his or her tasks. A university official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for University of the Pacific.

Prior Consent Not Required. FERPA allows additional exceptions to the written consent requirement for disclosure of education records to third parties. Some of these exceptions are listed below:

- To officials of another school in which a student seeks or intends to enroll, or where the student is already enrolled so long as the disclosure is for purposes related to the student's enrollment or transfer.
- To an alleged victim of any crime of violence of the results of any institutional disciplinary proceeding against the alleged perpetrator of that crime with respect to that crime.
- In response to a court order or subpoena, the University makes reasonable efforts to notify the student before complying with the court order.
- Appropriate parties in connection with an emergency, where knowledge of the information is necessary to protect the health or safety of the student or other individuals;
- Parents of a student who is a dependent for income tax purposes. (Note: The University may require documentation of dependent status such as copies of income tax forms.)
- Accrediting organizations for purposes necessary to carry out their functions;
- Organizations conducting educational studies for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction. The studies are conducted so as not to permit personal identification of students to outsiders, and the information is destroyed when no longer needed for these purposes;
- State and local officials to which such information is specifically required to be reported.
- Authorized persons and organizations that are given work in connection with a student's application for, or receipt of, financial aid, but only to the extent necessary for such purposes as determining

eligibility, amount, conditions, and enforcement of terms and conditions;

- Authorized representatives of the Comptroller General of the U.S., the Secretary of Education, the Secretary of the Department of Health and Human Services, the Director of the National Institute of Education, the Administrator of the Veterans' Administration, but only in connection with the audit or evaluation of federally supported education programs, or in connection with the enforcement of or compliance with Federal legal requirements relating to these programs. Subject to controlling Federal law or prior consent, these officials protect information received so as not to permit personal identification of students to outsiders and destroy such information when it is no longer needed for these purposes;

Prior Consent Required. Where FERPA does not allow exceptions to the written consent requirement, the University does not release personally identifiable information in education records or allow access to those records without prior consent of the student. Unless disclosure is to the student himself or herself, the consent must be written, signed, and dated, and must specify the records to be disclosed, the identity of the recipient, and the purpose of disclosure. A copy of the record disclosed is provided to the student upon request and at his or her expense.

The University, along with the student's education records, maintains a record for each request and each disclosure, except for the following:

1. disclosures to the student himself or herself;
2. disclosures pursuant to the written consent of the student (the written consent itself suffices as a record);
3. disclosures to school officials of the University.
4. disclosures of directory information.

This record of disclosures may be inspected by the student, the official custodian of the records, and other university and governmental officials.

3. University of the Pacific provides students the opportunity to seek correction of their education records.

A student who believes that information contained in his or her education records is inaccurate, misleading, or violative of privacy or other rights may submit a written request to the Office of the Registrar specifying the document(s) being challenged and the basis for the complaint. The request will be sent to the person responsible for any amendments to the record in question. Within a reasonable period of time of receipt of the request, the University decides whether to amend the records in accordance with the request. If the decision is to refuse to amend, the student is so notified and is advised of the right to a hearing. He or she may then exercise that right by written request to the Office of the Registrar. Within a reasonable time of receipt of the request, the student will be notified in writing of the date, place, and time reasonably in advance of the hearing. The hearing will be conducted by a university official who does not have a direct interest in the outcome. The student will have a full and fair opportunity to present evidence relevant to the issues raised and may be assisted or represented by individuals of his or her choice at his or her own expense, including an attorney. Within a reasonable period of time after the conclusion of the hearing, the University will notify the student in writing of its decision. The decision will be based solely upon evidence presented at the hearing and will include a summary of the evidence and the reasons for the decision. If the University decides that the information is inaccurate, misleading, or otherwise in violation of the privacy or other rights of the student, the University will amend the records accordingly. If, as a result of the hearing, the University decides that the information is not inaccurate, misleading, or otherwise in violation of the student's rights,

the University will inform the student of the right to place in his or her record a statement commenting on the information and/or explaining any reasons for disagreeing with the University's decision. Any such explanation will be kept as part of the student's record as long as the contested portion of the record is kept and will be disclosed whenever the contested portion of the record is disclosed.

Work-Study

University of the Pacific participates in the Federal Work-Study program, which provides employment opportunities for students who demonstrate financial need.

FUNDAMENTAL SKILLS

As part of Pacific's undergraduate and first professional degree graduation requirements, all students must satisfy two fundamental skills: quantitative analysis (math) and writing. These requirements must be met before a student graduates with a bachelor's degree or a first professional degree.

Students can fulfill the math and writing requirements in one of four ways:

1. Completion of Pacific's highest level developmental skills course;
2. Completion of an appropriately articulated course at an accredited college or university;
3. Satisfactory performance on an approved, nationally administered examination; or
4. Satisfactory performance on Pacific's placement examinations.

Failure to make progress toward fulfilling Pacific's fundamental skills requirements during the first year of study is grounds for being placed on academic probation. Failure to satisfy the fundamental skills requirements by the end of four semesters of full-time study at the University is grounds for academic disqualification.

Students with documented disabilities that directly affect their mastery of these skills or students concurrently enrolled in an approved English-as-a-Second-Language (ESL) Program of instruction in reading and writing may seek a written extension of the deadline for demonstrating competence.

University of the Pacific students are required to demonstrate fundamental competency in quantitative analysis (math). The requirement must be met before a student graduates with a bachelor's degree or a first professional degree.

The fundamental skills math program consists of courses designed to help students be successful in all levels of math or quantitative reasoning courses.

To satisfy the University's quantitative analysis (math) fundamental skills requirement, a student must complete one of the following:

- SAT math score of 600 or above
- ACT math score of 25 or above
- SAT Math Subject Test Level 1 score of 540 or above
- SAT Math Subject Test Level 2 score of 520 or above
- AP Calculus AB score of 3, 4 or 5
- AP Calculus BC score of 4 or 5
- AP Statistics exam score of 4 or 5
- IB Math HL (Higher Level) score of 4, 5, 6 or 7
- Pass Pacific's Intermediate Algebra Math Placement Exam (paper test).
- Successfully complete MATH 5 (Intermediate College Algebra) or MATH 35 (Elementary Statistical Inference) with a grade of C- or higher (or an equivalent course from another college or university with a grade of C or better).

Math skills placement information is located at <https://www.pacific.edu/campus-life/student-services/new-student-and-family-programs/orientation/first-year-placement-information/math-course-placement-information.html>.

Failure to make progress toward fulfilling Pacific's fundamental math skills requirements during the first year of study is grounds for being placed on academic probation. Failure to satisfy the fundamental math skills requirements by the end of four semesters of full-time study at the University is grounds for academic disqualification.

University of the Pacific students are required to demonstrate fundamental competency in writing. The requirement must be met before a student graduates with a bachelor's degree or a first professional degree.

The Developmental Writing Program consists of courses designed to develop the writing skills required for success as a college-level writer.

To satisfy the University's fundamental skills writing requirement, a student must

- Score 570 or higher on the SAT writing exam
- Score 22 or higher on the ACT English/Writing exam
- Score 26 or higher on TOEFL, writing sub-score
- Score 7.5 or higher on IELTS, writing sub-score
- Complete PACS 001P with a C- or higher
- Completed a transferable course equivalent to a College Writing Course with a C or higher
- Achieve a high enough score Pacific's Writing Diagnostic Exam (transfer students only)

Writing skills placement information is located at www.go.pacific.edu/writingprograms.

Failure to make progress toward fulfilling Pacific's fundamental skills requirements during the first year of study is grounds for being placed on academic probation. Failure to satisfy the fundamental skills requirements by the end of four semesters of full-time study at the University is grounds for academic disqualification.

Writing Courses

WRIT 001. Academic Writing I. 2 Units.

This course includes approximately 4,000 words of edited composition. During the semester, students will accrue points on essays, assignments, classwork and research projects. Students will engage in higher-level writing and will cover the essay writing process, note taking, outlining, summarizing, and editing. It also focuses on development of vocabulary, comprehension, concentration, memory and fluency skills. Critical thinking, analysis and evaluation are emphasized as students engage with themed materials. Students will develop research skills in the use of outside reference materials including locating and evaluating sources and properly documenting source information. Students are expected to progress in a variety of academic writing forms including, but not limited to, reports, short term papers, essays and journal writing, incorporating increasingly complex rhetoric. This course is part of a sequence designed for those students who need to meet the university fundamental skills requirement. Pre-requisites for placement are determined by qualifying standardized or diagnostic test scores. Pass/No credit (P/NC) grading option is not allowed for this course. Students taking this course are required to take WRIT 002 the following semester and must earn a "C-" or better to be eligible for advancement.

WRIT 002. Academic Writing II. 2 Units.

This course will include approximately 4,000 words of edited composition. Students will develop advanced writing projects as they locate, evaluate, and synthesize source material from various disciplines and compose research papers using APA, MLA, CMS and CSE documentation as needed. Special emphasis is placed on the skills related to vocabulary development, critical thinking and interpretation of scholarly material for the purpose of in-class discussions, expository writing assignments and literary analysis. This course is part of a sequence designed for those students who need to meet the university fundamental skills requirement. Pass/No credit (P/NC) grading option is not allowed for this course. Students taking this course are required to take PACS Plus in the upcoming fall semester and must earn a "C-" or better to be eligible for advancement. Prerequisite: WRIT 001 with a "C-" or better.

WRIT 010. Accelerated Academic Writing. 2 Units.

This course is intended for students who need to fulfill the university's fundamental skills requirement in writing, but are exempt from taking PACS 001 and PACS 002. This course will include approximately 5,000 words of edited composition. Students will develop advanced writing projects as they develop strong written and communication skills, critical thinking, and reading skills necessary for success in their majors and will engage in information literacy by locating, evaluating, and synthesizing source material from various disciplines. Students will also learn how to appropriately document papers, using APA, MLA, CMS and CSE citation styles as needed. Placement is determined by standardized or diagnostic test scores. Pass/No credit (P/NC) grading option is not allowed for this course. Prerequisite: A minimum of 28 college-level units.

WRIT 093I. Academic Writing Bridge. 1-4 Units.**WRIT 093W. Academic Writing Intensive. 4 Units.**

This course is designed as a transition into college-level writing and will include approximately 5,000 words of edited composition. During the session, students will accrue points on essays, assignments, classwork and research projects. Students will engage in the higher-level reading and writing skills necessary for university work. The course primarily focuses on academic expository writing and covers the essay writing process, note taking, outlining, summarizing, and editing. Critical thinking, analysis and evaluation is emphasized as students engage with themed materials. Students will also begin to develop research skills in the use of outside reference materials including locating and evaluating sources and properly documenting source information. Students will be exposed to a variety of academic writing forms including but not limited to reports, short term papers, essays and journal writing. This course is part of a sequence designed for those students who need to meet the university fundamental skills requirement. Pass/No credit (P/NC) grading option is not allowed for this course. Students taking this course are required to take PACS 1 Plus in the upcoming fall semester and must earn a C- or better to be eligible for advancement.

WRIT 093X. Academic Reading and Writing I. 1-4 Units.**WRIT 093Y. Academic Reading and Writing II. 1-4 Units.****WRIT 093Z. Accelerated Academic Reading and Writing. 1-4 Units.****WRIT 191. Independent Study. 1-4 Units.****Mathematics Courses****MATH 001. Pre-algebra and Lab. 3 Units.**

This course is designed for students whose Mathematics Placement Test score indicates a need to review arithmetic skills and Pre-algebra material. Topics covered include fractions, decimals, percents, basic area and volume formulas, signed numbers, use of variables in mathematical statements, translating statements in English to mathematical equations, solving linear equations and ratio and proportion. The course is taught using a Personalized System of Instruction. Neither the course credit nor course grade applies towards graduation. Prerequisite is an appropriate test score or permission of instructor.

MATH 003. Elementary Algebra and Lab. 3 Units.

Topics covered include signed numbers, linear equations, polynomials, factoring, algebraic fractions, radicals, quadratic equations, inequalities and systems of linear equations. This is an introductory course for students with limited high school background in mathematics. This course is taught using a Personalized System of Instruction. This course is inappropriate for students who have passed the Elementary Algebra placement exam or any higher level placement exam. Neither the course credit nor course grade applies towards graduation. Prerequisite: MATH 001 with a "C" or better or an appropriate test score or permission of instructor.

MATH 005. Intermediate College Algebra. 3 Units.

This course is taught in a traditional lecture format. Topics covered in this course include the real number system, solution of linear equations and inequalities, word problems, factoring, algebraic equations, exponents and radicals, quadratic equations, relations, functions, graphs, systems of equations and logarithmic and exponential functions. This course is not appropriate for students who have passed the Intermediate Algebra placement test of any higher level test. Pass/No Credit (P/NC) grading option is not allowed for this course. A grade of C- or better is required to satisfy the University's Fundamental Skills requirement in quantitative analysis/math. Prerequisite: MATH 003 with a "C-" or better or an appropriate test score or permission of instructor. **(MATH)**

MATH 005E. Intermediate College Algebra and Lab. 3 Units.

This course is taught using the emporium model in which students use technology to drive their learning in a lab setting with on-demand support from the instructor and tutors. Topics covered in this course include the real number system, solution of linear equations and inequalities, word problems, factoring, algebraic equations, exponents and radicals, quadratic equations, relations, functions, graphs, systems of equations and logarithmic and exponential functions. This course is not appropriate for students who have passed the Intermediate Algebra placement test of any higher level test. Pass/No Credit (P/NC) grading option is not allowed for this course. A grade of C- or better is required to satisfy the University's Fundamental Skills requirement in quantitative analysis/math. Prerequisite: MATH 003 with a "C-" or better or an appropriate test score or permission of instructor. **(MATH)**

MATH 007. Trigonometry and Lab. 2 Units.

Topics in this course include angle measure, trigonometric functions, applications of trigonometry, graphs of trigonometric functions, trigonometric identities, inverse functions and complex numbers. This course is designed for students who have not studied trigonometry in high school. Prerequisites include a satisfactory score on the Intermediate Algebra placement test. This course is taught using a Personalized System of Instruction and meets three hours per week. Pass/No credit (P/NC) grading option is not allowed for this course. Students who complete MATH 005 and MATH 007 with a C- or better may enroll in MATH 051. Prerequisite: MATH 005 with a "C-" or better, an appropriate test score, or permission of instructor. (MATH)

MATH 033. Elements of Calculus. 4 Units.

This course covers polynomial, rational, exponential and logarithmic functions as well as differentiation, integration and maxima/minima of functions of several variables. Elementary differential equations are studied and applications to natural sciences, social sciences and other fields are covered. Credit is not given for this course if a student has received credit for MATH 051 or AP credit in Calculus. Prerequisites: Two years of high school algebra and an appropriate score on either the Intermediate Algebra placement test or the Pre-Calculus placement test; or MATH 005 or MATH 041 with a "C-" or better. (GE3B, MATH)

MATH 035. Elementary Statistical Inference. 4 Units.

Emphasis is on the applications and limitations of statistical methods of inference, especially in the social and behavioral sciences. Topics include: estimation and test of hypothesis concerning a single group, One-way Analysis of Variance and analysis of categorical data. The use of statistical computer programs is addressed. Credit is not given for this course if a student has received credit for MATH 037 or has AP credit in Statistics. Prerequisite: MATH 003 or MATH 005 or MATH 041 with a "C-" or better, or an appropriate score on either the Elementary Algebra placement test, the Intermediate Algebra Placement test, or the Pre-calculus placement test or permission of instructor. (ENST, GE3B, MATH, PLAW)

MATH 037. Introduction to Statistics and Probability. 4 Units.

Students study elements of descriptive statistics: graphs, tables, measures of central tendency and dispersion. Probability models including binomial and normal are covered. The course introduces to estimation, hypothesis testing and analysis of variance in addition to linear and multiple regression and correlation. The use of statistical computer programs is addressed. The course is not recommended for first semester freshmen. Credit is not given for this course if a student has received credit for MATH 035 or has AP credit in Statistics. Prerequisites: MATH 033 or MATH 041 or MATH 045 or MATH 051 or MATH 053 with a "C-" or better or appropriate score on the calculus placement test. (ENST, GE3B, MATH, PLAW)

MATH 039. Probability with Applications to Statistics. 4 Units.

Probability concepts in discrete and continuous spaces is explored in some depth as well as important probability models (e.g., binomial, Poisson, exponential, normal, etc.), mathematical expectation and generating functions. Applications to statistical inference includes maximum likelihood, moment and least squares estimation. Confidence intervals and hypothesis testing is also covered. Credit is not given for both MATH 039 and MATH 131. Prerequisite: MATH 053 with a "C-" or better. (GE3B)

MATH 041. Pre-calculus. 4 Units.

The algebraic and trigonometric concepts which are necessary preparation for Calculus I are studied. Topics include the real number system, algebraic, trigonometric, exponential and logarithmic functions. Emphasis is on the function concept; graphing functions; solving equations, inequalities and linear systems; and applied problems. Credit for this course is not given if a student has AP Calculus credit. Prerequisite: MATH 005 with a "C-" or better or an appropriate score on either the Intermediate Algebra placement test, the Pre-calculus placement test or the calculus placement test. (GE3B, MATH)

MATH 045. Introduction to Finite Mathematics and Calculus. 4 Units.

This course introduces calculus, applications to problems in economics, management and other fields. Students study systems of equations, elements of matrix algebra, and elementary linear programming. Credit for this course is not given if a student has credit for MATH 051 or AP Calculus credit. Prerequisites: two years of high school Algebra and an appropriate score on either the Intermediate Algebra placement test, the Pre-calculus placement test, or the Calculus placement test; or MATH 005 or MATH 041 with a "C-" or better. (GE3B, MATH)

MATH 049. Introduction to Abstract Mathematics. 4 Units.

An introduction to the spirit and rigor of mathematics is the focus of the course. The content may vary with instructor, but the objective is to develop the skills required to read and write mathematics and prove theorems. Concepts include elementary logic, sets and functions, cardinality, direct and indirect proofs, mathematical induction. Prerequisite: MATH 053 with a "C-" or better or permission of the instructor.

MATH 051. Calculus I. 4 Units.

Students study differential calculus of algebraic and elementary transcendental functions, anti-derivatives, introductory definite integrals, and the Fundamental Theorem of Calculus. Applications, include the first and second derivative tests and optimization. Students who earn AP Math AB credit do not receive credit for MATH 051. Prerequisites: MATH 007 or MATH 041 with a "C-" or better or four years of high school mathematics including Trigonometry and an appropriate score on the placement test for calculus. (GE3B, MATH)

MATH 052. A Calculus Companion. 1 Unit.

An introduction to the foundations of calculus. This course provides a deeper look into the inner workings, formalities, history, and mysteries of Calculus. Foundations of the real numbers from axiomatic and set-theoretic perspectives. Number systems: real numbers, rationals, irrationals, integers, natural numbers, complex numbers. Cardinal numbers, Functions. The formal definition of the limit. Continuity and differentiability. Why the tangent line is the best linear approximation. A brief history of the differential. The theorems of calculus: Intermediate Value Theorem, Mean Value Theorem, Extreme Value Theorem, The Fundamental Theorem of Calculus, et al. Prerequisite may be taken concurrently: MATH 051.

MATH 053. Calculus II. 4 Units.

This course covers techniques and applications of integration, sequences and series, convergence of series, and Taylor Polynomials. Students who earn AP Math BC credit do not receive credit for MATH 053. Prerequisite: MATH 051 with a "C-" or better or an appropriate score on the calculus placement test. (GE3B, MATH)

MATH 055. Calculus III. 4 Units.

This course introduces multivariable calculus. Topics covered include vector geometry of the plane and Euclidean 3-space; differential calculus of real-valued functions of several variables, as well as partial derivatives, gradient, max-min theory, quadratic surfaces, and multiple integrals. Prerequisite: MATH 053 with a "C-" or better or AP Math BC credit. (GE3B)

MATH 057. Applied Differential Equations I: ODEs. 4 Units.

Students study ordinary differential equations, first-order equations, separable and linear equations. Also covered are direction fields, second order linear equations with constant coefficients, method of undetermined coefficients, laplace transforms, and unit impulse response and convolutions. Homogeneous systems of first order linear equations and matrix algebra determinants, eigenvalues, eigenvectors are also studied. Existence and uniqueness theorems are discussed and calculators or computers are used to display solutions and applications. Prerequisite: MATH 055 with a "C-" or better or permission of instructor.

MATH 064. Ancient Arithmetic. 4 Units.

This course traces mathematical and historical developments throughout the ancient world, ending with the Scientific Revolution. Students will gain mathematical knowledge through the analysis of historical problems and solution methods, while contextualizing these endeavors into a larger historical context. Students will read mathematical primary sources, and will learn to think about the development of mathematical primary sources, and will learn to think about the development of mathematics as an intellectual pursuit over time. This course is cross-listed with HIST 066. Prerequisite: Fundamental Skills. (GE3B)

MATH 072. Operations Research Models. 4 Units.

Operations Research (OR) is concerned with scientific design and operation of systems which involve the allocation of scarce resources. This course surveys some of the quantitative techniques used in OR. Linear Programs are solved using graphical techniques and the simplex algorithm. Among the other models studied is the transportation, assignment, matching, and knapsack problems. Prerequisite: MATH 033 or MATH 045 or MATH 051 with a "C-" or better or the appropriate score on the calculus placement test. (GE3B)

MATH 074. Discrete and Combinatorial Mathematics. 4 Units.

The fundamental principles of discrete and combinatorial mathematics are covered. Topics include the fundamental principles of counting, the Binomial Theorem, generating functions, recurrence relations and introductory graph theory, that includes trees and connectivity. Prerequisite: MATH 033 or MATH 045 or MATH 051 with a "C-" or better, or an appropriate score on the calculus placement test.

MATH 075. Introduction to Linear Algebra. 4 Units.

Linear algebra is the generalized study of solutions to systems of linear equations. The study of such systems dates back over 2000 years and now is foundational in the design of computational algorithms for many modern applications. This course will serve as an introduction to basic computational tools in linear algebra including the algebra and geometry of vectors, solutions to systems of linear equations, matrix algebra, linear transformations, determinants, eigenvalue-eigenvector problems, and orthogonal bases. Prerequisite: MATH 051 with a "C-" or better.

MATH 081. Writing Math Problems. 1 Unit.

This course is an introduction to LaTeX math typesetting software commonly used by mathematicians including document creation, special document classes, mathematics commands and terminology. Writing problems for contests in multiple content areas and proofreading math problems. Practicum aspect: students will provide the content and grading for Pacific's Avinash Raina High School Math Competition. Prerequisite may be taken concurrently: MATH 051. (Spring).

MATH 093. Special Topics. 1-4 Units.**MATH 093D. Math Literacy for College. 3 Units.****MATH 095. Problem Solving Seminar. 1 Unit.**

The objective of this course is to learn mathematics through problem solving. Students in mathematics courses are often given the impression that to solve a problem, one must imitate the solution to a similar problem that has already been solved. This course will attempt to develop student creativity in solving problems by considering problems not commonly encountered in other mathematics courses. Students enrolled in this course are expected to participate in the William Lowell Putnam Mathematical Competition on the first Saturday in December. Students may take this course for credit at most four times. Prerequisite: MATH 053 with a "C-" or better.

MATH 110. Numerical Analysis. 4 Units.

Numerical analysis deals with approximation of solutions to problems arising from the use of mathematics. The course begins with a necessary but brief discussion of floating point arithmetic, and then proceeds to discuss the computer solution of linear algebraic systems by elimination and iterative methods, the algebraic eigenvalue problem, interpolation, numeric integration, that includes a discussion of adaptive quadrature, the computation of roots of nonlinear equations and the numerical solution of initial value problems in ordinary differential equations. Prerequisite: MATH 055 with a "C-" or better.

MATH 121. Financial Mathematics I. 3 Units.

This course provides understanding of fundamental concepts in financial mathematics and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in reserving, valuation, pricing, asset/liability management, investment income, capital budgeting, and valuing contingent cash flows. Topics include interest rates, determinants of interest rates, and interest-related concepts, annuities involving both level and varying payments, and varying interest rates, projects appraisal evaluation, loans and loan payment methods, bonds and bond evaluations. This course, together with MATH 122, prepares students for the Society of Actuaries Financial Mathematics examination. Prerequisite: MATH 053 with a "C-" or better or permission of instructor.

MATH 122. Financial Mathematics II. 3 Units.

This course is the second semester of one-year financial mathematics. The course starts with reviewing bonds and bond evaluations. New topics include: discount model in common stock evaluation, analysis of term structure of interest rates, concepts of duration and convexity, and using and convexity to approximate bond price changes with respect to interest rate change, cash flow matching, immunization (including full immunization), Redington immunization, interest rate swaps. This course, together with MATH 121, prepares students for the Society of Actuaries Financial Mathematics examination. Prerequisite: MATH 121 with a "C-" or better or permission of instructor.

MATH 122P. Problem Solving in Financial Mathematics. 1 Unit.

This 1 unit course is designed to prepare students for actuarial professional Exam FM. The course will review basic concepts in theory of interest and interest rate swaps (material covered in both MATH 121 and MATH 122). The course is entirely problem driven. Prerequisite: MATH 122 with a "C-" or better.

MATH 124. Advanced Financial Mathematics. 4 Units.

This course is designed to develop student's knowledge of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. The primary topics are: Option relations, binomial option pricing, Black-Scholes equation, market-making and delta hedging, exotic options, and Lognormal Distribution. Prerequisites: BUSI 123 and MATH 131 with a "C-" or better.

MATH 125. Actuarial Models I. 3 Units.

Actuaries put a price on risk, and this course considers constructing and analyzing actuarial loss models (risk theory, severity and ruin models). This is the first part of a two-course series that covers the theory and applications of actuarial modeling. Actuarial Models I covers topics in probability theory relevant to the construction of actuarial models. After a review of random variables and basic probability distributional properties, the course examines severity and frequency loss models. Aggregate loss models, risk measures and the impact of coverage modifications on both frequency and severity will also be discussed. Finally, we will explore various ways of simulating random variables. Prerequisite: MATH 132 with a "C-" or better or Permission of Instructor.

MATH 126. Actuarial Models II. 3 Units.

This course is the second part of a two-course series that covers the theory and applications of actuarial modeling. The course continues a study of the loss modeling processes introduced in Actuarial Models I. The primary topics the course cover are: (1) Estimation for complete data: empirical distributions for complete, individual data and grouped data. (2) Estimation for modified data: point estimation, Mean, variance, and interval estimation, kernel density models, approximations for large data sets. (3) Frequentist estimation: method of moments and percentile matching, maximum likelihood estimation, variance and interval estimation, Bayesian estimation, estimation for discrete distribution. (4) Frequentist estimation for discrete distribution. (5) Model selection: representations of the data and model, hypothesis tests, two types of selection criteria, extreme value models, copula models, models with covariates. (6) Simulation. Prerequisite: MATH 125 with a "C-" or better or Permission of Instructor.

MATH 127. Models of Life Contingencies I. 4 Units.

This course is an introduction to life contingencies as applied in actuarial practice. This course is the first semester of two-semester course sequence, and it is designed to develop knowledge of the theoretical basis of life-contingent actuarial models and the application of those models to insurance and other financial risks. It covers the mathematical and probabilistic topics that underlie life contingent financial instruments like life insurance, pensions and lifetime annuities. Topics include life tables, present value random variables for contingent annuities and insurance, their distributions and actuarial present values, equivalence principle, and other principles for determining premiums and reserves. Prerequisites: MATH 122; MATH 131 with a "C-" or better or Permission of Instructor.

MATH 128. Models of Life Contingencies II. 4 Units.

This course is a continuation of the study of life contingencies. It is designed to develop the student's knowledge of the theoretical basis of life-contingent actuarial models and the application of those models to insurance and other financial risks. Topics include insurance and annuity reserves, characterization of discrete and continuous multiple decrement models in insurance, employee benefits, benefit reserves, and multiple life models. Prerequisite: MATH 127 with a "C-" or better or Permission of Instructor.

MATH 130. Topics in Applied Statistics. 3 Units.

This course covers topics in applied statistics not normally covered in an introductory course. Students study multiple regression and correlation, analysis of variance of one- and two-way designs and other topics selected from non-parametric methods, time series analysis, discriminant analysis, factor analysis, that depend upon student interest. There is extensive use of packaged computer programs. Prerequisites: MATH 035 or MATH 037 with a "C-" or better.

MATH 131. Probability and Mathematical Statistics I. 4 Units.

This course covers counting techniques, discrete and continuous random variables, distribution functions, special probability densities such as binomial, hypergeometric, geometric, negative binomial, Poisson, Uniform, Gamma, Exponential, Weibull, and Normal. Students study joint distributions, marginal and conditional distributions, mathematical expectations, moment generating functions, functions of random variables, sampling distribution of the mean, and the Central Limit Theorem. Credit is not given for both MATH 039 and MATH 131. Prerequisite: MATH 053 with a "C-" or better.

MATH 131P. Problem Solving in Probability. 1 Unit.

This course is designed to prepare students for actuarial professional Exam P. This course will review basic concepts in theory of probability. The primary focus is problem solving; applying fundamental probability tools in assessing risks. Prerequisite: MATH 131 or permission of instructor.

MATH 132. Probability and Mathematical Statistics II. 4 Units.

Sampling distributions such as Chi-square, t and F are studied as estimation methods such as methods of moments, maximum likelihood and least squares. The course covers properties of estimators such as unbiasedness, consistency, sufficiency, tests of hypothesis concerning means, difference between means, variances, proportions, one and two-way analysis of variance. Prerequisite: MATH 131 with a "C-" or better.

MATH 133. Topics in Applied Statistics II. 3 Units.

This course will cover additional topics in applied statistics including supervised vs unsupervised learning, time series models, principal component analysis, decision trees, and cluster analysis. Prerequisite: MATH 130 with a "C-" or better or permission of instructor.

MATH 141. Linear Algebra. 4 Units.

Fundamental linear algebra concepts from an abstract viewpoint, with the objective of learning the theory and writing proofs. Concepts include: vector spaces, bases, linear transformations, matrices, invertibility, eigenvalues, eigenvectors, invariant subspaces, inner product spaces, orthogonality, and the spectral theorem. Prerequisites: MATH 049, MATH 075 with a "C-" or better.

MATH 143. Abstract Algebra I. 4 Units.

This is an introductory course to groups, rings and fields, with an emphasis on number theory and group theory. Students study finite groups, permutation groups, cyclic groups, factor groups, homomorphisms, and the isomorphic theorem. The course concludes with an introduction to polynomial rings. Prerequisite: MATH 049 with a "C-" or better or permission instructor.

MATH 144. Abstract Algebra II. 4 Units.

This course is a continuation of MATH 143, and it emphasizes field theory and the application of groups to geometry and field extensions. Students study algebraic and separable field extensions, dimension, splitting fields, Galois theory, solvability by radicals, and geometric constructions. Prerequisite: MATH 143 with a "C-" or better or permission of instructor.

MATH 145. Applied Linear Algebra. 4 Units.

This is the second semester course in linear algebra with an emphasis on the theory and application of matrix decompositions. Topics include methods for solving systems of equations, QR factorization, the method of least squares, diagonalization of symmetric matrices, singular value decomposition, and applications. Prerequisites: MATH 053, MATH 075 with a "C-" or better.

MATH 148. Cryptography. 3 Units.

Cryptography and cryptanalysis from historical cryptosystems through the modern use of cryptology in computing are studied. Topics include public and symmetric key cryptosystems, digital signatures, modular arithmetic and other topics in number theory and algebra. Possible additional topics include error correcting codes, digital cash, and secret sharing techniques. Prerequisite: MATH 053 with a "C-" or better or permission of instructor.

MATH 152. Vector Analysis. 4 Units.

Vector analysis and topics for students of applied mathematics, physics and engineering are studied. Topics include vector fields, gradient, divergence and curl, parametric surfaces, line integrals, surface integrals, and integral theorems. Formulations of vector analysis in cylindrical and spherical coordinates are also included. Prerequisites: MATH 055 with a "C-" or better.

MATH 154. Topology. 4 Units.

This course introduces general topology and its relation to manifold theory. Topics include metric spaces, general spaces, continuous functions, homeomorphisms, the separation axioms, connectedness, compactness, and product spaces. Prerequisite: MATH 049 with a "C-" or better.

MATH 155. Real Analysis I. 4 Units.

This course focuses on properties of real numbers, sequences and series of real numbers, limits, continuity and differentiability of real functions. Prerequisites: MATH 049 and MATH 055 with a "C-" or better.

MATH 156. Real Analysis II. 4 Units.

This course covers integration, series of real numbers, sequences and series of functions, and other topics in analysis. Prerequisite: MATH 155 with a "C-" or better.

MATH 157. Applied Differential Equations II. 4 Units.

This course covers partial differential equations, derivation and solutions of the Wave, Heat and Potential equations in two and three dimensions as well as Fourier series methods, Bessel functions and Legendre polynomials, and Orthogonal functions. Additional topics may include Fourier integral transform methods, the Fast Fourier Transform and Sturm-Liouville theory. Computer exercises that use MATLAB are included. Prerequisite: MATH 057 with a "C-" or better.

MATH 161. Elementary Concepts of Mathematics I. 4 Units.

Concepts of arithmetic and geometry underlying elementary school programs in mathematics are studied. Laboratory materials are used to reinforce understanding of concepts. Prerequisite: MATH 003 or higher with a "C-" or better, or appropriate score on the algebra placement test. Not open to freshmen this course does not count as an elective for a BS degree.

MATH 162. Elementary Concepts of Mathematics II. 4 Units.

Students study the development of arithmetic and geometric concepts within a classroom setting. The course includes related topics such as diagnostic/prescriptive techniques, the use of calculators and computers, approaches to a K-8 math curriculum and current trends within mathematics education. The course includes field experiences, seminar discussions and laboratory workshops. Prerequisite: MATH 161 with a "C-" or better, or permission of the instructor.

MATH 164. Topics in History of Mathematics. 3 Units.

Topics in mathematics are studied from a historical perspective. Topics are chosen from: numeration systems; mathematics of the ancient world, especially Greece; Chinese, Hindu and Arabic mathematics; the development of analytic geometry and calculus; and modern axiomatic mathematics. Students solve problems using historical and modern methods. Students read and report on the biography of a mathematician. Prerequisite: MATH 053 with a "C-" or better. Junior standing or permission of the instructor.

MATH 166. Mathematical Concepts for Secondary Education. 3 Units.

This course covers secondary school mathematics from an advanced viewpoint and pedagogical perspective. Content is aligned with the mathematics subject matter requirements from the California Commission on Teacher Credentialing. Prerequisite: MATH 053 with a "C-" or better.

MATH 168. Modern Geometries. 4 Units.

Selected topics in this course are from Euclidean, non-Euclidean and transformational geometry in addition to both analytic and synthetic methods. The history of the development of geometries and axiomatic systems is covered. The course uses laboratory materials and computer packages used to reinforce understanding of the concepts. The course is required for high school teacher candidates. Prerequisite: MATH 049 with a "C-" or better or permission of instructor.

MATH 174. Graph Theory. 4 Units.

This course is an in-depth consideration of discrete structures and their applications. Topics include connectivity, Eulerian and Hamiltonian paths, circuits, trees, Ramsey theory, digraphs and tournaments, planarity, graph coloring, and matching and covering problems. Applications of graph theory to fields such as computer science, engineering, mathematics, operations research, social sciences, and biology are considered. Prerequisites: MATH 051 or MATH 074 or COMP 047 with a "C-" or better or an appropriate score on the calculus placement test.

MATH 189A. Statistical Consulting Practicum. 2 Units.

While working under close faculty supervision, students gain valuable practical experience in applying statistical methods to problems presented by University researchers, business and industry. Students enrolled in MATH 189A ordinarily participate in more sophisticated projects and take a more responsible role than students in MATH 089A. Pass/No credit. Prerequisites: for MATH 089A, MATH 130 with a "C-" or better or permission of the instructor; for MATH 189A, 089A with a "C-" or better and permission of the instructor.

MATH 191. Independent Study. 2-4 Units.

Student-initiated projects cover topics not available in regularly scheduled courses. A written proposal that outlines the project and norms for evaluation must be approved by the department chairperson.

MATH 197. Undergraduate Research. 2-4 Units.

GENERAL EDUCATION PROGRAM

“After taking some of these general education courses, I have found new and unexpected interests. I found that I love to learn not only how the world works, but also how belief systems direct people’s perceptions of the world, as I explored in my religious studies classes; or how the knowledge people gain impacts their choices, as I discussed with my Pacific Seminar I class; or how the arts confound and beautify a mechanistic and scientific perception of the world, as I learned in my art history and music appreciation class. The topics I explored in each of my classes helped me cultivate a larger depth and scope of knowledge.”

—Cassie Karambela,
Biological Sciences major

At Pacific, the general education program exposes students to areas of study outside of their major, and they develop essential knowledge and skills that are transferable to other courses at Pacific as well as to their personal and public lives. The exposure to different areas of study and the development of intellectual and practical skills promote the mission of Pacific’s general education: self-understanding, citizenship, and career development.

Mission

Self-Understanding

One goal of Pacific’s general education program is fundamentally personal: to enrich students’ self-understanding and expand their interests in preparation for a fulfilling life. Students are exposed to new intellectual, moral, spiritual, and aesthetic possibilities. Through the interaction with others from different backgrounds and the study of different disciplines, students come to understand who they are and the sources of their beliefs. They thus gain the skills to identify, express and analyze their beliefs and to fashion a philosophy of life that can guide them in their future endeavors. Students may also find life-long pleasure in learning, self-reflection, and conversation.

Citizenship

Another goal is to produce engaged and informed citizens who advance a democratic society by contributing to political and civil life and by committing themselves to the service of others. General education fosters the skills to evaluate complex social and political issues and teaches the moral and political grounds that inform political action and service in a democracy. The health of a society depends on informed and active citizens who can balance the public good and self-interest.

Career Development

Finally, the general education program prepares students to enter professional life by developing practical skills that are valuable to employers and essential to civil society. These skills include the abilities to express oneself clearly and cogently in writing and orally, to be diligent and careful in the preparation of one’s work, to interpret and evaluate information, to think creatively in order to solve problems, to work independently as well as collegially in groups with a sensitivity toward cultural differences, to use technology, and to treat others ethically in their professional interactions.

Outcomes

Pacific’s general education mission of fostering self-understanding, citizenship and career development is advanced by the completion of three Pacific Seminars and the breadth program courses, all of which

introduce students to the natural sciences, social sciences, humanities and arts and which develop the following intellectual and practical skills:

- written communication
- oral communication
- critical thinking
- research skills
- quantitative thinking
- cross-cultural awareness
- ethical reasoning
- civic responsibility
- aesthetic judgment

Coursework

The course of study described below is required for all students completing a bachelor’s degree or a first professional degree from the University. Students must complete three Pacific Seminars and a breadth program that ranges from six to nine courses, depending on the academic unit. Students must also satisfy the fundamental skills requirements in writing and quantitative analysis.

The Pacific Seminars

The Pacific Seminars are the distinctive feature of Pacific’s general education program and have received national attention by the Association of American Colleges and Universities (AAC&U). They focus on the question, “What is a Good Society”? The seminars are taught by faculty from all academic divisions (humanities, social sciences, and natural sciences) and academic units. PACS 001 and PACS 002 are taken in sequence during the first year, and Pacific is one of only a few universities in the nation that has a full first-year general education experience. PACS 003 is taken in the senior year and serves as a culminating general education experience.

Pacific Seminar 1: What is a Good Society?

(4 Units)

Pacific Seminar 1 (PACS 1) introduces students to the intellectual life of the University by exploring the intersection of who we are as individuals and who we are as communities. The course engages the critical tension between individual rights and social responsibilities as that tension manifests in issues such as identity, equality, and sustainability, among others.

PACS 1 is a shared intellectual experience, incorporating materials from the humanities, social sciences, and natural sciences. Students meet in small sections to discuss the readings and issues and develop their reading, writing, and critical thinking skills.

PACS 1 develops skills students will need to succeed in any field of study at the University and beyond. The course represents an introduction to general education in the best sense of the term: education for self-examination and engaged citizenship. Such grounding will help students develop the agency and flexibility necessary to navigate a rapidly changing political, social, and economic environment.

PACS 1 fulfills the University’s College Level Writing Requirement. It requires 6,000-7,000 words of edited composition.

Students entering Pacific as freshmen must pass PACS 001 and PACS 002. There are no substitutions. The Pacific Seminars cannot be repeated if students earn a "D" or higher.

Pacific Seminar 2: Topical Seminars

(4 Units)

In the second semester of the freshman year, all students must take a Pacific Seminar II topical seminar. Whereas Pacific Seminar I (PACS 001) introduces students to aspects of the issue of a Good Society, the PACS 002 topical seminars focus in depth on a particular aspect of this issue. Some potential seminars are "War, Peace and Religion", "Science and Pseudoscience", "Catastrophes in World History", and "Crime, Punishment and Justice". The seminars are offered from virtually every department and academic unit on campus and will be some of the most innovative courses at Pacific. Students meet in small sections to discuss the readings and issues and develop their writing, critical thinking, and oral presentation skills. Students entering Pacific as freshman must pass PACS 001 and PACS 002. There are no substitutions. The Pacific Seminars cannot be repeated if students earn a "D" or higher. Prerequisite: Fundamental Skills Writing.

Pacific Seminar 3: What is an Ethical Life?

(3 Units)

In their senior year, students take **Pacific Seminar 3: What is an Ethical Life?** This course is a culminating general education experience and the final component of the university writing requirement. Students learn about and analyze ethical concepts and theories to understand better their moral development, moral values, and behavior. Students will analyze ethical issues in the contexts of family and friends, work, and political life. Faculty use narrative media-such as film, biography, and literature-to illustrate ethical issues. Students write an ethical autobiography to reflect back on their ethical development and anticipate ethical decisions they may encounter in their future roles as family members and friends, as part of the workforce, and as citizens and members of local, national, and global communities. Students must have completed 92 units to take PACS 3. Students in accelerated programs take PACS 3 in their last year as undergraduates.

Pacific Seminar Exemption Policy:

All students who enter the University as freshman must complete the three Pacific Seminars. Freshmen are required to take PACS 001 and PACS 002 in their first year, and PACS 003 in their last year. Students who enter Pacific having completed 28 or more units of transferable, classroom college work that appear on a college transcript, are exempt from taking PACS 001 and PACS 002 but must complete PACS 003. Students participating in the Freshman honors program should complete the honors section of PACS 001 regardless of the number of college units completed.

Students are not allowed to drop PACS 001 or PACS 002 for any reason, even if they plan to transfer to another college or university. Students who would benefit from special attention to writing skills or who place into WRIT 001 are deferred from the Pacific Seminar sequence until their sophomore year.

If students fail PACS 002, they can repeat a different PACS 002 course. However, students must pass PACS 001 and PACS 002 in order to graduate. There are no substitutions. The Pacific Seminars cannot be repeated if students earn a "D" or higher and they must be taken for a letter grade.

PACS 003 must be taken in the senior year, which means students must have completed 92 or more units to take the course. Students in accelerated programs must take PACS 003 in their last year as undergraduates.

Transfer and Post Baccalaureate students must complete PACS 003.

The Breadth Program 6-9 Courses

(3 or 4 Units Each)

The general education program beyond the Pacific Seminars provides students with considerable choice but within a framework that ensures they gain essential knowledge and skills. With the help of their advisors, students choose courses in the breadth program that interest them or that relate to other courses in their planned course of study.

The Breadth Program requirements vary from School or College (see the table following the listing of the categories and sub-categories). All students must complete at least six courses, two from each of the three main categories listed below (I, II, and III); however, only one class can come from each subcategory or area (A, B, and C), and all students must complete a course in area III-A and in area III-B.

Students can satisfy subcategory IIIC by taking a second course in subcategory IIIA.

Students can take a maximum of two courses from a single department (as defined by subject code, e.g., HIST or ENGL or MPER) to satisfy the breadth requirement; however, there is an exception for area IIC since students may take three 1-unit courses in the same discipline of applied music or dance to meet the requirement. Courses in the breadth program component of the general education program normally have a value of three or four units.

Independent study courses cannot be used to satisfy general education requirements. Catalog year determines degree requirements; general education courses and transfer course articulations are subject to change. It is the responsibility of the student to be informed of any general education or transfer course articulation changes.

The structure of the breadth program is as follows:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

The titles of the courses themselves are listed by category and subcategory later in this section.

The breadth program requirements for each School or College are listed in the table below. Contact the General Education Unit Coordinator in your unit for more information.

Category/Sub-category	BUSI	CONSCOP	EDU	ENGR/ COMP	PH	SIS
I.A Individual and interpersonal Behavior	X	Two of	X	Two of	Two of	X
I.B U.S. Studies	X	three areas	X	three areas	three areas	X
I.C Global Studies			X			X
II.A Language and Literature	X	Two of	X	Two of	Two of	X
II.B Worldviews and Ethics	X	three areas	X	three areas	three areas	X
II.C Visual and Performing Arts	X		X			X
III.A Natural Sciences	X	X	X	X	X	X
III.B Mathematics & Formal Logic	X	X	X	X	X	X
III.C Science, Technology, Society			X	X		X

Students can satisfy GE requirements with a 4 or higher for Advanced Placement and a 5 or higher for Higher Level International Baccalaureate. A maximum of 28 units total from Advanced Placement, International Baccalaureate DANTES and/or CLEP test results may be applied toward a Pacific degree, including General Education breadth areas.

Fundamental Skills

As part of the general education program, all students are required to be competent in two fundamental skills at entrance: writing and quantitative analysis. Students may demonstrate competence in these skills in one of three ways:

1. Completion of approved, college-level courses at an accredited college or university;
2. Satisfactory performance on an approved, nationally administered examination; or
3. Satisfactory performance on examinations given at Pacific during new student orientation or shortly thereafter.

Students can meet these fundamental skills by taking course work to improve their skills as follows:

- Based on their writing placement, students will take a combination of writing courses (WRIT 001/WRIT 002 and/or PACS 001 with PACS 001P) to fulfill the writing requirement.
- To show competency in quantitative analysis (math), students must successfully complete MATH 005 (Intermediate Algebra), MATH 035 (Statistics) with a grade of C- or better, or complete an equivalent course from another accredited college or university with a grade of C or better during the first full year of study including summer sessions.
- Successful completion of course work in quantitative analysis and writing at Pacific requires a grade of C- or better. Course work taken in quantitative analysis or writing at another college or university requires a grade of C or better and must be approved in advance via a Transfer Course Approval form.
- Failure to make progress toward fulfilling Pacific's fundamental skills requirements during the first year of study is grounds for being placed on academic probation. Failure to satisfy the fundamental skills requirements (as summarized in the three points above) by the end

of four semesters of full-time study at the University is grounds for academic disqualification.

- Students with documented disabilities that directly affect their mastery of these skills or students concurrently enrolled in an approved English-as-a-Second-Language (ESL) Program of instruction in reading and writing may seek a written extension of the deadline for demonstrating competence.
- The quantitative analysis (math) and writing requirements must be met before a student graduates with a bachelor's degree or a first professional degree.

Requirements for Transfer Students

Fundamental Skills Requirements

Fundamental skills requirements for transfer students include writing and quantitative analysis (math). Students may demonstrate competence in these skills in one of three ways:

1. Completion of approved, college-level courses at an accredited college or university;
2. Satisfactory performance on an approved, nationally administered examination; or
3. Satisfactory performance on examinations given at Pacific during new student orientation or shortly thereafter. Placement tests taken by transfer students at their previous institution do not replace Pacific's assessments.

Breadth Program Requirements

Transfer students who completed the IGETC or CSU Breadth General Education requirements at a California Community College prior to enrolling at Pacific satisfy Pacific's General Education program, though they must complete PACS 003. *Students who have not completed the IGETC or CSU Breadth General Education requirements have their courses articulated for general education credit on a course by course basis.* General education courses taken by these students at their previous institutions which are of the same quality and equivalency as courses offered at Pacific do apply for breadth program requirements at Pacific.

Pacific Seminar Requirements

Transfer students who have completed 28 or more units of transferable, classroom college work that appear on a transcript must only complete PACS 003.

Individual schools and colleges may impose general education graduation requirements, including skills requirements, beyond the University's general education program.

Transfer students who entered the University prior to the 1993-94 academic year and who desire an evaluation of their records in regard to general education should contact the Office of the Registrar.

Requirements for Readmitted Students

Students who originally enter Pacific as a Freshman are required to complete PACS 001 and PACS 002, even if the student chooses to leave Pacific and applies for readmission at a later date. A student is held to the rules based on their original admission regardless of readmission at a later point in time. A freshman who leaves the university and applies for readmission later is not then treated as a transfer student, regardless of how many units the student is able to transfer to Pacific as part of their readmission. Students who withdraw from Pacific and complete either the CSU Breadth or UC IGETC General Education Program at a California

community college will be exempt from PACS 001 and PACS 002, but they are required to complete PACS 003.”

Requirements for Post Baccalaureate Students

Students who completed a Bachelor’s degree elsewhere and who are seeking an additional Bachelor’s degree at Pacific must only complete PACS 003 to satisfy the GE and Fundamental Skills requirements.

Breadth Course List for General Education

The courses listed below are approved as counting toward the breadth program requirement in each of the nine areas of the program. Students who satisfy II-C with one-unit dance or applied music courses must complete three courses in the same discipline. Although not always listed here, some “special topics” courses taught during a particular term may also be approved for general education. Some professional schools on campus have more restrictive requirements under which only some of the courses listed in each area count for students pursuing those professional programs.

The listing of general education courses being taught during a particular term can be found using the search for class by attribute function on Inside Pacific.

Catalog year determines degree requirements; however, general education (GE) courses and transfer course articulations are subject to change. It is the responsibility of the student to be informed of any GE or transfer course articulation changes.

I-A. Individual and Interpersonal Behavior

COMM 043	Introduction to Interpersonal Communication	3
COMM 117	Public Advocacy	4
ECON 053	Introductory Microeconomics	4
EDUC 100	Introduction to Language	4
GEND 011	Introduction to Gender Studies	4
HIST 064	A History of Alcohol and Intoxicants	4
PSYC 017	Abnormal and Clinical Psychology	4
PSYC 029	Developmental Psychology	4
PSYC 031	Introduction to Psychology	4
PSYC 066	Human Sexuality	4
SLPA 051	Introduction to Communication Disorders	3
SOCI 031	Deviant Behavior	4
SOCI 133	Criminology	4

I-B. United States Studies

BUSI 053	The Legal and Ethical Environment of Business	4
COMM 031	Media and Society	3
ECON 051	Economic Principles and Problems	3
ECON 055	Introductory Macroeconomics: Theory and Policy	4
ENGL 051	American Literature before 1865	4
ENGL 053	American Literature after 1865	4
ENGL 160	Blues, Jazz, and Literature	4
ENGL 161	Topics in American Ethnic Literature	4
ENGL 162	Asian American Literature	4
ETHN 011	Introduction to Ethnic Studies	4
HESP 141	Sport, Culture and U.S. Society	4
HIST 020	United States History I	4
HIST 021	United States History II	4

HIST 120	Native American History	4
HIST 133	Women in United States History	4
MMGT 011	Music, Entertainment in U.S. Society	4
POLS 041	U.S. Government and Politics	4
RELI 143	Religion, Race, Justice in US	4
RELI 170	Bible in America	4
SOCI 021	Culture and Society	4
SOCI 041	Social Problems	4
SOCI 051	Introduction to Sociology	4
SOCI 125	Sociology of Health and Illness	4

I-C. Global Studies

ANTH 053	Cultural Anthropology	4
ASIA 124	Society, Gender and Culture in East Asia	4
CHIN 023	Intermediate Chinese, Third Semester	4
CHIN 025	Intermediate Chinese, Fourth Semester	4
CHIN 125	Advanced Chinese I	4
CLAS 051	Classical Mythology	4
CLAS 100	History of Ancient Greece	4
CLAS 102	History of Ancient Rome	4
COMM 143	Intercultural Communication	4
ENGL 063	Masterpieces of World Literature	4
FREN 023	Intermediate French, Third Semester	4
FREN 025	Intermediate French, Fourth Semester	4
FREN 122	La Francophonie	4
GERM 023	Intermediate German, Third Semester	4
GERM 025	Intermediate German, Fourth Semester	4
HIST 030	East Asian Civilization I	4
HIST 031	East Asian Civilization II	4
HIST 040	Colonialism in Latin America	4
HIST 041	The Problem with Latin America	4
HIST 061	Global History of Food	4
HIST 111	Europe in Turmoil 1900-1945	4
HIST 113	Europe Since 1945	4
HIST 132	American Immigration	4
HIST 141	Pre-Modern China to 1840	4
HIST 151	People’s History of Mexico	4
JAPN 023	Intermediate Japanese, Third Semester	4
JAPN 025	Intermediate Japanese, Fourth Semester	4
JAPN 125	Advanced Japanese I	4
MHIS 006	Music of the World’s People	3
POLS 011	Introduction to Comparative Politics	4
POLS 051	Introduction to International Relations	4
POLS 152	Politics of Asia	4
RELI 031	Jerusalem through the Ages	4
RELI 102	History of Ancient Egypt and the Near East	4
RELI 104	Religion of the Pharaohs	4
RELI 106	Illness and Healing in the Ancient World	4
RELI 124	Ancient Judaism	4
RELI 130	The Christian Tradition	4
RUSS 023	Intermediate Russian, Third Semester	4
RUSS 025	Intermediate Russian, Fourth Semester	4
SPAN 023	Intermediate Spanish, Third Semester	4
SPAN 025	Intermediate Spanish, Fourth Semester	4

II-A. Language and Literature

CHIN 011A	First-Year Chinese, First Semester	4	HIST 060	A History of Medicine	4
CHIN 011B	First-Year Chinese, Second Semester	4	HIST 062	History of Warfare	4
CLAS 110	Reading Greek Literature in English	4	HIST 100	Renaissance and Reformation	4
CLAS 112	Reading Roman Literature in English	4	HIST 135	Women in Time and Place	4
COMM 027	Public Speaking	3	HONR 041	Creativity and Knowledge *	1
ENGL 025	English 25	4	HONR 043	Knowledge and Human Values *	1
ENGL 041	British Literature before 1800	4	HONR 141	Social Uses of Knowledge *	1
ENGL 043	British Literature after 1800	4	INTL 081	Perspectives on World History	4
ENGL 082	How English Works	4	PHIL 011	Introduction to Philosophy	4
ENGL 130	Digital Chaucer	4	PHIL 021	Moral Problems	4
ENGL 131	Shakespeare	4	PHIL 025	The Meaning of Life	4
FREN 011A	First-Year French, First Semester	4	PHIL 027	Fundamentals of Ethics	4
FREN 011B	First-Year French, Second Semester	4	PHIL 035	Environmental Ethics	4
FREN 051	French Literature in English	4	PHIL 047	Philosopher in Depth	4
GERM 011A	First-Year German, First Semester	4	PHIL 053	Ancient and Medieval Philosophy	4
GERM 011B	First-Year German, Second Semester	4	PHIL 055	History of Modern Philosophy	4
GREK 011A	First-Year Ancient Greek, First Semester	4	PHIL 124	Philosophy of Religion	4
GREK 011B	First-Year Ancient Greek, Second Semester	4	PHIL 127	Philosophy of Sport	4
HBRW 011A	First-Year Classical Hebrew, First Semester	4	PHIL 135	Political Philosophy	4
HBRW 011B	First-Year Classical Hebrew, Second Semester	4	PHIL 145	Biomedical Ethics	4
JAPN 011A	First-Year Japanese, First Semester	4	POLS 021	Introduction to Political Theory	4
JAPN 011B	First-Year Japanese, Second Semester	4	POLS 130	Ancient to Medieval Political Theory	4
LANG 011A	First Year Language, 1st Sem	4	POLS 132	Modern to Contemporary Political Theory	4
LANG 011B	First Year Language, 2nd Sem	4	POLS 134	American Political Thought	4
LATN 011A	First-Year Latin, First Semester	4	RELI 025	New Testament and Christian Origins	4
LATN 011B	First-Year Latin, Second Semester	4	RELI 027	Portraits of Jesus	4
RELI 023	Hebrew Bible	4	RELI 030	Comparative Religion	4
RUSS 011A	First-Year Russian, First Semester	4	RELI 034	Introduction to Religion	4
RUSS 011B	First-Year Russian, Second Semester	4	RELI 035	Judaism	4
SLPA 053	Sign Language I	3	RELI 043	Social Ethics	4
SPAN 011A	First-Year Spanish, First Semester	4	RELI 044	Sex, Sin, and Salvation	4
SPAN 011B	First-Year Spanish, Second Semester	4	RELI 047	Unbelief: Atheism and Agnosticism	4
SPAN 103	Introducción a la literatura hispánica	4	RELI 051	Classical Mythology	4
SPAN 133	Don Quijote	4	RELI 134	World Religions	4
THEA 111	Script Analysis	3	RELI 135	Asian Religious Traditions	4
THEA 113	What's Past is Prologue: Practice and Perspective in Theatre History I	4	RELI 141	Animals, Religion, and Ethics	4
THEA 115	What's Past is Prologue: Practice and Perspective in Theatre History II	4	RELI 142	Business Ethics	4
II-B. Worldviews and Ethics			II-C. Visual and Performing Arts		
CLAS 120	Sexuality in Greek Society	4	ARTH 007	Survey of World Art to 1400	4
CLAS 122	Sexuality in Roman Society	4	ARTH 009	Survey of World Art After 1400	4
ENGL 141	Topics in British Literature Pre-1800	4	ARTH 101	Design Thinking	4
ENGL 144	Medieval Women Readers and Writers	4	ARTH 108	Renaissance Art and Architecture	4
ENGL 145	Romances of Magic in the West	4	ARTH 112	19th Century European Art	4
ENGL 164	WAR	4	ARTH 114	20th Century Art and Film	4
ENGR 030	Engineering and Computing Ethics in Society	3	ARTH 116	Contemporary World Art 1945 to Present	4
HHUM 051	Introduction to Health & Humanities	4	ARTH 120	Chinese Art History	4
HIST 010	Western Civilization I	4	ARTH 122	Japanese Art History	4
HIST 011	Western Civilization II	4	ARTS 003	Visual Arts Exploration	4
HIST 050	World History I	4	ARTS 005	Drawing	3
HIST 051	World History II	4	ARTS 007	Principles of 2-D Design and Color	3
HIST 052	John Muir's World: Origins of the Conservation Movement	4	ARTS 009	Principles of 3-D Design	3
			ARTS 023	Painting I	3

ARTS 037	Sculpture	3	PHYS 025	General Physics II	5
ASIA 120	Asian Cinemas	4	PHYS 039	Physics of Music	4
CLAS 130	Greek Art and Architecture	4	PHYS 041	Astronomy	4
CLAS 132	Roman Art and Architecture	4	PHYS 053	Principles of Physics I	5
EDUC 142	Visual Arts in Education	3	PHYS 055	Principles of Physics II	5
ENGL 031	Aesthetics of Film	4	III-B. Mathematics and Formal Logic		
ENGL 121	Major Filmmakers	4	COMP 025	Computers and Information Processing	4
ENGL 123	Film, Literature, and the Arts	4	COMP 047	Discrete Math for Computer Science	4
FREN 120	Le Cinema Francais/French Cinema in English	4	COMP 051	Introduction to Computer Science	4
HIST 119	History Goes to Hollywood	4	COMP 061	Introduction to Programming for Data Science	4
MCOM 002	Music Fundamentals	3	HIST 066	Ancient Arithmetic	4
MEDX 117	Film Production	4	INTL 101	Social Science Research Methods	4
MHIS 005	Music Appreciation	4	MATH 033	Elements of Calculus	4
MHIS 007	Topics in American Popular Music	3	MATH 035	Elementary Statistical Inference	4
MPER 066	Jazz Ensemble (Note: 1 unit)	1	MATH 037	Introduction to Statistics and Probability	4
MPER 070	University Symphony Orchestra (Note: 1 unit)	1	MATH 039	Probability with Applications to Statistics	4
MPER 072	Symphonic Wind Ensemble (Note: 1 unit)	1	MATH 041	Pre-calculus	4
MPER 073	Concert Band (Note: 1 unit)	1	MATH 045	Introduction to Finite Mathematics and Calculus	4
MPER 082	The Oriana Choir (Women's Chorus) (Note: 1 unit)	1	MATH 051	Calculus I	4
MPER 083	University Chorus (Note: 1 unit)	1	MATH 053	Calculus II	4
MPER 084	Pacific Singers (Note: 1 unit)	1	MATH 055	Calculus III	4
MUJZ 008	Introduction to Jazz	3	MATH 064	Ancient Arithmetic	4
RELI 171	Religion and Cinema	4	MATH 072	Operations Research Models	4
RUSS 120	Contemporary Russian Film	4	PHIL 037	Introduction to Logic	4
SPAN 114	Cine hispano/Hispanic Film	4	POLS 133	Political Science Research	4
THEA 011	Introduction to the Theatre	4	PSYC 101	Research Methods and Statistics in Psychology I	5
THEA 051A	Ballet (Note: 1 unit)	1	III-C. Science, Technology and Society		
THEA 051B	Jazz (Note: 1 unit)	1	BIOL 035	Environment: Concepts and Issues	4
THEA 051C	Modern Dance (Note: 1 unit)	1	COMP 041	Great Ideas in Computing	4
THEA 051D	Tap (Note: 1 unit)	1	ENGL 039	Introduction to Digital Humanities	4
THEA 071	Beginning Acting	3	ENGL 126	Environment and Literature	4
THEA 075	Expressive Movement	3	ENGL 128	Science and Literature	4
THEA 112	Playwriting	3	ENST 041	Introduction to Environmental Studies	4
THEA 134	Mask-Making	3	GESC 045	Soil, Water, and War	4
III-A. Natural Sciences			HESP 041	Health and Wellness for Life	4
BIOL 011	Human Anatomy and Physiology	4	HESP 045	Nutrition for Health	4
BIOL 041	Introduction to Biology	4	HIST 063	History of Science and Technology	4
BIOL 051	Principles of Biology	5	HIST 167	Gender in the History of Science/Medicine/ Technology	4
BIOL 061	Principles of Biology	5	PHIL 015	Introduction to Cognitive Science	4
BIOL 076	Marine Biology	4	PHIL 061	Philosophy of Science	4
BIOL 079	California Flora	4	PHIL 079	Sensation and Perception	4
CHEM 023	Elements of Chemistry	4	PSYC 079	Sensation and Perception	4
CHEM 024	Fundamentals of Chem	4	RELI 039	Introduction to Digital Humanities	4
CHEM 025	General Chemistry	5	SOCI 111	Environment and Society	4
CHEM 027	General Chemistry	5	Any Second IIIA Course		
GESC 043	Environmental Science for Informed Citizens	4	* HONR 041, HONR 043 and HONR 141 must all be taken to satisfy the General Education IIB requirement.		
GESC 051	Dynamic Planet	4			
GESC 053	Earth and Life Through Time	4			
GESC 057	Earth Systems Science	4			
GESC 061	Geology of California	4			
GESC 065	Regional Geology	4			
PHYS 017	Concepts of Physics	4			
PHYS 021	Energy for Global Citizens	4			
PHYS 023	General Physics I	5			

DIVERSITY REQUIREMENT

Mission

Self-Understanding

One goal of Pacific's general education program is fundamentally personal: to enrich students' self-understanding and expand their interests in preparation for a fulfilling life. Students are exposed to new intellectual, moral, spiritual, and aesthetic possibilities. Through the interaction with others from different backgrounds and the study of different disciplines, students come to understand who they are and the sources of their beliefs. They thus gain the skills to identify, express and analyze their beliefs and to fashion a philosophy of life that can guide them in their future endeavors. Students may also find life-long pleasure in learning, self-reflection, and conversation.

Diversity Requirement

The diversity course requirement serves as a key curricular component of the University of the Pacific's commitment to diversity and inclusive excellence. The diversity requirement contributes to students' intercultural competencies and to an understanding of the complex connections among domestic diversity, globalism, and democracy.

The University of the Pacific requires that all students who earn a bachelor's degree must successfully complete at least one 3-unit officially designated diversity course. [Exception: the two-unit INTL 151 and INTL 161 Cross Cultural Training courses may be combined to meet the diversity requirement.] This requirement is applicable to all students who have enrolled at Pacific on or after fall 2010.

Transfer Students

Students who transfer into the university on or after fall 2011 are required to complete a designated diversity course prior to graduation. Transfer students are defined in the General Education section of the catalog

Post Baccalaureate

Students who completed a Bachelor's degree elsewhere and who are seeking an additional Bachelor's degree at Pacific are exempt from this requirement.

Transfer Courses

The University diversity requirement can be met entirely, or in part, by the successful completion of an approved course at Pacific or at an approved college and university. Students who wish to meet this requirement by taking a course at a different college or university must first complete a Transfer Course Approval Request form, available at the Office of the Registrar in Knoles Hall or online at <http://web.pacific.edu/x7909.xml>.

Objectives of the Diversity Course Requirement

Students who complete any approved diversity course are able to articulate, in both written and oral forms, how notions of difference work within frameworks of social hierarchy. (Difference may be defined by such notions as age, class, citizenship, disability, ethnicity, gender identity, language, nationality, race, religion, sexual orientation, and/or socioeconomic status.)

Students who complete an approved "diversity course" are also able to do at least *three of the following four* tasks:

1. Articulate their own developing understanding of social difference and its impact on their discipline(s), personal life and society as a whole;
2. Express, in both written and oral forms, their understanding of how ideas and beliefs about diversity and difference in the United States have changed over time, identifying relevant historical movements and players;
3. Demonstrate a satisfactory understanding of how social institutions and individuals respond to issues of difference;
4. Apply their understanding of relevant theory and/or historical analysis of diversity to a specific "societal problem" for the purpose of developing solutions.

The full Text of the Diversity Course Requirement can be found at: <http://web.pacific.edu/Documents/provost/acrobat/DiversityCR.pdf>

Diversity Courses

The courses listed below are approved to count toward the diversity course requirement which are infused throughout the General Education and major curricula.

The listing of diversity courses being taught during a particular term can be found using the search for class by attribute function on insidePacific.

ANTH 053	Cultural Anthropology	4
ANTH 153	Language and Culture	4
ANTH 172	Culture and Power	4
BUSI 170	Human Resources Management	4
COMM 133	Documentary Film as Persuasive Communication	4
COMM 143	Intercultural Communication	4
EDUC 181	ECE: Social Justice/Diversity	3
ENGL 041	British Literature before 1800	4
ENGL 126	Environment and Literature	4
ENGL 130	Digital Chaucer	4
ENGL 131	Shakespeare	4
ENGL 141	Topics in British Literature Pre-1800	4
ENGL 144	Medieval Women Readers and Writers	4
ENGL 145	Romances of Magic in the West	4
ENGL 161	Topics in American Ethnic Literature	4
ENGL 162	Asian American Literature	4
ENGL 164	WAR	4
ENGR 030	Engineering and Computing Ethics in Society	3
ETHN 011	Introduction to Ethnic Studies	4
GEND 011	Introduction to Gender Studies	4
HESP 141	Sport, Culture and U.S. Society	4
HESP 153	Adapted Physical Education and Sport	4
HIST 020	United States History I	4
HIST 021	United States History II	4
HIST 050	World History I	4
HIST 112	History of the Holocaust	4
HIST 120	Native American History	4
HIST 123	Civil War Era	4

HIST 132	American Immigration	4
HIST 133	Women in United States History	4
HIST 135	Women in Time and Place	4
HIST 167	Gender in the History of Science/Medicine/ Technology	4
INTL 151	Cross-Cultural Training I	2
INTL 161	Cross-Cultural Training II	2
MHIS 006	Music of the World's People	3
MMGT 111	Music Industry Analysis	4
PHRM 111	Pharmacy Practice and Professionalism	3
POLS 104	Urban Government	4
POLS 134	American Political Thought	4
PSYC 017	Abnormal and Clinical Psychology	4
PSYC 129	Advanced Lab in Developmental Psychology	4
RELI 035	Judaism	4
RELI 104	Religion of the Pharaohs	4
RELI 128	Social Topics in Early Christianity	4
RELI 143	Religion, Race, Justice in US	4
SLPA 143	Multicultural Populations	3
SOCI 021	Culture and Society	4
SOCI 031	Deviant Behavior	4
SOCI 041	Social Problems	4
SOCI 051	Introduction to Sociology	4
SOCI 108	Food, Culture and Society	4
SOCI 111	Environment and Society	4
SOCI 123	Sex and Gender	4
SOCI 125	Sociology of Health and Illness	4
SOCI 141	Race and Ethnicity	4
SOCI 172	Social Inequality	4
SPAN 124	Escritores hispanos en los Estados Unidos	4
THEA 113	What's Past is Prologue: Practice and Perspective in Theatre History I	4
THEA 115	What's Past is Prologue: Practice and Perspective in Theatre History II	4

ARTHUR A. DUGONI SCHOOL OF DENTISTRY

<http://www.dental.pacific.edu>

Phone: (415) 929-6400

Dean: Nader A. Nadershahi, DDS, MBA, EdD

The Arthur A. Dugoni School of Dentistry is a fully-accredited professional school that offers the Doctor of Dental Surgery degree. The 36-month program prepares graduates to provide quality dental care and to supplement and adapt their knowledge and skills throughout their professional lives. The school prides itself on producing competent general dentists in a humanistic environment who have a reputation for high standards of clinical excellence and are active and successful members of the profession. The school's vision is to lead the improvement of health and wellness through innovation in programs, partnerships, and people, and is supported in its mission by its core values of humanism, innovation, leadership, reflection, stewardship, collaboration, and philanthropy.

The dental program, located on the downtown San Francisco campus, includes biomedical and behavioral science, laboratory, preclinical, and clinical instruction as well as research and community service opportunities. The school also has a teaching clinic in Union City.

In addition to the Doctor of Dental Surgery degree, the School of Dentistry has postdoctoral residency programs in orthodontics and endodontology that lead to a certificate and the degree of Master of Science in Dentistry; a post-doctoral residency program in oral and maxillofacial surgery that leads to a certificate; an International Dental Studies program which grants a DDS degree after two years of training to individuals who have graduated from a foreign dental school; a baccalaureate program in dental hygiene offered in conjunction with the College of the Pacific; and a postdoctoral residency program in Advanced Education in General Dentistry (AEGD) in Union City that leads to a certificate.

The School of Dentistry is a member of the American Dental Education Association (ADEA) and its educational programs are fully accredited by the Commission on Dental Accreditation.

Purpose

Our Purpose is to Help People Lead Healthy Lives

We grow and inspire a diverse community of learners through our humanistic culture. Building on a distinguished tradition, we provide exceptional education; offer personalized quality patient care; support collaborative research; and foster commitment to service.

Vision

Improving Health and Wellness through Innovation in Programs, Partnerships and People

The University of the Pacific Arthur A. Dugoni School of Dentistry is an innovative and renowned leader in health and wellness. As a leader, our programs prepare healthcare providers for current, future and evolving practice models. The Dugoni School integrates inter-professional education with patient care, keeping humanism at its core. We educate beginning and established healthcare professionals for an array of career paths.

Signature partnerships support our programs and enhance health, education, research, and service. Partnerships reduce tuition dependence and create opportunities for students, faculty, and staff development.

Powered by its people, the Dugoni School sets the standard for humanistic education and leadership that serve the needs of its students, patients, alumni, the organized profession, and the public.

Commitments

We commit to the following values to support the defining characteristic of our education model – humanism.

By accentuating the positive, setting high standards, and respecting the individual, we provide the best possible learning, working and healthcare environment for every member of our community.

Courage – willing to take risks, doing what is right not easy

Empowerment – supporting and inspiring individuals to fulfill their potential

Excellence – achieving the highest quality in all that we do

Innovation – imagining and applying bold, creative approaches

Integrity – exemplifying the highest personal and professional ethical principles

Leadership – inspiring through vision and challenging others to effect positive change

Clinic Mission Statement

The mission of the school's clinics is to provide patient-centered, evidence-based, quality oral healthcare in a humanistic educational environment.

The goal of the clinic mission statement is to focus faculty, staff, and students on the delivery of excellent patient care. In all clinical interactions we will strive to provide excellent care to our patients and excellent educational experiences for our students. At those times when we must make a choice between patient care and teaching effectiveness, patient care will take precedence.

There are four parts to the mission statement. *Patient-centered care* means being prompt, efficient, responsible, engaging, focused, and adaptable, among other things. The private practice model is the patient care model to which we aspire. *Evidence-based decision making* involves the use of scientific evidence to help make treatment decisions. It is used in conjunction with individual patient values to determine the best course of action for each patient. *Quality oral healthcare* involves providing treatment to our patients that meets community standards of care in all disciplines. It means providing that care to patients of varying needs and expectations. *Humanistic education* is based on honest communication of clear expectations along with positive support for diligent effort.

Faculty and staff must be models of the profession's highest standards. Students are expected to set equally high standards for their behavior. The educational environment will be intellectually stimulating, progressive in scope, outcomes-focused, and competency-based.

History of Arthur A. Dugoni School of Dentistry

One of the world's most distinctive metropolitan centers, San Francisco has been the home of the School of Dentistry since its incorporation in 1896 as the College of Physicians and Surgeons. The school has been

recognized since its inception as a major resource for dental education in the Western states.

- In 1962 the College of Physicians and Surgeons joined the University of the Pacific.
- In 1967 an eight-story building was completed for the teaching of clinical dentistry and for conducting dental research.
- In 1996 the school opened a state-of-the-art preclinical simulation laboratory combining the latest in educational technology with a simulated patient experience.
- In 2002 three new state-of-the-art classrooms were completed.
- In 2003 a new Health Science Center was opened on the Stockton campus combining facilities for dentistry, dental hygiene, physical therapy, and speech pathology.
- In 2004 the university named the dental school in honor of its long-standing dean, Dr. Arthur A. Dugoni.
- In 2011 the school was awarded the prestigious Gies Award for Vision by the American Dental Education Association.
- In 2014 the dental school moved to a completely renovated and updated facility in downtown San Francisco, setting the pace for new and better methods of educating students and providing care to patients.
- In 2015 the dental school became the first school in California and in the United States to have students be licensured through a portfolio exam process.

The Alumni Association provided a twelve operatory dental clinic which has served as the school's major extended campus in southern Alameda County since 1973. The clinic currently serves as the clinic site for the school's Advanced Education in General Dentistry residency program.

Accreditation

The University of the Pacific is fully accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC). The dental educational programs are fully accredited by the Commission on Dental Accreditation (CODA). The School of Dentistry is a member of the American Dental Education Association (ADEA).

CODA will review complaints that relate to a program's compliance with accreditation standards. The Commission is interested in the sustained quality and continued improvement of dental and dental-related education programs but does not intervene on behalf of individuals or act as a court of appeal for treatment received by patients or individuals in matters of admission, appointment, promotion or dismissal of faculty, staff or students.

A copy of accreditation standards and/or the Commission's policy and procedure for submission of complaints may be obtained by contacting the Commission at 211 East Chicago Avenue, Chicago, IL 60611-2678 or by calling 1-800-621-8099, extension 4653.

Humanistic Education

It is the goal of the School of Dentistry to educate the highest quality practitioners who can practice independently and successfully in their patients' best interests. It is our belief that a humanistic approach to education best accomplishes this goal. Our view of humanism is based upon honest communication of clear expectations along with positive support for diligent effort. Although kindness is valued, humanism is not interpreted to mean softness, weakness, or superficial niceness. In

fact, humanism places great responsibility on each member of the dental school community.

In order for this approach to work, faculty members must be models of the profession's highest standards, and they must teach in a way that encourages and energizes students. Students, in turn, are expected to set very high standards, to work hard, and to take personal responsibility for their own learning process.

Examples of humanistic student-faculty Interaction at the Dugoni School:

Includes

- Good work ethic
- Constructive feedback
- Maintaining confidentiality
- Addressing the issue
- Celebrating achievement
- Excellence
- High ethical standards
- Professional responsibility
- Increasing independence
- Attainment of competency

Excludes

- Minimum effort
- Authoritarian behavior
- Public criticism
- Ignoring the problem
- Dwelling on the negative
- Expedience
- Ethical compromise
- Avoiding responsibility
- Continued dependence
- Tolerance of inability

Curriculum

Biomedical, preclinical, and clinical science subjects are integrated and combined with applied behavioral sciences in a program to prepare graduates to provide excellent quality dental care to the public and to enter a changing world that will require them to be critical thinkers and lifelong learners. The 36-month curriculum leading to the degree of Doctor of Dental Surgery begins in July and is divided into twelve quarters, each consisting of ten weeks of instruction, one week of examinations, and a vacation period of between one and four weeks.

Integrated biomedical science instruction in human anatomy, histology, biochemistry, physiology, pharmacology, and microbiology is offered over the first eight quarters, followed by multidisciplinary presentations of basic science foundations for clinical topics such as the importance of saliva, tissue aging, nutrition, and infection control. Throughout the curriculum, students learn to apply basic science knowledge to clinical problems. Integrated preclinical instruction in direct and indirect restorative dentistry and dental anatomy is concentrated in the first four quarters with students learning to work from a seated position in a modern preclinical simulation laboratory and with a chair-side assistant in conjunction with pediatric dental practice. Preclinical instruction in removable prosthodontics, occlusion, and implants is offered in quarters 5-7. Clinical work with patients is initiated in the fourth quarter.

The school is a pioneer in competency-based education, an approach that replaces the traditional system of clinical requirements with experiences that ensure graduates possess the knowledge, skills, and values needed to begin the independent practice of general dentistry. Pacific is also known for its humanistic approach to dental education, stressing the dignity of each individual and his or her value as a person.

The Clinical Practice Strand of the Helix curriculum supports comprehensive patient care which is based on the concept of private dental practice where the student assumes responsibility for assigned patients' overall treatment, consultation, and referral for specialty care. Second-year students practice clinical dentistry approximately 15 hours per week and third year students practice approximately 33 hours per week. Students learn to provide comprehensive dental care under the direction of a team of clinical faculty led by the Group Practice Leader (GPL). The GPL is responsible for mentoring students and ensuring they are receiving adequate clinical experiences to ensure competency upon graduation. In the second year, students treat patients in a discipline-based model where they are supervised by trained and calibrated faculty in specific clinical disciplines, including oral diagnosis and treatment planning, periodontics, endodontics, restorative dentistry, and removable prosthodontics. In the third year, students treat patients in a generalist model, where they provide all care for their patients under faculty supervision.

The second- and third-year class is divided alphabetically into eight group practices. There are approximately twenty second-year and twenty third-year students in each group practice, which is managed by the GPL, who has overall responsibility for the care of patients by all students and faculty in the group practice. Specialists in endodontics manage complex cases in a specified area of the clinic, including test cases. Periodontists manage most periodontal procedures.

There are four exceptions to the comprehensive care model: oral and maxillofacial surgery, pediatric dentistry, oral medicine/facial pain, and radiology. Students are assigned to rotations for two to three weeks in each of these disciplines, except for the oral medicine/facial pain rotations which are one day each. In orthodontics, students participate with faculty and orthodontic residents in adjunctive orthodontic care and in oral development clinics. Third-year students also rotate through the Special Care Clinic where they treat perinatal patients, dental-phobic patients, and patients with developmental disabilities. In addition, each student provides care in the hospital operating room on patients with specific health issues.

Advanced clinical dentistry and evaluation of new developments and topics that involve several disciplines are learned in the third year in conjunction with patient care. Third-year students participate in patient care at extramural sites located in numerous treatment facilities around the Bay Area, including acute care hospitals, community clinics, and skilled nursing facilities. At extramural clinic sites, students are taught by Pacific faculty in conditions that more closely resemble private practice, and typically treat 4-6 patients per day. Rotations occur at a number of different times, including weekdays during the academic year, weekends, and vacation periods. Students find these experiences to be valuable, teaching them how to provide excellent patient care in a condensed time frame. Students may elect to participate in externships to specialty programs during academic break periods.

Behavioral science aspects of ethics, communication, human resource and practice management, and dental jurisprudence are integrated across the curriculum. Epidemiology and demography of the older population, basic processes of aging, and dental management of

hospitalized patients, geriatric patients, and those with the most common disabling conditions are studied during the third year.

Students are counseled individually with regard to establishing a practice and applying for postgraduate education. A weekend conference in the senior year acquaints students with opportunities for postgraduate education and with alumni views of the realities of dental practice.

Admission Requirements

Doctor of Dental Surgery Requirements

Details on admissions requirements for the Doctor of Dental Surgery degree are found here (<http://dental.pacific.edu/academic-programs/doctor-of-dental-surgery/dds-admissions-requirements>). From here (<http://dental.pacific.edu/academic-programs>) you can navigate to admissions requirements for all degrees offered at the School of Dentistry.

Bachelor of Arts in Applied Sciences

In conjunction with the School of Pharmacy and Health Sciences, students who matriculate at the School of Dentistry without a baccalaureate degree can apply for the degree of Bachelor of Arts in Applied Sciences. Transcripts of interested students are sent to the associate dean in PHS for evaluation. Students who meet the requirements for the BAAS will be notified and are eligible to receive the diploma upon successful completion of dental school.

Admission with Advanced Standing

Only under unusual and compelling circumstances does the School of Dentistry accept transfer students. Incompatibility of dental education programs generally inhibits transition from another dental school to the University of the Pacific's program. Students requesting such classification usually join the first-year class. No student will be admitted to advanced standing beyond the second year. Special action regarding transfer is required.

Doctor of Dental Surgery

Basic requirements for admission to the course of study that leads to the degree of Doctor of Dental Surgery: completion of required pre-dental education, minimum 40 hours of dental shadowing experience, completion of the Dental Admission Test (DAT), submission of complete application materials through the American Dental Education Association's Application Service (AADSAS), and appearance at the school for a personal interview.

The Dugoni School utilizes a holistic application review process where it considers not only an applicant's academic performance, GPA and DAT scores, but also personal characteristics, leadership/life experiences, extra-curricular activities, and potential for academic, clinical, and professional success as determined by the admissions interview and information provided in the AADSAS application.

Pre-dental education must be completed at a college or university from which subject matter is accepted for credit toward advanced standing at University of the Pacific or universities with equal standing. At least three years of collegiate work, including 135 quarter or 90 semester units, is recommended. Courses from a community college are acceptable if they are transferable as equivalent to pre-dental courses at a four-year college.

Students are encouraged to develop their course of study with the assistance of a pre-dental advisor. Pre-dental advisors can identify courses that meet School of Dentistry requirements and help prepare individuals for the rigors of professional education and practice. They are

also aware of courses that would best prepare a student for competitive scores on the Dental Admission Test (DAT).

Number of Required Pre-dental Courses

Biological Sciences with Laboratory*	4
General Physics with Laboratory	2
Inorganic Chemistry with Laboratory	2
Organic Chemistry*	2
English Composition, Communication or Speech**	2

* Predental students are strongly advised to complete one course in anatomy and physiology as part of the biological sciences requirement. The admissions committee requires applicants to complete two semesters of organic chemistry or, upon direction of the predental advisor, one semester each of organic chemistry and biochemistry.

** One course in composition or technical writing is required. Other courses should develop written or verbal communication skills. Courses in English as a Second Language (ESL) do not meet this requirement.

Pass/Fail evaluations in required subjects are unacceptable unless accompanied by a narrative transcript provided by the awarding school.

Although it is recommended that applicants have a baccalaureate degree, no specific major is required or preferred. Upper-division courses that extend knowledge of required subjects and/or those in areas such as statistics, economics, computer science, business administration and the humanities are recommended.

The Dental Admission Test

The DAT is available year round at testing centers around the country. To be considered for admissions, the exam must have been taken within 24 months of the date of the application. Information and applications are available from the Dental Admission Test Program, Division of Education, American Dental Association at 800-621-8099 or online at www.ada.org (<http://www.ada.org>).

Dental Shadowing and Research Experience

Applicants are required to have a minimum of 40 hours of dental shadowing experience. Research is not required for admission, but strongly recommended.

Application Materials

The School of Dentistry participates in the American Association of Dental Schools Application Service (AADSAS). AADSAS is an information clearinghouse which transmits to a dental school the biographical and academic data required by admission committees, thereby relieving the applicant of the burden of completing multiple and repetitious individual applications. All AADSAS applicants must submit an online application at the ADEA web site, www.adea.org/aadsas (<http://www.adea.org/aadsas>).

You will need to read/complete the following sections of the AADSAS application:

1. Fee Assistance Program (optional),
2. Add Programs, Submit Application and Check Status tabs,
3. Personal Information,
4. Academic History,
5. Supporting Information, and
6. Program Materials.

You will need to submit the following documents:

1. Official transcripts from each college and university attended*
2. Three letters of evaluation

Payment for the ADEA AADSAS application is by credit card (VISA, MasterCard, American Express or Discover) only.

Completed application materials must be received by AADSAS no later than February 1 for an applicant to be considered for the class entering in July; however, it is recommended that students apply as early as June. A nonrefundable fee of \$75 is required by the school before the processing of an application is initiated. The University of the Pacific does not require any secondary application.

* If the applicant's undergraduate institution has a pre-health science advisory committee, a committee evaluation is recommended. Otherwise, three letters of evaluation are required, two of which should come from predental or upper division science course professors. At the applicant's discretion, up to two additional letters may be submitted if these provide supplemental information regarding the applicant's character, special abilities, and professional motivation. Evaluations from health care professionals who know the applicant well are encouraged.

Personal Interview

Applicants whose credentials appear to meet pre-dental requirements may be invited to the school for an interview with one or more members of the Admissions Committee and a current dental student. Applicants selected for interview are notified by phone of available dates for the interview. During the interview the applicant's interest in dentistry, future plans, maturity, critical thinking, emotional intelligence and personal qualities needed for successful work with patients are assessed. In addition, applicants participate in an orientation seminar, meet informally with current students and tour the school.

Selection Factors

The Admissions Committee carefully considers each applicant's scholastic record, scores on the DAT, personal statement, letters of evaluation, evidence of manual dexterity (including the perceptual ability portion of the DAT), other personal attributes and qualities as well as demonstration of his or her understanding about a career in the dental profession. Applicants who are offered the opportunity to enroll must complete planned coursework at a specified performance level.

The Admissions Committee has a firm policy of not discriminating against any applicant because of age, creed, national or ethnic origin, marital status, race, color, gender or sexual orientation. Established review procedures ensure applicants an equal opportunity to be considered for admission.

Accelerated Programs

In cooperation with College of the Pacific, the School of Dentistry offers three accelerated programs for incoming university freshmen. The programs were initiated in 1984 and have been refined over the years.

Five-Year Program Leading to a DDS Degree (2+3)

This program provides the minimum foundation in pre-dental education through two years of study on the Stockton campus for a select group of highly qualified students. Students admitted to the program take a prescribed list of general education and science courses as undergraduates in College of the Pacific. After two years of study, students are evaluated for admission to the School of Dentistry.

Freshmen who meet the following criteria will be considered for admission to this highly selective program.

1. An ACT composite score of 31 or a combined SAT Critical Reading and Math score of 1350 with a minimum Critical Reading score of 630.
2. A minimum 3.7 grade point average (on a 4.0 scale) based on a substantial number of math and science courses in a college preparatory program.
3. Acceptable scores on the Pacific fundamental skills tests in reading, writing, and quantitative analysis administered upon entering the University.

Six Year Program Leading to a BA or BS Degree and a DDS Degree (3+3)

Students may be admitted into a selective six year program of study. Those accepted into the program major in biological sciences or chemistry and obtain a Bachelor of Science or Arts in Biological Sciences or a Bachelor of Arts in Chemistry from College of the Pacific after three years on the Stockton campus and one year at the School of Dentistry. This special opportunity, combined with the 36-month accelerated program of the School of Dentistry, makes possible the completion of all requirements for both the Bachelor of Science or Arts degree and the Doctor of Dental Surgery degree in a total of six years. Students must meet the following criteria in order to be considered for the program.

1. An ACT composite score of 31 or a combined SAT Critical Reading and Math score of 1350 with a minimum Critical Reading score of 630.
2. A minimum 3.6 grade point average (on a 4.0 scale) in a solid college preparatory program.
3. Substantial coursework in English, sciences and mathematics.

Seven-Year Program Leading to a BA or BS Degree and a DDS Degree (4+3)

This program is designed to provide students with the opportunity to spend four years earning a bachelor's degree in any discipline, and then complete their dental education at the School of Dentistry. Students benefit by knowing early in their careers that they are granted an interview to the School of Dentistry provided they meet the requirements outlined in their pre-dental program acceptance letter. Students admitted to this program can major in any subject, but must complete a series of science courses as prescribed by a pre-dental advisor. Freshmen applying for the program should meet the following guidelines:

1. An ACT composite score of 27 or a combined SAT Critical Reading and Math of 1210 with a minimum Critical Reading score of 600.
2. A minimum 3.5 grade point average (on a 4.0 scale) in a solid college preparatory program.
3. Substantial coursework in English, sciences, and mathematics.

School of Dentistry Expectations for Admission

To be admitted to the School of Dentistry, accelerated students must:

1. meet all course requirements for the pre-dental programs, including Grade Point Average standards;
2. achieve scores of 18 or above in all categories on the Dental Admission Test (DAT);
3. successfully complete an interview at the School of Dentistry;
4. file a competitive and complete AADSAS application by September 1;
5. submit the \$75 application fee; and

6. obtain at least three letters of evaluation from science faculty, including one from a pre-dental faculty advisor.

International Dental Studies

Through the Division of International Dental Studies (IDS), the opportunity to earn the Doctor of Dental Surgery degree is available to qualified internationally-educated dentists. This 24-month, eight-quarter program provides practical and comprehensive training in dental technique as practiced in the United States. The program's admission process is described more fully on the school website. For additional information you may also contact the IDS program at:

University of the Pacific, Arthur A. Dugoni School of Dentistry
155 Fifth Street
San Francisco, CA 94103, U.S.A.
Phone: (415) 929-6428
Email: IDS@pacific.edu

The IDS curriculum includes pre-clinical and clinical instruction in dental subjects presented in the traditional DDS program, as well as instruction in clinical pharmacology and pathology, differential diagnosis of oral diseases, facial pain, special needs patients, hospital dentistry, and preparation for regional and state licensure; the behavioral sciences include basic management science, introduction to geriatric dentistry, fundamentals of dental practice, and jurisprudence. IDS students begin clinical patient care in the second quarter and spend the greater portion of their second year in clinical practice.

Basic required documentation for admission consideration is as follows:

1. copy of a dental diploma (any degree in a language other than English must be accompanied by a certified translation from a bona fide translator);
2. copy of successful completion of Parts I & 2 of the National Dental Board Examination (NBDE-1, NBDE-2);
3. copy of a score of 92 or above on the internet-based version of the Test of English as Foreign Language (TOEFL); and if applicable, an English proficiency examination will be administered at the School of Dentistry;
4. copy of a course-by-course transcript evaluation from Educational Credential Evaluators (ECE) with a minimum US Grade Point Average of 2.0;
5. copies of two recent letters of recommendation written in English by U.S. or international dental professionals (dentists, dental school faculty)
6. copy of a curriculum vitae (CV) that describes the applicant's dental experience and additional academic accomplishments since receiving the initial dental degree.

Provisional degrees are not accepted.

The IDS admissions committee considers the following factors in selecting applicants for admission: dental school achievement, scores on the National Dental Board Examination Parts-1 & 2, English language proficiency, professional experience and advanced degrees. Applicants invited to the technique exam and interview are selected from those who meet preliminary admissions requirements.

Applications must be made through ADEA Centralized Application for Advanced Placement for International Dentists (CAAPID) at <http://www.adea.org/caapidapp/>.

Endodontics

How to Apply

The Department of Endodontics participates in the American Dental Education Association's Postdoctoral Application Support Service (PASS), a centralized application service for more than 400 participating postdoctoral dental education programs. Applicants can complete an online application or download a copy of the application form from the PASS website (http://www.adea.org/dental_education_pathways/pass/Applicants/Pages/default.aspx).

- Completed application materials must be received by PASS prior to their deadline. Check their website for the application deadline.
- The completed PASS application and all supporting documents must be received by the admissions committee for the Advanced Education Program in Endodontology before July 11, 2019.
- A non-refundable fee of \$40 must be submitted along with your application. Pay application fee here > (<https://sfdental.pacific.edu/secure/EndoAppFee.aspx>)

Factors considered for possible admission include:

- Possession of a doctoral degree in dentistry (DMD, DDS, BDS);
- Excellence in predoctoral and dental school academic achievement;
- Dental class standing;
- Advanced Dental Admissions Test (ADAT);
- Practice, teaching and research experience;
- Possession of advanced academic degree(s);
- Dental National Board Examination scores; and
- Letters of recommendation.

Disclaimer

The school reserves the right to modify or change admission standards or requirements at any time without prior notice and effective immediately. The information provided on this site cannot be regarded as creating a binding contract between the student and the school.

Contact:

Gloria Sue, Admissions Advisor
415.929.6677 / gsue@pacific.edu

Orthodontics

How to Apply

The Department of Orthodontics participates in the American Dental Education Association's Postdoctoral Application Support Service (PASS), a centralized application service for more than 400 participating postdoctoral dental education programs. Applicants can complete an online application or download a copy of the application form from the PASS Web site (<https://portal.passweb.org>).

- Completed application materials must be received by PASS prior to their deadline. Check their Web site for the application deadline.
- The completed PASS application and all supporting documents must be received by the admissions committee for the Graduate Orthodontics Program by August 15, 2019.
- A non-refundable fee of \$40 must be submitted along with your application. Pay application fee here > (<https://sfdental.pacific.edu/secure/OrthoAppFee.aspx>)

Factors considered by the Graduate Orthodontics Program Admissions Committee include:

- Possession of the doctoral degree in dentistry;
- Excellence in predoctoral and dental school academic achievement;
- Dental class standing;
- Graduate Record Examination (GRE) score (Institutional Code 4065 / Department Code 0604);
- Advanced Dental Admissions Test Scores will be accepted but not required;
- Dental Match Program code;
- Practice, teaching and research experience;
- Possession of advanced academic degree(s);
- TOEFL scores (for international students only – Institutional code 4892 / Department Code 38);
- Dental National Board Examination scores;
- Letters of recommendation; and
- *Course by Course evaluation* of dental school transcripts – for international applicants (only evaluations by ECE will be accepted).

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Contact:

Gloria Sue, Admissions Advisor
415.929.6677 / gsue@pacific.edu

Advanced Education in General Dentistry

Applicants must show record they have graduated from North American dental school. There is no tuition to participate in the program; residents receive an educational stipend. The program uses the American Dental Education Association's PASS/MATCH application service to receive application materials. For further information on the Pacific AEGD program application process, please click here (<http://dental.pacific.edu/academic-programs/residency-and-graduate-programs/advanced-education-in-general-dentistry/application-process>). To learn more about the Union City Dental Care Center, please click here (<http://www.unioncitydentalcare.com>).

Oral Surgery

To apply to the program, a candidate requires an undergraduate degree, transcripts showing a DDS or DMD degree, a completed PASS application, National Board of Medical Examiners (NBME) Comprehensive Basic Science Examination (CBSE) score, and three letters of recommendation. University of the Pacific/Highland participates in the National Matching Service. Please see the Alameda Health System webpage (<http://www.alamedahealthsystem.org/oral-and-maxillofacial-surgery>) for complete admission requirements.

COLLEGE OF THE PACIFIC

<http://www.pacific.edu/college/>

Phone: (209) 946-2141

Location: Wendell Phillips Center 110, 111

Departments and Programs

Art and Graphic Design
Biological Sciences
Chemistry
Communication
Economics
English
Ethnic Studies
Gender Studies
Geological and Environmental Sciences
Health, Exercise and Sport Sciences
History
Jacoby Center
John Muir Center
Mathematics
Media X
Modern Language and Literature
Philosophy
Physics
Political Science
Psychology
Religious Studies
Sociology
Cross-Disciplinary Programs

The home of the arts and sciences at the University of the Pacific, featuring over 60 majors and minors and opportunities for interdisciplinary and experiential study.

Mission

The College of the Pacific's mission is to prepare students to lead successful lives as engaged members of their communities, both professional and civic, through discovery-based learning that teaches them to think critically and work collaboratively.

For students in College of the Pacific, the arts and sciences or "liberal arts" college of the university, liberal learning is not a mere addition to professional preparation, but rather its foundation. We believe that a grounding in the arts, humanities, social and natural sciences deepens students' understanding of difficult issues and transforms them to become, first and foremost, self-reflective, knowledgeable, and ethical persons. As such they bring a broad perspective to their professional careers and are well prepared to assume the responsibilities of civic leadership.

For both arts and sciences students who pursue degrees and pre-professional students who complete coursework in the College, Pacific provides a personalized learning environment that supports student success through broad access to our faculty. Students in the College of the Pacific study with nationally and internationally recognized scholars who are committed undergraduate teachers. Learning takes place both in the class and outside it as students and faculty interact in directed and collaborative inquiry. Active learning strategies in the classroom, extensive experiential learning opportunities alongside faculty researchers/practitioners, and one-on-one faculty advising together give

students exceptional opportunities to benefit from faculty expertise as teachers and scholars.

The College challenges students to engage in exploration, inquiry, and discovery: exploration of the world around them and of themselves and inquiry into philosophical, social, and natural phenomena that generates different types of meaningful discovery.

With the assistance of faculty advisors, students in the College plan their academic programs to include general education courses, courses required by the majors and minors they have selected, and courses that satisfy each student's individual interests.

General Education Requirements

In addition to participation in three Pacific Seminars, College of the Pacific students are required to successfully complete nine courses, three in each of the three main categories of the University general education program, totaling a minimum of 42 units. Students must take three courses listed under Category I- Social and Behavioral Sciences (one in each subcategory), and three courses listed under Category II- Arts and Humanities (one in each subcategory). In Category III- Natural Sciences and Mathematics, students have the option of taking one course from each of the three areas, or two courses from area A- Natural Sciences and one course from area B- Mathematics and Formal Logic.

Restrictions:

1. No more than eight units from a single department as defined by subject code (e.g., "HIST", "MPER", etc.) may be applied to meet the requirements of the general education program.
2. Units earned by correspondence, extension, or independent study may not count in general education except with the permission of the Associate Dean and Director of General Education. Coursework in directed research, field experience or similar activities such as internships, practicums, and cooperative education cannot be used to meet general education requirements.
3. Beginning Fall 2009, Pacific accepts a 4 or higher for Advanced Placement and a 5 or higher for Higher Level International Baccalaureate. There is a maximum of 28 units from Advanced Placement, International Baccalaureate DANTES and/or CLEP test results that may be applied toward a Pacific degree including General Education and major requirements.

Further, students who transfers into the College as internal transfers or from another institution has a general education analysis made of their transcripts at the time of matriculation into the College to determine what requirements remain to be completed of the 12 course/42 unit minimum requirement. Students who pursue a degree in another school of the University may elect to complete a second major in the College of the Pacific without fulfilling the specific general education requirements of the College.

Phi Beta Kappa

The College of the Pacific houses a chapter of Phi Beta Kappa, the nation's oldest academic honor society. Only ten percent of American colleges and universities qualify to host PBK chapters. Each year each chapter chooses no more than the top ten percent of its graduates for the honor of membership. Phi Beta Kappa honors students who have distinguished themselves in their studies of the liberal arts and sciences. To be eligible for invitation, a student must demonstrate breadth in the liberal arts and sciences, including, specifically, at least one course in

literature, intermediate competence in a second language (equivalent to two years of college language study), and competence in mathematics equal to pre-calculus.

College of the Pacific Language Requirement

The College of the Pacific requires one year of college instruction or equivalent training in a language other than English for all students who seek a Bachelor of Arts (BA) degree. Students who transfer to University of the Pacific from another college or university with sophomore standing or above, or who seek a Bachelor of Science (BS) degree or a Bachelor of Fine Arts (BFA) degree in the college, are exempt from this requirement. Students who have completed their secondary education and received a diploma in a language other than English may be exempt from the language requirement with the approval of the Associate Dean of the College of the Pacific.

The College language requirement can be met entirely, or in part, by completing coursework at the College, at approved colleges and universities, or by an in-person examination offered by the Modern Language and Literature Department. A placement test may be taken only once. To fulfill the requirement by completing coursework, a grade of C- or better at Pacific (or a C or better in transfer) must be obtained in the second semester course. In addition to modern and ancient written languages, students may elect to complete the requirement in American Sign Language. Computer languages cannot be substituted for the requirement. For more information regarding the language requirement, refer to the Department of Modern Language and Literature section of the General Catalog.

Because students interested in qualifying for Phi Beta Kappa, the national honors society for liberal arts and science students, must demonstrate at least intermediate proficiency in another language, equivalent to two years of college-level coursework, all BS, BFA, and BA students who believe they may qualify for this academic distinction are urged to pursue the study of a language other than English as part of their coursework at Pacific.

While the University makes every effort to meet student interests and needs, it does not guarantee that every student is able to fulfill this requirement by studying his or her first choice of a language. The University also does not guarantee that students studying languages other than those offered through the Pacific Department of Modern Language and Literature do have access to the courses needed to complete the requirement. In some cases, a student taking language courses not offered by the Department of Modern Language and Literature may also need to pass an approved competency examination in addition to his or her course work. As with all subjects, students must get prior approval before they take course work outside of the University that they intend to use toward completion of their Pacific degree.

The Major Program

The College of the Pacific provides students with opportunities for specialized study in a major through an unusually varied and flexible arrangement of courses. The College has designed a wide variety of majors to respond to the needs and career goals of students, including majors in a single subject such as Spanish, history or mathematics. The College of the Pacific also has cross-disciplinary majors combining two areas of study, such as chemistry/biology and multi-disciplinary majors that combine the resources of several departments, such as liberal studies. The Self-designed major and Thematic minor offered through the College allow students to create their own program of study by combining the course offerings of any variety of departments and

programs on campus. Most of these majors can be combined with pre-professional programs such as our Pacific Legal Scholars Program which prepares students for law school. In addition, students of The College of the Pacific may take advantage of the courses and programs offered by the other schools on the University campus. In fact, a student may elect to pursue two majors in different schools and may take any undergraduate course in the University provided that the course prerequisites are met. Students must maintain a minimum GPA of 2.0 in a major program and complete a minimum 16 units in residence at Pacific.

The result of this diversity and openness of curricular offerings and programs is that students receive the benefits normally associated with a large university while experiencing the close personal relationship between students and faculty which is a hallmark of the College of the Pacific.

Minors

Minors consist of a coherent set of related courses in a particular discipline or interdisciplinary area. Minors require 20 units or more, and where possible, advanced level courses. Ten units or more, depending on the specific program, must be taken at the University of the Pacific. Students must maintain a minimum GPA of 2.0 in a minor program. Students may not take a major and a minor in the same discipline.

For a complete description of approved minors, see the appropriate department or program description in this catalog.

Declaring a Major or Minor

To declare or add a major or minor, students must complete a Change of Program form, available on the Office of the Registrar's web site, and submit it to the Academic Affairs Office of The College (WPC 111) with all required faculty signatures. Students must have a faculty advisor for each major and minor; advisors may be assigned by the department chair or program director offering the program or a student may request a particular faculty member in the department and ask him or her directly to serve as his/her major or minor advisor.

Students are encouraged to officially declare their majors and minors as soon as they decide to pursue them. This helps ensure that a student's progress to degree is being tracked accurately and that he/she is being advised appropriately. For students who enter The College as "exploratory" or undecided about their major, it is important to declare a major program of study by the end of their sophomore year or fourth semester. Some major programs, especially in the natural sciences, that have a series of prerequisite courses, require that a student begin pursuing the necessary coursework early. Students interested in the natural sciences who are undecided about a specific major should declare "Exploratory BS" to indicate that they intend to declare a natural science major. This will ensure that they are advised appropriately and permit them to enroll in foundation science courses right away.

Students must meet with all of their faculty advisors for both majors and minors each advising period to ensure that the courses they enroll in are appropriate for their degree objectives.

Special Programs Education Abroad

College of the Pacific students have the opportunity to study, intern or volunteer abroad during their sophomore, junior or senior years with more than 100 programs in more than 50 different countries. The duration of education abroad programs varies from one summer, one semester, or one year. The countries include: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Malta, Netherlands,

Norway, Russia, Spain, Sweden, Switzerland and the United Kingdom in Europe; China, Hong Kong, India, Indonesia, Japan, South Korea, the Philippines and Thailand in Asia; Australia, Fiji and New Zealand in the South Pacific; Cameroon, Egypt, Ghana, Kenya, Morocco, Nigeria, Rwanda, Senegal, Tanzania, and Zimbabwe in Africa; Argentina, Brazil, Canada, Colombia, Costa Rica, Dominican Republic, Ecuador, Mexico, Peru and Uruguay in the Americas. For information about education abroad opportunities, contact the Office of International Programs and Services in the Bechtel International Center.

The Washington Semester Program

The Washington Semester program is a joint project of Pacific and American University in Washington, D.C. The program includes an internship in a U.S. government agency, lobbying organization, political party, media organization, foreign embassy, or non-profit agency. Students select one of 13 areas of concentration such as American politics, economic policy, international business and trade, foreign policy, or journalism, among others. Some concentrations include an overseas travel segment. Students participate in a semester-long seminar including discussions with public officials, political figures, lobbyists, think-tank scholars, and the media. They also undertake a research project or take an elective course at American University. Students normally earn 16 academic credits which are easily transferred to Pacific. By living on the AU campus, students have full access to campus life including dining halls, athletic facilities, and libraries.

For application information, contact:

Dr. Dari Sylvester Tran
Pacific's representative for Washington Semester
Room 126 Wendell Phillips Center
Phone: (209) 946-2007
e-mail: dsylvester@pacific.edu

The Sacramento Experience Internship Program

The Sacramento Experience program has two components. One is an internship in either a state agency or a lobbying organization for two days per week. Students have staff assignments including legislative research, monitoring and reporting on public hearings, helping arrange high level meetings, and taking part in legislative strategy sessions. Satisfactory completion generates four units of academic credit. In addition, students take part in policy seminars featuring officials of state government and senior members of the lobbying and media communities in Sacramento. Two units of academic credit are earned through participation in the seminars. Students have interned in the Office of the Governor, legislators' offices, the League of Women Voters, the Planning and Conservation league, the Council of State Governments, and the League of California Cities, among others. All undergraduates are eligible to apply.

For information and applications, contact:

Dr. Dari Sylvester Tran
Director of the Sacramento Experience program
Room 126 Wendell Phillips Center
Phone: (209) 946-2007
e-mail: dsylvester@pacific.edu

Student Government in the College

Students are invited to participate in determining the academic and social policies of the College. They can become voting members of virtually all College standing committees where important questions of policy are discussed.

The College of the Pacific Association (COPA) provides students with an opportunity to become involved in College activities and service. COPA is organized to foster identity among College of the Pacific students, to enhance student-faculty relationships, to enable students to obtain a better understanding of the College and University academic and administrative operations, and to develop programs which integrate academic and residential life. Its activities include the funding of student groups and the appointment of representatives to College and University committees.

Degrees Offered

Bachelor of Arts
Bachelor of Science
Bachelor of Fine Arts

Majors Offered

Actuarial Science (BS)
Applied Mathematics (BS)
Asian Language and Studies Major (BA)
Biochemistry (BS)
Biological Sciences (BA, BS, MS)
Chemistry (BA, BS) (MS, PhD)
Pharmaceutical/Chemical Sciences
Communication (BA, MA)
Economics (BA, BS)
English (BA)
Environmental Studies (BA)
French (BA)
Geological and Environmental Science (BA, BS)
Graphic Design (BFA)
Health, Exercise and Sport Sciences (BA, BS, MA)
History (BA)
Mathematics (BA, BS)
Media X (BA)
Pacific Humanities Scholars Program
Pacific Legal Scholars Program
Philosophy (BA)
Physics (BA, BS)
Political Science (BA)
Psychology (BS, MA)
Religious Studies (BA)
Self-Designed (BA)
Social Sciences (BA)
Sociology (BA)
Spanish (BA)
Studio Art (BFA)

Minors Offered

Ancient Studies
Applied Mathematics
Art History
Biological Sciences
Chemistry
Child Psychology
Chinese Studies
Civic Leadership
Communications
Data Science
Economics
English
Environmental Studies
Ethnic Studies

Film Studies
French
Gender Studies
Geology
Graphic Design
Health, Exercise and Sport Sciences
Helping Professions
History
Japanese
Lifespan Development
Mathematics
Philosophy
Physics
Political Science
Pre-Law
Psychology
Public Affairs
Public History and Museum Studies
Religious Studies
Sociology
Spanish
Statistics
Studio Art
Theatre Arts
Thematic
Writing

General Academic Regulations Requirements for Graduation

1. Students must complete at least 120 units with a minimum grade point average of 2.0 in all college-level work completed at University of the Pacific and in all courses taken as part of the major program in order to receive a baccalaureate degree in the College of the Pacific. The Bachelor of Fine Arts degree requires 123 units.
2. Students must complete an approved major program of study within the College to fulfill the requirements for a baccalaureate degree. For all courses in the major (including cognate courses) students must achieve a grade point average of 2.0 or better. Courses for the major must be taken for letter grades with exceptions made for internships, fieldwork, and practicums.
3. Students must complete a minimum of 60 units outside the discipline of their first major, regardless of the department offering the course or courses in order to receive a BA or BS degree in The College. In order to receive a BFA degree, students must complete a minimum of 49 units outside the discipline of their first major, regardless of the department offering the course or courses.
4. Students must complete the College of the Pacific general education program to fulfill the requirements for a baccalaureate degree. Please refer to the University general education program statement and the statement on College of the Pacific general education modifications for the requirements of the program.
5. Students are encouraged to consult with their advisors or the College Academic Affairs Office if they have any questions or problems regarding General Education or their majors.

Special Additional Requirements for Transfer Students

1. All transfer students must enter The College with their fundamental skills requirement (Math 5 and Write 21) already met and must have a minimum GPA of 2.8 in all articulated coursework upon entering Pacific.

2. All transfer students must fulfill the requirements of the College of the Pacific general education program including PACS 003 in their senior year. Only courses with a minimum grade of C and three or more semester units, or four or more quarter units, of credit will be accepted in the program. The Associate Dean and Director of General Education, in conjunction with the Articulation Specialist determines which courses completed at other institutions satisfy General Education requirements.
3. Based on university-wide articulation agreements with other colleges and universities, each academic program advisor evaluates transfer courses to determine if they satisfy any of the major or minor course requirements. Some departments limit the number of courses they accept for the major or minor from other institutions.

Policies and Grading in the College of the Pacific

1. With few exceptions, courses taken in the major must be on a letter grade basis. Students are permitted to take up to three courses outside their major on a pass/no credit basis in general education or in electives in order to encourage enrollment in courses outside their areas of specialization. Normally this option is limited to one course per student per semester. Students electing this option in College of the Pacific courses must understand that a grade of "pass" is awarded for work evaluated at the level of C- or better and a grade of "no credit" is awarded for work evaluated at the level of D+ or below. The student must declare the intention to enroll in a course on the pass/no credit basis with the instructor by completing a form available from the Office of the Registrar prior to the deadline established for adding classes.
2. In cooperation with the Senior Associate Dean, departments may designate certain courses to be graded only on the pass/no credit basis. In such courses the nature of the learning does not provide an adequate basis for meaningful rank ordering of student performance and under no circumstances is the student's work evaluated on a letter-graded system. Courses numbered 087/187 (Internship), 089/189 (Practicum) and 092/192 (Cooperative Education) must be graded on a pass/no credit basis only. Activity courses (ACTY) in the Department of Health, Exercise and Sport Sciences are deemed Physical Education Activity and Intercollegiate Athletics classes respectively, and are graded on a pass/no credit basis only. Fieldwork courses are normally graded on a pass/no credit basis also.

Course Numbering Policies and Unit Restrictions

1. Courses numbered 092/192 indicate cooperative education study and may be offered by departments or on a college-wide basis without specific departmental designation. Courses that carry the 092/192 designation indicate work experiences on a full-time or parallel (part-time) basis, which are coordinated by the Office of Cooperative Education and a faculty supervisor from an appropriate department of the College. Students from other schools and colleges on the Stockton campus may also participate in the Cooperative Education Program. Students who elect 092/192 normally are expected to undertake at least two work experiences (the equivalent of two semesters or six months in total) separated by at least one period of full-time academic study. Students may earn two to four units of academic credit for each working period for a total of eight units. Students on a part-time (parallel) basis are encouraged to register for additional coursework on campus providing that the total combination of units does not exceed a normal load. In the first of two work experiences, students enroll in 092, in the second, 192. Students may not exceed the 20-unit limitation stipulated in #5 below.
2. Courses numbered 087/187 and 089/189 indicate internship and practicum study when included in the course number of departments in the College of the Pacific. Courses numbered 087/187 designate

work experiences that usually are conducted off-campus, primarily under the supervision of someone not holding a full-time appointment on the faculty of the College of the Pacific. Courses numbered 089/189 designate work experiences conducted usually on campus, under the direct supervision of a College of the Pacific faculty member. Courses numbered 087/187 and 089/189 may be taken for two, three or four units of credit. If a department's 087/187 and/or 089/189 courses carry alphabetic subscripts designating different categories of study experiences, then the 087/187 or 089/189 course may be repeated for credit as long as the student does not repeat a category (subscript) or exceed the 20-unit limitation (see "5" below). In some cases, the department may indicate special restrictions.

3. Activity courses (ACTY) and THEA 005 in the Theatre Arts Department are considered Activity courses. Courses numbered ACTY 001-049 are General Activity courses and courses numbered ACTY 050-099 are Intercollegiate Sports courses. Students can apply no more than a total of eight units in Activity and Intercollegiate Sports courses toward graduation. All Activity and Intercollegiate Sports classes are evaluated on the pass/no credit basis.
4. A total of no more than eight units of extension credit offered by University of the Pacific may be applied to the units required for a baccalaureate degree. Regularly enrolled students (full- or part-time) may not receive more than two units of extension credit in any given semester. Extension courses may not be repeated for credit. An exception to this policy allows students to receive up to 8 extension units in a single term, and up to 8 additional extension units to count towards graduation, only upon completion of the joint MLL/CPCE summer courses coded XSPG (Guatemala) or XITA (Italy). Completion of the Italy program meets the one-year COP BA language requirement.
5. No more than 20 units of Cooperative Education (092/192), Internship (087/187), Practicum (089/189), General Activity (ACTY 002-049), Theatre Activity (THEA 005), Dance Team (ACTY 001) and Intercollegiate Sports (ACTY 050-099) courses in any combination may be applied to the units required for a baccalaureate degree. See Communication Department for further restrictions on Communication internships.
6. Courses numbered 201 to 299 carry credits for graduate degrees and courses numbered above 300 are exclusively for students admitted to a doctoral program.
7. Courses numbered 193: Each department of the College of the Pacific may offer, on occasion, special topics courses (193). Some departments also offer lower-level special topics courses numbered 093 and/or graduate-level courses numbered 293. The material of the special topics courses may reflect the current research of the instructor or the needs and interests of a group of students. Detailed descriptions of these courses may be obtained from the chair of the department in which the courses are offered.
8. The following sets of course numbers designate a similar function in each department of the College of the Pacific: 191 and 291, independent study, undergraduate and graduate; 195, 295 and 395, seminar, undergraduate, graduate and doctoral; 197, 297 and 397, independent research, undergraduate, graduate and doctoral; 299, master's thesis; 399, doctoral dissertation. In some departments, courses numbered 191 or 197 may be offered for a minimum of two units. No independent study or undergraduate research course may exceed four units.

Art and Graphic Design

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Visual-Arts.html>

Phone: (209) 946-2241

Location: Jeannette Powell Art Center, South Campus
Brett DeBoer, Co-Chair, Graphic Design

Degrees Offered

Bachelor of Fine Arts

Majors Offered

Graphic Design (BFA)

Studio Art (BFA)

Minors Offered

Art History

Graphic Design

Studio Art

Mission

Our mission is to provide aspiring artists and graphic designers with intensive, integrative, relevant, and rewarding educational programs of excellent quality in a personal, supportive, and collaborative environment. We seek to graduate creative individuals who think critically and historically, communicate effectively, and act responsibly in our global society. We are also committed to providing studio and art history courses to non-art majors as part of Pacific's General Education Program and to contributing to the aesthetic quality of the campus.

To accomplish this mission:

- Our undergraduate curricula include art and design theories, histories, and experiential learning in both traditional and contemporary visual arts media, providing a strong basis for informed reflection, critical thinking, independent inquiry, and imaginative expression.
- Our undergraduate curricula in Graphic Design and Studio Art combine a thorough visual arts education with a comprehensive grounding in the fertile, intellectual heritage of the Humanities and the liberal arts.
- Our faculty members inform and inspire; their teaching expertise is enriched by their professional experience as artists, designers, and historians.
- Undergraduate research, internships, and study abroad experiences are encouraged.
- We promote interdisciplinary partnerships and collaborations with other units within the university and within our community to create educational opportunities and reach to broader audiences.
- We engage in ongoing assessment of our programs.

Degrees in Studio Art and Graphic Design

The department offers two accredited degree programs. These programs lead to a Bachelor of Fine Arts degree in Graphic Design or Studio Art. A self-designed major in Art History is available (e.g. Visual Studies, Arts Administration, Art Therapy). Admission into the BFA degree programs requires filing a declaration of major form and consulting with a department advisor in the chosen discipline.

Upon completion of the BFA in Studio Art, students will be able to:

1. Demonstrate competence with the principals of visual organization, including the ability to work with visual elements in two and three dimensions; color theory and its applications; and drawing.
2. Apply knowledge of the principles of visual organization to conduct formal analysis of artworks.

- Demonstrate a working knowledge of media, technologies and equipment applicable to their area(s) of emphasis. This includes environmentally responsible practice.
- Identify the major historical achievements in world art, ethical and formal issues, current processes, and directions of their area(s) of emphasis.
- Integrate skills in studio practice, theory, analysis, media and technology to address a variety of art problems, independently and in collaboration with others.
- Present work that demonstrates perceptual acuity, conceptual understanding, and technical facility at a professional entry level in their chosen field(s).
- Demonstrate proficiency in communication, presentation, and business skills necessary to engage in professional practice in their major field. This proficiency is based on an understanding of organizational structures and working patterns in artistic, intellectual, economic, technological, and political contexts. (Capstone Seminar Series)
- Demonstrate through public exhibition the achievement of professional, entry-level competence in the major area of specialization, including significant technical mastery, capability to produce work and solve professional problems independently, and a coherent set of artistic/intellectual goals. (Senior Art Exhibition)
- Demonstrate ability to form and defend value judgments about art and to communicate art ideas, concepts, and requirements to professionals and laypersons related to the practice of the major field. (Senior Thesis)

Upon completion of the BFA in Graphic Design, students will be able to:

- Solve communication problems, including the skills of problem identification, research and information gathering, analysis, generation of alternative solutions, prototyping and user testing, and evaluation of outcomes.
- Describe and respond to the audiences and contexts, which communication solutions must address, including recognition of the physical, cognitive, cultural, and social human factors that shape design decisions.
- Create and develop visual form in response to communication problems, including an understanding of principles of visual organization/ composition, information hierarchy, symbolic representation, typography, aesthetics, and the construction of meaningful messages.
- Understand design-related tools and technology, including their roles in the creation, reproduction, and distribution of visual messages. Relevant tools and technologies include, but are not limited to, drawing, offset printing, photography, and time-based and interactive media (film, video, computer multimedia).
- Demonstrate proficiency in communication, presentation, and business skills necessary to engage in professional practice in graphic design including the ability to organize and manage design projects and to productively collaborate with others in a team. This competency is based on an understanding of organizational structures and working patterns in design, intellectual, economic, technological, and political contexts. (Capstone Seminar Series)
- Demonstrate ability to form and defend value judgments about graphic design and to communicate art ideas, concepts, and requirements to professionals and laypersons related to the practice.
- Identify the major historical achievements, current issues, processes, and directions in the graphic design field as well as in art in general.

- Identify current intercultural and global issues as they relate to visual communication. Apply ethical reasoning to create sustainable, and socially and environmentally responsible design solutions.

Bachelor of Fine Arts Major in Studio Art

Students must complete a minimum of 123 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of fine arts degree with a major in studio art.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

IV. Breadth Requirement

For the BFA students must complete a minimum of 49 units outside the primary discipline of the first major, regardless of the department that offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

77 units from the following:

ARTH 007	Survey of World Art to 1400	4
ARTH 009	Survey of World Art After 1400	4
ARTH 116	Contemporary World Art 1945 to Present	4
ARTS 005	Drawing	3
ARTS 007	Principles of 2-D Design and Color	3
ARTS 009	Principles of 3-D Design	3
ARTS 011	Digital Photography	3
ARTS 021	Life Drawing I	3
ARTS 023	Painting I	3
ARTS 037	Sculpture	3
ARTS 073	Freshman Seminar	1
ARTS 059	Printmaking I	3
ARTS 073	Freshman Seminar	1
ARTS 087	Internship	1-4
or ARTS 089	Practicum	
ARTS 095	Video I	3
ARTS 141	Photography II	3
ARTS 181A	Interdisciplinary Studio	3
ARTS 181B	Interdisciplinary Studio	3
ARTS 183	Professional Practices in the Arts	3
ARTS 185	Studio Arts Capstone	4
Select 18 units of the following:		18
ARTH 120	Chinese Art History	
ARTH 122	Japanese Art History	
ARTS 057	Watercolor Painting	
ARTS 075	Graphic Design I	
ARTS 091	Print Media Graphics	
ARTS 105	Web Design	
ARTS 107	Video II	
ARTS 115	Animation	
ARTS 121	Life Drawing II	
ARTS 123	Painting II	
ARTS 127	Illustration	
ARTS 133	3-D Studio I	
ARTS 151	Printmaking II	
ARTS 187	Internship	
ARTS 189	Practicum	
ARTS 191	Independent Study	
ARTS 197	Undergraduate Research	
EDUC 142	Visual Arts in Education	
ENGL 031	Aesthetics of Film	
ENGL 111	Creative Writing: Fiction	
ENGL 124	Film History	
THEA 112	Playwriting	

Bachelor of Fine Arts Major in Graphic Design

Students must complete a minimum of 123 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of fine arts degree with a major in graphic design.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

For the BFA students must complete a minimum of 49 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 77 units that include:

ARTS 005	Drawing	3
ARTS 007	Principles of 2-D Design and Color	3
ARTS 073	Freshman Seminar	1
ARTS 075	Graphic Design I	3
ARTS 077	Graphic Design II	3
ARTS 079	Typography I	3

ARTS 081	Typography II	3
ARTS 087	Internship	3
or ARTS 089	Practicum	
ARTS 091	Print Media Graphics	3
ARTS 103	Graphic Production	3
ARTS 171	Graphic Design III	3
ARTS 173	Graphic Design Seminar	4
ARTS 175	Senior Graphic Design Seminar	4
Select 30 units of the following:		30
ARTS 009	Principles of 3-D Design	
ARTS 011	Digital Photography	
ARTS 021	Life Drawing I	
ARTS 023	Painting I	
ARTS 037	Sculpture	
ARTS 057	Watercolor Painting	
ARTS 059	Printmaking I	
ARTS 087	Internship	
ARTS 089	Practicum	
ARTS 095	Video I	
ARTS 105	Web Design	
ARTS 115	Animation	
ARTS 121	Life Drawing II	
ARTS 123	Painting II	
ARTS 127	Illustration	
ARTS 133	3-D Studio I	
ARTS 141	Photography II	
ARTS 151	Printmaking II	
ARTS 181A	Interdisciplinary Studio	
ARTS 187	Internship	
ARTS 189	Practicum	
ARTS 191	Independent Study	
ARTS 197	Undergraduate Research	
Select 8 units of the following:		8
ARTH 007	Survey of World Art to 1400	
ARTH 009	Survey of World Art After 1400	
ARTH 101	Design Thinking	
ARTH 116	Contemporary World Art 1945 to Present	
ARTH 120	Chinese Art History	
ARTH 122	Japanese Art History	

Minor in Art History

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in art history.

Minor Requirements:

ARTH 007	Survey of World Art to 1400	4
ARTH 009	Survey of World Art After 1400	4
ARTH 114	20th Century Art and Film	4
ARTH 116	Contemporary World Art 1945 to Present	4
Select one of the following:		4
ARTH 120	Chinese Art History	
ARTH 122	Japanese Art History	

Note: A minimum of 10 units from the Minor course of study must be completed at Pacific.

Minor in Graphic Design

Students must complete a minimum of 21-22 units and 7 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in graphic design.

Minor Requirements

ARTS 075	Graphic Design I	3
ARTS 077	Graphic Design II	3
ARTS 079	Typography I	3
Select one of the following:		3
ARTS 005	Drawing	
ARTS 007	Principles of 2-D Design and Color	
Select one of the following:		3
ARTS 091	Print Media Graphics	
ARTS 115	Animation	
Select one of the following:		3
ARTH 101	Design Thinking	
ARTS 103	Graphic Production	
Select one additional elective from the following		3
ARTS 095	Video I	
ARTS 105	Web Design	
ARTS 141	Photography II	
ARTS 171	Graphic Design III	
ARTS 173	Graphic Design Seminar	

Note: 1) The Foundations level courses ARTS 005/ARTS 007 and ARTS 075 should be completed by the end of the first year. **2)** ARTS 115 and ARTS 173 are considered capstone courses and are to be taken during the last year of study. **3)** A minimum of 12 units from the Minor course of study must be completed at Pacific.

Minor in Studio Arts

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in studio arts.

Minor Requirements

Minimum 11 units in foundational courses that include:

ARTH 009	Survey of World Art After 1400	4
Select one of the following:		3
ARTS 003	Visual Arts Exploration	
ARTH 116	Contemporary World Art 1945 to Present	
Select one of the following:		3
ARTS 007	Principles of 2-D Design and Color	
ARTS 009	Principles of 3-D Design	
Three ARTS Electives		9

Note: 1) These nine units may be in one area such as drawing, painting, printmaking, sculpture, photography, video or graphic design. They may also be earned in courses from two or more of these areas. **2)** Students are encouraged to consult a Studio Art Faculty Advisor to plan your Minor as not all courses are offered every

semester. 3) A minimum of 12 units from the Minor course of study must be completed at Pacific.

Art History Courses

ARTH 007. Survey of World Art to 1400. 4 Units.

This foundational level art history course surveys the major periods of world art from the Stone Age to the onset of the Renaissance in the West during the 14th-century. This is a lecture-based course that uses visual images to examine the characteristics and styles of each period. Works of art are placed in their aesthetic, social, and cultural contexts. The course provides an introduction to the discipline of art history. (GE2C)

ARTH 009. Survey of World Art After 1400. 4 Units.

A continuation of ARTH 007, this course surveys the history of world art from the fifteenth century to the present and considers major works of painting, sculpture, architecture, and the applied arts. The course pays particular attention to situating works of art in their aesthetic, social, and cultural contexts and it also provides an introduction to the discipline of art history. (GE2C)

ARTH 087. Internship. 2-4 Units.

This off-campus internship offers non-classroom experiences/projects related to art history.

ARTH 089. Practicum. 1-4 Units.

This off-campus practicum offers non-classroom experiences/ projects related to art history.

ARTH 101. Design Thinking. 4 Units.

A survey of visual communication introduced by formal analysis of major works of design within the context of their time and influence on later works. This course highlights significant events in communication and design thinking from 1450 to the present with particular emphasis on the past century of design. (GE2C)

ARTH 108. Renaissance Art and Architecture. 4 Units.

Students examine the art (painting, sculpture and architecture) of the 15th and 16th centuries in Italy and Northern Europe. The course focuses on the major artists of the period who include Botticelli, Leonardo, Michelangelo, Raphael, Bramante, and Titian. The works of art are discussed in their artistic, historical and cultural contexts. (GE2C)

ARTH 110. 17th Century Art: Age of Rembrandt. 4 Units.

This course examines the masters of 17th century art. Major themes include the development of naturalism, a new interest in space, time and light, and relationship to artistic tradition.

ARTH 112. 19th Century European Art. 4 Units.

Major artists and artistic movements of the period are explored and include Neoclassicism, Romanticism, Realism and Impressionism. Students analyze the effects of gender upon representation and artistic practice, the effects of politics and class upon visual representation and the impact of urbanization. Painting, sculpture, photography, and architecture are considered. Art historical methods that include formalism, psychoanalysis, Marxism, and gender theory are explored. (GE2C)

ARTH 114. 20th Century Art and Film. 4 Units.

Major styles of the 20th century that include Fauvism, Cubism, Expressionism, Surrealism, etc., and their appearance in visual arts, theater design, and film are explored. Students also evaluate how Western European artists borrowed imagery from other cultures and their relationship to colonialist concerns. Students also consider representations of the body and how this imagery relates to gender constructions. The effects of urbanization upon the artistic enterprise and the development of abstract and non-objective art are also considered. This course satisfies a requirement of Film Studies minor. (GE2C, GEND)

ARTH 116. Contemporary World Art 1945 to Present. 4 Units.

This course explores major artists, styles, and movements in world art from 1945 to the present. Gestural abstraction, Pop, Photo Realism, Happenings, Video, Performance, Conceptual and Political art as well as film are a few of the trends that are considered. Ever-expanding notions of what constitutes art in this pluralistic era is also examined. This course satisfies a requirement of the Film Studies minor. (FILM, GE2C, GEND)

ARTH 120. Chinese Art History. 4 Units.

This course is an introductory survey of the visual arts of China, from the Stone Age to the present. Students analyze works of art stylistically and their meanings are examined within original political and social contexts. China's enduring artistic tradition is emphasized. (GE2C)

ARTH 122. Japanese Art History. 4 Units.

This introductory course surveys the visual arts of Japan from prehistoric to the present. Students analyze works of art for their style, meanings, and original political and social contexts. How artists worked within Japanese artistic tradition and how they absorbed influences from abroad is emphasized. (GE2C)

ARTH 130. Greek Art and Architecture. 4 Units.

This course offers an introductory survey of the art and architecture of ancient Greece from the Bronze Age to the Hellenistic period. Students explore the stylistic development of Greek sculpture, painting and architecture and examine what this art can tell us about the ancient Greeks and how extensively it has influenced our modern world. This course is offered in alternate years.

ARTH 132. Roman Art and Architecture. 4 Units.

This introductory course surveys the art and architecture of ancient Etruria and Rome from 600 B.C.E to the 4th century C.E. Students explore the role of Roman art and architecture and its Etruscan influences in Roman life and history. Attention is given to examples of Roman influence that surround us today. This course is offered in alternate years.

ARTH 187. Internship. 2-4 Units.

This off-campus internship offers non-classroom experiences/projects related to art history.

ARTH 189. Practicum. 1-4 Units.

This off-campus, non-classroom practicum offers experiences/projects related to art history.

ARTH 191. Independent Study. 2-4 Units.

This course requires permission of faculty to enroll. Unless indicated, independent study courses may be counted only as electives.

ARTH 193. Special Topics. 4 Units.

ARTH 197. Independent Research. 2-4 Units.

Studio Art Courses

ARTS 003. Visual Arts Exploration. 4 Units.

This hands-on course is designed as an experiential studio/discussion course with emphasis upon acquiring practical skills and appreciation for the theoretical aspects of the creative process. This course explores two-dimensional and three-dimensional art forms such as drawing, painting, printmaking, sculpture and ceramics. (GE2C)

ARTS 005. Drawing. 3 Units.

This foundational level hands-on course in drawing has an emphasis upon skill building and the visual and conceptual possibilities of art through drawing. A variety of projects and materials are used to investigate the medium's history, traditional approaches and expressive possibilities. (GE2C)

ARTS 007. Principles of 2-D Design and Color. 3 Units.

This foundational level hands-on course introduces the theoretical application of the elements and principles of 2-D design and the practical applications of color theory. Exercises in visual thinking and the use of traditional principles of composition and two-dimensional media are emphasized through sequential, skill building projects. (GE2C)

ARTS 009. Principles of 3-D Design. 3 Units.

This foundational level hands-on course introduces the theory and principles of 3-D design found in organic and man-made objects. Developing creative design solutions is emphasized through observations of nature architecture, visual art, industrial design and sequential, skill building projects. (GE2C)

ARTS 011. Digital Photography. 3 Units.

This course provides an introduction to the theory, process, and aesthetics of digital photography. Through a series of practical and conceptual assignments, students learn to work with digital cameras and a selection of software for image editing and printing. Students must provide their own digital cameras with fully manual exposure controls. Approximately \$150 should be budgeted for other photographic materials that are not supplied by the University. Additional lab fees also apply. (FILM, GE2C)

ARTS 021. Life Drawing I. 3 Units.

This course places primary emphasis on the development of visual and perceptual skills relative to drawing the human body. This course covers exercises in the anatomical, structural, formal and expressive factors of figure drawing. Prerequisite: ARTS 005.

ARTS 023. Painting I. 3 Units.

This course introduces the concepts, methods and materials of oil painting. Drawing and painting skill, creative problem solving, artistic intent, personal imagery and aesthetic judgement will be developed in this course. (GE2C)

ARTS 037. Sculpture. 3 Units.

This introductory hands-on course explores the concepts and creative potential of sculpture. Through a sequence of applied assignments and exploration of a variety of media (clay, wood, plaster, metal, etc.) students learn to use materials and tools to create sculpture. (GE2C)

ARTS 057. Watercolor Painting. 3 Units.

Through demonstrations, readings, discussions and studio work this course introduces a variety of materials, techniques, traditions and contemporary uses of watercolor painting. A sequence of practical assignments incorporate aesthetic and conceptual development to build skill with the media and personal expression. Prerequisite: ARTS 005.

ARTS 059. Printmaking I. 3 Units.

This course is an introductory hands-on course that examines the historical and aesthetic development of the processes, materials and techniques of printmaking. A sequence of applied assignments incorporate the aesthetic and conceptual development to achieve basic mastery of the printmaking process.

ARTS 073. Freshman Seminar. 1 Unit.

This Freshman Seminar introduces the student majoring in either Studio Art or Graphic Design to issues related to professional practice, philosophical direction, and the creative process in the visual arts.

ARTS 075. Graphic Design I. 3 Units.

This course is a beginning non-computer studio course that gives students a broad and thorough exposure to the practice and profession of Graphic Design. (GE2C)

ARTS 077. Graphic Design II. 3 Units.

This intermediate level studio course expands on the skills and knowledge acquired in Graphic Design I. The course alternately explores theoretical and applied practical assignments that require problem solving attention to design development and multi-level thinking. Specific themes/topics for the course include visual grouping and hierarchy, visual perception, visual identity development and application of Gestalt theory. Prerequisite: ARTS 075 or permission of instructor.

ARTS 079. Typography I. 3 Units.

This course provides an introduction to the study of the letterform as a cornerstone of graphic design. It focuses on how typography can be used as a communicative device as well as a graphic, compositional and expressive element. Topics include letterform anatomy, letterform analysis, measuring systems, typographic identification, and practical issues of setting and using type effectively. Prerequisite: ARTS 005, ARTS 007 or ARTS 075 or permission of instructor.

ARTS 081. Typography II. 3 Units.

Students who enroll have the opportunity to apply the principles and concepts introduced in ARTS 079 to more complex typographic problems. Directions involving experimental and theoretical as well as practical and functional applications of type will be explored. A Macintosh laptop computer is required and lab fees apply. Prerequisite: ARTS 079 or permission of instructor.

ARTS 087. Internship. 1-4 Units.

The internship offers off-campus, non-classroom experience that applies to the studio arts in a professional context.

ARTS 089. Practicum. 1-4 Units.

The practicum offers on-campus, non-classroom experiences/projects that relate to discipline-specific studio arts.

ARTS 091. Print Media Graphics. 3 Units.

This course explores graphic design for publication. Assignments examine and develop creative solutions for graphic design and methods of publishing in print utilizing software applications in graphic design and contemporary publishing. Lab fees apply. Prerequisite: ARTS 079 or permission of instructor.

ARTS 095. Video I. 3 Units.

Video I is an introductory level course teaching the construction of time-based visual narratives. Students will develop projects using camera generated images and time-based software applications. Assignments focus on sequential storytelling, animation, video editing, and thematic development. Students must provide their own digital still cameras for this course. Approximately \$100 is needed for other materials and equipment that are not supplied by the University. Additional lab fees. (FILM)

ARTS 103. Graphic Production. 3 Units.

This course examines methods and procedures of efficient production practices that include typographic issues, image adjustment, digital file format preparation and related technologies for the graphic design student. Lab fees apply. Prerequisite: ARTS 077 or ARTS 091 or permission of instructor.

ARTS 105. Web Design. 3 Units.

This intermediate level course for studio art and graphic design majors teaches the development of web sites for commercial applications and artist's portfolios. Emphasis is placed upon effective approaches to the organization and design of web sites for self-promotion, employment, and e-commerce. Lab fees apply. Prerequisite: ARTS 091 or permission of instructor.

ARTS 107. Video II. 3 Units.

Video II is an advanced video course. Students will be assigned advanced and self-directed long-term projects, as well as learning more advanced software techniques for video editing. Approximately \$100 should also be budgeted for other materials and equipment that are not supplied by the University. Prerequisite: ARTS 095.

ARTS 115. Animation. 3 Units.

This course challenges the student to create interpretive design solutions for complex interactive problems, which rely primarily upon motion and time to communicate visual ideas. Students explore these highly conceptual problems through use of digital technology. The course emphasizes dynamic, thoughtful, and appropriate visual communication solutions. Lab fees apply. Prerequisite: ARTS 091 or permission of instructor.

ARTS 121. Life Drawing II. 3 Units.

This course builds upon the experiences and skills achieved in Life Drawing I. The course emphasizes personal expression and advanced drawing from the nude figure. Prerequisite: ARTS 021.

ARTS 123. Painting II. 3 Units.

A studio course builds upon the experience and skills achieved in beginning drawing and painting. Instruction focuses upon problem solving using traditional and contemporary solutions and media. The development of personal style and expression is emphasized. Prerequisites: ARTS 005 and ARTS 023.

ARTS 127. Illustration. 3 Units.

This course examines the historical and applied application of visual art for publication and mass media. A series of practical assignments investigate a variety of sub-themes routinely practiced by illustrators such as advertising, editorial, scientific and book illustration. Prerequisites: ARTS 021 or ARTS 023.

ARTS 133. 3-D Studio I. 3 Units.

This course emphasizes intermediate skill building and conceptual development for three-dimensional art forms and it builds upon foundational skills of ceramics and sculpture, students explore contemporary trends, methods and materials applicable to 3-D studio practice. Prerequisite: ARTS 035 or ARTS 037.

ARTS 141. Photography II. 3 Units.

This intermediate course builds upon level one instruction in digital photography. This course introduces students to the photographic studio with practical instruction in studio lighting theory and techniques. The course also includes advanced camera and digital software applications for professional photographers who create photographs for editorial illustration, publication and exhibition. A laptop computer, preferably Mac, is required. Prerequisite: ARTS 045. (FILM)

ARTS 151. Printmaking II. 3 Units.

This intermediate level course emphasizes mastery of a simple process introduced in ARTS 059. Students are required to conduct historical, technical and aesthetic research to provide background and rigor to their investigation and completed work. Prerequisite: ARTS 059.

ARTS 171. Graphic Design III. 3 Units.

This is an advanced level course with intensive involvement in project development. Emphasis is placed upon research and selecting design processes, client communication and professional presentation of work. Macintosh laptop computer required. Lab fees apply. Prerequisites: ARTS 077 or ARTS 081 or permission of instructor.

ARTS 173. Graphic Design Seminar. 4 Units.

This is the first of two capstone courses that emphasizes research in the field of graphic design. It is an advanced level course in project and portfolio development. Prerequisite: ARTS 171 or permission of instructor. BFA majors in graphic design with junior standing.

ARTS 175. Senior Graphic Design Seminar. 4 Units.

This seminar is only open to BFA majors in graphic design with senior standing. This capstone course emphasizes research in the field of graphic design, and completion of a senior presentation and exhibition is required. Prerequisite: ARTS 173 or permission of instructor.

ARTS 181A. Interdisciplinary Studio. 3 Units.

ARTS 181A and ARTS 181B is an advanced level studio course that focuses on the development of research skills and interdisciplinary practice in the arts. Anchored in the tradition of rigorous studio practices, and enhanced by innovative approaches to creative thinking and research, interdisciplinary studio offers a context for practicing art in the contemporary/multidisciplinary arts environment. Interdisciplinary studies of drawing, painting, printmaking, photography, and three-dimensional media are supported through close guidance and mentorship by art and design faculty. Junior standing or permission of instructor.

ARTS 181B. Interdisciplinary Studio. 3 Units.

ARTS 181A and ARTS 181B is an advanced level studio course that focuses on the development of research skills and interdisciplinary practice in the arts. Anchored in the tradition of rigorous studio practices, and enhanced by innovative approaches to creative thinking and research, interdisciplinary studio offers a context for practicing art in the contemporary/multidisciplinary arts environment. Interdisciplinary studies of drawing, painting, printmaking, photography, and three-dimensional media are supported through close guidance and mentorship by art and design faculty. Junior standing or permission of instructor.

ARTS 183. Professional Practices in the Arts. 3 Units.

This course prepares Bachelor of Fine Arts degree candidates for graduate study and/or entry level to a professional art career. This course involves reading/discussions, fieldtrips and practical assignments that emphasize professional identify, self-promotion, in addition to legal and business practices for artists.

ARTS 185. Studio Arts Capstone. 4 Units.

This is the capstone course for the BFA in Studio Arts. This course involves intensive studio work in a chosen concentration and it includes research, critiques and fieldtrips that define the activities undertaken during this course. Emphasis is placed upon preparing a senior thesis and a senior exhibition. Prerequisites: ARTS 181 and ARTS 183.

ARTS 187. Internship. 2-4 Units.

The internship offers off-campus, non-classroom experience that applies to the studio arts in a professional context.

ARTS 189. Practicum. 1-4 Units.

The practicum offers on-campus, non-classroom experiences/projects that relate to discipline-specific graphic studio arts.

ARTS 189A. Practicum. 1-4 Units.

The practicum offers on-campus, non-classroom experiences/projects that relate to discipline-specific graphic studio arts.

ARTS 189B. Practicum. 1-4 Units.**ARTS 189C. Practicum. 1-4 Units.****ARTS 189D. Practicum. 1-4 Units.****ARTS 191. Independent Study. 2-4 Units.**

Enrolled by permission of the faculty only. Unless indicated, independent study courses may be counted only as electives. IS Contracts must be completed by student and faculty and approved by the department Chair. Prerequisites: Completion of foundations and upper division course work or permission of Department Chair.

ARTS 193. Special Topics. 2-4 Units.

ARTS 197. Undergraduate Research. 2-4 Units.

Undergraduate research in studio art is conducted in consultation with a faculty advisor. Student research focuses upon selected topics in the studio arts-related inquiries and advanced research in the field. Students who take this course must participate in the Pacific Undergraduate Research and Creativity Conference (PURC) held each spring. Permission from Department Chair or supervising faculty.

Biological Sciences

<http://www.pacific.edu/college/biology>

Phone: (209) 946-2181

Location: Biology Building, South Campus

Lisa Wrischnik, Co-Chair

Eric Thomas, Co-Chair and Director of Graduate Studies

Degrees Offered

Bachelor of Arts

Bachelor of Science

Master of Science (see Graduate Catalog for information)

Majors Offered

Biological Sciences (BA, BS, MS)

Biological Sciences with Departmental Honors (BS)

Biological Sciences for Teaching Credential Candidates (BS)

Minors Offered

Biological Sciences

Career Opportunities

The program of studies is sufficiently flexible to prepare students to pursue careers in cell and molecular biology, botany, microbiology, physiology or zoology as graduate students. Programs in the department also prepare students for professional fields such as dentistry, medicine, pharmacy, medical technology, nursing or physical therapy. No matter what career objective, the student is exposed to the major areas of the biological sciences, and thus may make an intelligent choice of specialization in post-baccalaureate study.

Preparation for admission to the undergraduate program should include high school work in algebra, geometry, trigonometry, biology, chemistry and physics.

Experiential Learning Opportunities

Many students participate in undergraduate research (BIOL 197). Over a period of one or more semesters these students closely interact with faculty on research projects and get hands-on experience with modern research instruments. Stipends are available to selected undergraduates for summer research. Awardees are given the title of Hornage Undergraduate Research Fellow. Students also are encouraged to participate in Co-op/Internship experiences at dental offices, medical clinics, Micke Grove Zoo and other work areas.

Major Field Competence, Sustainability

Demonstrate mastery of general content knowledge from several sub-disciplines, including evolution, ecology, genetics, and molecular biology.

Major Field Competence, Critical & Creative Thinking

Describe science as a way of knowing, including the role of the scientific method and hypothesis-driven research and discovery in the development of scientific knowledge.

Critical Thinking

Critically evaluate new knowledge, information, and claims in the discipline.

Major Field Competence, Critical & Creative Thinking; Ethical Reasoning

Demonstrate laboratory skills and integrate knowledge and skills to formulate relevant questions and design appropriate experiments to advance knowledge in the discipline.

Integrate knowledge of the discipline with broader knowledge gained through a liberal arts education to analyze the potential societal implications of new knowledge in the discipline.

Communication Skills

Demonstrate oral and written communication skills necessary to work effectively in the profession or to succeed in further study.

Collaboration & Leadership; Intercultural & Global Perspectives

Demonstrate collaborative and intercultural skills necessary to work effectively in the profession or to succeed in further study.

Bachelor of Arts Major in Biological Sciences

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in biological sciences.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Intersocial Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics *

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. **2)** * Fulfilled by courses required in the major.

Electives: 2 additional courses in Biological Sciences, Chemistry, or Geosciences* 8

Total Hours 68

- * 1. One of these electives must include a lab.
- 2. Biology electives above BIOL 061 excluding BIOL 089, BIOL 093 and BIOL 191.
- 3. Chemistry electives above CHEM 121, excluding CHEM 191 and CHEM 197.
- 4. GESC 191 and GESC 197 do not count towards these electives.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must take one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 66 units that include:

BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 101	Genetics	5
BIOL 175	Ecology	5
BIOL Electives (4 additional courses above BIOL 061, excluding BIOL 089, BIOL 093, BIOL 191. 3 courses must include a laboratory component)		16
CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
Select one of the following groups:		10
Group A		
PHYS 023	General Physics I	
PHYS 025	General Physics II	
Group B		
PHYS 053	Principles of Physics I	
PHYS 055	Principles of Physics II	
Math Electives - Select one of the following:		4
MATH 033	Elements of Calculus	
MATH 037	Introduction to Statistics and Probability	
MATH 041	Pre-calculus	
MATH 045	Introduction to Finite Mathematics and Calculus	
MATH 051	Calculus I	
MATH 053	Calculus II	

Bachelor of Science Major in Biological Sciences

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in biological sciences.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics *

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. **2)** * Fulfilled by courses required in the major.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

One course from each subdivision below:

V. Major Requirements

Students must complete a minimum of 76 units that include:

BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 101	Genetics	5
BIOL 175	Ecology	5
BIOL Electives (6 additional courses above BIOL 061 excluding BIOL 089 and BIOL 093. Two of the BIOL elective courses must include a laboratory component) *		24-27
CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
CHEM 121	Organic Chemistry	5
CHEM 123	Organic Chemistry	5
Select one of the following groups:		10
Group A		
PHYS 023	General Physics I	
PHYS 025	General Physics II	
Group B		
PHYS 053	Principles of Physics I	
PHYS 055	Principles of Physics II	
MATH Electives - Select one of the following:		4
MATH 033	Elements of Calculus	
MATH 037	Introduction to Statistics and Probability	
MATH 041	Pre-calculus	
MATH 045	Introduction to Finite Mathematics and Calculus	
MATH 051	Calculus I	
MATH 053	Calculus II	
Total Hours		78-81

- * 1. Up to 4 units of BIOL 191 or BIOL 197 may count as electives.
- 2. Students do not receive credit for both BIOL 071 and BIOL 111, nor do students receive credit for both BIOL 081 and BIOL 111.

Bachelor of Science Major in Biological Sciences with Departmental Honors

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 3.7 in order to earn the bachelor of science degree with a major in biological sciences with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics *

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. 2) * Fulfilled by courses required in the major.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Students must complete a minimum of 76 units that include:

BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 101	Genetics	5
BIOL 175	Ecology	5
BIOL 197	Undergraduate Research *	1-4
BIOL Electives (6 additional courses above BIOL 061 excluding BIOL 089 and BIOL 093. Four courses must include a laboratory component) **		24-27
CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
CHEM 121	Organic Chemistry	5
CHEM 123	Organic Chemistry	5

Select one of the following groups:	10
Group A	
PHYS 023	General Physics I
PHYS 025	General Physics II
Group B	
PHYS 053	Principles of Physics I
PHYS 055	Principles of Physics II
MATH Electives - Select one of the following:	4
MATH 033	Elements of Calculus
MATH 037	Introduction to Statistics and Probability
MATH 041	Pre-calculus
MATH 045	Introduction to Finite Mathematics and Calculus
MATH 051	Calculus I
MATH 053	Calculus II

Total Hours 79-85

- * 1. Complete a minimum of two semesters of BIOL 197.
- 2. Communicate results from a minimum of two semesters of BIOL 197 in a meeting poster, oral presentation or peer-reviewed publication.
- ** 1. 4 units of BIOL 191 or BIOL 197 may count as electives.
- 2. Students do not receive credit for both BIOL 071 and BIOL 111, nor do students receive credit for both BIOL 081 and BIOL 111.

Bachelor of Science Major in Biological Sciences for Teaching Credential Candidates

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major biological sciences for Teaching Credential Candidates.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior
IB. U.S. Studies
IC. Global Studies

Arts and Humanities

IIA. Language and Literature
IIB. Worldviews and Ethics
IIC. Visual and Performing Arts

Natural Sciences and Mathematics *

IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society
or a second IIIA Natural Sciences course

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 82 units that include:

BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 101	Genetics	5
BIOL 153	Cell Biology	4
BIOL 175	Ecology	5
BIOL 179	Evolution	4
CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
CHEM 121	Organic Chemistry	5
CHEM 123	Organic Chemistry	5
PHYS 023	General Physics I	5
PHYS 025	General Physics II	5
PHYS 041	Astronomy	4
MATH Electives (2 courses from MATH 033 or above)		8

Students must complete one Anatomy course from the following: 4-5

BIOL 071	Human Anatomy
BIOL 162	Comparative Vertebrate Anatomy
BIOL 165	Embryology and Development

Students must complete one Physiology course from the following: 4-5

BIOL 081	Human Physiology
BIOL 134	Comparative Physiology

One Botany course from the following: 4

BIOL 079	California Flora
BIOL 130	Plant Kingdom

One Zoology course from the following: * 4

BIOL 072	Vertebrate Biology
BIOL 074	Biology of Insects
BIOL 077	Marine Birds and Mammals
BIOL 185	Comparative Animal Behavior

GESC 051	Dynamic Planet	4
GESC 053	Earth and Life Through Time	4

- * 1. One course in statistics is recommended.
- 2. Credit is not given for both MATH 033 and MATH 051.
- 3. MATH 051 is a prerequisite for MATH 053.
- 4. PHYS 023 and PHYS 053 have specific math prerequisites that must be met.

Minor in Biological Sciences

Students must complete a minimum of 22 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in biological sciences.

Minor Requirements:

BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL Electives (See Note below)		12

Note: 1) 3 courses above BIOL 061 excluding, BIOL 089, BIOL 093, BIOL 191, and BIOL 197. 2) 3 of the 5 courses must be taken at Pacific.

Biological Sciences Courses

BIOL 011. Human Anatomy and Physiology. 4 Units.

A lecture and laboratory introduction to the structure and function of the various systems of the human body is the focus. This class is intended primarily for non-science majors; not open to biology majors. (GE3A)

BIOL 035. Environment: Concepts and Issues. 4 Units.

Principles of ecology as they bear on world environmental problems are introduced with an emphasis on biological aspects of world problems and on the interrelationships between culture and environment. Global dimension of population, resources, food, energy and environmental impact are considered. Course does not count toward a biology major. (ENST, GE3C)

BIOL 041. Introduction to Biology. 4 Units.

A lecture and laboratory introduce the concepts of biology. Physical structure, physiology, nutrition, reproduction, growth and behavior are examined from the perspective of adaptation and interaction with the environment. Human, animal and plant systems are covered. Recommended for non-majors. Course does not count toward a biology major. (ENST, GE3A)

BIOL 051. Principles of Biology. 5 Units.

A lecture and laboratory introduction to evolutionary biology and ecology. Preparation for continued studies in biological science. (ENST, GE3A)

BIOL 061. Principles of Biology. 5 Units.

This course is a lecture and laboratory introduction to cellular and molecular biology, cellular energetics, biochemistry, genetics and evolution. Preparation for continued studies in biological science. (ENST, GE3A)

BIOL 071. Human Anatomy. 5 Units.

This course is a study of the structure of the organ systems of humans. In addition to lecture, one three-hour laboratory per week is required. Credit will not be given if a student has taken BIOL 111. Prerequisites: BIOL 051 and BIOL 061.

BIOL 072. Vertebrate Biology. 4 Units.

Taxonomy, life history, ecology and evolutionary history of vertebrates are emphasized. Prerequisites: BIOL 051 and BIOL 061. (ENST)

BIOL 074. Biology of Insects. 4 Units.

A lecture and laboratory introduce a broad study of the structure and function of over 700,000 different species. It includes a study of their morphogenesis, reproduction, behavior and relation to humans. The laboratory work includes at least three field trips on Saturdays in addition to the preparation of 50-75 classified insects. Both anatomy and physiology of insects is covered in the two weekly laboratories. (ENST)

BIOL 076. Marine Biology. 4 Units.

General concepts of community ecology, taxonomy and phylogeny, anatomical and physiological adaptations of marine organisms, and their interaction with the physical environment are the main focus. The class emphasizes natural history and identification of marine organisms of the Central California intertidal and sub-tidal environment. Prerequisites: BIOL 051 and BIOL 061. (ENST, GE3A)

BIOL 077. Marine Birds and Mammals. 4 Units.

Ecology, behavior, economic importance and conservation of cetaceans, pinnipeds, otters, sirenians, seabirds and shorebirds are introduced. Physical and biological oceanography are considered as they relate to distribution and abundance of marine birds and mammals. This course is open to non-majors as well as majors. Junior standing. (ENST)

BIOL 079. California Flora. 4 Units.

Identification and classification of flowering plants, gymnosperms, ferns and fern allies as represented in Northern Calif. are studied. (ENST, GE3A)

BIOL 081. Human Physiology. 5 Units.

This course is a lecture- and laboratory-based review of the functions of the major organ systems of vertebrates with emphasis on the human body. Lab exercises demonstrate basic physiological processes in the human body and emphasize techniques of instrumental data acquisition and data presentation. Credit will not be given if a student has taken BIOL 111. Prerequisites: BIOL 061; CHEM 023, CHEM 025. Recommended: one semester of genetics.

BIOL 087. Internship. 1-4 Units.

BIOL 087A. Internship. 1-4 Units.

BIOL 089. Lab Assistant in Biology. 1-4 Units.

Students attend organizational meetings during which laboratory material is discussed and then students assist in the laboratory answering student questions, doing dissections, etc. Attendance at class lectures is recommended and students are expected to take lecture and laboratory examinations. Usually one laboratory meeting per week will earn two units credit; two laboratory meetings per week will earn four units credit. Grading is Pass/no credit only.

BIOL 093. Special Topics. 3 or 4 Units.

BIOL 101. Genetics. 5 Units.

Emphasis of study is heritable variations and their relation to structure, behavior and function of genetic material. This basic course is for students concentrating on biological sciences, medical sciences and liberal arts. In addition to lecture, one-three hour laboratory per week is required. Prerequisites: BIOL 051 and BIOL 061. Recommended: Sophomore standing.

BIOL 111. Anatomy and Physiology. 4 Units.

This lecture and laboratory course covers the structure and function of the major physiological systems of the human body, and it is intended primarily for students in the Dental Hygiene program. Students taking BIOL 111 do not receive credit for either BIOL 071 or BIOL 081. Prerequisites: BIOL 051 and BIOL 061.

BIOL 122. Principles of Immunology. 4 Units.

The fundamental properties of antigens and antibodies are covered with an emphasis on the theories of antibody production, tolerance, transplantation immunity, autoimmunity and tumor immunology. Prerequisites: BIOL 101 and CHEM 121.

BIOL 124. Cancer Biology. 4 Units.

The course examines the morphological and molecular events that accompany the changes of a normal mammalian cell into a cancer cell, with an emphasis on the major pathways that affect cell growth and division, cell communication, cell death and metastasis. Prerequisite: BIOL 101.

BIOL 126. Neurobiology. 4 Units.

This course focuses on the molecular and cell biology of neuronal function and development, and how neurons work together to retrieve and process information and respond accordingly, with thorough discussions of sensory and motor systems and a brief review of more complex brain functions, such as emotions, speech and language, and memory. Prerequisites: BIOL 051 and BIOL 061.

BIOL 128. Histology. 4 Units.

A study of the tissues which comprise the organs of the body is the focus. This course is limited to human tissues. Thin sections of organs will be studied and their structure related to function. Credit only given once for BIOL 128 or BIOL 129. Prerequisites: BIOL 051 and BIOL 061.

BIOL 129. Histology Online. 3 Units.

This is a non-lab, online version of BIOL 128. Credit is only given once for BIOL 128 or BIOL 129. Prerequisites: BIOL 051 and BIOL 061. Recommended: BIOL 101.

BIOL 130. Plant Kingdom. 4 Units.

Through lectures, laboratories and field trips, students are introduced to the morphology, reproduction biology and environmental requirements of all major groups of plants. Included are material bearing on the evolutionary relationships within and between each major group. Individual projects are required. Prerequisites: BIOL 051 and BIOL 061. (ENST)

BIOL 134. Comparative Physiology. 4 Units.

This course is a detailed review of organ function in diverse groups of organisms. Emphasis is on physiological adaptation to the environment. Prerequisites: BIOL 051 and BIOL 061.

BIOL 145. Microbiology. 5 Units.

The biology of microorganisms is studied with emphasis on viruses, bacteria, fungi and protozoa. In addition to lecture, one three-hour laboratory per week is required. Prerequisites: BIOL 051, BIOL 061; CHEM 025, CHEM 027.

BIOL 146. Industrial Microbiology. 4 Units.

An in-depth knowledge of the industrial applications of microorganisms. The course uses an understanding of microbial physiology and genetics to illustrate how these organisms are utilized to create commercial products ranging from medicines to food products. Prerequisite: BIOL 145.

BIOL 147. Medical Microbiology. 4 Units.

Medical microbiology covers a survey of microorganisms implicated in human disease; emphasis on characteristics and properties of microorganisms, chiefly bacteria and fungi which are responsible for pathogenesis. Laboratory includes methods of isolation, characterization, and identification of bacteria and fungi responsible for human disease. Prerequisites: BIOL 145 and CHEM 121 with a C- or higher or permission of instructor.

BIOL 151. Parasitology. 4 Units.

Principles of parasitism as well as biology of animal parasites with special emphasis on the protozoa, platyhelminths, nematodes, acanthocephala and arthropods are studied. Techniques of recovery of parasites from various vertebrate hosts are introduced including staining, mounting and identification. Prerequisites: BIOL 051, BIOL 061, BIOL 101. (ENST)

BIOL 153. Cell Biology. 4 Units.

Cell Biology studies cell structure and function with emphasis on the dynamic nature of the cellular environment and the methodologies of cell biology. The experimental basis of our present understanding of the cell is also stressed. Prerequisites: BIOL 051, BIOL 061, BIOL 101, CHEM 025 and CHEM 027. Recommended: Organic chemistry.

BIOL 155. Biological Electron Microscopy. 4 Units.

The process and techniques involved in examining biological specimens with the transmission electron microscope will be covered in detail. When competence in specimen processing is achieved, each student performs an original experiment as a term project. Prerequisites: BIOL 051, BIOL 061, CHEM 025, CHEM 027. Recommended: BIOL 101.

BIOL 157. Topics in Biomedical Research. 4 Units.

Basic research in the areas of cell biology, biochemistry, molecular biology and physiology are examined in their applications to current problems in medicine. Topics covered include genetic engineering, gene therapy, transplants and cloning. Prerequisites: BIOL 051, BIOL 061, BIOL 101; CHEM 121.

BIOL 158. Computerized Data Acquisition. 4 Units.

This lecture and laboratory course introduces students to experimental design and protocol. Students are trained in the programming and use of the computer data acquisition program LabVIEW, then apply the program to an intensive, team-based research project studying amphibian reproductive behavior. The class ends with a symposium-style presentation of each team's experiments and results. Prerequisites: BIOL 051 and BIOL 061.

BIOL 159. Molecular Biological Techniques. 4 Units.

This advanced laboratory course in the methods of molecular biology, has an emphasis on modern techniques and their application in the laboratory. Topics covered include gene cloning, protein expression systems, nucleic acid isolation and purification, and basic methods of bioinformatics. Prerequisites: BIOL 101 and CHEM 121 with a "C-" or higher.

BIOL 162. Comparative Vertebrate Anatomy. 5 Units.

The evolution of vertebrate organ systems as revealed by comparative morphology are emphasized. Prerequisites: BIOL 051 and BIOL 061. Recommended: BIOL 101.

BIOL 165. Embryology and Development. 4 Units.

This laboratory course focuses on the events that occur as a single-celled embryo develops into an adult organism. Developmental processes are studied at the descriptive and mechanistic levels, leading to an understanding of how and why complex structures are produced. Major emphases is placed on animal embryology (both vertebrate and invertebrate) leading to the production to tissues, organs and organ systems. Later developmental processes also are studied, as well as sex determination. Additional topics include cancer and evolution as seen in the context of development. Prerequisites: BIOL 051, BIOL 061, BIOL 101.

BIOL 169. Elements of Biochemistry. 4 Units.

The field of biochemistry is the focus in this non-lab course that is designed as a preparation for students who will attend a Pharmacy or Dental School. Topics include nucleic acid and protein structure and synthesis, intermediary metabolism, enzyme action, and synthesis and degradation of important biological molecules. The relationship of biochemistry, nutrition, and human disease is discussed. This course does not count for the Biochemistry major. Prerequisites: BIOL 051, BIOL 061, BIOL 101, CHEM 123 with a "C-" or higher.

BIOL 171. Methods in Field Biology. 4 Units.

A course focused on methods of biological investigation with emphasis on modern field sampling techniques and instrumentation. Students are trained in experimental design and quantitative data analysis used to address a range of biological questions. Prerequisites: BIOL 051 and BIOL 061 with a "D" or better. (ENST)

BIOL 175. Ecology. 5 Units.

The structure and dynamics of populations, biotic communities and ecosystems, is emphasized with particular focus upon relationships of organisms to their environments. Prerequisites: BIOL 051 and BIOL 061. (ENST)

BIOL 176. Ecology and Conservation Biology. 4 Units.

The principles of ecology are introduced with attention to consider threats and disruptions to ecological systems from the level of local populations through ecosystems, landscapes, and global processes. Ecological principles are used to help understand these systems, to make predictions for the future or for other systems, and to evaluate possible solutions. The class considers the importance of economic and demographic forces in causing conservation problems and in shaping conservation strategies, and students practice planning conservation areas. Prerequisite: BIOL 051. (ENST)

BIOL 177. Natural Medicines. 4 Units.

A lab course that surveys drugs found in nature, in particular their history, uses, and mode of action, and is designed as a preparation for students who will attend a Pharmacy or Dental School. Topics include history of medicine, survey of natural compounds relevant to pharmacology, and survey of naturally-derived drugs used to treat cancer, heart disease, and neurological disorders. Prerequisites: BIOL 051, BIOL 061, BIOL 101, CHEM 123 with a "C-" or higher.

BIOL 179. Evolution. 4 Units.

Lectures and readings on the mechanisms of evolutionary change in organisms are the focus. Prerequisites: BIOL 051 and BIOL 061. Recommended: BIOL 101.

BIOL 182. Medical Endocrinology. 4 Units.

This lecture and laboratory course presents the fundamentals and current topics in human endocrinology. The subject is examined from a medical and clinical perspective, including "virtual" patients. Prerequisites: BIOL 051, BIOL 061, CHEM 025 and CHEM 027. Recommended: BIOL 071 or BIOL 081.

BIOL 185. Comparative Animal Behavior. 4 Units.

The ecology and evolution of animal behavior are discussed. Laboratory involves a quantitative study of animal behavior at Micke Grove Zoo. Prerequisites: BIOL 051 and BIOL 061. Junior standing in Biological Sciences or Psychology.

BIOL 186. Hormones and Behavior. 4 Units.

This lecture/discussion course focuses on the bidirectional interactions between an animal's behaviors and its endocrine system. Topics include: overview of the vertebrate endocrine system, courtship and sex behaviors, parenting behavior, pheromonal communication, aggression and other social behaviors, learning and memory, hunger, stress, and biological rhythms. Prerequisites: BIOL 051 and BIOL 061.

BIOL 191. Independent Study. 2-4 Units.**BIOL 197. Undergraduate Research. 1-4 Units.**

Chemistry

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Chemistry.html>

Phone: (209) 946-2271

Location: Classroom Building, South Campus

Jianhua Ren, Co-Chair (jren@pacific.edu)

Jerry Tsai, Co-Chair (jtsai@pacific.edu)

Degrees Offered

Bachelor of Arts

Bachelor of Science

Majors Offered

Chemistry (BA, BS)

Chemistry with Departmental Honors (BS)

Biochemistry (BS)

Biochemistry with Departmental Honors (BS)

Pharmaceutical/Chemical Science (MS, PhD) (see the Stockton Graduate Catalog)

Minors Offered

Chemistry

Objective

An understanding and appreciation of underlying chemistry is becoming increasingly important for our lives and the future of our small planet. The emphasis in all chemistry classes is to provide a thorough understanding of basic chemical concepts and to develop the competence in how to apply these concepts in a logical fashion to solve real world problems. Students can choose among a variety of degree programs designed to meet a range of career goals. The Chemistry Department has a long history of success in placing students into excellent medical, dental, pharmacy and graduate school programs. Students are also well prepared for rewarding careers in industry, government service and private business. The Bachelor of Science Degrees in Chemistry are certified by the American Chemical Society (ACS). The BS Biochemistry program follows national guidelines.

The Bachelor of Arts degree is designed to give students a broad understanding of chemistry for careers in medicine, dentistry and teaching.

The more rigorous Bachelor of Science degree prepares students for a variety of options including advanced degree studies in chemistry and biochemistry, professional schools of medicine and dentistry, and careers in the chemical industry.

Virtually all Bachelor of Science and many Bachelor of Arts candidates choose undergraduate research as one of their chemistry electives. In this course the student has the opportunity to use the modern instrumentation available in the department and to work closely with faculty and graduate students on an original research project. The graduate students are typically conducting independent research projects as part of a masters or doctoral program.

I. Critical Thinking/Analytical Skills

A. Identify and apply relevant fundamental concepts to solve a variety of problems of different complexity.

B. Analyze theories and methods for both strengths and weaknesses.

C. Respond to analysis of one's own work, theories and/or methods.

II. Laboratory and Research Skills

A. Basic analytical and technical skills necessary to work effectively in fields of chemistry.

B. Perform accurate quantitative measurements using modern chemical instrumentation. Interpret experimental results, perform calculations with these results, and draw reasonable scientific conclusions.

C. Synthesize, separate, and characterize compounds using modern methodologies and techniques.

D. Knowledge and understanding of safety: chemical regulations, laboratory safety, best/safe practices and chemical disposal.

III. Quantitative Reasoning Skills

A. Accurately collect and interpret numerical data.

B. Solve problems competently using mathematical methods such as extrapolation, approximation, and limiting behavior, as well as understanding of concepts such as precision, accuracy, estimation, and statistical validity.

C. Proficiency in the scientific method.

IV. Knowledge of Chemical Facts and Information

A. A working knowledge of the chemical principles appropriate for a degree in chemistry: thermodynamics, equilibrium, kinetics, quantum mechanics, structure of materials, reactivities, and synthesis.

B. A broad set of chemical factual knowledge with respect to the properties of substances, molecules, atoms, and elements.

V. Computer, Library and Information Skills

A. Make effective use of the library and other information resources in chemistry. Understand the primary literature, tabulated data, and secondary sources (such as the Internet).

B. Make effective use of chemical software applications including symbolic mathematics, chemical word processing, and data presentation/ interpretation software.

C. Describe, perform, and interpret basic molecular modeling and quantum chemical calculations using common software packages.

VI. Oral and Written Communication Skills

A. Skill in technical writing and oral presentations, including electronic slideshows.

B. Communicate chemical research and results in both oral and written formats to both technical and non-technical audiences.

Bachelor of Arts Major in Chemistry

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in chemistry.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics *

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Science course

Note: 1) No more than 2 courses from a discipline may be applied to meet the requirements of the general education program. 2) * Fulfilled by courses required in the major

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 54 units and 12 courses that include:

CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
CHEM 121	Organic Chemistry	5
CHEM 123	Organic Chemistry	5
CHEM 141	Analytical Chemistry	4
One of the following courses:		4

CHEM 159	Biophysical Chemistry	
CHEM 161	Physical Chemistry -Thermodynamics and Kinetics	
CHEM 163	Theoretical Physical Chemistry	
CHEM 165	Physical Chemistry III-Kinetics	
CHEM Electives (2 additional courses that exclude CHEM 132 and CHEM 134)		8
One of the following groups:		10
Group A		
PHYS 023	General Physics I	
PHYS 025	General Physics II	
Group B		
PHYS 053	Principles of Physics I	
PHYS 055	Principles of Physics II	
MATH 051	Calculus I	4
MATH 053	Calculus II	4

Note: 1) At least 4 of your major required courses must be taken at Pacific.

Bachelor of Science Major in Chemistry

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in chemistry.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior
IB. U.S. Studies
IC. Global Studies

Arts and Humanities

IIA. Language and Literature
IIB. Worldviews and Ethics
IIC. Visual and Performing Arts

Natural Sciences and Mathematics *

IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic
IIIC. Science, Technology and Society
or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. **2)** * Fulfilled by courses required in the major.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.).

V. Major Requirements

Minimum 74 units and 17 courses that include:

CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
CHEM 121	Organic Chemistry	5
CHEM 123	Organic Chemistry	5
CHEM 141	Analytical Chemistry	4
CHEM 143	Instrumental Analysis Lab	4
CHEM 151	Biochemistry I	4
CHEM 161	Physical Chemistry -Thermodynamics and Kinetics	4
CHEM 171	Advanced Inorganic Chemistry	4
Two of the following courses: *		8

CHEM 153	Biochemistry II	
CHEM 158	Nucleic Acid Chemistry	
CHEM 163	Theoretical Physical Chemistry	
CHEM 167	Experimental Physical Chemistry	

Select one of the following: 4

CHEM 157	Biochemistry Laboratory	
CHEM 197	Independent Research	

PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5
MATH 051	Calculus I	4
MATH 053	Calculus II	4

Select one of the following: ** 4

MATH 055	Calculus III	
MATH 057	Applied Differential Equations I: ODEs	
MATH 075	Introduction to Linear Algebra	

Note: 1) At least 4 of your major required courses must be taken at Pacific. **2)** Students are strongly recommended to engage in undergraduate research as an elective.

* One of the courses selected must be CHEM 163 or CHEM 167.

** Any additional chemistry courses above CHEM 123, excluding CHEM 132, CHEM 134, and CHEM 195.

Bachelor of Science Major in Chemistry with Departmental Honors

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 3.30 in order

to earn the bachelor of science degree with a major in chemistry with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics *

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. **2)** * Fulfilled by courses required in the major.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.).

V. Major Requirements

Minimum 74 units and 19 courses that include:

CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
CHEM 121	Organic Chemistry	5

CHEM 123	Organic Chemistry	5
CHEM 141	Analytical Chemistry	4
CHEM 143	Instrumental Analysis Lab	4
CHEM 151	Biochemistry I	4
CHEM 161	Physical Chemistry -Thermodynamics and Kinetics	4
CHEM 171	Advanced Inorganic Chemistry	4
Select two of the following: *		7
CHEM 153	Biochemistry II	
CHEM 158	Nucleic Acid Chemistry	
CHEM 163	Theoretical Physical Chemistry	
CHEM 167	Experimental Physical Chemistry	
PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5
MATH 051	Calculus I	4
MATH 053	Calculus II	4
Select one of the following or any additional chemistry course above CHEM 123: **		4
MATH 055	Calculus III	
MATH 057	Applied Differential Equations I: ODEs	
MATH 145	Applied Linear Algebra	
CHEM 195	Chemistry Department Seminars	1
CHEM 197	Independent Research ***	1-4

* One of the courses selected must be CHEM 163 or CHEM 167.

** Any additional chemistry course above CHEM 123, excluding CHEM 132, CHEM 134, and CHEM 195.

*** Students must complete at least two semesters of CHEM 197. A written research thesis must be submitted, which will be read by the academic advisor and one other Chemistry faculty member. The thesis must be presented to the Department and defended.

Note: 1) At least 4 of your major required courses must be taken at Pacific. **2)** Students are strongly recommended to engage in undergraduate research as an elective.

Bachelor of Science Major in Biochemistry

Students must complete a minimum of 120 credits with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in biochemistry.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature
IIB. Worldviews and Ethics
IIC. Visual and Performing Arts
Natural Sciences and Mathematics *
IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic
IIIC. Science, Technology and Society
or a second IIIA Natural Science course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. **2)** * Fulfilled by courses required in the major.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

The student must demonstrate competence in:

Writing
Quantitative analysis

IV. Breadth Requirement

The student must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 80 units and 18 courses that includes:

CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
CHEM 121	Organic Chemistry	5
CHEM 123	Organic Chemistry	5
CHEM 151	Biochemistry I	4
CHEM 153	Biochemistry II	3
CHEM 157	Biochemistry Laboratory	4
BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
Select one of the following groups:		10
Group A		
PHYS 023	General Physics I	
PHYS 025	General Physics II	
Group B		
PHYS 053	Principles of Physics I	
PHYS 055	Principles of Physics II	

Select one of the following tracks:

Conventional Track		
CHEM Electives (3 course above CHEM 123 excluding CHEM 132, CHEM 134, CHEM 151, CHEM 153, CHEM 157, and CHEM 195)		12
BIOL Electives: Select two of the following:		8
BIOL 071	Human Anatomy	

BIOL 081	Human Physiology	
BIOL 101	Genetics	
BIOL 122	Principles of Immunology	
BIOL 124	Cancer Biology	
BIOL 126	Neurobiology	
BIOL 145	Microbiology	
BIOL 153	Cell Biology	

Math Courses: Select two of the following: 8

MATH 037	Introduction to Statistics and Probability	
MATH 041	Pre-calculus	
MATH 051	Calculus I	
MATH 053	Calculus II	

ACS Accredited Track

CHEM 141	Analytical Chemistry	4
CHEM 161	Physical Chemistry -Thermodynamics and Kinetics	4
CHEM 171	Advanced Inorganic Chemistry	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
Select one of the following:		4

CHEM 167	Experimental Physical Chemistry	
CHEM 197	Independent Research	

Select one of the following: 5

BIOL 101	Genetics	
BIOL 145	Microbiology	
BIOL 153	Cell Biology	

Note: 1) At least 4 of your major required courses must be taken at Pacific. **2)** In addition, students are encouraged to complete at least one other course in biology and at least one semester of research.

Bachelor of Science Major in Biochemistry with Departmental Honors

Students must complete a minimum of 120 credits with a Pacific cumulative and major/program grade point average of 3.30 in order to earn the bachelor of science degree with a major in biochemistry with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior
IB. U.S. Studies
IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics *

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Science course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. **2)** * Fulfilled by courses required in the major.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

The student must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

The student must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 80 units and 20 courses that includes:

CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
CHEM 121	Organic Chemistry	5
CHEM 123	Organic Chemistry	5
CHEM 151	Biochemistry I	4
CHEM 153	Biochemistry II	3
CHEM 157	Biochemistry Laboratory	4
BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5

Select one of the following groups: 10

Group A

PHYS 023 General Physics I

PHYS 025 General Physics II

Group B

PHYS 053 Principles of Physics I

PHYS 055 Principles of Physics II

CHEM 195 Chemistry Department Seminars 1

CHEM 197 Independent Research * 1-4

Select one of the following tracks:

Conventional Track

CHEM Electives (3 course above CHEM 123 excluding CHEM 132, CHEM 134, CHEM 151, CHEM 153, CHEM 157, and CHEM 195) 12

BIOL Electives: Select two of the following: 8

BIOL 071 Human Anatomy

BIOL 081 Human Physiology

BIOL 101 Genetics

BIOL 122 Principles of Immunology

BIOL 124 Cancer Biology

BIOL 126 Neurobiology

BIOL 145 Microbiology

BIOL 153 Cell Biology

MATH Courses: Select two of the following: 8

MATH 037 Introduction to Statistics and Probability

MATH 041 Pre-calculus

MATH 051 Calculus I

MATH 053 Calculus II

ACS Accredited Track

CHEM 141 Analytical Chemistry 4

CHEM 161 Physical Chemistry -Thermodynamics and Kinetics 4

CHEM 171 Advanced Inorganic Chemistry 4

MATH 051 Calculus I 4

MATH 053 Calculus II 4

Select one of the following: 4

CHEM 167 Experimental Physical Chemistry

CHEM 197 Independent Research

BIOL Elective: Select one of the following: 5

BIOL 101 Genetics

BIOL 145 Microbiology

BIOL 153 Cell Biology

* Students must complete at least two semesters of CHEM 197. A written research thesis must be submitted, which will be read by the academic advisor and one other Chemistry faculty member. The thesis must be presented to the Department and defended.

Note: 1) At least 4 of your major required courses must be taken at Pacific. **2)** In addition, students are encouraged to complete at least one other course in biology and at least one semester of research.

Minor in Chemistry

Students must complete a minimum of 23 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn the minor in chemistry.

Minor Requirements

CHEM 025 General Chemistry 5

CHEM 027 General Chemistry 5

CHEM 121 Organic Chemistry 5

Select two of the following: 8-9

CHEM 123 Organic Chemistry

CHEM 141 Analytical Chemistry

CHEM 151 Biochemistry I

CHEM 159 Biophysical Chemistry

CHEM 161 Physical Chemistry -Thermodynamics and Kinetics

CHEM 163 Theoretical Physical Chemistry

CHEM 165 Physical Chemistry III-Kinetics

Note: 1) At least 2 courses must be taken at Pacific.

Chemistry Courses

CHEM 023. Elements of Chemistry. 4 Units.

This course is designed for general interest in physical science and for preparation for further study in chemistry. Three class periods, one three-hour laboratory period a week, and enrollment in the Chemistry Workshop are required. (ENST, GE3A)

CHEM 024. Fundamentals of Chem. 4 Units.

This course covers general chemistry especially tailored for engineers and earth scientists. Important principles, theories and concepts include: stoichiometry, atomic and molecular structure, equilibrium, gases, thermodynamics, kinetic, electrochemistry and nuclear chemistry. Three lecture periods and one three-hour lab are required. Prerequisites: High school algebra or the equivalent, one year of high school chemistry with a "B" or better, or appropriate score on the Pacific Diagnostic Chemistry test or CHEM 023. (ENST, GE3A)

CHEM 025. General Chemistry. 5 Units.

The important general principles, theories and concepts of chemistry are studied, including fundamentals of chemistry and equilibrium. Three class periods, two three-hour laboratory periods a week, and enrollment in the Chemistry Workshop are required. Prerequisite: high school algebra or the equivalent. High school chemistry is highly recommended. CHEM 023 with a "C-" or better, Chemistry Subject Test, or appropriate score on Pacific Diagnostic Chemistry test. (ENST, GE3A)

CHEM 027. General Chemistry. 5 Units.

More important general principles, theories, and concepts of chemistry are studied including modern applications of quantum mechanics, bonding, chemical kinetics, liquids, solids, and properties of solutions. Additional special topics include coordination compounds, nuclear chemistry, organic chemistry and biochemistry. Three class periods, two three-hour laboratory periods a week, and enrollment in the Chemistry Workshop are required. Prerequisite: At least one year of high school chemistry is highly recommended. CHEM 025 with a "C-" or better, Chemistry Subject Test, or appropriate score on Pacific Diagnostic Chemistry test. (ENST, GE3A)

CHEM 033. Elements of Organic Chemistry. 3 Units.

This is an introductory course for students who do not major in the chemistry or biological sciences, but whose main interest - dental hygiene, medical technology, nursing, nutrition, pharmacy technician, and more - requires some knowledge of organic chemistry. The course provides familiarity with nomenclature and functional groups with special emphasis on practical applications of organic chemistry to everyday life and to biological processes. Does not count towards a major in Chemistry or Biological Sciences. Course is required for Dental Hygiene Program. Prerequisites: CHEM 025 and CHEM 027 with a "C-" or better.

CHEM 035. Organic Chemistry Primer. 3 Units.

This course is designed to prepare students for a regular one year course in Organic Chemistry. It links and applies the concepts learned in General Chemistry to organic systems, provides familiarity with Organic Chemistry nomenclature and functional groups, emphasizes pattern recognition and introduces basic elements of reaction mechanisms. The course fulfills the Organic Chemistry requirements of the Dental Hygiene program. ONLINE. Prerequisite: CHEM 027 with a "C-" or better.

CHEM 093. Special Topics. 3 or 4 Units.

CHEM 121. Organic Chemistry. 5 Units.

An Introduction to the fundamental principles of organic chemistry including molecular structure, chemical bonding, functional groups, nomenclature, stereochemistry, basic organic reactions, and modern spectroscopy for structural characterization. Three lecture periods and two three-hour laboratory periods per week are required. Prerequisites: CHEM 025 and CHEM 027 with a "C-" or better.

CHEM 123. Organic Chemistry. 5 Units.

This course is a continuation of CHEM 121 with an emphasis on organic synthesis and mechanisms. The reactions of the aromatics, aldehydes, ketones, amines, carboxylic acids and their derivatives, and carbohydrates are covered. The course also touches on polymers and biological molecules including amino acids, proteins, and nucleic acids. Three lecture periods and two three-hour laboratory periods per week and are required. Prerequisite: CHEM 121 with a "C-" or better.

CHEM 132. Teaching and Learning Chemistry. 2 Units.

Students are prepared for participation in peer-led team-learning (PLTL) models of instruction in this course and it provides the opportunity for the students to become student leaders. In the PLTL, or General Chemistry Workshops, a small group of students get together under the guidance of the trained student leaders and work through a set of challenging problems prepared by the instructor of the course. The main idea is for all the students in the group to work together and gain experience and confidence solving challenging problems as a group. The Workshop provides an active teaching and learning experience. This course can be taken multiple times. Prerequisites: CHEM 025 and CHEM 027 with a "B" or better and permission of the instructor.

CHEM 134. Teaching and Learning Organic Chemistry. 2 Units.

Students are introduced to the learning and leadership model, Peer-Led Team Learning (PLTL). The student will gain hands-on experience in leading small discussion groups in organic chemistry. Instructor-covered topics in organic chemistry include specific instructions regarding the workshop lessons, strategies in guided problem solving for the groups, and review of organic chemistry materials. Instructor-covered topics in the didactic portion of the course include, but are not limited to, practical information (understanding motivation, managing time, dealing with dominating students, learning styles, group dynamics, study skills, helping students improve critical thinking, develop logical reasoning, and prepare for tests), and a foundation in learning theory. Prerequisites: CHEM 025 and CHEM 027 with "C-" or better, CHEM 121 and CHEM 123 with "B" or better and permission of instructor.

CHEM 141. Analytical Chemistry. 4 Units.

The roots of analytical chemistry and the principles used in modern instruments come from traditional techniques. These techniques include gravimetry, acid-base, complexometric, and redox titrations form the backbone of the course, which covers most major areas of modern quantitative analysis. The theory behind the techniques is covered through many numerical examples and their applications in environmental and biochemical analyses are emphasized. Standard procedures used in analytical laboratories are introduced, including error reporting, statistics, and quality assurance. Prerequisites: CHEM 025 and CHEM 027 or GEOS 142 with a "C-" or better. (ENST)

CHEM 143. Instrumental Analysis Lab. 4 Units.

Advanced analytical methodology involving electronic instrumentation is offered with emphasis on practical application and "hands-on" experience. The theory of instrumental operation is covered. Examples from modern spectroscopy, mass spectrometry, NMR, chromatography and other methods of analysis are included. Prerequisite: CHEM 141 with a "C-" or better or permission of the instructor.

CHEM 151. Biochemistry I. 4 Units.

This is the first semester of a 2 semester survey of biochemistry. The fundamental building blocks of biochemical systems are introduced covering amino acids and proteins (enzymatic & structural), nucleic acids, lipids and membranes, and carbohydrates. Particular topics of oxygen transport, enzyme kinetics, DNA replication, RNA expression, and protein expression are gone over in detail. Prerequisites: CHEM 121 and CHEM 123; CHEM 159 or CHEM 161 all with a "C-" or better; or permission of instructor.

CHEM 153. Biochemistry II. 3 Units.

As the second semester in this biochemistry series, the detailed biochemical mechanisms of the major metabolic pathways are covered. These pathways include glycolysis, gluconeogenesis, citric acid cycle, electron transport/oxidative phosphorylation, photosynthesis/Calvin cycle, lipid metabolism/fatty acid catabolism, and the synthesis/degradation of amino and nucleic acids. Discussion centers on the enzymatic mechanisms, energy, reduction/oxidation, control/regulation, and integration of these pathways. Prerequisite: CHEM 151 with a "C-" or better or permission of instructor.

CHEM 157. Biochemistry Laboratory. 4 Units.

Standard techniques used in Biochemistry. Exercises focus on the expression, mutation, and purification of a protein target and involves the following techniques: site-directed mutagenesis, column chromatography, electrophoresis, nucleic acid isolation and manipulation/use of relevant databases. Prerequisite: CHEM 151 or BIOL 169 with a "C-" or better; or permission of instructor.

CHEM 158. Nucleic Acid Chemistry. 4 Units.

This course surveys fundamental and advanced knowledge and current biotechnological applications in nucleic acid chemistry. Students completing this course will be able to improve critical thinking skills, oral communication, and technical writing skills. Topics related to structures of DNA and RNA, synthesis of DNA using an automated method, small molecule and nucleic acid interactions, DNA damage and repair, representative anticancer drugs, and nucleic acids used in real-life applications are discussed. Prerequisites: CHEM 121 and CHEM 123 with a grade of C- or better or instructor approval.

CHEM 159. Biophysical Chemistry. 4 Units.

This course applies the approaches and concepts of physical chemistry to describe the reactions and phenomena in biological systems. The principles of thermodynamics, kinetics, spectroscopy and transport phenomena are covered. While this is not a mathematic intensive course, the concepts require a basic knowledge of calculus. Prerequisites: MATH 051, CHEM 025, CHEM 027, PHYS 055 all with a "C-" or better or permission of instructor.

CHEM 161. Physical Chemistry -Thermodynamics and Kinetics. 4 Units.

A classical course on equilibrium thermodynamics and kinetics, including the laws of thermodynamics, the Gibbs equations, the phase rule, solutions, chemical reactions, non-ideal systems, multi-component phase equilibrium, equilibrium electrochemistry, kinetics, molecular dynamics and transport properties. Three class periods a week are required. Prerequisites: CHEM 027, MATH 053, PHYS 053 all with a "C-" or better, or permission of instructor. Students may not receive credit for both CHEM 159 and CHEM 161.

CHEM 163. Theoretical Physical Chemistry. 4 Units.

This course covers the principles of quantum theory, atomic structure and spectra, bonding, molecular spectroscopy, the foundations of statistical mechanics, the use of partition functions, the connection between statistical ensembles and thermodynamic potentials, and statistical models of gases, solids and liquids. This 4-unit course requires three class 1-hour periods and one 3-hour laboratory each week, accompanied by substantial out-of-class exercises. Prerequisites: CHEM 161 or CHEM 159, MATH 055, and PHYS 053, all with a C- or better, or permission of the instructor.

CHEM 165. Physical Chemistry III-Kinetics. 4 Units.

The fundamental principles of Chemical Kinetics are introduced in this course which covers: kinetic molecular theory of gases, rates of chemical reactions, rate laws, collision theory and chemical dynamics. Selected applications include photochemistry, catalysis, enzyme kinetics, pharmacodynamics, electrochemical systems, transport properties, viscosity, diffusion, and sedimentation. Prerequisites: CHEM 025, CHEM 027, MATH 053 or MATH 055, PHYS 053 or PHYS 055 or permission of instructor.

CHEM 167. Experimental Physical Chemistry. 4 Units.

This course introduces the principles and practice of physical chemical measurements. Techniques used in the design and construction of apparatus are discussed in lectures, and practice is provided through lab exercises and experiments. Subjects covered include kinetic theory of gases, reaction kinetics, thermodynamics, thermochemistry, and various flavors of spectroscopy. Research orientation is provided through the preparation of article manuscripts and oral presentations of results. Error analysis and statistical treatment of experimental data are emphasized. Prerequisite: CHEM 159 or CHEM 161 with a "C-" or better.

CHEM 171. Advanced Inorganic Chemistry. 4 Units.

This course includes: atomic structure, periodicity, covalent bonding theory, molecular geometry and symmetry, molecular orbital theory and its applications. Also covers coordination and organometallic chemistry, ligand field theory, spectroscopy, structure, reaction mechanisms, introduction to bioinorganic chemistry and metals in medicine. Two class periods and four hours of laboratory per week are required. Prerequisite: CHEM 163 with a "C-" or better or permission of the instructor.

CHEM 181. Intro to Molecular Simulation. 4 Units.

This course enables chemistry and other science students to utilize computational tools for molecular simulation. Students who complete this class are able to understand the theory behind molecular dynamics and force-fields. In addition, students construct and execute molecular simulations using standard tools such as CHARMM, NAMD, VMD and GAUSSIAN. Students then demonstrate an ability to analyze and present the data obtained from such simulations. Prerequisites: CHEM 025 and CHEM 027 with a grade of "C-" or better and permission of instructor.

CHEM 191. Independent Study. 2-4 Units.**CHEM 193. Special Topics. 4 Units.****CHEM 195. Chemistry Department Seminars. 1 Unit.**

The Department hosts a series of research seminars in which internationally recognized scientists present their latest research to an audience of Chemistry Faculty, graduate students, and Chemistry/Biochemistry undergraduate students. The selection of the speakers and the talks is designed to display a cross-section of current research trends, with talks representing each significant sub-discipline within Chemistry. Restriction on registration: Honors Students Only. Prerequisite: Permission of instructor.

CHEM 197. Independent Research. 1-4 Units.

Prerequisite: CHEM 025 with a "C-" or better. (ENST)

CHEM 197D. Independent Research. 1-4 Units.**CHEM 197E. Independent Research. 1-4 Units.****CHEM 197F. Independent Research. 1-4 Units.****CHEM 197G. Independent Research. 1-4 Units.****CHEM 197H. Independent Research. 2-4 Units.**

Communication

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Communication.html>

Phone: (209) 946-2505
Location: Psychology/Communication Building
Teresa G. Bergman, Chair

Degrees Offered

Bachelor of Arts

Master of Arts (see Graduate Catalog for information)

Majors Offered

Communication

Minors Offered

Communication

Mission

The mission of the Department of Communication is to prepare students in the strategic use of communication for the public good as leaders in their local and global communities. Students develop a better understanding of communication theory and research methodologies as well as their proficiency in oral, written and mediated communication.

Career Opportunities

Coursework in the Department of Communication provides preparation for careers in public relations, broadcasting, journalism, media management, teaching, speech writing, law, labor relations, personnel development, international relations, and many other professional areas.

Communication Major

The major is designed to encompass a balance of communication theory and application courses. Fundamental skill-building courses are the foundation of the major program, so that students work toward the improvement of their communication competencies, while increasing their knowledge and experience in preparation for communication professions.

Experiential Learning Opportunities

Pacific Speech and Debate Society. For over seven decades, Pacific has competed with distinction in intercollegiate speech and debate.

The Pacific teams regularly compete on the regional, national and international level, and have compiled enviable records. The Communication Department offers forensics scholarships to students who have demonstrated a high level of performance proficiency and require financial assistance.

Broadcasting. *Tiger Radio* is the student-operated, fully licensed, non-commercial webcast radio station on campus. *Pacific Tiger Broadcasting* is the video/television production operations division of *Tiger Radio*.

Working for either station offers communication students experience in programming, hosting/announcing, reporting, producing and directing, advertising/sales, and social media brand management.

The Pacifican. *The Pacifican* is a student-managed independent weekly newspaper. This publication serves as a laboratory for those interested in pursuing careers in journalism.

PRSSA. The University of the Pacific boasts a chapter of the Public Relations Student Society of America (PRSSA), founded in 1980. Serious public relations students meet monthly to hear professionals, invited from San Francisco and other major market areas, to discuss contemporary public relations topics. Members also form teams, to enter competition, and attend the national PRSSA conference. PACIFIC

PRSSA teams have distinguished themselves over the years by placing in national competition.

Internships and Practica

A Communication major is required to complete an internship or practicum. The Department believes that that these work experiences are important additions to academic learning. These experiences are available both on and off campus, working with traditional and digital media in areas of radio, television, public relations, journalism, forensics, and organizations of all types. Internships and practica are taken for pass/no credit.

Internship and Practicum Requirements

Students who undertake an internship or a practicum through the Department must satisfy the following requirements:

1. Students must have an overall cumulative GPA of 2.5 or above in order to register for an internship, COMM 087/COMM 187, to count toward the major; otherwise
2. students with a minimum overall cumulative GPA of 2.0, may be placed in practicum, COMM 089/COMM 189, to serve in an on-campus setting
3. students should complete the appropriate courses as prescribed by the Faculty Supervisor, before the Internship or Practica is undertaken (exceptions must be approved by the Faculty Supervisor)
4. undergraduate students may complete a total of 16 units through COMM 087/COMM 187 (Internships) and/or Practica, COMM 089/COMM 189.

Independent Study and Independent Research Requirements

Students who enroll in independent study and/or independent research through the department must satisfy the following requirements:

1. The student must have a department GPA of 3.0 or higher and the permission of the instructor.
2. The student must have completed all category II courses for the particular emphasis area of the major.

Academic Requirements

To major in communication, students must successfully complete all major requirements. Grades in Communication courses below C- are not accepted toward completion of the major or minor.

Craft Messages

Apply communication theories and ideas to craft messages in a variety of media for particular audiences and purposes (including written and oral communication).

Critically Analyze and Evaluate Messages and Audiences

Use communication theories and ideas to analyze, critique, evaluate, and problem-solve the dynamics and impacts of particular communication situations and their audiences. This includes interpersonal, intercultural, organizational, mass media, new media, and other communication environments.

Deploy Communication Technologies

Select and use communication technology suitable to the message, audience, and purpose, and articulate how choices are informed by communication theory and practical challenges.

Bachelor of Arts Major in Communication

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in communication.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses 8 units from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that

discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 46 units that include:

COMM 025	Introduction to Communication	2
COMM 027	Public Speaking	3
COMM 031	Media and Society	3
COMM 043	Introduction to Interpersonal Communication	3
COMM 050	Introduction to Communication Technologies	3
COMM 145	Human Communication Theory	4
COMM 160	Communication Research Methods	4
Select two of the following theory courses:		8

COMM 116	Rhetorical Theory and Criticism	
COMM 117	Public Advocacy	
COMM 133	Documentary Film as Persuasive Communication	
COMM 139	Theory of Mass Communication	
COMM 143	Intercultural Communication	
COMM 147	Nonverbal Communication	
COMM 149	Introduction to Organizational Communication	
COMM 155	Persuasion	

Select two of the following applied courses: 8

COMM 114	Argumentation and Advocacy	
COMM 131	Media Production	
COMM 132	Writing for Media	
COMM 134	Documentary Film Production	
COMM 135	Principles of Public Relations	
COMM 137	Public Relations Case Studies and Problems	
COMM 140	Writing for Public Relations	

Minimum 2 units of internship or practicum: 2

COMM 087	Internship	
COMM 187	Internship	
COMM 089	Practicum	
COMM 189	Practicum	

Senior Capstone

COMM 150	The Capstone	4
COMM 161	Senior Capstone	2

Total Hours 46

Note: 1) Students must earn a 2.5 average in COMM 027, COMM 031 and COMM 043, in order to meet the prerequisites for COMM 160. **2)** Courses must be graded C- or higher to count towards the major.

Minor in Communication

Students must complete a minimum of 21 units with a Pacific minor grade point average of 2.0 in order to earn the minor in communication.

Minor Requirements

COMM 027	Public Speaking	3
COMM 031	Media and Society	3
COMM 043	Introduction to Interpersonal Communication	3
COMM 145	Human Communication Theory	4
COMM 160	Communication Research Methods	4

COMM Elective (1 additional course)	4
Total Hours	21

Note: 1) Courses must be graded C- or higher to count toward minor.
2) Students must earn a 2.5 average in COMM 027, COMM 031, and COMM 043 in order to meet the prerequisites for COMM 160.

Communication Courses

COMM 025. Introduction to Communication. 2 Units.

This course is designed to introduce students to areas of human discourse: interpersonal communication, group and organizational communication, mediated communication, and public speaking. Students experience both theoretical and practical aspects of this through a combination of lectures, demonstrations, and exercises of the subject. Students see an exhibition of various styles, techniques and real-life applications of the subject matter. Additionally, students hone their critical thinking skills. This course also introduces students to the careers and skills people may pursue with a degree in communication.

COMM 027. Public Speaking. 3 Units.

Basic principles of public speaking are studied. This course is one of the four lower core courses for the communication major. **(GE2A, PLAW)**

COMM 031. Media and Society. 3 Units.

Growth and development of mass communications in America (newspaper, radio, television, magazines, public relations) from a historical and descriptive perspective are presented as well as principles of the mass communication process. This course is one of the four lower core courses for the communication major. **(GE1B)**

COMM 043. Introduction to Interpersonal Communication. 3 Units.

This course introduces to the study of human interaction that occurs in relatively informal, everyday social contexts. Using models, theories, and skills of communication as takeoff points, the course introduces students to dimensions related to trust, openness, listening, perception, language, nonverbal communication, conflict, social influence, and communication competence. Focus is to develop an increasing student awareness of the complexities of interpersonal relationships. This course is one of the four lower core courses for the communication major. **(GE1A)**

COMM 050. Introduction to Communication Technologies. 3 Units.

This course provides an introduction to the nature, design, and use of communication technologies, including networks, email, webpages, presentation tools, and groupware. Social impacts and diffusion of new technologies is discussed. Students learn production skills that are useful in upper division communication courses, and that facilitate the department's portfolio assessment program. This course is one of the four lower core courses for the communication major.

COMM 087. Internship. 1-4 Units.

Experiences in a work setting, are contracted on an individual basis. Internships are awarded on a competitive basis and are limited to the number of placements available. COMM 187 represents advanced internship work involving increased independence and responsibility; a corresponding COMM 087 course or equivalent is a prerequisite. Students may not accumulate for credit more than eight units in any specific internship (a total of four in a COMM 087 course and a total of four in a COMM 187 course). Graded Pass/No credit.

COMM 089. Practicum. 1-4 Units.

This course is non-classroom experience in activities related to the curriculum under conditions that the appropriate faculty member determines. Students register for one of the courses listed below. Courses numbered 189 are similar contexts with a more advanced level of performance and learning expectations compared to courses numbered 089. Note: A student may not accumulate for credit more than eight units in any specific practicum. A total of four in a COMM 089 course and a total of four in a COMM 189 course).

COMM 114. Argumentation and Advocacy. 4 Units.

Students are introduced to the theory and practice of argumentation, which is a method of decision-making emphasizing reason giving and evidence. The course includes instruction in debating, research, and critical writing, as well as advanced topics in the study of public deliberation. Prerequisites: COMM 027 or COMM 031 or COMM 043 or COMM 050, with a grade of C or higher. **(PLAW)**

COMM 116. Rhetorical Theory and Criticism. 4 Units.

The focus of this class is to help students derive insight into how symbolic processes affect human awareness, beliefs, values, and actions. The course treats criticism and analysis as methods of inquiry into the nature, character, and effects of human communication. It addresses various methods of rhetorical criticism in terms of their central units of analysis and typical intellectual concerns. Prerequisite: COMM 160 or permission of the instructor.

COMM 117. Public Advocacy. 4 Units.

This course teaches the principles of persuasion in public contexts in the U.S. (types and characteristics of public audiences, official and unofficial advocacy campaigns, and media framing of public issues) from historical and theoretical perspectives. The focus is to make students aware of the constraints and opportunities in public advocacy arguments and their public dissemination. **(ENST, GE1A)**

COMM 131. Media Production. 4 Units.

Practical and theoretical application of audio and video production techniques are covered in this course with an emphasis on aesthetic qualities of sight and sound productions. Some work involves student media facilities. A Lab fee is required. Prerequisite: COMM 031 or permission of instructor. **(FILM)**

COMM 132. Writing for Media. 4 Units.

Examination and production of electronic and print writing techniques are studied in this course with an emphasis on writing news, information, and entertainment messages for the electronic and print industries. Some work involves student media facilities. A lab fee is required. Prerequisite: COMM 031.

COMM 133. Documentary Film as Persuasive Communication. 4 Units.

This course is a survey of documentary film beginning at the turn of the century and continuing through contemporary productions from a historical and rhetorical perspective. Students explore documentary film's origins and trace out its development in relation to its use and reception as students become familiar with the history of the documentary, the evolution of the genre, its rhetorical construction and its cultural influences. **(DVSY, ETHC, FILM)**

COMM 134. Documentary Film Production. 4 Units.

This course is a field video production course in documentary production. Through a series of assignments, lectures and screening students learn the basics of video production for documentary style productions. This includes research, management, pre-production, production and post-production processes. Students work primarily within groups to produce documentary projects using digital production equipment and techniques. There are no prerequisites for this course. **(FILM)**

COMM 135. Principles of Public Relations. 4 Units.

Principles and methods of public relations are discussed and analyzed. Study of the mass media as publicity channels acquaints the students with the nature of the media, its limitations, and uses. Case studies involve students in practical application of public relations activities. Prerequisite: COMM 031.

COMM 137. Public Relations Case Studies and Problems. 4 Units.

This is an advanced course in public relations. The course engages students in case study research and application of public relations principles. There is both written and oral presentations with adherence to professional standards of excellence. Prerequisite: COMM 135.

COMM 139. Theory of Mass Communication. 4 Units.

An overview of major theories and research in mass communication is presented. Application of theories that explain and predict communication effects of political campaigns, advertising, entertainment, and information are discussed. Theoretical areas that are covered include socialization, information, diffusion, advertising, persuasion, and uses and gratification's research in addition to the discussion of the state, function, and form of theory in mass communication. Prerequisite: COMM 160 or permission of instructor.

COMM 140. Writing for Public Relations. 4 Units.

Theory and practice in public relations writing in the context of publicity are emphasized. Students learn the write news releases, backgrounds, business letters and feature stories. Prerequisite: COMM 135.

COMM 143. Intercultural Communication. 4 Units.

This course analyzes the major variables affecting interpersonal communication between persons of different cultural backgrounds. (DVSU, ETHC, GE1C)

COMM 145. Human Communication Theory. 4 Units.

Contemporary understandings of human interaction are studied beginning with epistemological issues as a framework. The course examines theory building, foundation theories of our discipline, and contextual theories.

COMM 147. Nonverbal Communication. 4 Units.

Major dimensions of nonverbal behavior exhibited by human beings in social interactional contexts are examined with special emphasis given to such areas as human proxemics, kinesics vocalics, haptics, and artifactual codes. Prerequisite: COMM 043 or permission of instructor.

COMM 149. Introduction to Organizational Communication. 4 Units.

Students are introduced to both a theoretical and an applied approach to the role of communication in various aspects of organizational functioning, such as motivation, leadership, decision-making, conflict management, message management, etc. Prerequisites: COMM 027 and COMM 043 or permission of instructor.

COMM 150. The Capstone. 4 Units.

This senior level capstone seminar devoted to expanding and applying communication course concepts that students have learned in the communication major and applying this knowledge to contemporary communication issues. Students undertake research projects and employ a variety of communication methodologies and theories to uncover the social, historical and ethical implications of their chosen communication interest. Prerequisites: Senior standing, COMM 025, COMM 027, COMM 031, COMM 043, COMM 050, COMM 145, and COMM 160.

COMM 155. Persuasion. 4 Units.

This course is a survey of social psychological and communication approaches to social influence. Both past and contemporary theorizing is explored, and the methods of empirical research is discussed. Prerequisite: COMM 027 or permission of the instructor.

COMM 156. Public Relations Campaigns. 4 Units.

Building on the skills acquired in previous public relations courses, this course is designed to help students continue to develop and refine their critical and creative thinking in an applied context. Students will research, plan, and design public relations strategies and tactics in the development of a public relations campaign for a real-world client. Prerequisite: COMM 135.

COMM 160. Communication Research Methods. 4 Units.

This course is a study of research methods appropriate for examining communication-related problems. Topics for the course include historical-critical methods, descriptive methods, experimental methods, statistical models for data analysis and research reporting and writing. Prerequisites: COMM 027, COMM 031, COMM 043 with a "C-" or better.

COMM 161. Senior Capstone. 2 Units.

This senior-level capstone course furthers career readiness by focusing on students' transition to employment or graduate school after graduating with the B.A. Students will review what they have learned in the major in light of its applicability in pursuing particular kinds of world or in supporting further studies in graduate school. The goal is for each student to clarify how what they learned can be applied, as well as how to talk and write about it in a clear and informed way to a variety of audiences of potential employers, co-workers and colleagues, and their audiences.

COMM 187. Internship. 2-4 Units.

Experiences in a work setting, are contracted on an individual basis. Internships are awarded on a competitive basis and are limited to the number of placements available. COMM 187 represents advanced internship work involving increased independence and responsibility; a corresponding COMM 087 course or equivalent is a prerequisite. Students may not accumulate for credit more than eight units in any specific internship (a total of four in a COMM 087 course and a total of four in a COMM 187 course). Graded Pass/No credit.

COMM 189. Practicum. 1-4 Units.

This course is non-classroom experience in activities related to the curriculum under conditions that the appropriate faculty member determines. Students register for one of the courses listed below. Courses numbered 189 are similar contexts with a more advanced level of performance and learning expectations compared to courses numbered 089. Note: A student may not accumulate for credit more than eight units in any specific practicum. A total of four in a COMM 089 course and a total of four in a COMM 189 course). Prerequisite: COMM 089.

COMM 189A. Advanced Print Practicum. 1-4 Units.**COMM 189B. Advanced Broadcast Practicum. 1-4 Units.****COMM 189C. Advanced Public Relations Practicum. 1-4 Units.****COMM 189D. Advanced Speech and Debate Practicum. 1-4 Units.****COMM 191. Independent Study. 2-4 Units.****COMM 197. Independent Research. 2-4 Units.****COMM 198B. Broadcast Practicum. 2-4 Units.**

Economics

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Economics.html>

Phone: (209) 946-2258

Location: WPC 212

J. Farley Ordozensky Staniec, Chair fstaniec@pacific.edu

Degrees Offered

Bachelor of Arts
Bachelor of Science

Majors Offered

Economics (BA)
Economics with Departmental Honors (BA)

Economics (BS)
Economics with Departmental Honors (BS)

- Social Science
- Applied Economics
- Mathematical Economics

Minors Offered

Economics

Economics is a social science which, at its root, is the study of behavior—of individuals, firms, organizations and governments. Economics studies how these groups make choices and the implications of their choices for themselves, for markets, and for the local, national and global economies. Economics is not a collection of information to be learned, rather, it's a way of thinking and a set of analytical tools that helps better understand everything from banking to baseball. The world is changing rapidly, jobs that students aspire to today may not exist tomorrow; but an understanding of the core concepts of economics will continue to provide students with the ability to conduct meaningful, valuable analytical work across a wide variety of occupations, even those that do not yet exist.

Degrees in Economics

All Economics majors will take the same core classes, providing them with a solid foundation in the concepts, tools and analytical methods of economics. Students can then choose to pursue a Bachelor of Arts or a Bachelor of Science degree, both of which are structured to give students a greater depth of understanding in a few areas of Economics and experience applying their analytical skills and economic knowledge to real-world issues and problems.

The Bachelor of Arts degree is designed to allow students to tailor their upper division Economics curriculum based on their interests, taking advantage of the wide variety of fields with which the study of Economics is compatible. Faculty advisers can help students create plans of study (e.g. International Economics, Political Economy, Monetary Economics, Economics and Law) that fit best with the students' academic and career goals. This degree is exceptionally well-suited for students who want to double-major or minor in another discipline.

The Bachelor of Science degree also allows students to pair their study of Economics with other disciplines, but has greater quantitative/analytical requirements than the Bachelor of Arts. Within the Bachelor of Science degree, students can choose one of three tracks: 1) the Social Science track, which is a general Economics degree with more quantitative emphasis; 2) the Applied Economics track, which is ideal for students interested in both Economics and Business and includes several courses, such as accounting and business law, from the Eberhardt School of Business; or 3) the Mathematical Economics track, which is designed for students interested in Applied Math or for those preparing to attend graduate school in Economics and includes several courses from the Department of Mathematics as requirements.

Cooperative Programs Offered

5-year Applied International Economics (MS at Marquette University, Milwaukee, Wisconsin)

The Department of Economics, in collaboration with the Economics Department at Marquette University in Milwaukee, Wisconsin, offers students the opportunity to pursue a Master of Science degree in Applied Economics (MSAE) at Marquette with specializations ranging from Business, Financial, International, and Real Estate Economics to Marketing Research or a general economics track. This accelerated degree is designed to be completed within 5 years of entering Pacific.

Interested students should contact the Economics Department chair before the start of their junior year.

Students who successfully complete an Economics degree, will have achieved the following Program Learning Outcomes:
Thinking critically from an economic perspective

Apply the theory and tools of microeconomic and macroeconomic analysis to explain historical outcomes and to critique contemporary policy from an economic perspective.

Conducting economic analysis

Inform decision-making by developing an analytical framework to conduct research—working independently and as part of a team—including identifying, compiling, and synthesizing relevant information and interpreting data using appropriate statistical analysis.

Applying mathematical approaches to economics

Apply mathematical tools, concepts or approaches, as appropriate, to enhance comprehension of economic concepts and models.

Communicating economic concepts and analysis

Clearly, concisely, and accurately communicate—orally or in written form—the process, results, and implications of economic analysis to a range of audiences.

Bachelor of Arts Major in Economics

In order to earn the bachelor of arts degree with a major in economics, students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
ECON 101	Intermediate Microeconomic Analysis	4
ECON 103	Intermediate Macroeconomic Analysis	4
ECON 111	History of Economic Thought	4
ECON 161	Empirical Methods	4
ECON 199	Economic Analysis Capstone	3
Select one of the following:		4
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	
INTL 101	Social Science Research Methods	

ECON electives – 4 additional Economics courses (must be numbered ECON 71 or higher, excluding ECON 101L and ECON 103L, and including ECON 191 only with departmental approval.) 16

Bachelor of Arts Major in Economics with Departmental Honors

In order to earn the bachelor of arts degree with a major in economics, students must complete a minimum of 120 units with a Pacific cumulative grade point average of 3.3 and major/program grade point

average of 3.5 in order to earn the bachelor of arts degree with a major in economics with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
ECON 101	Intermediate Microeconomic Analysis	4
ECON 103	Intermediate Macroeconomic Analysis	4
ECON 111	History of Economic Thought	4
ECON 161	Empirical Methods	4
ECON 199	Economic Analysis Capstone	3
Select one of the following:		4
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	
INTL 101	Social Science Research Methods	
ECON electives – 4 additional Economics courses (must be numbered ECON 71 or higher, excluding ECON 101L and ECON 103L, and including ECON 191 only with departmental approval.)		16
Honors Thesis *		

* In addition to all the requirements for a Bachelor of Arts in Economics, students who wish to graduate with Departmental Honors must also complete an Honors Thesis. With faculty approval, the thesis may be the basis for Independent Study units; however, these will not replace or substitute for any requirements for the degree.

Bachelor of Science Major in Economics

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in economics.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
ECON 101	Intermediate Microeconomic Analysis	4
ECON 103	Intermediate Macroeconomic Analysis	4
ECON 199	Economic Analysis Capstone	3
Select one of the following:		4
INTL 101	Social Science Research Methods	
MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	

VI. Complete One Of The Following Tracks:

Social Science Track

ECON 111	History of Economic Thought	4
ECON 190	Econometrics	4
ECON electives – 4 additional Economics courses (must be numbered ECON 71 or higher, excluding ECON 101L and ECON 103L, and including ECON 191 only with departmental approval.)		16
Select one of the following:		4

COMP 025 Computers and Information Processing

COMP 051 Introduction to Computer Science

Select one of the following: 4

MATH 033 Elements of Calculus

MATH 051 Calculus I

Applied Economics Track

Select one of the following: 4

ECON 161 Empirical Methods

ECON 190 Econometrics

Select one of the following: 4

COMP 025 Computers and Information Processing

COMP 051 Introduction to Computer Science

Select one of the following: 4

MATH 033 Elements of Calculus

MATH 045 Introduction to Finite Mathematics and Calculus

MATH 051	Calculus I	
ECON electives – 4 additional Economics courses (must be numbered ECON 71 or higher, excluding ECON 101L and ECON 103L, and including ECON 191 only with departmental approval.)		16
BUSI 031	Principles of Financial Accounting	4
BUSI 053	The Legal and Ethical Environment of Business	4

Note: 1) Students completing a concentration in Finance in the ESB need only complete 3 ECON electives.

Mathematical Economics Track

ECON 160	Mathematical Economics	4
ECON 190	Econometrics	4
ECON electives – 3 additional Economics courses (must be numbered ECON 71 or higher, excluding ECON 101L and ECON 103L, and including ECON 191 only with departmental approval.)		12
MATH 049	Introduction to Abstract Mathematics	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 075	Introduction to Linear Algebra	4
MATH Elective (One 4-unit MATH course MATH 055 or higher) *		4

* Math electives must be beyond the required MATH 051, MATH 053 or MATH 055, and MATH 141 or MATH 145, but not including MATH 161, MATH 162 and MATH 166.

Bachelor of Science Major in Economics with Departmental Honors

Students must complete a minimum of 120 units with a Pacific cumulative grade point average of 3.3 and major/program grade point average of 3.5 in order to earn the bachelor of science degree with a major in economics with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
ECON 101	Intermediate Microeconomic Analysis	4
ECON 103	Intermediate Macroeconomic Analysis	4
ECON 199	Economic Analysis Capstone	3
Select one of the following:		4
INTL 101	Social Science Research Methods	
MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	

Honors Thesis *

* In addition to all the requirements for a Bachelor of Science in Economics, students who wish to graduate with Departmental Honors must also complete an Honors Thesis. With faculty approval, the thesis may be the basis for Independent Study units; however, these will not replace or substitute for any requirements for the degree.

VI. Complete One Of The Following Tracks:

Social Science Track

ECON 111	History of Economic Thought	4
ECON 190	Econometrics	4
ECON electives – 4 additional Economics courses (must be numbered ECON 71 or higher, excluding ECON 101L and ECON 103L, and including ECON 191 only with departmental approval.)		16

Select one of the following: 4

COMP 025	Computers and Information Processing	
COMP 051	Introduction to Computer Science	

Select one of the following: 4

MATH 033	Elements of Calculus	
MATH 051	Calculus I	

Applied Economics Track

Select one of the following:	4
ECON 161 Empirical Methods	
ECON 190 Econometrics	
Select one of the following:	4
COMP 025 Computers and Information Processing	
COMP 051 Introduction to Computer Science	
Select one of the following:	4
MATH 033 Elements of Calculus	
MATH 045 Introduction to Finite Mathematics and Calculus	
MATH 051 Calculus I	
ECON electives – 4 additional Economics courses (must be numbered ECON 71 or higher, excluding ECON 101L and ECON 103L, and including ECON 191 only with departmental approval.)	16
BUSI 031 Principles of Financial Accounting	4
BUSI 053 The Legal and Ethical Environment of Business	4

Note: 1) Students completing a concentration in Finance in the ESB need only complete 3 ECON electives.

Mathematical Economics Track

ECON 160 Mathematical Economics	4
ECON 190 Econometrics	4
ECON electives – 3 additional Economics courses (must be numbered ECON 71 or higher, excluding ECON 101L and ECON 103L, and including ECON 191 only with departmental approval.)	12
MATH 049 Introduction to Abstract Mathematics	4
MATH 051 Calculus I	4
MATH 053 Calculus II	4
MATH 055 Calculus III	4
MATH 075 Introduction to Linear Algebra	4
MATH Elective (One 4-unit MATH course MATH 055 or higher) *	4

* Math electives must be beyond the required MATH 051, MATH 053 or MATH 055, and MATH 141 or MATH 145, but not including MATH 161, MATH 162 and MATH 166.

Accelerated Path to 5-year Master of Science in Applied Economics at Marquette University, Milwaukee, Wisconsin

The Department of Economics, in collaboration with the Economics Department at Marquette University in Milwaukee, Wisconsin, offers students the opportunity to pursue a Master of Science degree in Applied Economics (MSAE) at Marquette with specializations ranging from Business, Financial, International, and Real Estate Economics to Marketing Research or a general economics track. This accelerated degree is designed to be completed within 5 years of entering Pacific, which is 1 year sooner than the usual required time to complete undergraduate and masters degrees.

Interested students would earn their BA or BS degree in economics at Pacific while following the typical 4-year plan. During this time, in consultation with academic advisers, they would also successfully complete

- At least one calculus course,
- ECON 190, and

- Two upper division economics courses (with a grade of "B" or better) specially tailored to satisfy 2 of the 10 courses (<http://business.marquette.edu/academics/msae-curriculum>) required to complete the MSAE.

Students must inform their academic advisers of their interest in the program by the time they achieve junior standing or they may not be able to complete both degrees in 5 years.

Students would apply to the MSAE program at Marquette during the first semester of their final year at Pacific. Marquette requires all applicants to take either the GRE or GMAT exam and to have an overall GPA of 3.0 or better. *Admission to the MSAE program is at the sole discretion of Marquette and is not guaranteed.*

Minor in Economics

Given the broad applicability of the concepts and analytical skills developed in the study of Economics, the minor in Economics is a valuable addition to nearly any field of study. The minor design is intended to allow students majoring in a wide variety of disciplines to tailor their Economics course selection to best align with their academic and career plans. Students must complete a minimum of 6 Economics courses (as described below) with a Pacific minor grade point average of 2.0 or higher in order to earn the minor in economics.

Minor Requirements:

ECON 053 Introductory Microeconomics	4
ECON 055 Introductory Macroeconomics: Theory and Policy	4
ECON electives – 4 additional Economics courses (must be numbered ECON 71 or higher, excluding ECON 101L and including ECON 191 only with departmental approval)	16

Note: 1) 10 units must be completed at Pacific. **2)** ECON 101 is strongly recommended. It is a prerequisite to several upper division courses. **3)** BUSI 031 and BUSI 033 together can substitute for one of the economics electives.

Economics Courses

ECON 051. Economic Principles and Problems. 3 Units.

Students are introduced to the nature, significance and scope of economics. The principles of economic analysis are developed and used to examine current and/or controversial economic issues. Some sections may cover a wide variety of issues while may be offered with a particular focus (e.g. Environmental Economics, Health Economics, Economics of Gender.) This course is ideal for students who are unlikely to take another economics course and does not count towards the major or minor. Students can receive credit for ECON 051 only if it is taken prior to both ECON 053 and ECON 055. **(GE1B)**

ECON 053. Introductory Microeconomics. 4 Units.

Economic decisions of individuals and firms are studied as well as the evaluation of efficiency and equity in individual choice processes. The course examines the economics of monopoly and competition as well as the economics of pollution and governmental regulation. Prerequisites: Completion of the Fundamental Skills Math requirement, or placement into MATH 005 or MATH 005E. **(GE1A, PLAW)**

ECON 055. Introductory Macroeconomics: Theory and Policy. 4 Units.

Students study the national economy with special emphasis placed on policies designed to meet the national goals of full employment, stable prices and economic growth. The course examines the spending and saving behavior of households and business, government spending and taxing policies, and the Federal Reserve's monetary policies. Prerequisites: Completion of the Fundamental Skills Math requirement, or placement into MATH 005 or MATH 005E. (GE1B, PLAW)

ECON 071. Global Economic Issues. 4 Units.

This course is an introduction to international trade, international finance and economic development. Economic principles and tools are used to understand the interconnected global economy. Topics include trade theory and policy; regional and multilateral trading system; trade and climate change; balance of payments; foreign exchange markets and exchange rate determination; and the role of foreign aid private capital flows and trade policy in economic development. Prerequisites: ECON 053; ECON 051 or 055. ECON 071 cannot be taken for credit if the student has taken or is concurrently enrolled in ECON 121 or ECON 123. ECON 071 is also listed as an SIS course. (ENST)

ECON 087. Internship. 1-4 Units.**ECON 087A. Internship. 1-4 Units.****ECON 093. Special Topics. 4 Units.****ECON 101. Intermediate Microeconomic Analysis. 4 Units.**

The behavior of individuals and firms in a market economy are examined along with price theory, distribution and welfare economics. The course provides a rigorous development of the tools that economists use for studying the allocation of resources. Prerequisite: ECON 053 with a "C-" or better.

ECON 101L. Intermediate Microeconomic Analysis Laboratory. 1 Unit.

This addition to ECON 101 presents microeconomic theory in a more rigorous, formal and mathematical way. This course is necessary for students who complete the Bachelor of Science – Mathematical Economics Track or who plan to attend graduate school in Economics. Prerequisites: ECON 053; MATH 033 or MATH 051.

ECON 103. Intermediate Macroeconomic Analysis. 4 Units.

This course examines the measurement of the level of economic activity the determinants of national income, employment and the price level. It also studies use and appraisal of economic data in the context of a dynamic market economy as well as stabilization problems and the relevance of fiscal, monetary and income policy. Prerequisites: ECON 053 and ECON 055 with a "C-" or above.

ECON 103L. Intermediate Macroeconomic Analysis Laboratory. 1 Unit.

This addition to ECON 103 presents macroeconomic theory in a more rigorous, formal and mathematical way. It is necessary for students who complete the Bachelor of Science – Mathematical Economics Track or plan to attend graduate school in Economics. Prerequisites: ECON 053 and ECON 055; MATH 033 and MATH 051.

ECON 111. History of Economic Thought. 4 Units.

The rise and fall of schools of economic thought around the world, as well as specific ideas, theories, doctrines, applications and policies are examined. The course connects the history of economic thought with the history of the underlying economies. We examine the effects of economic evolution, economic revolution and changes in technology resources, as well as contemporary political, social and religious developments. Expect lively discussions, particularly of the political influences that affect individual economists and the implications of their work. We read works about and by Adam Smith, David Ricardo, Thomas Malthus, John Stuart Mill, Karl Marx, modern microeconomists, Veblen, Keynes, and others. Prerequisites: ECON 053 and ECON 055 or permission of instructor.

ECON 121. International Trade. 4 Units.

Students study the economic theory surrounding the exchange of goods and services between countries and the application of this theory to current international issues. Topics include the determination of world trade patterns, the effects of changing trade patterns on income distribution within a country; the pros and cons of trade barriers; trade concerns of developing countries; and the effects of international trade on the world's natural environment. This course is also listed as an SIS course. Prerequisites: ECON 053 and ECON 055.

ECON 123. International Finance. 4 Units.

Students study the financial side of international economics. Topics include balance of payments accounts and the foreign exchange market; exchange rate determination and the macro economy; the international debt crisis and capital flight; and the history of international monetary systems. This course is also listed as an SIS course. Prerequisites: ECON 053 and ECON 055.

ECON 125. Economic Development. 4 Units.

Examines the plight of the world's poor countries. Discussions of the extent of world poverty. and a review of the evolution of ideas on the topic of economic development over the past three decades are included. The course considers the following types of questions: What are the causes of development and/or underdevelopment? Are Third World countries merely at a primitive stage of development analogous to European countries prior to the Industrial Revolution? What are the roles of climate, the legal system, education, health and sanitation, natural resources, technology, multinational corporations, religious beliefs and so on? Are rich countries making a meaningful effort to aid poor countries? Can we, or even should we, help? Should emphasis be placed on the agricultural or industrial sector? This course is also listed as an SIS course. Prerequisites: ECON 053 and ECON 055 or permission of instructor. (ENST)

ECON 131. Public Finance. 4 Units.

Students study the role of the government in the economy. The course uses the tools of economic analysis to examine how government policies affect not only the efficiency with which the economy operates but also the welfare of its citizens. This course covers both the expenditure and the taxation sides of government activity, examines public choice questions of policy selection and implementation and, throughout the course, considers the equity implications of government actions. Primary focus is on government at the national level; however, significant attention is paid to issues relevant or specific to state and local governments. Prerequisites: ECON 053; ECON 051 or 055.

ECON 141. Money and Banking. 4 Units.

The nature of money and credit and their roles in directing the economic activity of a nation are examined. The course discusses the development and operation of the central bank and monetary institutions of the United States as well as problems of achieving full employment and price stability through monetary policy. Prerequisites: ECON 053 and ECON 055, or permission of instructor.

ECON 151. Urban Economics. 4 Units.

An economic analysis of the evolution, growth, and decline of urban areas and the location choice decisions of households and firms within urban areas. Attention then focuses on normative analyses of urban policy issues such as housing, poverty, crime and pollution. Prerequisite: ECON 053.

ECON 154. Industrial Organization and Policy. 4 Units.

The history, structure, conduct, and performance of industry as well as currently proposed industrial policy is examined. After studying the evolution of modern U.S. industries and firms; monopoly, oligopoly, and competitive structures in addition to anti competitive conduct among firms, the course analyzes government regulation of business, especially antitrust and price regulation policies, as well as recent trends to deregulation and reindustrialization. Prerequisite: ECON 053. Recommended: ECON 101.

ECON 157. Environmental and Natural Resource Economics. 4 Units.

The application of economic theory to natural resource and environmental issues is examined. Microeconomic principles are used to suggest what a proper balance between human activity and environmental quality might be and to analyze current environmental policy. Topics include renewable and non-renewable resources, common pool resources, climate change, non-market valuation, cost-benefit analysis, role of government and the private sector in environmental preservation. Prerequisite: ECON 053. (ENST)

ECON 160. Mathematical Economics. 4 Units.

A mathematical analysis of neoclassical theories of production and consumption. This course studies differential calculus and linear algebra applied to unconstrained and constrained extrema, including the envelope properties of optimization problems. Primary emphasis is placed on the application of mathematics to economic theory. Topics include competitive and noncompetitive firms and industries, Cobb-Douglas and CES production functions, the Slutsky equation, and applications of homogeneous functions to economics. Prerequisites: ECON 101, ECON 103, MATH 051 or permission of instructor.

ECON 161. Empirical Methods. 4 Units.

This course teaches students to use current statistical software to perform empirical analysis of economic theory and applications. It is designed to provide students with practical data and econometric analysis skills for the workplace (private sector or government). The course will cover data collection, entry management, analysis and presentation. Some Familiarity with computer programming is recommended. Prerequisites: ECON 053; ECON 055; MATH 037 or MATH 037 or MATH 130 or MATH 131 or INTL 101; or permission of instructor. (PLAW)

ECON 171. Political Economy. 4 Units.

This course introduces students to rational choice theory and applies it to the study of elections. The course starts with an analysis of group choice; how small and large groups make decisions and how different voting mechanisms aggregate individual preferences. The rigorous tools learned in the first half of the course are then used to analyze election behavior of political agents; namely voters, political candidates, and interest groups. Voter turnout, political polarization, campaign finance, and presidential elections are among the topics discussed. Prerequisites: ECON 051 or ECON 053.

ECON 173. Strategic Games and Behavior. 4 Units.

This course introduces the concepts and tools of game theory as an analytical framework for understanding strategic interactions and decision-making. The focus is on non-cooperative games with applications to economics as well as other areas. Coverage will include a variety of solution concepts such as Nash equilibrium in pure and mixed strategies, subgame perfect equilibrium and Bayesian equilibrium; simultaneous, sequential, and repeated games; and games with imperfect or asymmetric information. The emphasis of the course will be on the applicability of game theoretic analysis to real-world interactions. In addition, basic concepts of behavioral economics will be introduced and used to understand how and why the equilibria that result in many games are not those that would be predicted by rational choice theory. Prerequisite: ECON 053 or permission of the instructor.

ECON 180. Labor Economics. 4 Units.

This course examines labor's role in the market system and the response of labor and government to market failures. Microeconomic analysis of labor supply and demand, wage and employment determination, and the effects of discrimination are also studied as well as the development of the labor movement from a chronological and theoretical perspective with emphasis on the collective bargaining process. The influence of public policy on labor relations and labor market functioning is also discussed. This course is also listed as a Gender Studies course. Prerequisite: ECON 053. (ETHC)

ECON 183. Health Economics. 4 Units.

This course applies the tools of microeconomics to the study of health care. It provides an analysis of how decisions are made by health care providers, consumers, and third parties responsible for payments (e.g. health insurers). The course is built around individuals' demand for health care and the supply of services by doctors and hospitals. Topics covered include health insurance, managed care and industry competitions, the pharmaceutical industry, the role of the government as a provider of care, long-term care, international health comparisons, and cost-benefit analysis/cost-effectiveness analysis. Prerequisite: ECON 051 or ECON 053.

ECON 187. Internship. 1-4 Units.**ECON 190. Econometrics. 4 Units.**

Students study the methods used to test economic theory with real-world data. The course presents the theory underlying common econometric methods and gives students experience in applying these analytical tools to data from a variety of sources. Students learn to develop testable hypotheses based on economic theories they have learned in earlier courses and to make reliable statistical inferences about these hypotheses. Students gain a working, applicable knowledge of the skills and software used by many professional economists and sought by many employers. Prerequisites: ECON 053; ECON 055; MATH 037 or MATH 039 or MATH 130 or MATH 131 or INTL 101. (PLAW)

ECON 191. Independent Study. 2-4 Units.

ECON 193. Special Topics. 4 Units.

ECON 197. Independent Research. 1-4 Units.

ECON 197D. Independent Research. 1-4 Units.

ECON 199. Economic Analysis Capstone. 3 Units.

This course is designed for Senior-level economics majors and minors to apply what they have learned about economic theory and tools of analysis to the types of problems and issues they may be required to address as practicing economists or in any other capacity their chosen career requires. Students will conduct research, review literature, analyze data and evaluate solutions for real-world economic policy questions. Prerequisites: ECON 101; ECON 103; MATH 037 or MATH 039 or INTL 101; Senior Standing.

English

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/English.html>

Phone: (209) 946-2121

Zhou Xiaojing, Chair

Degrees Offered

Bachelor of Arts

Majors Offered

English

English with Departmental Honors

Minors Offered

English

Writing

The undergraduate major in English prepares students for careers that put a premium on critical thinking and literacy. While many majors become teachers, many more enter business, government service, law, medicine or other professions after further schooling.

Concentrations Offered

Gender Studies

Degrees in English

Undergraduate majors may focus their elective courses to emphasize writing, literature, language, or film studies. The department offers a minor in English for students committed to a different academic major.

English courses are offered in the following areas: British and American literature; writing; criticism of literature and allied arts (including film); English language. Upper-division courses (those numbered 100 or above) are more specialized or applied than lower-division courses and often presume prior training in the subject.

Single Subject Credential in English

Single Subject students are required to take TWO upper-division writing courses from one of the following: ENGL 106 (Content Engineering), and ENGL 109 (Professional Communications).

Students interested in pursuing certification to teach English at the secondary school level consult with the English Department Credential Advisor, Dr. Amy Smith.

Produce Clear and Persuasive Prose

- Formulate a thesis, construct arguments, gather and integrate supporting evidence, and produce clear and persuasive prose.

Adapt Communication Style

- Adapt communication styles to the occasion, task, and audience, both verbally and in writing (academic, professional, and/or creative writing).

Analyze Texts

- Analyze literary and cultural texts critically.

Demonstrate Awareness of Context

- Demonstrate awareness of the history and cultural contexts of literature in English.

Evaluate Literature

- Evaluate literature in comparative terms.

Bachelor of Arts Major in English

In order to earn the bachelor of arts degree with a major in English, students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

A minimum of 12 courses, adding up to at least 41 units that includes:

Lower Division Core Courses

ENGL 011	English Cohort Seminar	1
ENGL 025	English 25	4
ENGL 041	British Literature before 1800	4
Select two of the following survey courses:		8
ENGL 043	British Literature after 1800	
ENGL 051	American Literature before 1865	
ENGL 053	American Literature after 1865	
ENGL 063	Masterpieces of World Literature	

Upper Division Courses

Select one of the following Linguistics courses:		4
ENGL 082	How English Works	
ENGL 182	History of the English Language	
Select one of the following Critical theory courses:		4
ENGL 125	Critical Colloquium	
ENGL 127	Contemporary Critical Issues	
Select one of the following Upper-Division writing courses:		4
ENGL 106	Content Engineering	
ENGL 109	Professional Communications	

Electives

Four ENGL electives (Three additional upper-division courses numbered above 100); one elective may be a lower division survey course or ENGL 031 12-16

VII. Concentration Requirements (Optional)

Students complete a minimum of three courses for a concentration. These courses satisfy ENGL electives above.

Gender Studies

Students complete three ENGL courses that are cross listed in Gender Studies.

Note: ENGL 127 may be taken more than once if it is taught by a different professor.

Bachelor of Arts Major in English with Departmental Honors

In order to earn the bachelor of arts degree with a major in English with departmental honors, students must complete a minimum of 120 units with a Pacific cumulative grade point average of 3.5 and major/program grade point average of 3.75.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

A minimum of 13 courses, adding up to at least 44 units that includes:

Lower Division Core Courses

ENGL 011	English Cohort Seminar	1
ENGL 025	English 25	4
ENGL 041	British Literature before 1800	4
Select two of the following survey courses:		8
ENGL 043	British Literature after 1800	
ENGL 051	American Literature before 1865	
ENGL 053	American Literature after 1865	
ENGL 063	Masterpieces of World Literature	

Upper Division Courses

Select one of the following Critical theory courses:		4
ENGL 125	Critical Colloquium	
ENGL 127	Contemporary Critical Issues	
Select one of the following Upper-Division writing courses:		4
ENGL 106	Content Engineering	
ENGL 109	Professional Communications	

Electives

Six ENGL electives (Five additional upper-division courses numbered 20-24 above 100); one elective may be a lower division survey course or ENGL 031

Minor in English

Students must complete a minimum of five courses (20 units) in English with a Pacific minor grade point average of 2.0 in order to earn a minor in English.

Minor Requirements:

ENGL 025	English 25	4
Select two of the following:		8
ENGL 041	British Literature before 1800	
ENGL 043	British Literature after 1800	
ENGL 051	American Literature before 1865	
ENGL 053	American Literature after 1865	
ENGL 063	Masterpieces of World Literature	
ENGL 031	Aesthetics of Film	
ENGL Electives (Two additional courses numbered 100 or above)		8

Minor in Writing

Students must complete a minimum of five courses (20 units) with a Pacific minor grade point average of 2.0 in order to earn a minor in writing.

Minor Requirements:

ENGL 190	Writing Capstone	4
Select one of the following:		4
ENGL 025	English 25	
ENGL 082	How English Works	

Select 3 from the following:

12

COMM 132	Writing for Media
COMM 140	Writing for Public Relations
ENGL 106	Content Engineering
ENGL 107	Creative Writing: Nonfiction
ENGL 109	Professional Communications
ENGL 111	Creative Writing: Fiction
ENGL 113	Creative Writing: Poetry
ENGL 115	Screenwriting
HIST 080	Digital Narratives
MMGT 130	Poplular Songwriting
SPAN 101	Composición avanzada
THEA 112	Playwriting

Note: English majors can apply ENGL 025 and ENGL 082 or ENGL 182 towards the Writing minor; no more than two courses applied to the English minor can overlap with the Writing minor.

English Courses

ENGL 011. English Cohort Seminar. 1 Unit.

The cohort experience is designed to introduce you to college life as an English major. You'll meet the faculty, explore departmental course offerings, learn about our extracurricular activities, and discover the range of careers an English degree makes possible.

ENGL 025. English 25. 4 Units.

English 025 Provides an introduction to the discipline of English studies. Students are expected to write about and discuss various topics that arise in the study of literary works. Prerequisite: a passing score on the General Education writing skills examination or WRIT 021. Multiple and varied sections are listed by thematic focus title each semester. **(GE2A, PLAW)**

ENGL 031. Aesthetics of Film. 4 Units.

This course introduces the principles of artistic expressiveness of films; lighting, color, camera, composition, space, movement, image, setting and sound. Attention is also given to narrative techniques and editing styles. This course explores such theories as realism, formalism, surrealism, Marxism, psychoanalysis and gender theory. Both American and foreign films are viewed and discussed. **(FILM, GE2C)**

ENGL 039. Introduction to Digital Humanities. 4 Units.

We humans often turn to literature and the arts as we seek meaning, beauty and connection in our lives. Poetry, art, religion, philosophy, literature, theatre, and film all speak to this human yearning. Have you ever felt like a song was "your" song? Have you ever wondered why people of a different religion believe or do something differently than you? Did you ever debate with a friend about an ethical question? Now how many of these moments occurred online or were inspired by an event online - music video, a Facebook conversation, a blog. Increasingly, we have turned to technology to create and to discuss the arts and the humanities (poetry, art, religion, philosophy, literature, theatre, film, etc.). How might we use computers and digital media to make new discoveries in the arts and humanities? How might we use digital methods to communicate or share our explorations of what it means to be human? This collaborative, project-based course will introduce students to various methodologies in digital humanities, to the use of technology to publish research and creative work digitally, and to critical questions about digital technology and society. **(GE3C)**

ENGL 041. British Literature before 1800. 4 Units.

This course studies the major authors, works and traditions from Beowulf through the Pearl Poet, Chaucer, Spenser, Shakespeare, Donne, Milton, Dryden, Pope, Swift and others, to Johnson. There is a balanced concern for particular works, for historical continuity, for distinctive features of movements and periods such as the Renaissance and the Augustan period, and for the expanding definition of English literature. (DVSY, GE2A, GEND)

ENGL 043. British Literature after 1800. 4 Units.

This course begins with Blake and ends with Pinter, and includes such authors as Wordsworth, Byron, Keats, Tennyson, Browning and Hardy, Yeats, Thomas, Joyce, Eliot, Lawrence, and Lessing. The approach is historical, with a focus on the distinctive qualities of the Romantic, Victorian, Modern and Contemporary traditions. This course connects with ENGL 041, but that course is not a prerequisite. (GE2A)

ENGL 051. American Literature before 1865. 4 Units.

This course studies principle American writers through the middle of the 19th century, including poetry, prose and at least one longer work of prose. Writers that may be treated include Hawthorne, Poe, Melville, Douglass, Stowe, Bradstreet, Jefferson and Dickinson. Emphasis is placed on the thought, aesthetics, and cultural impact of these and other writers. (GE1B)

ENGL 053. American Literature after 1865. 4 Units.

This course is the second half of the American literature survey, beginning with the Realists (writers such as James, Twain, Crane and Chopin) and moving into the 20th century with such authors as H.D., Pound, Stevens, Eliot, Frost, Hemingway, Cummings, Faulkner, Williams, and Hughes. Contemporary writers may include O'Hara, Ginsberg, O'Conner, Snyder, Morrison, Li-Young Lee, and Alice Walker. (GE1B)

ENGL 063. Masterpieces of World Literature. 4 Units.

This course explains selections from the western canon as well as other world cultures, with emphasis on the linkages of the great literary traditions; geographic, national, mythic/archetypal, generic, and thematic. The literary texts are read through various critical prisms, exploring philosophical, political, psychological, and ethnic contexts. The sweep of the course moves across time and place. Some examples include the study of classics with the Medieval and Early Modern. Readings in modern and contemporary writing show how these texts have been influenced by the long heritage of world literature, significant for understanding current globalization, and both the unity and diversity of the human community. (GE1C)

ENGL 082. How English Works. 4 Units.

This course studies the nature, use, and workings of English as a modern language. This course considers word-formation (morphology), and phrase and clause structure (syntax) in relation to meaning (semantics), and it uses (pragmatics), stylistics, and communication (discourse theory). The course also addresses significant issues such as standardization, dialects, language acquisitions, etc. and is intended for prospective teachers, writers, lawyers, and other professionals who work with language. (GE2A)

ENGL 087. Internship. 2-4 Units.

This internship consists of a supervised experience in an off-campus work setting drawing on skills particular to English studies, such as writing, editing, analyzing of texts, etc. Internships are limited to the number of placements available. ENGL 187 represents advanced internship work involving increased independence and responsibility.

ENGL 093. Special Topics. 4 Units.

Additional courses not covered by regular offerings.

ENGL 101. Integrative Tutorial. 1 Unit.

This course is an integrative tutorial (1 unit/semester, with the expectation that a student takes it at least three and as many as six consecutive semesters). It is designed to help students draw their studies together, and it is a form of independent study in which a faculty member helps a student see the connections between courses she/he has taken to fill in gaps that would otherwise go unaddressed in course work. Prerequisite: permission of the instructor.

ENGL 105. Technical Communications. 4 Units.

This is a career-focused professional writing and communication class. It emphasizes the forms of written, oral, and electronic communication most likely to be encountered in a technical field, although the principles apply to other professional fields as well. Coursework is based on real-world communication problems from the students' intended careers, and students are encouraged to create portfolio work that can be used in their future job search.

ENGL 106. Content Engineering. 4 Units.

Content Engineering is a professional writing class this is designed from the ground up with awareness that electronic content is dynamic, searchable, measurable, researched, optimized, published, marketed, and monetized in ways that are radically different from static "writing." Students create websites on a topic of professional interest that they've researched for market viability. Students create content for their sites, place ads on the sites, and use the sites as Content Engineering laboratories. We experiment with different techniques to drive live traffic to the sites, and we learn tools of web analytics and search engine optimization. Students will also learn the underlying fundamentals of goal-oriented user-centric writing. Prerequisite: Junior Standing.

ENGL 107. Creative Writing: Nonfiction. 4 Units.

This upper-division seminar is a course in the writing of non-fiction prose, that emphasizes such familiar forms as the essay, biography, autobiography, and free-lance writing. These and other subgenres of nonfiction are the focus for this collaborative, seminar-style course intended for apprentice writers interested in polishing and publishing their work.

ENGL 109. Professional Communications. 4 Units.

This advanced practical writing course focuses on how to produce clear, concise, and persuasive documents for a variety of readers and in a variety of contexts. The emphasis is on proofreading and revision skills, and assignments cover the most commonly used forms in professional writing, such as letters, memos, and proposals. The course includes one service learning project, which gives students the opportunity to apply their skills outside of the classroom.

ENGL 111. Creative Writing: Fiction. 4 Units.

ENGL 111 emphasizes steady, productive writing of stories. Practical advice is offered in fictional techniques and in ways to improve writing, especially through revision. Student manuscripts are submitted regularly for response and verbal-written criticism by peers and by instructor in a workshop setting.

ENGL 113. Creative Writing: Poetry. 4 Units.

Students who want to write poetry and need the discipline and guidance of a class take this course which focuses on careful analyses of poems submitted by students, interspersed with poems written by published poets. The goal is to find one's unique voice, to enlarge one's skills and visions, to encourage discipline and editing.

ENGL 115. Screenwriting. 4 Units.

In this comprehensive course, students study the art and craft of short subject and feature film screenwriting, including, but not limited to: theme, plot, story, structure, characterization, format, and dialogue via writing, lecture, discussion, close analysis, and instructor-peer critique. Time is spent not only on idea generation and visual storytelling, but on how to meaningfully connect with the audience. Students are required to write: two short film treatments (one original and one adaptation), a short film script, a detailed film treatment, and the first 10+ pages of a feature film screenplay. (FILM)

ENGL 121. Major Filmmakers. 4 Units.

The focus of this course is on the work of such major directors as Coppola, Fassbinder, Scorsese, Fellini, Kubrick, Bergman, Hitchcock, Antonioni, Losey, Bertolucci and Truffaut. The course also considers major schools of cinema: French New Wave, Italian Neo-Realism, New German Cinema and narrative genres such as the psychological thriller, chamber film and epic. Emphasis is placed on critical analysis and interpretation of the individual director's styles and themes. This course may be taken twice if it is taught with a different theme in each instance. (FILM, GE2C)

ENGL 123. Film, Literature, and the Arts. 4 Units.

This course investigates the theory, practice and critical methods underlying aesthetic form in the arts, including film, literature, painting and sculpture. Corollary illustrations are drawn from music and architecture. This comparative course attempts to examine the underlying styles and structures among the arts. (FILM, GE2C, GEND)

ENGL 124. Film History. 4 Units.

This course is a comprehensive look at the history of cinema, from its beginnings in Europe and America, through the emergence of national cinematic traditions and the classical period tied to the Hollywood studio system, and concluding with current transnational developments. This course includes screening and analysis of significant American and international films. (FILM)

ENGL 125. Critical Colloquium. 4 Units.

Students study the theory and practice of the major modes of interpreting and criticizing literature, that include but are not limited to formalist, psychoanalytic, structural, gender and feminist and deconstructionist perspectives offered by designated English Department members and guest lecturers. (GEND)

ENGL 126. Environment and Literature. 4 Units.

This course examines the intertwining of science, technology, nature, and culture as reflected in environmental literature. Its content and approach are interdisciplinary. The required reading include literary texts and writings from the natural and social sciences, which engage with the debates on the construction and destruction of "nature", sustainability, biodiversity, and bioengineering. The intersections of environmental imperialism, environmental justice, globalization and ecological crises are major components of the course inquiry. (DVSY, ENST, ETHC, GE3C, GEND)

ENGL 127. Contemporary Critical Issues. 4 Units.

Students examine major aspects of literary theory from structuralism to post-structuralism. The course focuses on the interplay between and among such movements as deconstruction, post-colonialism, the new historicism, phenomenology and psychoanalysis. The course also discusses how contemporary theory has impacted such topics as gender, canon, reader-response and post-modernism. (GEND)

ENGL 128. Science and Literature. 4 Units.

This class bridges the gap between the study of literature and the study of science as students explore the intersections between these two within the realm of human culture that we both share. The students explore how the practice of science is represented (or misrepresented) in literature and culture. The class studies the effects that culture and literature have on science, on scientific revolutions and the acceptance of new theories and it also examines how the practice of science can be understood as "literary". The readings come from scientists like Newton and Darwin, from literary artists like Jonathan Swift and Connie Willis, and from the theorists that study the practice of science. (GE3C)

ENGL 130. Digital Chaucer. 4 Units.

This course combines medieval literacy with digital literacy and the latest trends in digital humanities to examine issues of diversity (under every aspect) in Chaucer's work. It investigates how Chaucer's major works, *The Canterbury Tales*, *The House of Fame*, *The Parliament of Fowls* and *Troilus and Criseyde*, can benefit from being reconfigured in a digital environment for greater comprehension of their historical and cultural frameworks, paying particular attention to power relations, class, gender and ethnicity. Students will conduct research on Chaucer using digital conceptualization, that is, the ability to see how the elements of an abstract whole fit together in a digital environment and to identify research problems that need to be addressed before others do. (DVSY, GE2A)

ENGL 131. Shakespeare. 4 Units.

Eight to ten of Shakespeare's plays, are studied from a variety of critical perspectives, such as the historical, psychological, philosophical, formalist, cultural and theatrical approaches. Selections are examined from each major genre (comedy, tragedy, history). Specific plays vary from term to term; the reading list may include such works as *Twelfth Night*, *The Tempest*, *King Lear*, *Macbeth*, *Richard II*, *Henry IV (Parts One and Two)* and *Henry VIII*. (DVSY, FILM, GE2A, GEND)

ENGL 133. Major British Authors. 4 Units.

Advanced, in-depth analysis of an individual author (or pair of authors) are the topic of this course. Topics likely to be covered include the range of the author's work, cultural context, significant literary influences, impact on other authors, and major scholarship written about the author. Students conduct directed research. By semester the course varies to focus on authors such as Chaucer, Milton, Austen, G. Eliot, Hardy, Forster, Joyce, Woolf, and Murdoch/Byatt. This course may be repeated once for credit with a different focus.

ENGL 134. Jane Austen. 4 Units.

This course allows students to see how a young girl writing stories for her family transformed into one of the best loved novelists of all time. Discussion covers her published novels, letters, and previously unpublished childhood stories. In addition, students consider why certain writers become "ageless" figures who remain alive and well in popular culture by viewing film versions of her novels and creative adaptations like *Clueless* and *Bridget Jones's Diary*. Responsibilities include quizzes, papers, and a major project, to be shared at the end-of-semester "Jane Austen Night" on campus.

ENGL 135. Major American Authors. 4 Units.

This course is an advanced, in-depth analysis of an individual author (or pair of authors) including aesthetic qualities of the work throughout the author's career, historical and cultural contexts shaping the work, literary influences on the author's writing and thought, influence on other writers, and major scholarship about the work. Students conduct directed research. By semester the focus of the course changes to include authors such as Twain, Dickinson & Whitman, Ellison & Wright, Faulkner & Morrison, Frost & Stevens, Kingston & Tan, Melville, Steinbeck & Dos Passos. This course may be repeated once for credit with a different focus. (GEND)

ENGL 136. Literature of William Faulkner and Toni Morrison. 4 Units.

Students in this seminar analyze the "conversations" that emerge between the novels of William Faulkner and Toni Morrison. Questions considered include: What is our relationship to our past? How is memory shaped by fear and desire? How do we know ourselves and connect to one another within sociopolitical contexts that divide us along lines of gender, sex, "race," and class? Students will gain a working knowledge of critical race theory, gender theory, and modernist studies and will conduct independent research. Prerequisite: Sophomore Standing.

ENGL 141. Topics in British Literature Pre-1800. 4 Units.

This course studies a single literary period designed to strengthen students' critical reading and writing skills as well as examine questions of literary themes, cultural and intellectual context, national identity, ethnicity, class, and/or gender. Student conduct directed research. Topics vary with titles such as *The Age of Beowulf*, *The Medieval Mind*, *English Renaissance*, *Women Writers before Austen*, and *The Age of Unreason: 18th Century Literature*. This course may be repeated once for credit with a different focus. (DVSY, GE2B, GEND)

ENGL 143. Topics in British Literature after 1800. 4 Units.

This course studies key literary movements, genre and aesthetic developments, historical and social contexts, and thematic concentrations from Romanticism to the Victorian Age to Modernism and the Post World War II era. Students conduct directed research. Topics change. Representative titles include the Victorian Novel, British Lyric poetry, and Modern and Contemporary British Literature. This course may be repeated once for credit with a different focus.

ENGL 144. Medieval Women Readers and Writers. 4 Units.

What did women write before 16th century? Who was the readership of their texts? How did male authors represent women in medieval literature? What did their books look like before the advent of print? This course explores the intellectual life of medieval women in relationship to their socio-cultural and historical contexts. We will look at women as readers and producers of literature and try to understand how these roles were reconcilable to women's many other roles, such as mother, wife, businesswoman, etc. In addition, we will examine how women are represented in manuscript illuminations, and how images shape early readers' interpretations and contribute to the process of making meaning. Readings are grouped according to the sociocultural context in which works about (and by) women were produced, though we will see that some texts resist such simplistic classifications. (DVSY, GE2B, GEND)

ENGL 145. Romances of Magic in the West. 4 Units.

From the seven Kingdoms of Westeros to the Romances of Magic in Western Europe, this course contemporary incarnations such as *The Game of Thrones*? Drawing on gender theory and cultural analyses of race, class, religion, and colonialism, we will study medieval romances spanning the eleventh to the fifteenth centuries and consider various types of romance – historical, national, popular, chivalric, family, and travel romances, among others – to show how cultural fantasy resourcefully responds to changing crises, pressures, and demands in society. By engaging with the geographies known to and imagined by medieval English romance, we will map nascent, 15th-century English nationalism against earlier discussions about the medieval origins of romance as the imaginative self-portrait of 12th-century aristocracy. (DVSY, GE2B, GEND)

ENGL 151. Topics in American Literature before 1865. 4 Units.

This course is the study of significant literary periods or movements in America before 1865. Topics change while the course examines the signature features of a specific period or movement: its aesthetic and thematic concerns, as well as the political, economic, intellectual, and cultural contexts shaping and shaped by the literature in question. Possible titles include *The American Renaissance*, *The Birth of the American Short Story*, *Early American Humor*, *The Politics of Home Life*, and *Slavery and The American Imagination*. This course may be repeated once for credit with a different focus.

ENGL 153. Topics in American Literature after 1865. 4 Units.

This course is an in-depth analysis of significant literary periods or movements in America after 1865. Topics change while the course examines the signature features of a specific period or movement: its aesthetic and thematic concerns, as well as the political, economic, intellectual, and cultural contexts shaping and shaped by the literature in question. Possible titles include *American Realism*, *American Modernism*, *Modern American Novel*, *American Nature Writing*, *Literature of the American South*, *Literature of California*, *Contemporary American Fiction*, and *Contemporary American poetry*. This course may be repeated once for credit with a different focus.

ENGL 160. Blues, Jazz, and Literature. 4 Units.

Students in this interdisciplinary seminar explore how thematic and formal aspects of work songs, spirituals, blues, and jazz have shaped and been shaped by 19th and 20th century (African) American literature and culture. Students will examine the assigned blues, jazz, fiction, novels, and poetry as explorations of the history of racial and class conflict in America; as mediations on individual and collective loss and longing; and as means of aesthetic transcendence. Students will conduct independent research. Prerequisite: Sophomore Standing. (ETHC, GE1B)

ENGL 161. Topics in American Ethnic Literature. 4 Units.

Studies of contributors to American Literature within the context of their shared ethnicity are the focus of this course. Topics change and possible offerings include *American Immigrant Literature*, *African-American Poetry*, *Black Women Writers*, *Blues, Jazz and Literature*, and *Chicano/a Literature*. This course may be repeated once for credit with a different focus. (DVSY, ETHC, GE1B, GEND)

ENGL 162. Asian American Literature. 4 Units.

If “postmodernism” signals “the end of master narratives” and “the end of nature,” as critics claim, then postmodernism can be understood in terms of epistemological challenges to the production of knowledge. Such challenges have opened up new possibilities for creativity, narrative, and critical inquiry. This course introduces students to major texts by Asian American writers, whose reinventions of literacy genres revitalize the power of literature, as they seek to engage with the legacies of colonialism and their connections to economic globalization, environmental degradation, and resistance from the Global South. (DVSY, ETHC, GE1B, GEND)

ENGL 163. Topics in Transnational Literatures. 4 Units.

This course offers a comparative analysis of literature from two or more national traditions, including works from several historical periods or a single period, with an emphasis on genre, style, cultural milieus, and critical affinities between texts. Topics change, and possible offerings include Masterpieces of World Literature, Romanticisms, International Modernism, Postcolonial Literature, Literature and Film of the Pacific Rim, and Modernist Poetry. This course may be repeated once for credit with a different focus.

ENGL 164. WAR. 4 Units.

This course considers how writers and filmmakers struggle to describe the indescribable - war. What's at stake, ethically, personally, and politically, in how writers represent war? The course texts include novels, poems, memoirs, graphic novels, and theoretical readings. Discussions focus on the rhetorical and literary strategies adopted to offer specific perspectives on war and human nature and to open timeless questions for debate: How do wars affect the men and women who fight them, and how do wars affect those left behind? How can war provide the means to show our greatest strengths and capacity for self-sacrifice - to become heroes - yet also make us, somehow, less than human? (DVSY, GE2B)

ENGL 166. Literature and the Law. 4 Units.

Fictional texts are read against legal texts in hope that they are mutually illuminating and that they enhance one's understanding of law and justice. The course provides students with everything they need to know as a lay person about the American legal system and contributes to their civic education. Justice is analyzed with respect to evidence, criminal intent, mitigating circumstances, punishment, oral performance of the lawyers, witnesses, prosecutors, etc. The course encourages students to identify and construct logical and strong arguments, an asset no matter what profession they choose.

ENGL 182. History of the English Language. 4 Units.

Students study the development and change of English language from the beginnings to the present day. The class supports the students' understanding of English language through historical and cultural analysis, and considers English phonology and orthography in connection with the study of texts in historical (Old, Middle, and Modern English) and regional English. This class expands on the poetics and stylistics begun in English 082, and give special attention to the history of the book. The class is intended for English majors and others who will use linguistic knowledge in the analysis and production of texts.

ENGL 187. Internship. 2-4 Units.

This internship consists of a supervised experience in an off-campus work setting drawing on skills particular to English studies, such as writing, editing, analyzing of texts, etc. Internships are limited to the number of placements available. ENGL 187 represents advanced internship work involving increased independence and responsibility.

ENGL 189. Practicum. 1-4 Units.**ENGL 190. Writing Capstone. 4 Units.**

The Writing Capstone allows students to develop a semester-long writing project that builds on interests and skills cultivated in previous writing courses. Projects can be either creative or professional (business/technical) writing. Genre options include novels, grant writing, travel narratives, memoirs, professional websites, poetry collections, or another related project. Prerequisites: ENGL 025 or ENGL 081; COMM 132 or COMM 140 or ENGL 106 or ENGL 107 or ENGL 109 or ENGL 111 or ENGL 113 or ENGL 115 or SPAN 101 or THEA 112.

ENGL 191. Independent Study. 2-4 Units.

This course is composed of student-initiated projects involving subjects not addressed by current course offerings. In consultation with a faculty director, the student submits in writing a proposal which defines the specific subject matter, the goals, the means of accomplishing the goals and the grounds for evaluating the student's work. The proposal must receive the approval of the director of the project prior to registration, and responsibility for fulfilling the terms of the proposal lies with the student.

ENGL 197. Undergraduate Research. 2-4 Units.

This course provides opportunity for qualified students to complete a supervised original research project. Students are encouraged to travel to collections and use unique materials and resources in developing an original paper or other public presentation of their findings.

ENGL 197D. Undergraduate Research. 1-4 Units.**ENGL 197E. Undergraduate Research. 1-4 Units.****ENGL 197F. Undergraduate Research. 1-4 Units.****ENGL 197G. Undergraduate Research. 1-4 Units.****ENGL 197H. Undergraduate Research. 1-4 Units.**

Environmental Studies

Degrees Offered

Bachelor of Arts

Majors Offered

Environmental Studies
Environmental Studies and Law

Minors Offered

Environmental Studies

The Bachelor of Arts in Environmental Studies is for liberal arts students with an interest in environmental issues. It provides a multi-disciplinary approach to environmental issues and concerns.

Bachelor of Arts Major in Environmental Studies and Law - Environmental Law Advantage Program

The six-year program (three undergraduate years and three law school years) is offered to qualifying Environmental Studies (ENST) undergraduate students and culminates in students receiving both a Bachelor of Arts in Environmental Studies and Law and a Juris Doctorate.

Students may apply for the program before matriculating at University of the Pacific or at any time before the start of their second year of undergraduate studies as a full-time sophomore. Successful applicants must have a high school GPA minimum of 3.2 on a 4.0 scale and an ACT minimum score of 25 or a SAT minimum score of 1050. A written application to the BA/JD Program detailing a student's motivation and qualifications must be completed at the time of expressed interest, including a mandatory in-person interview with ENST faculty. Admitted

students must agree to participate in the tracking and monitoring system which is designed to ensure the student meets the general education and major requirements prior to applying to McGeorge.

All undergraduate course requirements in General Education and in ENST must be completed and at least 92 of the required BA degree credits must be compiled by the end of participating students' junior year at University of the Pacific. The students will not return to University of the Pacific for a senior year, but rather, will enter McGeorge as a first-year law student.

Students must fulfill all the criteria for admissions into McGeorge including completion of the McGeorge JD admissions application submitted through the Law School Admissions Council (LSAC) and a mandatory in-person interview with McGeorge faculty. Students admitted to the program will have minimum LSAT score of 153 and a minimum University of the Pacific cumulative grade point average of 3.3 (as calculated by LSAC). The GPA requirement will be calculated using cumulative undergraduate grades including the Fall grades of the student's junior year of college. Participants must sit for the LSAT exam no later than February of their junior year at University of the Pacific, although it is strongly recommended that students interested in applying take the LSAT in the fall or winter of their junior year. The LSAT exam is typically administered in June, October, December, and February. BA/JD Program students are eligible for all financial aid and merit scholarships available to McGeorge students.

University of the Pacific will award the baccalaureate degree to the participant after successful completion of the 28 credits, typically after the first year at McGeorge. These credits will count towards both the JD and the undergraduate degree. Tuition and fees for this fourth year will reflect McGeorge rates. For the students enrolled in McGeorge's part-time program, the degree will be awarded by after the completion of 28 units. The student's first year of law school grades will not be included in calculating the final GPA at University of the Pacific.

To stay in the program, students must remain in good standing throughout their first year of law school and complete the first year with a minimum 2.33 cumulative GPA. Students who fail to successfully complete the first year at McGeorge or who elect to withdraw may return to University of the Pacific. Any completed course work at McGeorge will be treated by University of the Pacific in the same manner as other University of the Pacific credits.

Content Mastery

Upon graduation, our students will be able to:

- Recognize the major scientific and sociocultural components of environmental systems and describe their interactions.
- Explain the evolution of specific environmental issues over time and discuss the challenges society faces in addressing them.
- Understand, evaluate, and apply quantitative and qualitative research methods.
- Communicate clearly and effectively, in oral, written, and visual formats.
- Demonstrate professionalism in interpersonal interactions, collaborations, and approaches to ethical dilemmas.

Bachelor of Arts Major in Environmental Studies

Students must complete a minimum of 120 units with a cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in environmental studies.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that

discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Core

COMM 117	Public Advocacy	4
ENST 041	Introduction to Environmental Studies	4
ENST 099	Environmental Studies Professional Development Seminar*	2-4
ENST 100	Environmental Studies Issues and Solutions Seminar**	2-4
ENST 185	Capstone Seminar in Environmental Studies	4
ENST 187	Internship in Environmental Studies	4
or ENST 197	Undergraduate Research	
GESC 043	Environmental Science for Informed Citizens	4
GESC 137	Environmental Law	4
INTL 101	Social Science Research Methods	4
or POLS 133	Political Science Research	
PHIL 035	Environmental Ethics	4

Environmental Systems

Select two of the following:*** 8-10

BIOL 074	Biology of Insects	
BIOL 076	Marine Biology	
BIOL 077	Marine Birds and Mammals	
BIOL 079	California Flora	
BIOL 175	Ecology	
BIOL 176	Ecology and Conservation Biology	
CIVL 060	Water Quality	
GESC 102	Earth Surface Processes and GIS	
GESC 103	Global Change	
GESC 106	Earth Materials	
GESC 148	Critical Zone Science	

Electives

Select three of the following: 11-14

BIOL 130	Plant Kingdom	
BIOL 171	Methods in Field Biology	
BIOL 175	Ecology****	
BIOL 176	Ecology and Conservation Biology****	
CIVL 060	Water Quality****	
CIVL 171	Water and Environmental Policy	
ECON 125	Economic Development	
ECON 157	Environmental and Natural Resource Economics	
ENGL 126	Environment and Literature	
GESC 102	Earth Surface Processes and GIS****	
GESC 103	Global Change****	
GESC 106	Earth Materials****	
GESC 148	Critical Zone Science****	
HIST 052	John Muir's World: Origins of the Conservation Movement	
HIST 136	American Environmental History	
INTL 174	Global Environmental Policy	
POLS 119	Government in Action: Public Policy Analysis	
SOCI 108	Food, Culture and Society	
SOCI 111	Environment and Society	

* ENST 099 is repeated during the Fall each year.

** ENST 100 is repeated in the Spring each year.

*** At least one course above the 100 level.

**** BIOL 175, BIOL 176, CIVL 060, GESC 102, GESC 103, GESC 106, and GESC 148 cannot be double-counted as an Environmental Systems and Elective course.

Bachelor of Arts Major in Environmental Studies and Law

Students must complete a minimum of 120 units with a cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in environmental studies and law.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Core

COMM 117	Public Advocacy	4
ENST 041	Introduction to Environmental Studies	4
ENST 099	Environmental Studies Professional Development Seminar *	2-4
ENST 100	Environmental Studies Issues and Solutions Seminar **	2-4
ENST 185	Capstone Seminar in Environmental Studies	4
ENST 187	Internship in Environmental Studies	1-4
or ENST 197	Undergraduate Research	
GESC 043	Environmental Science for Informed Citizens	4
GESC 137	Environmental Law	4
INTL 101	Social Science Research Methods	4
or POLS 133	Political Science Research	
PHIL 035	Environmental Ethics	4

Environmental Systems

Select two of the following: *** 8-10

BIOL 074	Biology of Insects	
BIOL 076	Marine Biology	
BIOL 077	Marine Birds and Mammals	
BIOL 079	California Flora	
BIOL 175	Ecology	
BIOL 176	Ecology and Conservation Biology	
CIVL 060	Water Quality	
GESC 102	Earth Surface Processes and GIS	
GESC 103	Global Change	
GESC 106	Earth Materials	
GESC 148	Critical Zone Science	

Electives

Students must take Property Law (4 credits) during their first year of 1-14 law school and select two of the following:

BIOL 130	Plant Kingdom	
BIOL 171	Methods in Field Biology	
BIOL 175	Ecology ****	
BIOL 176	Ecology and Conservation Biology ****	
CIVL 060	Water Quality ****	
CIVL 171	Water and Environmental Policy	
ECON 125	Economic Development	
ECON 157	Environmental and Natural Resource Economics	
ENGL 126	Environment and Literature	
GESC 102	Earth Surface Processes and GIS ****	
GESC 103	Global Change ****	
GESC 106	Earth Materials ****	
GESC 148	Critical Zone Science ****	

HIST 052	John Muir's World: Origins of the Conservation Movement
HIST 136	American Environmental History
INTL 174	Global Environmental Policy
POLS 119	Government in Action: Public Policy Analysis
SOCI 108	Food, Culture and Society
SOCI 111	Environment and Society

* ENST 099 is repeated during the Fall each year.

** ENST 100 is repeated in the Spring each year.

*** At least one course above the 100 level.

**** BIOL 175, BIOL 176, CIVL 060, GESC 102, GESC 103, GESC 106, and GESC 148 cannot be double-counted as an Environmental Systems and Elective course.

VII. Awarding of the Bachelor of Arts degree

After successful completion of all the requirements listed above and successful completion of the first year of law school, students will be awarded a Bachelor of Arts in Environmental Studies and Law.

VIII. JD Requirements

The full requirements for a McGeorge Juris Doctorate are listed in their catalog. Students should refer to the specific degree requirements for their graduating class to ensure they are on track.

Minor in Environmental Studies

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in environmental studies.

Minor Requirements:

ENST 041	Introduction to Environmental Studies	4
GESC 043	Environmental Science for Informed Citizens	4
GESC 137	Environmental Law	4
Select one of the following:		4
ENGL 126	Environment and Literature	
PHIL 035	Environmental Ethics	
Select one of the following:		4
BIOL 074	Biology of Insects	
BIOL 076	Marine Biology	
BIOL 077	Marine Birds and Mammals	
BIOL 079	California Flora	
BIOL 175	Ecology	
BIOL 176	Ecology and Conservation Biology	
CIVL 060	Water Quality	
ECON 125	Economic Development	
ECON 157	Environmental and Natural Resource Economics	
GESC 102	Earth Surface Processes and GIS	
GESC 103	Global Change	
GESC 148	Critical Zone Science	
HIST 136	American Environmental History	
INTL 174	Global Environmental Policy	
SOCI 108	Food, Culture and Society	
SOCI 111	Environment and Society	

Note: 1) These courses must be different than courses taken in the major. 2) At least one of these courses needs to contain a

lab. 3) ECON 157 has a prerequisite of ECON 053. 4) No prerequisite of POLS 051 required for INTL 174.

Environmental Studies Courses

ENST 041. Introduction to Environmental Studies. 4 Units.

This course provides an introduction to the interdisciplinary field of Environmental Studies. Students will examine how perspectives of the natural sciences, the humanities, and social sciences (such as economics and political science) can be used in order to better understand how people relate to and interact with our environment. The course will focus on contemporary environmental challenges in California's Central Valley, centered on the themes of water and food. More broadly, the course will consider core environmental studies questions like what we mean by "the environment" and how we understand mankind's place within it. (ENST, GE3C)

ENST 099. Environmental Studies Professional Development Seminar. 1 Unit.

In this seminar, Environmental Studies majors develop and implement a plan for building out the tools, skills, and experience that will support them in successfully pursuing their career goals. This seminar is required of all students enrolled as Environmental Studies majors in each fall when it is offered. (ENST)

ENST 100. Environmental Studies Issues and Solutions Seminar. 1 Unit.

This topical seminar is designed to give students exposure to important and emerging topics in Environmental Studies and the individuals and organizations that are working on them. In the course of the term, students will conduct background research on four topics and develop short, written reports analyzing the scientific, political, policy, and social dimensions of the issue. This course is required of all students enrolled as Environmental Studies majors in each Spring when it is offered and appropriate for students in Geological and Environmental Science, Biology, Chemistry, Communication, Economics, Business, Political Science, and International Studies. (ENST)

ENST 185. Capstone Seminar in Environmental Studies. 4 Units.

This seminar focuses on local/regional environmental issues. Students investigate the background of local/regional environmental issues and informed members of the community/region present their perspective on the issues. Students then work in teams to address scientific aspects of selected environmental problems. Prerequisite: Senior standing in Environmental Studies. (ENST)

ENST 187. Internship in Environmental Studies. 1-4 Units.

ENST 197. Undergraduate Research. 1-4 Units.

Other Environmental Studies Courses

BIOL 035. Environment: Concepts and Issues. 4 Units.

Principles of ecology as they bear on world environmental problems are introduced with an emphasis on biological aspects of world problems and on the interrelationships between culture and environment. Global dimension of population, resources, food, energy and environmental impact are considered. Course does not count toward a biology major. (ENST, GE3C)

BIOL 041. Introduction to Biology. 4 Units.

A lecture and laboratory introduce the concepts of biology. Physical structure, physiology, nutrition, reproduction, growth and behavior are examined from the perspective of adaptation and interaction with the environment. Human, animal and plant systems are covered. Recommended for non-majors. Course does not count toward a biology major. (ENST, GE3A)

BIOL 051. Principles of Biology. 5 Units.

A lecture and laboratory introduction to evolutionary biology and ecology. Preparation for continued studies in biological science. (ENST, GE3A)

BIOL 061. Principles of Biology. 5 Units.

This course is a lecture and laboratory introduction to cellular and molecular biology, cellular energetics, biochemistry, genetics and evolution. Preparation for continued studies in biological science. (ENST, GE3A)

BIOL 072. Vertebrate Biology. 4 Units.

Taxonomy, life history, ecology and evolutionary history of vertebrates are emphasized. Prerequisites: BIOL 051 and BIOL 061. (ENST)

BIOL 074. Biology of Insects. 4 Units.

A lecture and laboratory introduce a broad study of the structure and function of over 700,000 different species. It includes a study of their morphogenesis, reproduction, behavior and relation to humans. The laboratory work includes at least three field trips on Saturdays in addition to the preparation of 50-75 classified insects. Both anatomy and physiology of insects is covered in the two weekly laboratories. (ENST)

BIOL 076. Marine Biology. 4 Units.

General concepts of community ecology, taxonomy and phylogeny, anatomical and physiological adaptations of marine organisms, and their interaction with the physical environment are the main focus. The class emphasizes natural history and identification of marine organisms of the Central California intertidal and sub-tidal environment. Prerequisites: BIOL 051 and BIOL 061. (ENST, GE3A)

BIOL 077. Marine Birds and Mammals. 4 Units.

Ecology, behavior, economic importance and conservation of cetaceans, pinnipeds, otters, sirenians, seabirds and shorebirds are introduced. Physical and biological oceanography are considered as they relate to distribution and abundance of marine birds and mammals. This course is open to non-majors as well as majors. Junior standing. (ENST)

BIOL 079. California Flora. 4 Units.

Identification and classification of flowering plants, gymnosperms, ferns and fern allies as represented in Northern Calif. are studied. (ENST, GE3A)

BIOL 130. Plant Kingdom. 4 Units.

Through lectures, laboratories and field trips, students are introduced to the morphology, reproduction biology and environmental requirements of all major groups of plants. Included are material bearing on the evolutionary relationships within and between each major group. Individual projects are required. Prerequisites: BIOL 051 and BIOL 061. (ENST)

BIOL 151. Parasitology. 4 Units.

Principles of parasitism as well as biology of animal parasites with special emphasis on the protozoa, platyhelminths, nematodes, acanthocephala and arthropods are studied. Techniques of recovery of parasites from various vertebrate hosts are introduced including staining, mounting and identification. Prerequisites: BIOL 051, BIOL 061, BIOL 101. (ENST)

BIOL 171. Methods in Field Biology. 4 Units.

A course focused on methods of biological investigation with emphasis on modern field sampling techniques and instrumentation. Students are trained in experimental design and quantitative data analysis used to address a range of biological questions. Prerequisites: BIOL 051 and BIOL 061 with a "D" or better. (ENST)

BIOL 175. Ecology. 5 Units.

The structure and dynamics of populations, biotic communities and ecosystems, is emphasized with particular focus upon relationships of organisms to their environments. Prerequisites: BIOL 051 and BIOL 061. (ENST)

BIOL 176. Ecology and Conservation Biology. 4 Units.

The principles of ecology are introduced with attention to consider threats and disruptions to ecological systems from the level of local populations through ecosystems, landscapes, and global processes. Ecological principles are used to help understand these systems, to make predictions for the future or for other systems, and to evaluate possible solutions. The class considers the importance of economic and demographic forces in causing conservation problems and in shaping conservation strategies, and students practice planning conservation areas. Prerequisite: BIOL 051. (ENST)

BIOL 197. Undergraduate Research. 1-4 Units.**CHEM 023. Elements of Chemistry. 4 Units.**

This course is designed for general interest in physical science and for preparation for further study in chemistry. Three class periods, one three-hour laboratory period a week, and enrollment in the Chemistry Workshop are required. (ENST, GE3A)

CHEM 024. Fundamentals of Chem. 4 Units.

This course covers general chemistry especially tailored for engineers and earth scientists. Important principles, theories and concepts include: stoichiometry, atomic and molecular structure, equilibrium, gases, thermodynamics, kinetic, electrochemistry and nuclear chemistry. Three lecture periods and one three-hour lab are required. Prerequisites: High school algebra or the equivalent, one year of high school chemistry with a "B" or better, or appropriate score on the Pacific Diagnostic Chemistry test or CHEM 023. (ENST, GE3A)

CHEM 025. General Chemistry. 5 Units.

The important general principles, theories and concepts of chemistry are studied, including fundamentals of chemistry and equilibrium. Three class periods, two three-hour laboratory periods a week, and enrollment in the Chemistry Workshop are required. Prerequisite: high school algebra or the equivalent. High school chemistry is highly recommended. CHEM 023 with a "C-" or better, Chemistry Subject Test, or appropriate score on Pacific Diagnostic Chemistry test. (ENST, GE3A)

CHEM 027. General Chemistry. 5 Units.

More important general principles, theories, and concepts of chemistry are studied including modern applications of quantum mechanics, bonding, chemical kinetics, liquids, solids, and properties of solutions. Additional special topics include coordination compounds, nuclear chemistry, organic chemistry and biochemistry. Three class periods, two three-hour laboratory periods a week, and enrollment in the Chemistry Workshop are required. Prerequisite: At least one year of high school chemistry is highly recommended. CHEM 025 with a "C-" or better, Chemistry Subject Test, or appropriate score on Pacific Diagnostic Chemistry test. (ENST, GE3A)

CHEM 141. Analytical Chemistry. 4 Units.

The roots of analytical chemistry and the principles used in modern instruments come from traditional techniques. These techniques include gravimetry, acid-base, complexometric, and redox titrations form the backbone of the course, which covers most major areas of modern quantitative analysis. The theory behind the techniques is covered through many numerical examples and their applications in environmental and biochemical analyses are emphasized. Standard procedures used in analytical laboratories are introduced, including error reporting, statistics, and quality assurance. Prerequisites: CHEM 025 and CHEM 027 or GEOS 142 with a "C-" or better. (ENST)

CHEM 197. Independent Research. 1-4 Units.

Prerequisite: CHEM 025 with a "C-" or better. (ENST)

CIVL 171. Water and Environmental Policy. 3 Units.

This course introduces students to Federal and State of California environmental regulations pertaining to air, water, hazardous wastes, and toxic substances. Topics include an overview of water rights and environmental impact assessment, relevant case studies, and examples of monitoring and enforcement issues. Prerequisite: Completion of all Fundamental Skills. Junior or Senior standing. (ENST)

COMM 117. Public Advocacy. 4 Units.

This course teaches the principles of persuasion in public contexts in the U.S. (types and characteristics of public audiences, official and unofficial advocacy campaigns, and media framing of public issues) from historical and theoretical perspectives. The focus is to make students aware of the constraints and opportunities in public advocacy arguments and their public dissemination. (ENST, GE1A)

ECON 071. Global Economic Issues. 4 Units.

This course is an introduction to international trade, international finance and economic development. Economic principles and tools are used to understand the interconnected global economy. Topics include trade theory and policy; regional and multilateral trading system; trade and climate change; balance of payments; foreign exchange markets and exchange rate determination; and the role of foreign aid private capital flows and trade policy in economic development. Prerequisites: ECON 053; ECON 051 or 055. ECON 071 cannot be taken for credit if the student has taken or is concurrently enrolled in ECON 121 or ECON 123. ECON 071 is also listed as an SIS course. (ENST)

ECON 125. Economic Development. 4 Units.

Examines the plight of the world's poor countries. Discussions of the extent of world poverty, and a review of the evolution of ideas on the topic of economic development over the past three decades are included. The course considers the following types of questions: What are the causes of development and/or underdevelopment? Are Third World countries merely at a primitive stage of development analogous to European countries prior to the Industrial Revolution? What are the roles of climate, the legal system, education, health and sanitation, natural resources, technology, multinational corporations, religious beliefs and so on? Are rich countries making a meaningful effort to aid poor countries? Can we, or even should we, help? Should emphasis be placed on the agricultural or industrial sector? This course is also listed as an SIS course. Prerequisites: ECON 053 and ECON 055 or permission of instructor. (ENST)

ECON 157. Environmental and Natural Resource Economics. 4 Units.

The application of economic theory to natural resource and environmental issues is examined. Microeconomic principles are used to suggest what a proper balance between human activity and environmental quality might be and to analyze current environmental policy. Topics include renewable and non-renewable resources, common pool resources, climate change, non-market valuation, cost-benefit analysis, role of government and the private sector in environmental preservation. Prerequisite: ECON 053. (ENST)

ENGL 126. Environment and Literature. 4 Units.

This course examines the intertwining of science, technology, nature, and culture as reflected in environmental literature. Its content and approach are interdisciplinary. The required reading include literary texts and writings from the natural and social sciences, which engage with the debates on the construction and destruction of "nature", sustainability, biodiversity, and bioengineering. The intersections of environmental imperialism, environmental justice, globalization and ecological crises are major components of the course inquiry. (DVSY, ENST, ETHC, GE3C, GEND)

GESC 041. Environmental Geology. 4 Units.

This lecture and field work course studies the interaction between humans and the physical environment as well as analyzes the physical constraints placed on human activities by geological processes and the effects that human activities have on the environment. (ENST)

GESC 043. Environmental Science for Informed Citizens. 4 Units.

This interdisciplinary course of lecture, laboratory, and field work focus on the analysis of policy-relevant environmental problems in four domains: water, energy, climate and land use - with an emphasis on human interactions. (ENST, GE3A)

GESC 045. Soil, Water, and War. 4 Units.

The link between limited natural resources and human conflict along with historical and current conflicts is the focus of discussion and field work. Analysis of these conflicts allows achievement of understanding of the following: 1) water resources; 2) soil formation; 3) links between the environment and natural resources. (ENST, GE3C)

GESC 051. Dynamic Planet. 4 Units.

This course is an introduction to the fundamental concepts of geology and geological reasoning. Concepts covered include: the nature and origin of earth materials, the processes and forces which create and shape the surface of the earth and affect its internal structure within the context of deep time, as well as a study of earth resources and human interactions with the environment. The course includes laboratory and field work. Credit for this course is not given if a student has credit for GEOS 061, GESC 061, GEOS 065 or GESC 065. (ENST, GE3A)

GESC 053. Earth and Life Through Time. 4 Units.

This lecture, laboratory, and field study class introduces students to the geologic history of the earth as interpreted through analysis of the stratigraphic and fossil record, structural relationships and isotopic dating techniques. Particular emphasis is placed on the geologic evolution of North America. (ENST, GE3A)

GESC 055. Physical Geography. 4 Units.

This lecture, laboratory, and field study class examines interactions of earth's atmosphere, organisms, rocks and soil with an emphasis placed on climate, energy and nutrient cycles, and landform evolution. (ENST)

GESC 061. Geology of California. 4 Units.

This course is a lecture, laboratory, and field-based introduction to the fundamental principles of geology and geological reasoning that are reinforced during a four-day camping trip. The course involves a scientific study of the planet Earth, including earth systems, earth materials, the physical processes shaping the earth, and the history of the earth and its life forms within the context of deep time. The geologic implications of human activities on the environment, earth resources and climate change are also studied. Credit for this course is not given if a student has credit for GEOS 051, GESC 051, GEOS 065 or GESC 065. (ENST, GE3A)

GESC 065. Regional Geology. 4 Units.

This is a field intensive study of a geologically relevant area including investigations of plate tectonics, a formation of rocks and minerals, the hydrologic cycle, formation of landforms, geologic time, and climate change. Possible study regions include Hawaii, the Colorado Plateau, Chile, Costa Rica, and Alaska. This course includes laboratory work and a multi-day field trip during spring break. Credit for this course is not given if a student has credit for GEOS 051, GESC 051, GEOS 061 or GESC 061. (ENST, GE3A)

GESC 102. Earth Surface Processes and GIS. 4 Units.

This course examines the physical processes that shape the Earth's surface, including the qualitative description of landforms and the analytical and quantitative understanding of processes. The course emphasizes techniques for characterizing landforms, soils, and the processes that shape them, including spatial analysis, Geographic Information Systems (GIS), air photo interpretation, experimental simulation, and field methods. (ENST)

GESC 103. Global Change. 4 Units.

This lecture and laboratory interdisciplinary study of the Earth's dramatic and abrupt changes in the past and their tremendous environmental repercussions has an emphasis on human interactions and future changes. Prerequisites: an introductory GESC course; CHEM 023 or CHEM 024 or CHEM 025 or CHEM 027. (ENST)

GESC 106. Earth Materials. 5 Units.

This lecture, laboratory, and field work course studies the origin occurrence, and identification of rock-forming minerals and the rocks they are found in. The focus is on crystallography and chemical and physical properties of rock-forming minerals and the major rock-forming processes. Prerequisites: an introductory GESC course (GESC 051 or GESC 053 or GESC 061) and a college level course in chemistry (CHEM 023 or CHEM 024 or CHEM 025 or CHEM 027) or instructor permission. (ENST)

GESC 114. Structural Geology. 4 Units.

This lecture, laboratory, and required multi-day field trip course examines the character and causes of the geologic structures that deform Earth's crust within the context of whole-Earth structure, geotectonic processes and environments, and rock mechanics. Prerequisite: GESC 051 or permission of instructor. (ENST)

GESC 137. Environmental Law. 4 Units.

This course introduces students to the field of environmental law and provides a strong background on the American legal system, including the role of the courts, the federal and state governments, and nongovernmental organizations. Students will survey most of our major federal environmental laws, including the Endangered Species Act, the Clean Water Act, and the Clean Air Act. Coursework will include guided case readings and in-class discussion of major environmental law cases. Prerequisite: Sophomore standing. (ENST)

GESC 142. Geochemistry. 4 Units.

This lecture, laboratory, and field work course examines the application of chemical principles to the study of geological processes. Prerequisites: an introductory GESC course; CHEM 024 or CHEM 025 or CHEM 027; MATH 041. (ENST)

GESC 144. Geomorphology. 4 Units.

This lecture, laboratory, and field work course studies the comprehensive treatment of the principles of landscape development, analysis of topographic maps and interpretation of aerial photographs. Prerequisite: an introductory GESC course. (ENST)

GESC 145. Engineering Geology. 4 Units.

This lecture, laboratory, and field work course introduces the study of applied geology in which geologic principles, data and techniques are applied to civil engineering problems. Prerequisites: GEOS 051 or GEOS 061 or CIVL 140. (ENST)

GESC 148. Critical Zone Science. 4 Units.

The Critical Zone is the Earth's permeable near-surface layer...from the tops of the trees to the bottom of the groundwater. Despite the Critical Zone's importance to terrestrial life, it remains poorly understood. In this class, we will strive to understand the complex web of physical, chemical, and biological processes of the Critical Zone using a systems approach across a broad array of sciences: hydrology, geology, soil science, biology, ecology, geochemistry, geomorphology, and more. Course includes laboratory and field work. Prerequisite: GESC 043 or GESC 053; GESC 051 or GESC 061; CHEM 024 with a grade of "C" or better. (ENST)

GESC 163. Environmental Field Methods. 3 Units.

Field methods of environmental science are introduced to students. Senior standing in the Environmental Science major or permission of instructor. (ENST)

GESC 187. Internship in Geosciences. 1-4 Units.**GESC 197. Undergraduate Research. 1-4 Units.****HIST 052. John Muir's World: Origins of the Conservation Movement. 4 Units.**

John Muir (1838-1914) is considered by most the "father" of the modern Conservation Movement. This course traces his life, his conservation crusades, and his global legacy. Home of the John Muir Papers, University of the Pacific's Library is used by all students in the course for research on an aspect of John Muir's contributions to conservation. Field trips to the John Muir National Historic Site in Martinez and to Yosemite National Park are often a part of this course. (ENST, GE2B)

HIST 136. American Environmental History. 4 Units.

This course is a topical survey of historical roots of environmental crises in contemporary North America beginning with Western concepts of natural history. The course mainly focuses on three centuries of changing American attitudes and policies and activities that led to the rise of the Conservation Movement by the late nineteenth century, With includes tensions between users and preservers, and the development of an ecological school of environmentalism beginning in the 1940's. (ENST)

INTL 101. Social Science Research Methods. 4 Units.

Students are introduced to how research is conducted in the social sciences. The course shows how qualitative and quantitative research complements each other and it compares research methodologies in the different social science disciplines. The course also introduces basic statistical methods for analyzing social scientific data, and introduces the use of computers for quantitative analysis. Prerequisite: fundamental quantitative skills. (ENST, GE3B, PLAW)

INTL 107. Global Economic Issues. 4 Units.

This course is an introduction to international trade, international finance and economic development. Economic principles and tools are used to understand the interconnected global economy. Topics include trade theory and policy; regional and multilateral trading system; trade and climate change; balance of payments; foreign exchange markets and exchange rate determination; and the role of foreign aid private capital flows and trade policy in economic development. This course is cross-listed as ECON 071. Prerequisites: ECON 053; ECON 051 or ECON 055. INTL 107 cannot be taken for credit if the student has taken or is concurrently enrolled in ECON 121 or ECON 123. (ENST)

INTL 174. Global Environmental Policy. 4 Units.

Students examine the major environmental problems that confront the world today and an analysis of specific policies formulated to address those problems. Among the issues to be studied are deforestation, atmospheric and marine pollution, climate change, ozone depletion, and species loss. Prerequisite: POLS 051. (ENST)

MATH 035. Elementary Statistical Inference. 4 Units.

Emphasis is on the applications and limitations of statistical methods of inference, especially in the social and behavioral sciences. Topics include: estimation and test of hypothesis concerning a single group, One-way Analysis of Variance and analysis of categorical data. The use of statistical computer programs is addressed. Credit is not given for this course if a student has received credit for MATH 037 or has AP credit in Statistics. Prerequisite: MATH 003 or MATH 005 or MATH 041 with a "C-" or better, or an appropriate score on either the Elementary Algebra placement test, the Intermediate Algebra Placement test, or the Pre-calculus placement test or permission of instructor. (ENST, GE3B, MATH, PLAW)

MATH 037. Introduction to Statistics and Probability. 4 Units.

Students study elements of descriptive statistics: graphs, tables, measures of central tendency and dispersion. Probability models including binomial and normal are covered. The course introduces to estimation, hypothesis testing and analysis of variance in addition to linear and multiple regression and correlation. The use of statistical computer programs is addressed. The course is not recommended for first semester freshmen. Credit is not given for this course if a student has received credit for MATH 035 or has AP credit in Statistics. Prerequisites: MATH 033 or MATH 041 or MATH 045 or MATH 051 or MATH 053 with a "C-" or better or appropriate score on the calculus placement test. (ENST, GE3B, MATH, PLAW)

MUIR 187. Internship. 1-4 Units.

Supervised experiential learning opportunity (ELO) in (a) library/museum research and operations on a subject connected with John Muir's life or legacy; (b) field work or office setting within an environmental organization; federal, state, or local environmental agency; or educational work through an environmental institute or institution, to be contracted on an individual basis. Prerequisites: sophomore standing and permission of the supervisor. (ENST)

PHIL 035. Environmental Ethics. 4 Units.

Students investigate into various environmental problems and the ethical attitudes and principles required to address them. Questions might include: Do animals have rights? Do plants, or whole ecosystems, or future generations of people, have interests, and if so, are we obligated to respect these interests? Are humans part of nature, and is that which is natural always good? Are you required to perform environmentally-friendly acts even in cases where doing so involves some cost to you and you lack assurance that enough others will join you to make a collective difference? Can we put a "price" on environmental goods like clean water, a species' existence, a beautiful vista, and even a human life—as economists frequently try to do? (ENST, GE2B)

POLS 119. Government in Action: Public Policy Analysis. 4 Units.

This course is an analysis and evaluation of how government makes and implements policy at various levels, both state and local. This is a core major requirement that develops political science learning objectives that are the bases for advanced coursework in the major. Prerequisite: POLS 041. (ENST, PLAW)

POLS 133. Political Science Research. 4 Units.

This course develops skills needed for conducting and understanding research in political science and other social sciences. The course includes research design, critical statistical techniques and computer applications. Prerequisite: Fundamental Skills Math. (ENST, GE3B, PLAW)

SOCI 108. Food, Culture and Society. 4 Units.

Are you what you eat, or do you eat what you are? This course focuses on the role of food in society, with an emphasis on understanding food in its social and cultural contexts. Topics include food and nutrition; problems of over- and under-eating; food fads; food sacrifices and taboos; food and social and ethnic identity; and the global politics of food. Although beginning with a look at American food ways, the course is highly cross-cultural and comparative in nature. (DVSU, ENST, ETHC)

SOCI 111. Environment and Society. 4 Units.

Students examine the relationship between society and the natural world. It comparatively analyzes theories concerning how humans relate to the natural world as well as the causes of environmental degradation. It attends to the various roles of the biological and social sciences in understanding environmental issues, as well as the relationship between environment and inequality. The course analyzes how various social systems, institutions and behaviors contribute to environmental degradation, and highlights and compares political solutions. (DVSU, ENST, ETHC, GE3C)

Ethnic Studies Program

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Ethnic-Studies.html>

Phone: (209) 946-2245; (209) 946-2611

Location: WPC 212 Social Science Hub; WPC 127

Ahmed Kanna, Director

Minors Offered

Ethnic Studies

Ethnic Studies is an interdisciplinary minor, incorporating courses offered in various schools and departments. It provides students with multiple models of critical theories and methodologies for examining the intersections of race, ethnicity, gender, culture, and class in the historical formations of the United States, with an emphasis on the experiences and perspectives of historically disenfranchised populations such as African Americans, Asian Americans, Latinos, and Native Americans.

Ethnic Studies broadens students' major fields of study, prepares students for interdisciplinary inquiries at the graduate level, and enhances students' employment opportunities in law, education, business, medicine, government, communication, and social services, among other professions.

Mission Statement

The Ethnic Studies Program at the University of the Pacific is dedicated to interdisciplinary learning which equips students with the conceptual and practical skills necessary for participating competently and responsibly in all aspects of civic life, which contribute to advancing social equity, inclusive democracy, and global citizenship.

Objectives

The Ethnic Studies Program's Goals and Objectives consist of the following:

1. to provide an opportunity for all students to gain a deeper understanding of the relationship between social structure and the experience of racial and ethnic difference;
2. to examine the problems of racial and ethnic inequality as a means of promoting the pursuit of social justice and equity;
3. to investigate the intricate relationships among race, class, gender, and culture historically and in contemporary society;

4. to facilitate the incorporation of scholarship on underrepresented racial and ethnic groups into the university curricula;
5. to equip students with historical frameworks and theoretical tools that will enable them to engage more productively in their respective areas of study, and to better prepare them for their leadership roles in a democratic society; and
6. to foster ties among all students of various racial and ethnic backgrounds, and between students and local communities.

Minor in Ethnic Studies

Students must complete a minimum of 20 units and 5 courses with a grade point average of at least 2.0 in order to earn the minor in ethnic studies.

Minor Requirements:

ETHN 011	Introduction to Ethnic Studies	4
Electives (Four additional courses from Ethnic Studies course offerings)		16

Note: 1) See the list at the end of ETHN course offerings. **2)** At least two of these courses must be 100 or above. **3)** These 5 courses have to be taken in more than one discipline.

Students are not required to take a capstone course to complete the minor.

Optional		4
ETHN 189	Service Learning Practicum	
ETHN 197	Undergraduate Research	

Note: 1) Student must have a 2.5 GPA in order to take ETHN 197. **2)** ETHN 011 is a prerequisite for the above capstone courses.

Ethnic Studies Courses

ETHN 011. Introduction to Ethnic Studies. 4 Units.

This course introduces students to the theories and practices of Ethnic Studies, with a focus on the racial formation in the United States, and its impact on the experiences and social statuses of racialized groups, including, but not limited to, Blacks, Latinos, Native Americans, Asians, / Pacific Islanders, and Whites. The primary course contents include histories, critical race theories, media representations and critical studies. While California serves as the major geographical location of racial formation in this study, the issues the class explores are situated in national and global contexts. Through a critical examination of histories and contemporary issues regarding the social positions of racialized groups in the U.S., the course seeks an understanding of "the irreducibility of race in U.S. political and cultural life" (Winant 33). (At the same time, the forces and conditions for social change and cultural transformation are examined. The contributions of historically marginalized "minority" Americans to the development of American democracy is a major discussion and research topic. (DVSU, ETHC, GE1B)

ETHN 189. Service Learning Practicum. 2-4 Units.

As one of the capstone courses, the Service Learning Practicum offers students an opportunity to integrate and apply the skills, knowledge, and theories that they have learned to community-based service learning projects related to their academic interests. Each student works with a faculty supervisor, who provides guidance for the student's experiential learning. While a capstone course is strongly recommended, it is optional. Students can take an alternative course for completing a minor in Ethnic Studies. Prerequisite: Completion of ETHN 011 and another course in Ethnic Studies. (ETHC)

ETHN 191. Independent Study. 2-4 Units.

This course is an undergraduate independent study. A student who takes this course works with a faculty member approved by the Director of Ethnic Studies.

ETHN 193. Special Topics. 2-4 Units.**ETHN 197. Undergraduate Research. 2-4 Units.**

This is one of the two capstone courses. It offers students an opportunity to integrate and apply the skills, knowledge, and theories they have learned to a particular research project in a field of their academic interest. Each student works with a faculty supervisor who has expertise in the student's research topic. While this course is strongly recommended, it is optional. Students do not need to take this course for completing a minor in Ethnic Studies. Prerequisite: Overall GPA 2.5 or above, completion of ETHN 011 and another course in Ethnic Studies.

Other Ethnic Studies Courses**ANTH 053. Cultural Anthropology. 4 Units.**

This introductory course covers the anthropological view of humanity, the character and nature of culture, and the diversity of the human species. The major concepts, methods, and theoretical assumptions of the discipline are illustrated by applying anthropological perspectives to peoples from around the world. Topics include culture, ethnicity, and language; kinship, marriage, and social organization; time and space; religion, magic and rituals; gender and sexuality; power, inequality, and political relations; economic production, circulation, and consumption; social control; and the various forces and forms of change. General Education IC. (DVSY, ETHC, GE1C)

BUSI 165. International Marketing. 4 Units.

Students examine the environment for marketing across borders. The course covers marketing practice, policies and strategies in the multinational setting. Students complete a global screening of countries and draw up a marketing plan and strategy for a given product. Prerequisite: BUSI 107 with a "C" or better. Junior standing. (ETHC)

COMM 133. Documentary Film as Persuasive Communication. 4 Units.

This course is a survey of documentary film beginning at the turn of the century and continuing through contemporary productions from a historical and rhetorical perspective. Students explore documentary film's origins and trace out its development in relation to its use and reception as students become familiar with the history of the documentary, the evolution of the genre, its rhetorical construction and its cultural influences. (DVSY, ETHC, FILM)

COMM 143. Intercultural Communication. 4 Units.

This course analyzes the major variables affecting interpersonal communication between persons of different cultural backgrounds. (DVSY, ETHC, GE1C)

ECON 180. Labor Economics. 4 Units.

This course examines labor's role in the market system and the response of labor and government to market failures. Microeconomic analysis of labor supply and demand, wage and employment determination, and the effects of discrimination are also studied as well as the development of the labor movement from a chronological and theoretical perspective with emphasis on the collective bargaining process. The influence of public policy on labor relations and labor market functioning is also discussed. This course is also listed as a Gender Studies course. Prerequisite: ECON 053. (ETHC)

EDUC 129. Seminar: Cultural Basis of Conflict in Education. 3 Units.

Analysis of cultural diversity in American classrooms. Not open to doctoral students. (ETHC)

EDUC 163. Teaching English Learners. 4 Units.

This course is designed to equip mainstream classroom teachers with the theory, principles, knowledge, and skills to effectively understand and teach English Language Learners at a variety of levels of English proficiency in K-8 classrooms. Teachers will develop appropriate strategies and approaches for developing language proficiency and link their practice to both the California English Language Development Standards and the new Common Core State Standards. Students observe and implement these strategies during their field experiences in order to see, practice, and reflect on effective ways to meet the needs of English learners. Objectives include appropriate assessment, planning, and implementation of sheltered content instruction. Fieldwork hours (160 series fieldwork) specific to this class are required. A grade of C or higher is required for passing this course. Prerequisites: EDUC 100, 140, and 150, or instructor/C & I department permission; minimum GPA of 2.5; Fingerprint and TB test clearance. (ETHC)

EDUC 164. Introduction to Bilingual Education. 4 Units.

This course provides an overview of bilingual education and is designed to meet the needs of both undergraduate and graduate students who are interested in understanding the role of bilingual, bicultural education in schools. Students explore the related implications of second language acquisition research, sociopolitical theory, and historical as well as contemporary experiences in the contexts of program design, instructional practice, and school/community relations toward a conceptualization of bilingual education as a source of pedagogical enrichment strategies for all learners in all settings. Prerequisites: EDUC 100 and EDUC 131. (ETHC)

EDUC 166. Teaching English Learners, Single Subject. 3 Units.

This course is designed to equip mainstream classroom teachers with the theory, principles, knowledge, and skills to effectively understand and teach English Language Learners at a variety of levels of English proficiency in K-12 classrooms. Teachers develop appropriate strategies and approaches for developing language proficiency and link their practice to the California English Language Development Standards and the new Common Core State Standards. Students observe and implement these strategies during their field experiences in order to see, practice, and reflect on effective ways to meet the needs of English learners. Objectives include appropriate assessment, planning, and implementation of sheltered content instruction. Fieldwork hours (160 series fieldwork) specific to this class are required. A grade of C or higher is required for passing this course. Prerequisites: EDUC 140 or instructor/C & I department permission; minimum 2.5 GPA; Fingerprint and TB test clearance. (ETHC)

EDUC 181. ECE: Social Justice/Diversity. 3 Units.

This course is conducted as an undergraduate level seminar that is designed to examine key normative issues in the area of social justice, diversity and multiculturalism with an emphasis in early childhood education. The relation of social diversity (race, ethnicity, gender, language, societal attitudes and class) to equality in education and education reform movements is viewed from multiple contexts. Topics explored are diversity, sociopolitical aspects of history and the impact on education, and specifically, early childhood education and multiculturalism. A practicum is required in this course. (DVSY, ETHC)

EDUC 204. Pluralism in American Education. 3 Units.

This course is a multi-disciplinary examination of the effects of cultural and social pluralism on educational policy, philosophy, classroom instruction and professional ethics in American public education, both historically and as contemporary issues. (ETHC)

EDUC 264. Introduction to Bilingual Education. 4 Units.

This course provides an overview of bilingual education and is designed to meet the needs of both undergraduate and graduate students who are interested in understanding the role of bilingual, bicultural education in schools. Students explore the related implications of second language acquisition research, sociopolitical theory, and historical as well as contemporary experiences in the contexts of program design, instructional practice, and school/community relations toward a conceptualization of bilingual education as a source of pedagogical enrichment strategies for all learners in all settings. (ETHC)

ENGL 126. Environment and Literature. 4 Units.

This course examines the intertwining of science, technology, nature, and culture as reflected in environmental literature. Its content and approach are interdisciplinary. The required reading include literary texts and writings from the natural and social sciences, which engage with the debates on the construction and destruction of "nature", sustainability, biodiversity, and bioengineering. The intersections of environmental imperialism, environmental justice, globalization and ecological crises are major components of the course inquiry. (DVSY, ENST, ETHC, GE3C, GEND)

ENGL 160. Blues, Jazz, and Literature. 4 Units.

Students in this interdisciplinary seminar explore how thematic and formal aspects of work songs, spirituals, blues, and jazz have shaped and been shaped by 19th and 20th century (African) American literature and culture. Students will examine the assigned blues, jazz, fiction, novels, and poetry as explorations of the history of racial and class conflict in America; as mediations on individual and collective loss and longing; and as means of aesthetic transcendence. Students will conduct independent research. Prerequisite: Sophomore Standing. (ETHC, GE1B)

ENGL 161. Topics in American Ethnic Literature. 4 Units.

Studies of contributors to American Literature within the context of their shared ethnicity are the focus of this course. Topics change and possible offerings include American Immigrant Literature, African-American Poetry, Black Women Writers, Blues, Jazz and Literature, and Chicano/a Literature. This course may be repeated once for credit with a different focus. (DVSY, ETHC, GE1B, GEND)

ENGL 162. Asian American Literature. 4 Units.

If "postmodernism" signals "the end of master narratives" and "the end of nature," as critics claim, then postmodernism can be understood in terms of epistemological challenges to the production of knowledge. Such challenges have opened up new possibilities for creativity, narrative, and critical inquiry. This course introduces students to major texts by Asian American writers, whose reinventions of literacy genres revitalize the power of literature, as they seek to engage with the legacies of colonialism and their connections to economic globalization, environmental degradation, and resistance from the Global South. (DVSY, ETHC, GE1B, GEND)

HESP 141. Sport, Culture and U.S. Society. 4 Units.

This course is designed to explore the relationship between sport, culture and society in both the USA and the broader global world. Students learn to critically examine a wide range of topics that include, but not limited to, sport and gender, sport and race, global sports worlds, drugs and violence in sport, sport and politics and the crime-sport nexus. The intention of this course is to develop the student's sociological imagination and encourage the student to think critically about the role sport plays in the development of societies, ideologies and everyday life. (DVSY, ETHC, GE1B, GEND)

HIST 120. Native American History. 4 Units.

Taking an international interdisciplinary approach, this course examines the history of native peoples of different regions of North America from contact to the present. This course looks at how environmental change, disease, and biological vulnerability interacted with racial ideologies, economic, and social factors to facilitate European conquest. While this course is primarily concerned with the United States, considering the whole of North America enables students to see the similarities and differences between Indian experiences in a variety of regions. (DVSY, ETHC, GE1B)

HIST 123. Civil War Era. 4 Units.

This course begins with an analysis of events and factors leading up to the Civil War. It then examines in depth the war years covering the development of technology, leadership, military medicine, and the social experience of war for men and women, free and slave. The course concludes with a study of the immediate post-war years of Reconstruction across the nation. (DVSY, ETHC, GEND)

HIST 124. History of the American West. 4 Units.

This course studies the causes and consequences of America's westward expansion and along with the beginnings of Spanish and French settlements to modern times, with emphasis on the people, the myths, and the technologies that have shaped western development and culture. (ETHC)

HIST 125. Early America: From Settlement to New Nation. 4 Units.

This class focuses on the period from the arrival of Europeans and Africans in British North America at the beginning of the seventeenth century through the establishment of the new United States. In a combination of lecture and seminar format, we explore the social, political, cultural, and environmental changes that occurred as the new arrivals and native peoples learned about each other. They created a new world and ultimately, formed a new nation born in blood and fire. But exactly what kind of nation that would be was something that still needed to be resolved. (ETHC)

HIST 130. History of California. 4 Units.

This course is a survey of the Golden State from its first description as a mythical island in the sixteenth century to the state's economic and political prominence in our own times. Native American beginnings, Spanish Mission Period, Mexican California, the Gold Rush and its consequences, and Modern California from World War II to the present are emphasized. Class participants select famous "California History Makers" and present their own research with presentations on notable figures in the State's unique history from Spanish friars and explorers to politicians, inventors, scientists, Hollywood's most influential, and others in California's Hall of Fame. This class is especially recommended for future educators, but it is open to all. (ETHC)

HIST 132. American Immigration. 4 Units.

This course focuses on immigration in the 19th and 20th centuries exploring the experiences of the diverse immigrant communities in the United States. It also explores causes of immigration; experiences within the U.S.; effects of class, race and gender; and issues of identity. America's changing understandings of race and ethnicity over time are also central themes covered. Immigration and ethnicity are pressing social concerns in contemporary America. Congress debates "reform" bills while ordinary Americans protest current policy. While immigration policy issues impress us with their urgency, they are by no means new. (DVSY, ETHC, GE1C)

HIST 137. His-panic USA. 4 Units.

When writer Oscar Hijuelos first set eyes on the word "Hispanic" he read it as "His-Panic," believing that this group of people caused alarm to Anglo society. Why do Hispanics cause so much panic? Hispanics have replaced African Americans as the largest minority group in the United States. Major news sources have written about the US government's preoccupation and concern with what "Hispanics"/Latinos do, eat, say, wear, and watch. Yet, and perhaps what is at the root of the "panic", the "largest minority" continues to be seen as "foreign." As a group, Hispanics represent all racial groups, while at the same time, they continue to identify with their country of origin rather than with a particular racial group, making it difficult to fit them into the United States' system of racial categorization. (ETHC)

HIST 139. Borderlands. 4 Units.

This course takes a unique approach by combining historical inquiry with analysis of contemporary issues in teaching this course. The relationship between Mexico and the United States has been one of conflict and codependency, constantly changing with the shifts in domestic politics and economics on each side of the border. The Mexican and U.S. communities located on or near the border frequently feel the strongest and most immediate impact of this (dis)union. The borderlands are the areas of intersections between cultures, nations, histories. The borderlands, straddling the periphery of two nations, are fundamentally different from either country. Moreover, the border and its culture have many implications that reach far beyond that region, affecting the lives of migrants, laborers, and, on a larger scale, governments and the environment. (ETHC)

HIST 167. Gender in the History of Science/Medicine/Technology. 4 Units.

This course introduces students to the literature on gender in the history of science, technology, and medicine. Students learn how to use gender to analyze scientific practice and examine how it intersects with other historical categories such as race, ethnicity, sexuality, class, and nationality. The course explores five interrelated topics: (1) The historical participation of women and men in scientific work, (2) the scientific and historical construction of sex and sexuality, (3) the influence of ideologies of gender on the methodology of science, medicine, and engineering, (4) the gendering of technologies and artifacts, (5) the relation between ideas of gender, science, and politics. Based on their increased historical understanding, students reflect upon their own gendered experiences and expectations in encountering science as students, as laboratory workers, patients, and consumers. This course is open to both science and non-science majors. (DVSY, ETHC, GE3C, GEND)

MUJZ 008. Introduction to Jazz. 3 Units.

This is an introduction to jazz studies and performers through intelligent listening and historical research. This course teaches jazz as an art form created by African-Americans and it investigates issues concerning race, ethnicity, and social justice. Topics include connections to slavery, Civil and World Wars, segregation, and the musical response of African-Americans. Students write a live performance critique, album reviews, artist papers, and a research paper. No previous study of music is required. (ETHC, GE2C)

POLS 104. Urban Government. 4 Units.

Students examine the structure and operation of urban units of government with emphasis on inter-governmental and inter-group relations in the United States. Problems of finance, racial, ethnic and class conflict, the adequacy of services and planning for future growth are included. The course emphasizes the role of race, class, and ethnicity in the city and is approved by Ethnic Studies. (DVSY, ETHC)

POLS 134. American Political Thought. 4 Units.

Principles and problems of political theory within the American setting are examined as they emerge from the founding period to the present. The course explores both the mainstream tradition and branches of counter traditions of political ideas in America. Emphasis is on the themes of authority, community, equality, liberty. (DVSY, ETHC, GE2B)

PSYC 017. Abnormal and Clinical Psychology. 4 Units.

This course covers the history of mental health and mental health diagnoses; past and current research findings, and prevailing thoughts and current controversies in the field of mental health and treatments. (DVSY, ETHC, GE1A)

PSYC 129. Advanced Lab in Developmental Psychology. 4 Units.

This advanced lab will focus on a more in-depth exploration of a specific topic area within the field of Developmental Psychology. The course will include a strong research/ applied component that will help students get a more hands on feels for research and/ or application of the concepts within the field. Possible topics include The Study of Infants, Psychology of Aging, Cognitive Aging, or other topics. Prerequisites: PSYC 029, PSYC 102 with a C- or better. (DVSY, ETHC)

RELI 143. Religion, Race, Justice in US. 4 Units.

Throughout American history, religion has played a pivotal role in discussions of race, both in justifications for slavery and racial discrimination and in movements for social justice. In the 19th century, white supremacists argued that a passage in Genesis about Noah and his sons preordained the enslavement of Black people. During the Civil Rights movement, the Black church played a central role and Martin Luther King quoted extensively from the Bible in speeches such as his "I Have a Dream speech." Other Black civil rights advocates argued that the connection between racism and Christianity ran so deep that true liberation could not be found in the Christian church. This course will examine the intersection of religion and race. We will look at race and ethnicity in the Bible and early biblical interpretation and then turn to the American experience. The course will address multiple religious traditions, although it will concentrate primarily on Christianity. We will look at both history and pressing contemporary issues. (DVSY, ETHC, GE1B)

SLPA 143. Multicultural Populations. 3 Units.

Students examine theoretical models of normal second language acquisition and bilingualism that emphasize the relationship to accurate identification of communication disorders. The content distinguishes between language differences due to differing cultural linguistic variables and underlying, cross-lingual language impairment. Current research and trends in diagnosis and re-mediation techniques for multicultural clients is studied as well as. Problem-solving approaches for specific clinical cases. (DVSY, ETHC)

SOCI 027. Sociology of Families and Intimate Relationships. 4 Units.

In this course, family life is examined through a historical, cultural and political lens to contextualize the changing institution of the family. The evolution of the family is studied both historically and comparatively, but the focus is on the contemporary U.S. family. Special attention is given to the changing significance of sexuality in marriage, the persistent gendered nature of family structure and organization, and evolving norms around childbearing and childrearing. Other topics that will be addressed include domestic violence, divorce, out-of-wedlock childbearing, and alternative family forms. The course emphasizes how family life varies across race and ethnic groups, social class, religion and geographic location. (ETHC, GEND)

SOCI 041. Social Problems. 4 Units.

This course is an exploration of the process by which various social conditions become labeled as social problems worthy of policy responses. It examines the various roles played by the media, government actors, activists and everyday citizens in this process, and pays particular attention to the role of power in enabling some social groups to label the behaviors of others as problematic while deflecting attention from their own practices. This course focuses predominantly on the US, but also engages in comparative analysis with other countries. (DVSY, ETHC, GE1B, GEND)

SOCI 108. Food, Culture and Society. 4 Units.

Are you what you eat, or do you eat what you are? This course focuses on the role of food in society, with an emphasis on understanding food in its social and cultural contexts. Topics include food and nutrition; problems of over- and under-eating; food fads; food sacrifices and taboos; food and social and ethnic identity; and the global politics of food. Although beginning with a look at American food ways, the course is highly cross-cultural and comparative in nature. (DVSY, ENST, ETHC)

SOCI 111. Environment and Society. 4 Units.

Students examine the relationship between society and the natural world. It comparatively analyzes theories concerning how humans relate to the natural world as well as the causes of environmental degradation. It attends to the various roles of the biological and social sciences in understanding environmental issues, as well as the relationship between environment and inequality. The course analyzes how various social systems, institutions and behaviors contribute to environmental degradation, and highlights and compares political solutions. (DVSY, ENST, ETHC, GE3C)

SOCI 123. Sex and Gender. 4 Units.

This course introduces students to the sociological study of sex and gender. Sociologists define gender as a social category that is organized around perceived biological differences between men and women. As such, the study of gender is not simply the study of women. It is the study of how gender categories, identities, and institutions structure our lives and society. The course critically analyzes the sex and gender categories that organize social life and investigates how gender identities are constructed in everyday social life. Particular attention is paid to how social institutions reinforce gender identities and reproduce gender inequalities over time, as well as how sex and gender are intricately linked to other social statuses such as race, class, and sexuality. (DVSY, ETHC, GEND)

SOCI 125. Sociology of Health and Illness. 4 Units.

This course introduces students to the sociology of medicine and the delivery of health care, with an emphasis on the interaction of patients, health care professionals, and social institutions. Topics of examination include health care settings, provider-patient relationships, ethical issues in health care, and trends in medicine and policies. Additionally, the course explores how race, class, and gender affect people's health and illness in addition to how health policies shape the medical system, and how definitions, attitudes, and beliefs affect health and illness. (DVSY, ETHC, GE1B, GEND)

SOCI 133. Criminology. 4 Units.

Students analyze the nature and distribution of crime, theories of crime causation and prevention as well as an examination of the operation of police and judicial agencies. (ETHC, GE1A, PLAW)

SOCI 141. Race and Ethnicity. 4 Units.

Historical and contemporary forms of prejudice and racism are the focus of this course. Social institutions such as the media, education, family and government are examined for their role in fostering—as well as challenging—prejudice and racism. Racism, defined by sociologists as structural and institutionalized forms of discrimination, is central to the course. Some of the texts deals with the intersection of anti-Semitism, racism, sexism and classism, that allows students to consider how multiple forms of discrimination, are intertwined. Although centered in Sociology, the course readings and films are interdisciplinary in nature. Prerequisite: a course in sociology or permission of instructor. (DVSY, ETHC)

SOCI 161. Urban Society. 4 Units.

What effects has the historical emergence of cities had on human social interaction and public life? How do urban places structure social relations and create identities and cultural meanings? This course explores the development of the city and its effects on social life. Particular attention is given to issues of poverty, interracial interaction and segregation, suburbanization, gentrification, urban development and urban cultural movements. Though this course takes US metropolitan areas as its primary focus, it also draws on global examples. (ETHC)

SOCI 172. Social Inequality. 4 Units.

This course examines the historical causes, current structure, and consequences of social inequality. The emphasis is on contemporary social, economic and political issues in the United States. This course focuses on various group experiences of inequality due to race, class, gender, sexual orientation, immigration status, nativity, etc. Various sociological perspectives and empirical research are applied to gain a better understanding on how social inequality is created, manifested, and maintained. Students investigate the effects of social inequality on society, and possible frameworks to reduce the level of social inequality. Prerequisites: SOCI 051, SOCI 071, and SOCI 079. (DVSY, ETHC, GEND)

SPAN 124. Escritores hispanos en los Estados Unidos. 4 Units.

This course is a systematic survey of U.S. Latino literature. This course provides an overall view of Hispanic literature in the United States with emphasis on the literature of one or more of its major groups: Mexican-Americans, Cuban-Americans, or "Nuyoricans." This course may be repeated with permission of the instructor. Recommended: SPAN 101 or SPAN 103 with a "C-" or better. (DVSY, ETHC)

Film Studies

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Film-Studies.html>

Phone: (209) 946-2613

Location: Humanities "Hub" (WPC Annex)

John Lessard, Director

Minors Offered

Film Studies

The program deals with film in the context of the liberal arts, with focus on the medium as an art form. It examines film as a "text" which can be studied through diverse critical and theoretical perspectives, including such approaches as Formalism, Neo-Historicism, psychoanalysis, gender theory, auteur theory and genre theory. Film is analyzed both from its technical aspects and its function as a cultural referent. It accommodates both high art and popular culture, both an international discourse and an individual auteurism.

Students can take film courses to enhance their liberal education through cultivation of critical and aesthetic knowledge, or they may use their

studies to enter a variety of professions. These include: teaching, film making, writing, work in the film/television industry, advertising, computer software, graphic design, entertainment law, production finance. Graduate programs in film, film and literature, and interdisciplinary studies are available. Also, students may go on to technical training in editing, cinematography, directing and screenwriting.

Learning Outcomes

1. Identify and apply a variety of critical theoretical approaches and film aesthetics in writing on filmic texts.
2. Create films using the skills acquired in the production courses.
3. Operate a variety of film technology including: camera, editing equipment, lighting, and audio equipment.
4. Assemble groups of students to collaborate on developing and producing scripts and films.
5. Select an appropriate film format or genre for their productions.
6. Identify the aesthetic and persuasive messages in their productions as well as in classic and contemporary films.

Minor in Film Studies

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in film studies.

Minor Requirements:

ENGL 031	Aesthetics of Film	4
Four Film Studies electives		16

Film Studies Courses

FILM 195. Independent Capstone. 4 Units.

The Capstone course is a 4 unit course designed to conclude students' experiences as film studies' majors at the University of the Pacific as well as to develop students' research, writing, and/or production skills. In class, students analyze or produce films that pertain to the special topic of their choice. Peer review will occur throughout the writing or film production process. At the end of the course, students present their findings and/or films to the class and faculty members from the Film Studies department in a 15-20 minute presentation. Junior or Senior standing.

Other Film Studies Courses

ARTH 116. Contemporary World Art 1945 to Present. 4 Units.

This course explores major artists, styles, and movements in world art from 1945 to the present. Gestural abstraction, Pop, Photo Realism, Happenings, Video, Performance, Conceptual and Political art as well as film are a few of the trends that are considered. Ever-expanding notions of what constitutes art in this pluralistic era is also examined. This course satisfies a requirement of the Film Studies minor. (FILM, GE2C, GEND)

ARTS 011. Digital Photography. 3 Units.

This course provides an introduction to the theory, process, and aesthetics of digital photography. Through a series of practical and conceptual assignments, students learn to work with digital cameras and a selection of software for image editing and printing. Students must provide their own digital cameras with fully manual exposure controls. Approximately \$150 should be budgeted for other photographic materials that are not supplied by the University. Additional lab fees also apply. (FILM, GE2C)

ARTS 095. Video I. 3 Units.

Video I is an introductory level course teaching the construction of time-based visual narratives. Students will develop projects using camera generated images and time-based software applications. Assignments focus on sequential storytelling, animation, video editing, and thematic development. Students must provide their own digital still cameras for this course. Approximately \$100 is needed for other materials and equipment that are not supplied by the University. Additional lab fees. (FILM)

ARTS 141. Photography II. 3 Units.

This intermediate course builds upon level one instruction in digital photography. This course introduces students to the photographic studio with practical instruction in studio lighting theory and techniques. The course also includes advanced camera and digital software applications for professional photographers who create photographs for editorial illustration, publication and exhibition. A laptop computer, preferably Mac, is required. Prerequisite: ARTS 045. (FILM)

ASIA 120. Asian Cinemas. 4 Units.

This is an introductory course on Asian films that focuses on how contemporary films from China, Hong Kong, Taiwan, Japan, Korea, Vietnam and India represent their people, re-imagine their cultural identities, and negotiate the local and global, tradition and modernity. Possible topics include the relationship between film and literary/cultural discourses, and traditional aesthetic praxis; different film genres; visual images and cinematic techniques; and various thematic concerns. The course aims to both expand the knowledge of the cinematic and socio-historical contexts of Asian cinemas and to enhance critical thinking. Lectures and readings are in English; all films have English subtitles. (FILM, GE2C)

COMM 131. Media Production. 4 Units.

Practical and theoretical application of audio and video production techniques are covered in this course with an emphasis on aesthetic qualities of sight and sound productions. Some work involves student media facilities. A Lab fee is required. Prerequisite: COMM 031 or permission of instructor. (FILM)

COMM 133. Documentary Film as Persuasive Communication. 4 Units.

This course is a survey of documentary film beginning at the turn of the century and continuing through contemporary productions from a historical and rhetorical perspective. Students explore documentary film's origins and trace out its development in relation to its use and reception as students become familiar with the history of the documentary, the evolution of the genre, its rhetorical construction and its cultural influences. (DVSU, ETHC, FILM)

COMM 134. Documentary Film Production. 4 Units.

This course is a field video production course in documentary production. Through a series of assignments, lectures and screening students learn the basics of video production for documentary style productions. This includes research, management, pre-production, production and post-production processes. Students work primarily within groups to produce documentary projects using digital production equipment and techniques. There are no prerequisites for this course. (FILM)

ENGL 031. Aesthetics of Film. 4 Units.

This course introduces the principles of artistic expressiveness of films; lighting, color, camera, composition, space, movement, image, setting and sound. Attention is also given to narrative techniques and editing styles. This course explores such theories as realism, formalism, surrealism, Marxism, psychoanalysis and gender theory. Both American and foreign films are viewed and discussed. (FILM, GE2C)

ENGL 115. Screenwriting. 4 Units.

In this comprehensive course, students study the art and craft of short subject and feature film screenwriting, including, but not limited to: theme, plot, story, structure, characterization, format, and dialogue via writing, lecture, discussion, close analysis, and instructor-peer critique. Time is spent not only on idea generation and visual storytelling, but on how to meaningfully connect with the audience. Students are required to write: two short film treatments (one original and one adaptation), a short film script, a detailed film treatment, and the first 10+ pages of a feature film screenplay. **(FILM)**

ENGL 121. Major Filmmakers. 4 Units.

The focus of this course is on the work of such major directors as Coppola, Fassbinder, Scorsese, Fellini, Kubrick, Bergman, Hitchcock, Antonioni, Losey, Bertolucci and Truffaut. The course also considers major schools of cinema: French New Wave, Italian Neo-Realism, New German Cinema and narrative genres such as the psychological thriller, chamber film and epic. Emphasis is placed on critical analysis and interpretation of the individual director's styles and themes. This course may be taken twice if it is taught with a different theme in each instance. **(FILM, GE2C)**

ENGL 123. Film, Literature, and the Arts. 4 Units.

This course investigates the theory, practice and critical methods underlying aesthetic form in the arts, including film, literature, painting and sculpture. Corollary illustrations are drawn from music and architecture. This comparative course attempts to examine the underlying styles and structures among the arts. **(FILM, GE2C, GEND)**

ENGL 124. Film History. 4 Units.

This course is a comprehensive look at the history of cinema, from its beginnings in Europe and America, through the emergence of national cinematic traditions and the classical period tied to the Hollywood studio system, and concluding with current transnational developments. This course includes screening and analysis of significant American and international films. **(FILM)**

ENGL 131. Shakespeare. 4 Units.

Eight to ten of Shakespeare's plays, are studied from a variety of critical perspectives, such as the historical, psychological, philosophical, formalist, cultural and theatrical approaches. Selections are examined from each major genre (comedy, tragedy, history). Specific plays vary from term to term; the reading list may include such works as Twelfth Night, The Tempest, King Lear, Macbeth, Richard II, Henry IV (Parts One and Two) and Henry VIII. **(DVSY, FILM, GE2A, GEND)**

FREN 120. Le Cinema Francais/French Cinema in English. 4 Units.

Students study the development of French cinema from its inception to the present through the analysis of themes, culture, styles, and cinematography. Directors who are studied include Lumiere, Melies, Vigo, Gance, Renoir, Carne, Godard, Truffaut, Resnais, Chabrol, Tavenier, Varda, Cantet, Kassovitz and others. The course is in French. Occasionally offered in English with no prerequisite. (Course is applicable to the French Studies Track in French or English version.) Prerequisite: FREN 025 with a "C-" or better or permission of the instructor. **(FILM, GE2C)**

HIST 119. History Goes to Hollywood. 4 Units.

This course examines how films shape our understanding of certain historical events. It provides students with the tools to watch films critically and to place them in the context of a broader historical time period. The films selected cover different time periods from the ancient to the modern world and portray a variety of national and cultural contexts. **(FILM, GE2C, GEND)**

MCOM 019. Music and Computer Technology. 3 Units.

This in-depth course of study examines the use of the digital audio workstation Logic Studio Pro as a tool for creative composition. Topics include basic sequencing and MIDI recording, the manipulation of MIDI using the Environment Window, use of digital audio in a MIDI environment, MIDI controller manipulation, sampling and digital synthesis, and plug-in effects and instruments. This project oriented study requires that students complete several compositions during the process of the course. Prerequisite: MCOM 009. **(FILM)**

MCOM 127. Music, Sound, and Film. 2 Units.

In any visual experience from real-life to commercial cinema to sound/image installation, sound plays a significant role in defining the expressive and relational content of the experience. This course explores the use of sound/music in film and experimental art with an emphasis on understanding the complex role sound plays in our experience. Through readings, film viewing, discussion, and analysis, students delve into the thinking of current sound designers, sound artists, and composers. Prerequisite: MCOM 029. **(FILM)**

MEDX 117. Film Production. 4 Units.

Students are introduced to the fundamental principles of motion picture production. Emphasis is on visual storytelling and auditory communication through demonstration, hands-on production and critical analysis. Students produce short films in small crews. Some equipment and materials are provided by the school, but approximately \$300 should be budgeted for miscellaneous expenses and lab fees. **(FILM, GE2C)**

MMGT 106. Sound Recording Fundamentals. 3 Units.

This course introduces students to basic audio techniques applicable to recording sound. This course is a combination of lecture, lab sessions and independent studio projects which provides a basic understanding of how audio is captured, stored and manipulated in the recording industry. **(FILM)**

RELI 171. Religion and Cinema. 4 Units.

Students study the way religious ideas, institutions and figures are presented on film. The course involves screening and analyzing various films. The scope of the course is international and intercultural, but the majority of the images are Western. The course intends to demonstrate the power of cinematic images to define, illustrate, enrich and sometimes pervert religious sensibility. **(FILM, GE2C)**

SPAN 114. Cine hispano/Hispanic Film. 4 Units.

A study of the development of Latin American or Peninsular cinema through the analysis of themes, styles, and cinematic techniques. Themes include Latin American women film directors or films of Pedro Almodovar, among others. The course is taught in Spanish. Films in Spanish have English subtitles. The course is occasionally offered in English. **(FILM, GE2C, GEND)**

THEA 031. Stage Makeup Fundamentals. 2 Units.

Students study essentials of makeup for stage, including basics of makeup application, color theory, etc. Class projects include two-dimensional and three-dimensional techniques, cross-gender and stylized makeup designs. Students learn to apply makeup on themselves and, through service hours to Theatre Arts productions, on others. **(FILM)**

THEA 037A. Costume Construction and Technology. 2 Units.

This class covers all aspects of costume construction, including pattern making, pattern alterations, fitting adjustments, hand and machine sewing, and other related methods and materials for costume construction. Classwork includes participation in current Theatre Department productions. This course is intended for majors and minors, but is suitable for interested general students. Prerequisite: THEA 033 with a "C-" or better or permission of instructor. **(FILM)**

THEA 071. Beginning Acting. 3 Units.

This course introduces students to the theories and techniques of acting. Fundamental skills of acting are explored through exercises, character analysis, scene study, and improvisation, based on the theories of Konstantin Stanislavsky. This course satisfies a G.E. II-C requirement. (FILM, GE2C)

THEA 137. Lighting Technology. 2 Units.

Students study and practice the principals of Theatrical Lighting while working with equipment and technology in both classroom and lab environments. Course includes the controllable properties of lighting, including, color, texture and fixture choice, as well as experience with programming cues through the computer light board. Study includes basic understanding of electricity and electronics and as well as practical participation in current Theatre Department productions. This course is intended for majors, but is suitable for interested general students. Prerequisite: THEA 033 with a "C-" or better or permission of instructor. (FILM)

THEA 171. Intermediate Acting. 3 Units.

This course is an in-depth characterization and scene-study class that explores acting theory. Student actors critique acting assignments, prepare scene analyses, define character objectives and intentions and perform a series of scenes and audition pieces. Contemporary and some classical dramatic literature are explored. Final projects include formal written analyses, solo and ensemble presentations. Prerequisites: THEA 071 with a "B" or better and permission of instructor. (FILM)

Gender Studies

Jennifer Helgren, Director

Phone: (209) 946-2343

Minors Offered

Gender Studies

The Gender Studies Program at Pacific is a thriving interdisciplinary consortium of faculty and students committed to both a curricular and cultural environment supportive of the study of gender. We are interested in how gender intersects with definitions of nationality, race, ethnicity, and class; and how gender identities are constantly redefined over time. By exploring the relationship between gender identity and cultural meaning, we prepare students to think comparatively, structurally, and critically about their experiences and impact on the world. The dialogue we foster among the liberal arts, natural sciences, and the professions enriches the intellectual life of Pacific's students and faculty, as well as our surrounding community.

Minor in Gender Studies

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in gender studies.

Minor Requirements:

GEND 011	Introduction to Gender Studies	4
Electives (Four from the other approved courses list)		16

Note: 1) Only 2 of these courses can be taken in the same department.
2) There are special topics courses, frequently offered, which may be included toward the minor requirement.

Gender Studies Courses

GEND 011. Introduction to Gender Studies. 4 Units.

This course explores the social construction of masculinities and femininities throughout history and in the contemporary world. Students learn about the differences between sex and gender, the relationship of gender to power, and the ways in which gender is inscribed in various cultural discourses and practices. A multi-disciplinary analysis is incorporated throughout the course. (DVSY, GE1A, GEND)

GEND 191. Independent Study. 2-4 Units.

GEND 197. Undergraduate Research. 1-4 Units.

Other Gender Studies Courses

ARTH 114. 20th Century Art and Film. 4 Units.

Major styles of the 20th century that include Fauvism, Cubism, Expressionism, Surrealism, etc., and their appearance in visual arts, theater design, and film are explored. Students also evaluate how Western European artists borrowed imagery from other cultures and their relationship to colonialist concerns. Students also consider representations of the body and how this imagery relates to gender constructions. The effects of urbanization upon the artistic enterprise and the development of abstract and non-objective art are also considered. This course satisfies a requirement of Film Studies minor. (GE2C, GEND)

ARTH 116. Contemporary World Art 1945 to Present. 4 Units.

This course explores major artists, styles, and movements in world art from 1945 to the present. Gestural abstraction, Pop, Photo Realism, Happenings, Video, Performance, Conceptual and Political art as well as film are a few of the trends that are considered. Ever-expanding notions of what constitutes art in this pluralistic era is also examined. This course satisfies a requirement of the Film Studies minor. (FILM, GE2C, GEND)

ENGL 041. British Literature before 1800. 4 Units.

This course studies the major authors, works and traditions from Beowulf through the Pearl Poet, Chaucer, Spenser, Shakespeare, Donne, Milton, Dryden, Pope, Swift and others, to Johnson. There is a balanced concern for particular works, for historical continuity, for distinctive features of movements and periods such as the Renaissance and the Augustan period, and for the expanding definition of English literature. (DVSY, GE2A, GEND)

ENGL 123. Film, Literature, and the Arts. 4 Units.

This course investigates the theory, practice and critical methods underlying aesthetic form in the arts, including film, literature, painting and sculpture. Corollary illustrations are drawn from music and architecture. This comparative course attempts to examine the underlying styles and structures among the arts. (FILM, GE2C, GEND)

ENGL 125. Critical Colloquium. 4 Units.

Students study the theory and practice of the major modes of interpreting and criticizing literature, that include but are not limited to formalist, psychoanalytic, structural, gender and feminist and deconstructionist perspectives offered by designated English Department members and guest lecturers. (GEND)

ENGL 126. Environment and Literature. 4 Units.

This course examines the intertwining of science, technology, nature, and culture as reflected in environmental literature. Its content and approach are interdisciplinary. The required reading include literary texts and writings from the natural and social sciences, which engage with the debates on the construction and destruction of "nature", sustainability, biodiversity, and bioengineering. The intersections of environmental imperialism, environmental justice, globalization and ecological crises are major components of the course inquiry. (DVSY, ENST, ETHC, GE3C, GEND)

ENGL 127. Contemporary Critical Issues. 4 Units.

Students examine major aspects of literary theory from structuralism to post-structuralism. The course focuses on the interplay between and among such movements as deconstruction, post-colonialism, the new historicism, phenomenology and psychoanalysis. The course also discusses how contemporary theory has impacted such topics as gender, canon, reader-response and post-modernism. (GEND)

ENGL 131. Shakespeare. 4 Units.

Eight to ten of Shakespeare's plays, are studied from a variety of critical perspectives, such as the historical, psychological, philosophical, formalist, cultural and theatrical approaches. Selections are examined from each major genre (comedy, tragedy, history). Specific plays vary from term to term; the reading list may include such works as Twelfth Night, The Tempest, King Lear, Macbeth, Richard II, Henry IV (Parts One and Two) and Henry VIII. (DVSY, FILM, GE2A, GEND)

ENGL 135. Major American Authors. 4 Units.

This course is an advanced, in-depth analysis of an individual author (or pair of authors) including aesthetic qualities of the work throughout the author's career, historical and cultural contexts shaping the work, literary influences on the author's writing and thought, influence on other writers, and major scholarship about the work. Students conduct directed research. By semester the focus of the course changes to include authors such as Twain, Dickinson & Whitman, Ellison & Wright, Faulkner & Morrison, Frost & Stevens, Kingston & Tan, Melville, Steinbeck & Dos Passos. This course may be repeated once for credit with a different focus. (GEND)

ENGL 141. Topics in British Literature Pre-1800. 4 Units.

This course studies a single literary period designed to strengthen students' critical reading and writing skills as well as examine questions of literary themes, cultural and intellectual context, national identity, ethnicity, class, and/or gender. Student conduct directed research. Topics vary with titles such as The Age of Beowulf, The Medieval Mind, English Renaissance, Women Writers before Austen, and The Age of Unreason: 18th Century Literature. This course may be repeated once for credit with a different focus. (DVSY, GE2B, GEND)

ENGL 144. Medieval Women Readers and Writers. 4 Units.

What did women write before 16th century? Who was the readership of their texts? How did male authors represent women in medieval literature? What did their books look like before the advent of print? This course explores the intellectual life of medieval women in relationship to their socio-cultural and historical contexts. We will look at women as readers and producers of literature and try to understand how these roles were reconcilable to women's many other roles, such as mother, wife, businesswoman, etc. In addition, we will examine how women are represented in manuscript illuminations, and how images shape early readers' interpretations and contribute to the process of making meaning. Readings are grouped according to the sociocultural context in which works about (and by) women were produced, though we will see that some texts resist such simplistic classifications. (DVSY, GE2B, GEND)

ENGL 145. Romances of Magic in the West. 4 Units.

From the seven Kingdoms of Westeros to the Romances of Magic in Western Europe, this course contemporary incarnations such as The Game of Thrones? Drawing on gender theory and cultural analyses of race, class, religion, and colonialism, we will study medieval romances spanning the eleventh to the fifteenth centuries and consider various types of romance – historical, national, popular, chivalric, family, and travel romances, among others – to show how cultural fantasy resourcefully responds to changing crises, pressures, and demands in society. By engaging with the geographies known to and imagined by medieval English romance, we will map nascent, 15th-century English nationalism against earlier discussions about the medieval origins of romance as the imaginative self-portrait of 12th-century aristocracy. (DVSY, GE2B, GEND)

ENGL 161. Topics in American Ethnic Literature. 4 Units.

Studies of contributors to American Literature within the context of their shared ethnicity are the focus of this course. Topics change and possible offerings include American Immigrant Literature, African-American Poetry, Black Women Writers, Blues, Jazz and Literature, and Chicano/a Literature. This course may be repeated once for credit with a different focus. (DVSY, ETHC, GE1B, GEND)

ENGL 162. Asian American Literature. 4 Units.

If "postmodernism" signals "the end of master narratives" and "the end of nature," as critics claim, then postmodernism can be understood in terms of epistemological challenges to the production of knowledge. Such challenges have opened up new possibilities for creativity, narrative, and critical inquiry. This course introduces students to major texts by Asian American writers, whose reinventions of literacy genres revitalize the power of literature, as they seek to engage with the legacies of colonialism and their connections to economic globalization, environmental degradation, and resistance from the Global South. (DVSY, ETHC, GE1B, GEND)

FREN 051. French Literature in English. 4 Units.

A study of selected themes, periods, and genres in French and Francophone literature is examined. For specific topics, see FREN 124, FREN 122, and FREN 128. All readings, discussions, lectures, and exams are in English. This course is applicable to French Studies Majors, Minors, Gender Studies minor and all interested students. (GE2A, GEND)

FREN 128. Images et Voix de Femmes. 4 Units.

Students study images and voices of women from medieval times to the present. The course includes an analysis of "la condition feminine" in the French literary and cultural context with a focus on authors that include Marie de France, Louis Labe, Mme de Lafayette, George Sand, Colette, Wittig, Nemirovsky and others. The course is in French. Prerequisite: FREN 025 with a "C-" or better or permission of the instructor. It is occasionally offered in English as FREN 051. May be repeated with permission of the instructor. (GEND)

HESP 141. Sport, Culture and U.S. Society. 4 Units.

This course is designed to explore the relationship between sport, culture and society in both the USA and the broader global world. Students learn to critically examine a wide range of topics that include, but not limited to, sport and gender, sport and race, global sports worlds, drugs and violence in sport, sport and politics and the crime-sport nexus. The intention of this course is to develop the student's sociological imagination and encourage the student to think critically about the role sport plays in the development of societies, ideologies and everyday life. (DVSY, ETHC, GE1B, GEND)

HIST 041. The Problem with Latin America. 4 Units.

Since independence from Spain in the early nineteenth century Latin America has been plagued with struggles to achieve political stability, social justice, and economic development. Though an analysis of social movements, this course focuses on salient issues in the history of the independent nations of Latin America from the 1820s to the present and emphasizes the development of diverse societies and cultures. Students examine issues of state building, labor movements, inter-regional conflicts, and interethnic relations. The course uses a variety of sources - films, lectures, readings, and discussions - in an attempt to understand how social movements shaped and were shaped by economic and political forces. Finally, the class studies how colonial legacies, neocolonial ties and globalization have affected Latin America and its people. (GE1C, GEND)

HIST 065. Women and War. 4 Units.

This course takes an international approach to studying the history of women and war. The objective is to better understand how women's experience during war has changed over time and differed for women in a variety of countries. The class begins by studying the mythology of women and war, connecting ancient Greek war goddess Athena with present-day Hollywood depictions of women warriors. Lectures then focus on the theories positioning women in war history, and proceeds with a survey of women's participation in several modern wars, comparing women's experience in the U.S. with women in other parts of the world. Finally, the course ends with an in-depth discussion of several key themes in the histories of women and war: domestic ideology, prostitution, nursing, soldiering, war work, and protest/peace politics. (GEND)

HIST 113. Europe Since 1945. 4 Units.

Since the end of World War II, Europe experienced a period of peace and stability unprecedented in its history. This course examines the emergence of Europe out of the rubble, the new postwar order, the division of Europe during the cold war, and the political, economic and social changes in modern Europe. The class looks at the building and the collapse of the Berlin Wall, life behind the Iron Curtain, the break-up of European empires and the end of colonialism. European life and societies changed dramatically with the establishment of the European Union, the students' revolt in the 1960s and the women's movement. Since the collapse of the Soviet Union, new hopes and problems have replaced Cold War fears. The class also examines these changes and look at Europe at the beginning of a new millennium. (GE1C, GEND)

HIST 119. History Goes to Hollywood. 4 Units.

This course examines how films shape our understanding of certain historical events. It provides students with the tools to watch films critically and to place them in the context of a broader historical time period. The films selected cover different time periods from the ancient to the modern world and portray a variety of national and cultural contexts. (FILM, GE2C, GEND)

HIST 123. Civil War Era. 4 Units.

This course begins with an analysis of events and factors leading up to the Civil War. It then examines in depth the war years covering the development of technology, leadership, military medicine, and the social experience of war for men and women, free and slave. The course concludes with a study of the immediate post-war years of Reconstruction across the nation. (DVSY, ETHC, GEND)

HIST 133. Women in United States History. 4 Units.

The course examines the history of women in the United States from the colonial era to the present. In addition to examining political reform, it offers insights into the day-to-day lives of diverse American women at various points in the female life cycle. The course is organized chronologically and thematically to promote the study of women in relation to major historical events and to explore women's roles in families, communities, the nation, and the world. It examines cultural models of American womanhood, including maternal, domestic, sexual, and social models, their development and recent changes. The course uses various primary and secondary sources to evaluate both current and historical arguments regarding the status, roles, and experiences of American women. (DVSY, GE1B, GEND)

HIST 135. Women in Time and Place. 4 Units.

In the early twenty-first century news reports have covered the first mainstream woman presidential candidate, the Supreme Court's upholding of the Congressional "partial birth" abortion ban, mothers protesting the war in Iraq and young women fighting there, and how women in the US still make only 77 cents for every dollar men make. This course uses historical analysis to understand several current "women's issues." such as reproductive rights, women's roles in wartime, political participation, sports and body image, and work. The course considers the perspectives and experiences of women from various social and cultural groups and sets US women's experience in an international context. (DVSY, GE2B, GEND)

HIST 151. People's History of Mexico. 4 Units.

This course surveys the history of Mexico from its origins in pre-Columbian civilizations to the present day. In the process, students examine major historical themes and developments - the society and culture of the Aztecs and Mayas, the distinctive features of the colonial empire, the eras of Independence and of Revolution, modernization and post-modernity - as experienced by or as expressions of the actions and aspirations of Mexico's people. The course focuses on the historical experiences and struggles of Mexico's diverse ethnic and social groups and foregrounds their roles in the development of a uniquely Mexican nation. (GE1C, GEND)

HIST 167. Gender in the History of Science/Medicine/Technology. 4 Units.

This course introduces students to the literature on gender in the history of science, technology, and medicine. Students learn how to use gender to analyze scientific practice and examine how it intersects with other historical categories such as race, ethnicity, sexuality, class, and nationality. The course explores five interrelated topics: (1) The historical participation of women and men in scientific work, (2) the scientific and historical construction of sex and sexuality, (3) the influence of ideologies of gender on the methodology of science, medicine, and engineering, (4) the gendering of technologies and artifacts, (5) the relation between ideas of gender, science, and politics. Based on their increased historical understanding, students reflect upon their own gendered experiences and expectations in encountering science as students, as laboratory workers, patients, and consumers. This course is open to both science and non-science majors. (DVSY, ETHC, GE3C, GEND)

PSYC 066. Human Sexuality. 4 Units.

This course is the study of the biological, psychological and cultural bases of human sexual behavior. Topics include female and male sexual anatomy and physiology, love and communication, sexual behavior patterns, homosexuality and bisexuality, contraception, pregnancy and childbirth, sexual difficulties and sex therapy as well as sexually transmitted diseases. The course also examines changes in sexual functioning throughout the life span and it explores the development of male and female gender roles and the effect of gender roles on various aspects of life. This course is open to freshmen but does not count toward major. (GE1A, GEND)

RELI 044. Sex, Sin, and Salvation. 4 Units.

This course explores and analyzes sexuality and gender in terms of ethics and religion. It focuses primarily on historical and contemporary Christian perspectives with some attention to other religious traditions and philosophical viewpoints. Topics include such issues as sexual ethics, homosexuality, sexuality and spirituality, gender roles and connections between gender and ethical perspectives. (GE2B, GEND)

RELI 128. Social Topics in Early Christianity. 4 Units.

Students study of one or more social issues prominent during the early stages of Christianity. Topics vary according to the interests of faculty and students. (DVSY, GEND)

SOCI 027. Sociology of Families and Intimate Relationships. 4 Units.

In this course, family life is examined through a historical, cultural and political lens to contextualize the changing institution of the family. The evolution of the family is studied both historically and comparatively, but the focus is on the contemporary U.S. family. Special attention is given to the changing significance of sexuality in marriage, the persistent gendered nature of family structure and organization, and evolving norms around childbearing and childrearing. Other topics that will be addressed include domestic violence, divorce, out-of-wedlock childbearing, and alternative family forms. The course emphasizes how family life varies across race and ethnic groups, social class, religion and geographic location. (ETHC, GEND)

SOCI 041. Social Problems. 4 Units.

This course is an exploration of the process by which various social conditions become labeled as social problems worthy of policy responses. It examines the various roles played by the media, government actors, activists and everyday citizens in this process, and pays particular attention to the role of power in enabling some social groups to label the behaviors of others as problematic while deflecting attention from their own practices. This course focuses predominantly on the US, but also engages in comparative analysis with other countries. (DVSY, ETHC, GE1B, GEND)

SOCI 079. Self and Society. 4 Units.

Who are we? How did we come to be the way we are? How does the way we understand ourselves relate to our understandings of society? This course addresses these questions through the field of micro-sociology, which examines individual and small-scale social interactions through a sociological lens. Topics include the nature and scope of micro-sociology, the structure of social interaction, the development and maintenance of the social self, and the production and influence of culture. The course also explores the ways that hierarchies of race, class, gender and nation shape social identity. Prerequisite, may be taken concurrently: SOCI 051 or permission of instructor. (GEND)

SOCI 123. Sex and Gender. 4 Units.

This course introduces students to the sociological study of sex and gender. Sociologists define gender as a social category that is organized around perceived biological differences between men and women. As such, the study of gender is not simply the study of women. It is the study of how gender categories, identities, and institutions structure our lives and society. The course critically analyzes the sex and gender categories that organize social life and investigates how gender identities are constructed in everyday social life. Particular attention is paid to how social institutions reinforce gender identities and reproduce gender inequalities over time, as well as how sex and gender are intricately linked to other social statuses such as race, class, and sexuality. (DVSY, ETHC, GEND)

SOCI 125. Sociology of Health and Illness. 4 Units.

This course introduces students to the sociology of medicine and the delivery of health care, with an emphasis on the interaction of patients, health care professionals, and social institutions. Topics of examination include health care settings, provider-patient relationships, ethical issues in health care, and trends in medicine and policies. Additionally, the course explores how race, class, and gender affect people's health and illness in addition to how health policies shape the medical system, and how definitions, attitudes, and beliefs affect health and illness. (DVSY, ETHC, GE1B, GEND)

SOCI 172. Social Inequality. 4 Units.

This course examines the historical causes, current structure, and consequences of social inequality. The emphasis is on contemporary social, economic and political issues in the United States. This course focuses on various group experiences of inequality due to race, class, gender, sexual orientation, immigration status, nativity, etc. Various sociological perspectives and empirical research are applied to gain a better understanding on how social inequality is created, manifested, and maintained. Students investigate the effects of social inequality on society, and possible frameworks to reduce the level of social inequality. Prerequisites: SOCI 051, SOCI 071, and SOCI 079. (DVSY, ETHC, GEND)

SPAN 114. Cine hispano/Hispanic Film. 4 Units.

A study of the development of Latin American or Peninsular cinema through the analysis of themes, styles, and cinematic techniques. Themes include Latin American women film directors or films of Pedro Almodovar, among others. The course is taught in Spanish. Films in Spanish have English subtitles. The course is occasionally offered in English. (FILM, GE2C, GEND)

Geological and Environmental Sciences

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Earth-and-Environmental-Sciences.html>

Phone: (209) 946-2482

Location: Geosciences Center, South Campus

Dr. Laura Rademacher, Chair

Degrees Offered

Bachelor of Arts

Bachelor of Science

Majors Offered

Geological & Environmental Sciences (BS)

Geological & Environmental Sciences with Departmental Honors (BS)

- Environmental Science
- Geology

Geological & Environmental Sciences (BA)

Geological & Environmental Sciences and Law - Environmental Law Advantage Program (BA+JD)

Geological & Environmental Sciences with Departmental Honors (BA)

Minors Offered

Environmental Science

Geology

The Bachelor of Science in Geological and Environmental Sciences prepares students for professional employment or graduate study in geology or environmental science. Students earning a BS in Geological and Environmental Sciences can obtain competitive jobs in a number of fields, including geotechnical and environmental consulting, where they assess geologic hazards and environmental impacts, government agencies at the state and federal level, as well as in natural resource management. An increasing emphasis on environmental issues and growing demand for natural resources, in addition to recent retirement patterns in the Geological and Environmental Sciences, create a considerable demand for these well-trained scientists. According to the American Geological Institute, Masters and PhD-level geoscientists have experienced effectively zero unemployment during the past 20 years.

The Bachelor of Arts in Geological and Environmental Sciences - Environmental Law Advantage program allows students interested in a career in law to complete both an undergraduate degree and a law degree in six years (rather than the typical seven years). Students will earn a Bachelor of Arts in Geological and Environmental Sciences or in Environmental Studies and a law degree in a total of 6 years. Although students will be well prepared for an environmental law career, the LAW program enables students to practice in any area of law.

The Bachelor of Arts in Geological and Environmental Sciences is for liberal arts students with a strong interest in the earth and its environments, but who may not plan to pursue a career in the sciences. The breadth of a BA in Geological and Environmental Sciences is ideal for preparing students for professional degrees and successful careers in law, education, business, administration, or international relations.

Environmental Science Concentration

Environmental Science degrees use an interdisciplinary approach to the natural sciences, integrating a core of geology, biology, chemistry, and mathematics with policy and humanities classes. This degree prepares students for exciting careers in science-based fields, such as pollution abatement, ecosystem protection, environmental restoration, as well as newly emerging fields in science communications and the technology industry.

Geology Concentration

Geology degrees are built on a solid foundation in the natural sciences and integrate physics, chemistry, mathematics and a variety of advanced geology courses. This preparation provides the tools needed to scientifically approach all aspects of the earth system. Geology degrees are extremely marketable and prepare students for competitive careers in a broad range of traditional (geotechnical and environmental consulting, energy exploration, land use, resource management, natural hazard assessment) and non-traditional (law, policy, business, communication, education) fields.

Bachelor of Arts Major in Geological and Environmental Sciences and Law - Environmental Law Advantage Program

The six-year program (three undergraduate years and three law school years) is offered to qualifying Geological and Environmental Sciences (GESC) undergraduate students and culminates in students receiving both a Bachelor of Arts in Geological and Environmental Sciences and Law and a Juris Doctorate. Students may apply for the program before matriculating at University of the Pacific or at any time before the start of their second year of undergraduate studies as a full-time sophomore.

Successful applicants must have a high school GPA minimum of 3.2 on a 4.0 scale and an ACT minimum score of 25 or a SAT minimum score of 1050. A written application to the BA/JD Program detailing a student's motivation and qualifications must be completed at the time of expressed interest, including a mandatory in-person interview with GESC faculty. Admitted students must agree to participate in the tracking and monitoring system which is designed to ensure the student meets the general education and major requirements prior to applying to McGeorge.

All undergraduate course requirements in General Education and in ENST must be completed and at least 92 of the required BA degree credits must be compiled by the end of participating students' junior year at University of the Pacific. The students will not return to University of the Pacific for a senior year, but rather, will enter McGeorge as a first-year law student.

Students must fulfill all the criteria for admissions into McGeorge including completion of the McGeorge JD admissions application submitted through the Law School Admissions Council (LSAC) and a mandatory in-person interview with McGeorge faculty. Students admitted to the program will have minimum LSAT score of 153 and a minimum University of the Pacific cumulative grade point average of 3.3 (as calculated by LSAC). The GPA requirement will be calculated using cumulative undergraduate grades including the Fall grades of the student's junior year of college. Participants must sit for the LSAT exam no later than February of their junior year at University of the Pacific, although it is strongly recommended that students interested in applying take the LSAT in the fall or winter of their junior year. The LSAT exam is typically administered in June, October, December, and February. BA/JD Program students are eligible for all financial aid and merit scholarships available to McGeorge students.

University of the Pacific will award the baccalaureate degree to the participant after successful completion of the 22 credits, typically after the first year at McGeorge. These credits will count towards both the JD and the undergraduate degree. Tuition and fees for this fourth year will reflect McGeorge rates. For the students enrolled in McGeorge's part-time program, the degree will be awarded by after the completion of 22 units. The student's first year of law school grades will not be included in calculating the final GPA at University of the Pacific.

To stay in the program, students must remain in good standing throughout their first year of law school and complete the first year with a minimum 2.33 cumulative GPA. Students who fail to successfully complete the first year at McGeorge or who elect to withdraw may return to University of the Pacific. Any completed course work at McGeorge will be treated by University of the Pacific in the same manner as other University of the Pacific credits.

Systems & Cycles

Understand fundamental environmental systems, cycles, processes, and interactions between and among them.

Materials

Identify common earth materials in the lab and the field and interpret their origin.

Problem Solving

Acquire and apply knowledge from the liberal arts to address problems.

Standardized Approach

Employ consistently the standardized approach ("scientific method") in research and problem solving.

Oral Communication

Communicate science effectively in oral form and with a style appropriate to a range of audiences.

Written Communication

Communicate science effectively in written form and with a style appropriate to a range of audiences.

Professionalism

Demonstrate professionalism in interactions, collaboration, and approaches to ethical dilemmas in the discipline.

Bachelor of Arts Major in Geological and Environmental Sciences

Students must complete a minimum of 120 units with a cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in geological and environmental science.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) A complete list of the courses that satisfy the requirement above is found in the front Diversity Requirement section of this catalog and the online course search. **2)** Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **3)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

The student must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

The student must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

The student must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

GESC 102	Earth Surface Processes and GIS	4
GESC 103	Global Change	4
GESC 106	Earth Materials	5
GESC 148	Critical Zone Science	4
GESC 185	Capstone Seminar in Geological and Environmental Sciences	4
Select one of the following:		4
GESC 051	Dynamic Planet	
GESC 053	Earth and Life Through Time	
GESC 061	Geology of California	
GESC 065	Regional Geology	
Select one of the following:		4
BIOL 035	Environment: Concepts and Issues	
GESC 043	Environmental Science for Informed Citizens	
GESC 045	Soil, Water, and War	
Select two of the following GECS or BIOL electives: *		8-9
BIOL 072	Vertebrate Biology	
BIOL 074	Biology of Insects	
BIOL 076	Marine Biology	
BIOL 077	Marine Birds and Mammals	
BIOL 079	California Flora	
BIOL 171	Methods in Field Biology	
BIOL 175	Ecology	
GESC 110	Igneous and Metamorphic Petrology	
GESC 112	Sedimentology and Stratigraphy	
GESC 114	Structural Geology	
GESC 142	Geochemistry	
GESC 149	Environmental Hydrology	

GESC 161	Geologic Field Methods	4
Select one of the following:		
MATH 035	Elementary Statistical Inference	4
MATH 037	Introduction to Statistics and Probability	4
Select one of the following:		
CHEM 023	Elements of Chemistry	4
CHEM 024	Fundamentals of Chem	4
CHEM 025	General Chemistry	4
CHEM 027	General Chemistry	4
Select one of the following:		
CIVL 171	Water and Environmental Policy	4
ECON 157	Environmental and Natural Resource Economics	4
GESC 137	Environmental Law	4
INTL 174	Global Environmental Policy	4

* Electives should be selected in consultation with your advisor.

Bachelor of Arts Major in Geological and Environmental Sciences with Departmental Honors

Students must complete a minimum of 120 units with a cumulative grade point average of 3.5 and major/program grade point average of 3.3 in order to earn the bachelor of arts degree with a major in geological and environmental science with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) A complete list of the courses that satisfy the requirement above is found in the front Diversity Requirement section of this catalog and the online course search. **2)** Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **3)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

The student must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

The student must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

The student must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

GESC 102	Earth Surface Processes and GIS	4
GESC 103	Global Change	4
GESC 106	Earth Materials	5
GESC 148	Critical Zone Science	4
GESC 185	Capstone Seminar in Geological and Environmental Sciences **	4
GESC 197	Undergraduate Research ***	1-4
Select one of the following:		
GESC 051	Dynamic Planet	4
GESC 053	Earth and Life Through Time	4
GESC 061	Geology of California	4
GESC 065	Regional Geology	4
Select one of the following:		
BIOL 035	Environment: Concepts and Issues	4
GESC 043	Environmental Science for Informed Citizens	4
GESC 045	Soil, Water, and War	4
Select two of the following GECS or BIOL electives: *		
BIOL 072	Vertebrate Biology	8-9
BIOL 074	Biology of Insects	8-9
BIOL 076	Marine Biology	8-9
BIOL 077	Marine Birds and Mammals	8-9
BIOL 079	California Flora	8-9
BIOL 171	Methods in Field Biology	8-9
BIOL 175	Ecology	8-9
GESC 110	Igneous and Metamorphic Petrology	8-9
GESC 112	Sedimentology and Stratigraphy	8-9
GESC 114	Structural Geology	8-9
GESC 142	Geochemistry	8-9

GESC 149	Environmental Hydrology	
GESC 161	Geologic Field Methods	
Select one of the following:		4
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
Select one of the following:		4
CHEM 023	Elements of Chemistry	
CHEM 024	Fundamentals of Chem	
CHEM 025	General Chemistry	
CHEM 027	General Chemistry	
Select one of the following:		4
CIVL 171	Water and Environmental Policy	
ECON 157	Environmental and Natural Resource Economics	
GESC 137	Environmental Law	
INTL 174	Global Environmental Policy	

- * Electives should be selected in consultation with your advisor.
- ** Prepare a thesis, a national conference presentation, a manuscript for publication, or an extended GESC 185 paper. Student must present the results in a GESC seminar.
- *** Students must complete at least two semesters of GESC 197 under the direction of their chosen faculty member.

Bachelor of Science Major in Geological and Environmental Sciences

Students must complete a minimum of 120 units with a cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in geological and environmental science.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior
IB. U.S. Studies
IC. Global Studies

Arts and Humanities

IIA. Language and Literature
IIB. Worldviews and Ethics
IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic
IIIC. Science, Technology and Society
or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Students must complete the core courses and also select from one of the tracks below.

Core		
GESC 102	Earth Surface Processes and GIS	4
GESC 103	Global Change	4
GESC 106	Earth Materials	5
GESC 148	Critical Zone Science	4
MATH 037	Introduction to Statistics and Probability	4
MATH 051	Calculus I	4
GESC 185	Capstone Seminar in Geological and Environmental Sciences	4
Select one of the following:		4-5
CHEM 024	Fundamentals of Chem	
CHEM 025	General Chemistry	
CHEM 027	General Chemistry	
Select one of the following:		4
GESC 051	Dynamic Planet	
GESC 053	Earth and Life Through Time	
GESC 061	Geology of California	
GESC 065	Regional Geology	
Select one of the following:		4
BIOL 035	Environment: Concepts and Issues	
GESC 043	Environmental Science for Informed Citizens	
GESC 045	Soil, Water, and War	
Select one of the following:		4
CIVL 171	Water and Environmental Policy	
ECON 157	Environmental and Natural Resource Economics	
GESC 137	Environmental Law	
INTL 174	Global Environmental Policy	
Geology Concentration		
GESC 110	Igneous and Metamorphic Petrology	4
GESC 112	Sedimentology and Stratigraphy	4
GESC 114	Structural Geology	4

GESC 142	Geochemistry	4
GESC 161	Geologic Field Methods	4
Select one of the following: *		4
GESC 187	Internship in Geosciences	
GESC 197	Undergraduate Research	
Select one of the following:		5
PHYS 023	General Physics I	
PHYS 053	Principles of Physics I	
Select one of the following:		5
PHYS 025	General Physics II	
PHYS 055	Principles of Physics II	
Environmental Science Concentration		
BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 171	Methods in Field Biology	4
CIVL 060	Water Quality	4
BIOL 175	Ecology	5
Select one of the following:		4
BIOL 072	Vertebrate Biology	
BIOL 074	Biology of Insects	
BIOL 076	Marine Biology	
BIOL 077	Marine Birds and Mammals	
BIOL 079	California Flora	
Select one of the following:		4
ENGL 126	Environment and Literature	
HIST 052	John Muir's World: Origins of the Conservation Movement	
HIST 136	American Environmental History	
SOCI 111	Environment and Society	
PHIL 035	Environmental Ethics	
Select one of the following:		4
BIOL 197	Undergraduate Research	
GESC 187	Internship in Geosciences	
GESC 197	Undergraduate Research	

* Students can also complete a Geologic field camp.

Bachelor of Science Major in Geological and Environmental Sciences with Departmental Honors

Students must complete a minimum of 120 units with a cumulative grade point average of 3.5 and major/program grade point average of 3.3 in order to earn the bachelor of science degree with a major in geological and environmental science with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2

additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Students must complete the core courses and also select from one of the tracks below.

Core

GESC 102	Earth Surface Processes and GIS	4
GESC 103	Global Change	4
GESC 106	Earth Materials	5
GESC 148	Critical Zone Science	4
MATH 037	Introduction to Statistics and Probability	4
MATH 051	Calculus I	4
GESC 185	Capstone Seminar in Geological and Environmental Sciences *	4

Select one of the following: 4-5

- CHEM 024 Fundamentals of Chem
- CHEM 025 General Chemistry
- CHEM 027 General Chemistry

Select one of the following:	4
GESC 051	Dynamic Planet
GESC 053	Earth and Life Through Time
GESC 061	Geology of California
GESC 065	Regional Geology

Select one of the following:	4
BIOL 035	Environment: Concepts and Issues
GESC 043	Environmental Science for Informed Citizens
GESC 045	Soil, Water, and War

Select one of the following:	4
CIVL 171	Water and Environmental Policy
ECON 157	Environmental and Natural Resource Economics
GESC 137	Environmental Law
INTL 174	Global Environmental Policy

Geology Concentration

GESC 110	Igneous and Metamorphic Petrology	4
GESC 112	Sedimentology and Stratigraphy	4
GESC 114	Structural Geology	4
GESC 142	Geochemistry	4
GESC 161	Geologic Field Methods	4

Select one of the following:	4
GESC 187	Internship in Geosciences
GESC 197	Undergraduate Research

Select one of the following:	5
PHYS 023	General Physics I
PHYS 053	Principles of Physics I

Select one of the following:	5
PHYS 025	General Physics II
PHYS 055	Principles of Physics II

Environmental Science Concentration

BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 171	Methods in Field Biology	4
CIVL 060	Water Quality	4
BIOL 175	Ecology	5

Select one of the following:	4
BIOL 072	Vertebrate Biology
BIOL 074	Biology of Insects
BIOL 076	Marine Biology
BIOL 077	Marine Birds and Mammals
BIOL 079	California Flora

Select one of the following:	4
ENGL 126	Environment and Literature
HIST 052	John Muir's World: Origins of the Conservation Movement
HIST 136	American Environmental History
SOCI 111	Environment and Society
PHIL 035	Environmental Ethics

Select one of the following:	4
BIOL 197	Undergraduate Research
GESC 187	Internship in Geosciences
GESC 197	Undergraduate Research

* Prepare a thesis, a national conference presentation, a manuscript for publication, or an extended GESC 185 paper. Student must present the results in a GESC seminar.

** Students must complete at least two semesters of GESC 197 under the direction of their chosen faculty member.

Bachelor of Arts Major in Geological and Environmental Sciences and Law

Students must complete a minimum of 120 units with a cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in geological and environmental sciences and law.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) A complete list of the courses that satisfy the requirement above is found in the front Diversity Requirement section of this catalog and the online course search. **2)** Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **3)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

The student must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

The student must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

The student must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

GESC 102	Earth Surface Processes and GIS	4
GESC 103	Global Change	4
GESC 106	Earth Materials	5
GESC 148	Critical Zone Science	4
GESC 185	Capstone Seminar in Geological and Environmental Sciences	4
Select one of the following:		4
GESC 051	Dynamic Planet	
GESC 053	Earth and Life Through Time	
GESC 061	Geology of California	
GESC 065	Regional Geology	
Select one of the following:		4
BIOL 035	Environment: Concepts and Issues	
GESC 043	Environmental Science for Informed Citizens	
GESC 045	Soil, Water, and War	
Select two of the following GESC or BIOL electives: *		8-9
BIOL 072	Vertebrate Biology	
BIOL 074	Biology of Insects	
BIOL 076	Marine Biology	
BIOL 077	Marine Birds and Mammals	
BIOL 079	California Flora	
BIOL 171	Methods in Field Biology	
BIOL 175	Ecology	
GESC 110	Igneous and Metamorphic Petrology	
GESC 112	Sedimentology and Stratigraphy	
GESC 114	Structural Geology	
GESC 142	Geochemistry	
GESC 149	Environmental Hydrology	
GESC 161	Geologic Field Methods	
Select one of the following:		4
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
Select one of the following:		4
CHEM 023	Elements of Chemistry	
CHEM 024	Fundamentals of Chem	
CHEM 025	General Chemistry	
CHEM 027	General Chemistry	
Select one of the following:		4
CIVL 171	Water and Environmental Policy	
ECON 157	Environmental and Natural Resource Economics	
GESC 137	Environmental Law	
INTL 174	Global Environmental Policy	

* Electives should be selected in consultation with your advisor.

VII. Awarding the Bachelor of Arts degree

After successful completion of all the requirements listed above and successful completion of 22 units in the McGeorge School of Law JD program, students will be awarded a Bachelor of Arts in Geological and Environmental Sciences and Law.

VII. JD Requirements

The full requirements for a McGeorge Juris Doctorate are listed in their catalog. Students should refer to the specific degree requirements for their graduating class to ensure they are on track.

Minor in Environmental Science

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in environmental science.

Minor Requirements:

Select one of the following:		5-10
BIOL 041	Introduction to Biology	
BIOL 051	Principles of Biology	
& BIOL 061	and Principles of Biology	
Select one of the following:		5
BIOL 175	Ecology	
BIOL 176	Ecology and Conservation Biology	
Select one of the following:		4
GESC 043	Environmental Science for Informed Citizens	
GESC 051	Dynamic Planet	
GESC 053	Earth and Life Through Time	
GESC 061	Geology of California	
GESC 065	Regional Geology	
Select three courses in consultation with advisor *		12-15

* At least two courses must be GESC 100 or above, excluding GESC 105.

Minor in Geology

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in geology.

Minor Requirements:

Select one of the following:		4-5
GESC 051	Dynamic Planet	
GESC 053	Earth and Life Through Time	
GESC 055	Physical Geography	
GESC 057	Earth Systems Science	
GESC 061	Geology of California	
GESC 065	Regional Geology	
GESC Electives (4 additional courses GESC 100 and above excluding GESC 105)		16

Geo and Enviro Sciences Courses

GESC 020. Living on Planet Earth. 1 Unit.

This course is a concurrent seminar and field work course for participants in the Residence for Earth and Environmental Living and Learning Community (REELL). Students investigate their impact on Earth and the Environment within the context of guest lectures, discussions, and activities related to global environmental change, carbon footprints, management of natural resources, and sustainability. Prerequisite: Concurrent enrollment in the REELL community or permission of the instructor.

GESC 041. Environmental Geology. 4 Units.

This lecture and field work course studies the interaction between humans and the physical environment as well as analyzes the physical constraints placed on human activities by geological processes and the effects that human activities have on the environment. (ENST)

GESC 043. Environmental Science for Informed Citizens. 4 Units.

This interdisciplinary course of lecture, laboratory, and field work focus on the analysis of policy-relevant environmental problems in four domains: water, energy, climate and land use - with an emphasis on human interactions. (ENST, GE3A)

GESC 045. Soil, Water, and War. 4 Units.

The link between limited natural resources and human conflict along with historical and current conflicts is the focus of discussion and field work. Analysis of these conflicts allows achievement of understanding of the following: 1) water resources; 2) soil formation; 3) links between the environment and natural resources. (ENST, GE3C)

GESC 051. Dynamic Planet. 4 Units.

This course is an introduction to the fundamental concepts of geology and geological reasoning. Concepts covered include: the nature and origin of earth materials, the processes and forces which create and shape the surface of the earth and affect its internal structure within the context of deep time, as well as a study of earth resources and human interactions with the environment. The course includes laboratory and field work. Credit for this course is not given if a student has credit for GEOS 061, GESC 061, GEOS 065 or GESC 065. (ENST, GE3A)

GESC 053. Earth and Life Through Time. 4 Units.

This lecture, laboratory, and field study class introduces students to the geologic history of the earth as interpreted through analysis of the stratigraphic and fossil record, structural relationships and isotopic dating techniques. Particular emphasis is placed on the geologic evolution of North America. (ENST, GE3A)

GESC 055. Physical Geography. 4 Units.

This lecture, laboratory, and field study class examines interactions of earth's atmosphere, organisms, rocks and soil with an emphasis placed on climate, energy and nutrient cycles, and landform evolution. (ENST)

GESC 057. Earth Systems Science. 4 Units.

This lecture, laboratory, and field study class introduces the study of the Earth using a systems approach. The focus is on the subsystems (geosphere, hydrosphere, atmosphere, biosphere) and the dynamic interactions between them. The approach develops an understanding of the balance that exists in the global environment as a result of the processes within and interactions between the systems. (GE3A)

GESC 061. Geology of California. 4 Units.

This course is a lecture, laboratory, and field-based introduction to the fundamental principles of geology and geological reasoning that are reinforced during a four-day camping trip. The course involves a scientific study of the planet Earth, including earth systems, earth materials, the physical processes shaping the earth, and the history of the earth and its life forms within the context of deep time. The geologic implications of human activities on the environment, earth resources and climate change are also studied. Credit for this course is not given if a student has credit for GEOS 051, GESC 051, GEOS 065 or GESC 065. (ENST, GE3A)

GESC 065. Regional Geology. 4 Units.

This is a field intensive study of a geologically relevant area including investigations of plate tectonics, a formation of rocks and minerals, the hydrologic cycle, formation of landforms, geologic time, and climate change. Possible study regions include Hawaii, the Colorado Plateau, Chile, Costa Rica, and Alaska. This course includes laboratory work and a multi-day field trip during spring break. Credit for this course is not given if a student has credit for GEOS 051, GESC 051, GEOS 061 or GESC 061. (ENST, GE3A)

GESC 093. Special Topics. 4 Units.

Special Topics.

GESC 100. Mineralogy. 5 Units.

Minerals are studied through crystallography, crystal chemistry and crystal structure. This course focuses on the major groups of rock-forming minerals, their associations and origin and on mineral identification by physical properties, optical techniques, and x-ray methods. Prerequisites: CHEM 023 or CHEM 024 or CHEM 025 or CHEM 027; GESC 051 or GESC 053 or GESC 061 or GESC 065.

GESC 102. Earth Surface Processes and GIS. 4 Units.

This course examines the physical processes that shape the Earth's surface, including the qualitative description of landforms and the analytical and quantitative understanding of processes. The course emphasizes techniques for characterizing landforms, soils, and the processes that shape them, including spatial analysis, Geographic Information Systems (GIS), air photo interpretation, experimental simulation, and field methods. (ENST)

GESC 103. Global Change. 4 Units.

This lecture and laboratory interdisciplinary study of the Earth's dramatic and abrupt changes in the past and their tremendous environmental repercussions has an emphasis on human interactions and future changes. Prerequisites: an introductory GESC course; CHEM 023 or CHEM 024 or CHEM 025 or CHEM 027. (ENST)

GESC 105. Field Studies. 1 or 2 Unit.

This field study of geological phenomena in western North America involves a minimum of three continuous days on a department-supervised field trip. Students can repeat this course for up to 4 units of credit. Prerequisite: an introductory GESC course and permission of instructor.

GESC 106. Earth Materials. 5 Units.

This lecture, laboratory, and field work course studies the origin occurrence, and identification of rock-forming minerals and the rocks they are found in. The focus is on crystallography and chemical and physical properties of rock-forming minerals and the major rock-forming processes. Prerequisites: an introductory GESC course (GESC 051 or GESC 053 or GESC 061) and a college level course in chemistry (CHEM 023 or CHEM 024 or CHEM 025 or CHEM 027) or instructor permission. (ENST)

GESC 110. Igneous and Metamorphic Petrology. 4 Units.

This lecture, laboratory, and field work course characteristics, occurrence, origin and classification of igneous and metamorphic rocks with an emphasis on plate tectonic setting and the physical and chemical processes of the earth's interior. Methods include field study, hand specimen and thin section analysis. Prerequisite: GESC 106 or permission of instructor.

GESC 112. Sedimentology and Stratigraphy. 4 Units.

This lecture, laboratory, and field work course studies characteristics, occurrence, origins and 3-D relationships of sedimentary rocks, and the mineral resources they contain. The course focuses on the materials and processes of sedimentation, depositional environments, and the principles of stratigraphical analysis. Prerequisite, may be taken concurrently: GESC 106.

GESC 114. Structural Geology. 4 Units.

This lecture, laboratory, and required multi-day field trip course examines the character and causes of the geologic structures that deform Earth's crust within the context of whole-Earth structure, geotectonic processes and environments, and rock mechanics. Prerequisite: GESC 051 or permission of instructor. (ENST)

GESC 120. Paleontology. 4 Units.

This lecture and laboratory course examines the study of the description, identification, uses, principles, interpretation and methods of study of major groups of fossils; invertebrate and vertebrate animals, plants and single-celled organisms. Prerequisite: GESC 053 or permission of instructor.

GESC 136. Petrography. 4 Units.

This lecture and laboratory course examines identification, classification, and interpretation of igneous, sedimentary, and metamorphic rocks using the petrographic microscope. Prerequisites: GESC 110 and GESC 112.

GESC 137. Environmental Law. 4 Units.

This course introduces students to the field of environmental law and provides a strong background on the American legal system, including the role of the courts, the federal and state governments, and nongovernmental organizations. Students will survey most of our major federal environmental laws, including the Endangered Species Act, the Clean Water Act, and the Clean Air Act. Coursework will include guided case readings and in-class discussion of major environmental law cases. Prerequisite: Sophomore standing. (ENST)

GESC 142. Geochemistry. 4 Units.

This lecture, laboratory, and field work course examines the application of chemical principles to the study of geological processes. Prerequisites: an introductory GESC course; CHEM 024 or CHEM 025 or CHEM 027; MATH 041. (ENST)

GESC 144. Geomorphology. 4 Units.

This lecture, laboratory, and field work course studies the comprehensive treatment of the principles of landscape development, analysis of topographic maps and interpretation of aerial photographs. Prerequisite: an introductory GESC course. (ENST)

GESC 145. Engineering Geology. 4 Units.

This lecture, laboratory, and field work course introduces the study of applied geology in which geologic principles, data and techniques are applied to civil engineering problems. Prerequisites: GEOS 051 or GEOS 061 or CIVL 140. (ENST)

GESC 148. Critical Zone Science. 4 Units.

The Critical Zone is the Earth's permeable near-surface layer...from the tops of the trees to the bottom of the groundwater. Despite the Critical Zone's importance to terrestrial life, it remains poorly understood. In this class, we will strive to understand the complex web of physical, chemical, and biological processes of the Critical Zone using a systems approach across a broad array of sciences: hydrology, geology, soil science, biology, ecology, geochemistry, geomorphology, and more. Course includes laboratory and field work. Prerequisite: GESC 043 or GESC 053; GESC 051 or GESC 061; CHEM 024 with a grade of "C" or better. (ENST)

GESC 149. Environmental Hydrology. 4 Units.

An examination of the processes that govern the earth's hydrologic cycle such as precipitation, evaporation and transpiration, runoff and streamflow processes, infiltration and groundwater processes, and an exploration of anthropogenic effects on the hydrologic cycle. Topics include land-atmosphere interactions, movement of water in subsurface environments, contaminant transport in groundwater systems, streamflow generation, surface water flow dynamics, sediment budgets, urban runoff and flood control. Course includes laboratory work. Prerequisites: GESC 043 or GESC 051 or GESC 053 or GESC 061 and MATH 051.

GESC 161. Geologic Field Methods. 4 Units.

This lecture and field study course introduces the basic methods and techniques of geologic field work, including measuring, describing, and interpreting stratigraphic sections and constructing geologic maps and cross sections. Particular emphasis is placed on the collection, analysis, and interpretation of geologic data; developing scientific writing and oral presentation skills; and the effective use of computer-generated graphics. The course involves one-day and multi-day field trips. Prerequisites: an introductory GESC course, GESC 110 and GESC 114 or permission of instructor.

GESC 163. Environmental Field Methods. 3 Units.

Field methods of environmental science are introduced to students. Senior standing in the Environmental Science major or permission of instructor. (ENST)

GESC 185. Capstone Seminar in Geological and Environmental Sciences. 4 Units.

This seminar focuses on local/regional geological and environmental issues. Students investigate the background of local/regional geological/environmental issues and informed members of the community/region present their perspective on the issues. Students then work in teams to address scientific aspects of selected geological/environmental problems. Prerequisite: Senior standing in the major.

GESC 187. Internship in Geosciences. 1-4 Units.**GESC 191. Independent Study. 2-4 Units.****GESC 195. Professional Development Seminar. 0.5 Units.**

A weekly seminar encompassing special topical lectures, professional development, and department citizenship activities for students majoring in programs within the Geological and Environmental Sciences Department. Prerequisite: Junior or senior standing.

GESC 197. Undergraduate Research. 1-4 Units.**Environmental Studies Courses****BIOL 035. Environment: Concepts and Issues. 4 Units.**

Principles of ecology as they bear on world environmental problems are introduced with an emphasis on biological aspects of world problems and on the interrelationships between culture and environment. Global dimension of population, resources, food, energy and environmental impact are considered. Course does not count toward a biology major. (ENST, GE3C)

BIOL 041. Introduction to Biology. 4 Units.

A lecture and laboratory introduce the concepts of biology. Physical structure, physiology, nutrition, reproduction, growth and behavior are examined from the perspective of adaptation and interaction with the environment. Human, animal and plant systems are covered. Recommended for non-majors. Course does not count toward a biology major. (ENST, GE3A)

BIOL 051. Principles of Biology. 5 Units.

A lecture and laboratory introduction to evolutionary biology and ecology. Preparation for continued studies in biological science. (ENST, GE3A)

BIOL 061. Principles of Biology. 5 Units.

This course is a lecture and laboratory introduction to cellular and molecular biology, cellular energetics, biochemistry, genetics and evolution. Preparation for continued studies in biological science. (ENST, GE3A)

BIOL 072. Vertebrate Biology. 4 Units.

Taxonomy, life history, ecology and evolutionary history of vertebrates are emphasized. Prerequisites: BIOL 051 and BIOL 061. (ENST)

BIOL 074. Biology of Insects. 4 Units.

A lecture and laboratory introduce a broad study of the structure and function of over 700,000 different species. It includes a study of their morphogenesis, reproduction, behavior and relation to humans. The laboratory work includes at least three field trips on Saturdays in addition to the preparation of 50-75 classified insects. Both anatomy and physiology of insects is covered in the two weekly laboratories. (ENST)

BIOL 076. Marine Biology. 4 Units.

General concepts of community ecology, taxonomy and phylogeny, anatomical and physiological adaptations of marine organisms, and their interaction with the physical environment are the main focus. The class emphasizes natural history and identification of marine organisms of the Central California intertidal and sub-tidal environment. Prerequisites: BIOL 051 and BIOL 061. (ENST, GE3A)

BIOL 077. Marine Birds and Mammals. 4 Units.

Ecology, behavior, economic importance and conservation of cetaceans, pinnipeds, otters, sirenians, seabirds and shorebirds are introduced. Physical and biological oceanography are considered as they relate to distribution and abundance of marine birds and mammals. This course is open to non-majors as well as majors. Junior standing. (ENST)

BIOL 079. California Flora. 4 Units.

Identification and classification of flowering plants, gymnosperms, ferns and fern allies as represented in Northern Calif. are studied. (ENST, GE3A)

BIOL 130. Plant Kingdom. 4 Units.

Through lectures, laboratories and field trips, students are introduced to the morphology, reproduction biology and environmental requirements of all major groups of plants. Included are material bearing on the evolutionary relationships within and between each major group. Individual projects are required. Prerequisites: BIOL 051 and BIOL 061. (ENST)

BIOL 151. Parasitology. 4 Units.

Principles of parasitism as well as biology of animal parasites with special emphasis on the protozoa, platyhelminths, nematodes, acanthocephala and arthropods are studied. Techniques of recovery of parasites from various vertebrate hosts are introduced including staining, mounting and identification. Prerequisites: BIOL 051, BIOL 061, BIOL 101. (ENST)

BIOL 171. Methods in Field Biology. 4 Units.

A course focused on methods of biological investigation with emphasis on modern field sampling techniques and instrumentation. Students are trained in experimental design and quantitative data analysis used to address a range of biological questions. Prerequisites: BIOL 051 and BIOL 061 with a "D" or better. (ENST)

BIOL 175. Ecology. 5 Units.

The structure and dynamics of populations, biotic communities and ecosystems, is emphasized with particular focus upon relationships of organisms to their environments. Prerequisites: BIOL 051 and BIOL 061. (ENST)

BIOL 176. Ecology and Conservation Biology. 4 Units.

The principles of ecology are introduced with attention to consider threats and disruptions to ecological systems from the level of local populations through ecosystems, landscapes, and global processes. Ecological principles are used to help understand these systems, to make predictions for the future or for other systems, and to evaluate possible solutions. The class considers the importance of economic and demographic forces in causing conservation problems and in shaping conservation strategies, and students practice planning conservation areas. Prerequisite: BIOL 051. (ENST)

BIOL 197. Undergraduate Research. 1-4 Units.**CHEM 023. Elements of Chemistry. 4 Units.**

This course is designed for general interest in physical science and for preparation for further study in chemistry. Three class periods, one three-hour laboratory period a week, and enrollment in the Chemistry Workshop are required. (ENST, GE3A)

CHEM 024. Fundamentals of Chem. 4 Units.

This course covers general chemistry especially tailored for engineers and earth scientists. Important principles, theories and concepts include: stoichiometry, atomic and molecular structure, equilibrium, gases, thermodynamics, kinetic, electrochemistry and nuclear chemistry. Three lecture periods and one three-hour lab are required. Prerequisites: High school algebra or the equivalent, one year of high school chemistry with a "B" or better, or appropriate score on the Pacific Diagnostic Chemistry test or CHEM 023. (ENST, GE3A)

CHEM 025. General Chemistry. 5 Units.

The important general principles, theories and concepts of chemistry are studied, including fundamentals of chemistry and equilibrium. Three class periods, two three-hour laboratory periods a week, and enrollment in the Chemistry Workshop are required. Prerequisite: high school algebra or the equivalent. High school chemistry is highly recommended. CHEM 023 with a "C-" or better, Chemistry Subject Test, or appropriate score on Pacific Diagnostic Chemistry test. (ENST, GE3A)

CHEM 027. General Chemistry. 5 Units.

More important general principles, theories, and concepts of chemistry are studied including modern applications of quantum mechanics, bonding, chemical kinetics, liquids, solids, and properties of solutions. Additional special topics include coordination compounds, nuclear chemistry, organic chemistry and biochemistry. Three class periods, two three-hour laboratory periods a week, and enrollment in the Chemistry Workshop are required. Prerequisite: At least one year of high school chemistry is highly recommended. CHEM 025 with a "C-" or better, Chemistry Subject Test, or appropriate score on Pacific Diagnostic Chemistry test. (ENST, GE3A)

CHEM 141. Analytical Chemistry. 4 Units.

The roots of analytical chemistry and the principles used in modern instruments come from traditional techniques. These techniques include gravimetry, acid-base, complexometric, and redox titrations form the backbone of the course, which covers most major areas of modern quantitative analysis. The theory behind the techniques is covered through many numerical examples and their applications in environmental and biochemical analyses are emphasized. Standard procedures used in analytical laboratories are introduced, including error reporting, statistics, and quality assurance. Prerequisites: CHEM 025 and CHEM 027 or GEOS 142 with a "C-" or better. (ENST)

CHEM 197. Independent Research. 1-4 Units.

Prerequisite: CHEM 025 with a "C-" or better. (ENST)

CIVL 171. Water and Environmental Policy. 3 Units.

This course introduces students to Federal and State of California environmental regulations pertaining to air, water, hazardous wastes, and toxic substances. Topics include an overview of water rights and environmental impact assessment, relevant case studies, and examples of monitoring and enforcement issues. Prerequisite: Completion of all Fundamental Skills. Junior or Senior standing. (ENST)

COMM 117. Public Advocacy. 4 Units.

This course teaches the principles of persuasion in public contexts in the U.S. (types and characteristics of public audiences, official and unofficial advocacy campaigns, and media framing of public issues) from historical and theoretical perspectives. The focus is to make students aware of the constraints and opportunities in public advocacy arguments and their public dissemination. (ENST, GE1A)

ECON 071. Global Economic Issues. 4 Units.

This course is an introduction to international trade, international finance and economic development. Economic principles and tools are used to understand the interconnected global economy. Topics include trade theory and policy; regional and multilateral trading system; trade and climate change; balance of payments; foreign exchange markets and exchange rate determination; and the role of foreign aid private capital flows and trade policy in economic development. Prerequisites: ECON 053; ECON 051 or 055. ECON 071 cannot be taken for credit if the student has taken or is concurrently enrolled in ECON 121 or ECON 123. ECON 071 is also listed as an SIS course. (ENST)

ECON 125. Economic Development. 4 Units.

Examines the plight of the world's poor countries. Discussions of the extent of world poverty, and a review of the evolution of ideas on the topic of economic development over the past three decades are included. The course considers the following types of questions: What are the causes of development and/or underdevelopment? Are Third World countries merely at a primitive stage of development analogous to European countries prior to the Industrial Revolution? What are the roles of climate, the legal system, education, health and sanitation, natural resources, technology, multinational corporations, religious beliefs and so on? Are rich countries making a meaningful effort to aid poor countries? Can we, or even should we, help? Should emphasis be placed on the agricultural or industrial sector? This course is also listed as an SIS course. Prerequisites: ECON 053 and ECON 055 or permission of instructor. (ENST)

ECON 157. Environmental and Natural Resource Economics. 4 Units.

The application of economic theory to natural resource and environmental issues is examined. Microeconomic principles are used to suggest what a proper balance between human activity and environmental quality might be and to analyze current environmental policy. Topics include renewable and non-renewable resources, common pool resources, climate change, non-market valuation, cost-benefit analysis, role of government and the private sector in environmental preservation. Prerequisite: ECON 053. (ENST)

ENGL 126. Environment and Literature. 4 Units.

This course examines the intertwining of science, technology, nature, and culture as reflected in environmental literature. Its content and approach are interdisciplinary. The required reading include literary texts and writings from the natural and social sciences, which engage with the debates on the construction and destruction of "nature", sustainability, biodiversity, and bioengineering. The intersections of environmental imperialism, environmental justice, globalization and ecological crises are major components of the course inquiry. (DVSU, ENST, ETHC, GE3C, GEND)

ENST 041. Introduction to Environmental Studies. 4 Units.

This course provides an introduction to the interdisciplinary field of Environmental Studies. Students will examine how perspectives of the natural sciences, the humanities, and social sciences (such as economics and political science) can be used in order to better understand how people relate to and interact with our environment. The course will focus on contemporary environmental challenges in California's Central Valley, centered on the themes of water and food. More broadly, the course will consider core environmental studies questions like what we mean by "the environment" and how we understand mankind's place within it. (ENST, GE3C)

ENST 099. Environmental Studies Professional Development Seminar. 1 Unit.

In this seminar, Environmental Studies majors develop and implement a plan for building out the tools, skills, and experience that will support them in successfully pursuing their career goals. This seminar is required of all students enrolled as Environmental Studies majors in each fall when it is offered. (ENST)

ENST 100. Environmental Studies Issues and Solutions Seminar. 1 Unit.

This topical seminar is designed to give students exposure to important and emerging topics in Environmental Studies and the individuals and organizations that are working on them. In the course of the term, students will conduct background research on four topics and develop short, written reports analyzing the scientific, political, policy, and social dimensions of the issue. This course is required of all students enrolled as Environmental Studies majors in each Spring when it is offered and appropriate for students in Geological and Environmental Science, Biology, Chemistry, Communication, Economics, Business, Political Science, and International Studies. (ENST)

ENST 185. Capstone Seminar in Environmental Studies. 4 Units.

This seminar focuses on local/regional environmental issues. Students investigate the background of local/regional environmental issues and informed members of the community/region present their perspective on the issues. Students then work in teams to address scientific aspects of selected environmental problems. Prerequisite: Senior standing in Environmental Studies. (ENST)

ENST 187. Internship in Environmental Studies. 1-4 Units.

ENST 187A. Internship in Environmental Studies. 1-4 Units.

ENST 197. Undergraduate Research. 1-4 Units.

HIST 052. John Muir's World: Origins of the Conservation Movement. 4 Units.

John Muir (1838-1914) is considered by most the "father" of the modern Conservation Movement. This course traces his life, his conversation crusades, and his global legacy. Home of the John Muir Papers, University of the Pacific's Library is used by all students in the course for research on an aspect of John Muir's contributions to conservation. Field trips to the John Muir National Historic Site in Martinez and to Yosemite National Park are often a part of this course. (ENST, GE2B)

HIST 136. American Environmental History. 4 Units.

This course is a topical survey of historical roots of environmental crises in contemporary North America beginning with Western concepts of natural history. The course mainly focuses on three centuries of changing American attitudes and policies and activities that led to the rise of the Conservation Movement by the late nineteenth century, With includes tensions between users and preservers, and the development of an ecological school of environmentalism beginning in the 1940's. (ENST)

INTL 101. Social Science Research Methods. 4 Units.

Students are introduced to how research is conducted in the social sciences. The course shows how qualitative and quantitative research complements each other and it compares research methodologies in the different social science disciplines. The course also introduces basic statistical methods for analyzing social scientific data, and introduces the use of computers for quantitative analysis. Prerequisite: fundamental quantitative skills. (ENST, GE3B, PLAW)

INTL 107. Global Economic Issues. 4 Units.

This course is an introduction to international trade, international finance and economic development. Economic principles and tools are used to understand the interconnected global economy. Topics include trade theory and policy; regional and multilateral trading system; trade and climate change; balance of payments; foreign exchange markets and exchange rate determination; and the role of foreign aid private capital flows and trade policy in economic development. This course is cross-listed as ECON 071. Prerequisites: ECON 053; ECON 051 or ECON 055. INTL 107 cannot be taken for credit if the student has taken or is concurrently enrolled in ECON 121 or ECON 123. (ENST)

INTL 174. Global Environmental Policy. 4 Units.

Students examine the major environmental problems that confront the world today and an analysis of specific policies formulated to address those problems. Among the issues to be studied are deforestation, atmospheric and marine pollution, climate change, ozone depletion, and species loss. Prerequisite: POLS 051. (ENST)

MATH 035. Elementary Statistical Inference. 4 Units.

Emphasis is on the applications and limitations of statistical methods of inference, especially in the social and behavioral sciences. Topics include: estimation and test of hypothesis concerning a single group, One-way Analysis of Variance and analysis of categorical data. The use of statistical computer programs is addressed. Credit is not given for this course if a student has received credit for MATH 037 or has AP credit in Statistics. Prerequisite: MATH 003 or MATH 005 or MATH 041 with a "C-" or better, or an appropriate score on either the Elementary Algebra placement test, the Intermediate Algebra Placement test, or the Pre-calculus placement test or permission of instructor. (ENST, GE3B, MATH, PLAW)

MATH 037. Introduction to Statistics and Probability. 4 Units.

Students study elements of descriptive statistics: graphs, tables, measures of central tendency and dispersion. Probability models including binomial and normal are covered. The course introduces to estimation, hypothesis testing and analysis of variance in addition to linear and multiple regression and correlation. The use of statistical computer programs is addressed. The course is not recommended for first semester freshmen. Credit is not given for this course if a student has received credit for MATH 035 or has AP credit in Statistics. Prerequisites: MATH 033 or MATH 041 or MATH 045 or MATH 051 or MATH 053 with a "C-" or better or appropriate score on the calculus placement test. (ENST, GE3B, MATH, PLAW)

MUIR 187. Internship. 1-4 Units.

Supervised experiential learning opportunity (ELO) in (a) library/museum research and operations on a subject connected with John Muir's life or legacy; (b) field work or office setting within an environmental organization; federal, state, or local environmental agency; or educational work through an environmental institute or institution, to be contracted on an individual basis. Prerequisites: sophomore standing and permission of the supervisor. (ENST)

PHIL 035. Environmental Ethics. 4 Units.

Students investigate into various environmental problems and the ethical attitudes and principles required to address them. Questions might include: Do animals have rights? Do plants, or whole ecosystems, or future generations of people, have interests, and if so, are we obligated to respect these interests? Are humans part of nature, and is that which is natural always good? Are you required to perform environmentally-friendly acts even in cases where doing so involves some cost to you and you lack assurance that enough others will join you to make a collective difference? Can we put a "price" on environmental goods like clean water, a species' existence, a beautiful vista, and even a human life—as economists frequently try to do? (ENST, GE2B)

POLS 119. Government in Action: Public Policy Analysis. 4 Units.

This course is an analysis and evaluation of how government makes and implements policy at various levels, both state and local. This is a core major requirement that develops political science learning objectives that are the bases for advanced coursework in the major. Prerequisite: POLS 041. (ENST, PLAW)

POLS 133. Political Science Research. 4 Units.

This course develops skills needed for conducting and understanding research in political science and other social sciences. The course includes research design, critical statistical techniques and computer applications. Prerequisite: Fundamental Skills Math. (ENST, GE3B, PLAW)

SOCI 108. Food, Culture and Society. 4 Units.

Are you what you eat, or do you eat what you are? This course focuses on the role of food in society, with an emphasis on understanding food in its social and cultural contexts. Topics include food and nutrition; problems of over- and under-eating; food fads; food sacrifices and taboos; food and social and ethnic identity; and the global politics of food. Although beginning with a look at American food ways, the course is highly cross-cultural and comparative in nature. (DVSY, ENST, ETHC)

SOCI 111. Environment and Society. 4 Units.

Students examine the relationship between society and the natural world. It comparatively analyzes theories concerning how humans relate to the natural world as well as the causes of environmental degradation. It attends to the various roles of the biological and social sciences in understanding environmental issues, as well as the relationship between environment and inequality. The course analyzes how various social systems, institutions and behaviors contribute to environmental degradation, and highlights and compares political solutions. (DVSY, ENST, ETHC, GE3C)

Health, Exercise and Sport Sciences

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Health-Exercise-and-Sport-Sciences.html>

Phone: (209) 946-2209

Location: Main Gym

J. Mark VanNess, Co-Chair (Health & Exercise Science)

Lara Killick, Co-Chair (Sport Studies)

Degrees Offered

Bachelor of Arts

Bachelor of Science

Master of Arts (see Graduate Catalog for information)

Majors Offered

Health, Exercise and Sport Sciences (BA), with concentrations in:

- **Health & Exercise Science**
- **Sport Management**
- **PE, Coaching & Fitness**

Health and Exercise Science (BS)

Minors Offered

Health, Exercise, and Sport Sciences

Mission

The mission of the University of the Pacific's Department of Health, Exercise and Sport Sciences is to provide student-centered instruction, offer a progressive, dynamic, cross-disciplinary curriculum in the liberal arts and sciences tradition, and attract and sustain students and faculty of diversity and quality.

Degrees in Health, Exercise, and Sport Sciences

The Department of Health, Exercise and Sport Sciences offers programs of study leading to the Bachelor of Arts, Bachelor of Science, and Master of Arts degrees. The purpose of a Health, Exercise and Sport Sciences degree is to educate and prepare students for a variety of careers in the fields grounded in human movement.

Coursework provides students with a foundation of knowledge and understanding about the concepts within the discipline. Health, Exercise and Sport Sciences majors must successfully complete one of the following concentrations: health and exercise science, sport management or PE, Coaching & Fitness. All degree options culminate with internships or practical coursework in clinical and applied settings.

Upon completion of a degree in the Department of Health, Exercise and Sport Sciences, it is expected that students have the capacity to: obtain, read, and interpret important information from health, exercise & sport sciences literature; write clearly, critically and persuasively; prepare and deliver presentations effectively; work and collaborate in groups toward a common goal; design and conduct research studies using appropriate methodologies; identify and apply ethical standards to the current issues in a selected track/major.

Facilities

The Department of Health, Exercise and Sport Sciences has the following facilities for use in its programs: a Human Physiology laboratory, a Human Performance and Biomechanics laboratory, a Kinesiology laboratory, an Athletic Training laboratory, a computer lab, Main Gymnasium, and Baun Fitness Center.

General Service (Activity) Classes

A variety of physical activity classes are available for all interested University students who wish to acquire new motor skills, maintain an exercise routine and continue or start a fitness program. These classes focus on the "how" and "why" of various activities. These classes are worth one unit, and students can enroll on a voluntary basis. Examples are swimming for health, bowling, running for health, volleyball, badminton, tennis, golf, basketball, weight training, kick boxing, karate, yoga, aikido, kung fu, tae-kwon do, and self-defense for women.

Students on the Stockton campus can apply a combined total of eight units of ACTY 001-ACTY 049 – Activities, ACTY 050-ACTY 099 - Intercollegiate Sports and THEA 005A - THEA 005P in the Theatre Arts Department toward graduation. Up to 8 units of activity and intercollegiate sports classes may count toward the COP breadth requirement.

All activity classes are evaluated on the pass/no credit basis.

Health and Exercise Science

1. Meet all requirements to enter graduate programs in medicine or allied health sciences, particularly physical therapy, occupational therapy, and physician assistant programs.
2. Apply fundamental concepts of exercise biology to fulfilling health-related goals of a physical training program
3. Use concepts, language, and major theories of exercise physiology to describe acute responses to exercise and chronic adaptations to exercise training
4. Become reflective pre-professionals that are knowledgeable consumers of exercise science research in order to prescribe evidence-based exercise programs and be familiar with common measurement techniques and equipment in exercise science.
5. Develop the skills necessary to plan, implement, and evaluate effective and individualized exercise- or health-related exercise programs.
6. Demonstrate effective written and oral communication skills appropriate for success and advancement in the fields of health and exercise sciences.

Sport Management

1. Posses and apply management concepts in a manner that acknowledges the unique demands and applications of such information in sport settings
2. Understand the process of researching information and develop the ability to integrate research into the decision-making processes
3. Display a professional perspective in the field of sport management

- Maintain expertise in the fundamental management skills of writing, public speaking, interpersonal communication, critical thinking, decision making, and strategic planning.
- Demonstrate the ability to interact in a global and diverse sport environment
- Display competency with the use of technology across the various aspects of sport management.

PE, Coaching & Fitness

- Identify, apply and evaluate discipline-specific scientific and theoretical concepts critical to the development of physically educated individuals
- Create and implement developmentally appropriate learning experiences aligned with local, state and national standards to address the diverse needs of all students
- Apply and evaluate effective communication and pedagogical skills and strategies to enhance student engagement and learning
- Demonstrate mastery of current technologies to enhance student engagement and learning
- Utilize assessments and reflection to foster student learning and inform instructional decisions
- Demonstrate dispositions essential to becoming effective professionals
- Demonstrate the knowledge and skills necessary for competent movement performance and health-enhancing fitness as delineated in the NASPE K-12 standards.

Bachelor of Science in Health and Exercise Science

The Bachelor of Science degree in health and exercise science prepares students for careers and/or graduate study in areas such as medicine, physical therapy, occupational therapy, health sciences, nutrition and exercise physiology. The program is science based and human oriented. The study of human movement comprises understanding of the musculoskeletal, cardiovascular, respiratory, endocrine, immune and metabolic systems. Foundational sciences as well as exercise physiology, kinesiology and clinical opportunities provide the underpinning of the program. The majority of the major classes involve experiential laboratory components to illustrate and encourage the application of theoretical concepts. Opportunities for taking specialty elective classes are available to tailor the undergraduate major for specific graduate interests.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the Bachelor of Science degree with a major in Health and Exercise Science.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units of more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.).

V. Major Requirements

Minimum 76 units that include

HESP 129	Exercise Physiology	4
HESP 133	Kinesiology	4
HESP 135	Exercise Metabolism	4
HESP 147	Muscle Physiology	4
HESP 157	The Clinician in Health and Exercise Science	4
HESP 177	Cardiovascular Physiology	4
HESP 180	Epidemiology	4
HESP 187	Internship in Health and Exercise Science	4
BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 071	Human Anatomy	5
BIOL 081	Human Physiology	5
CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
PHYS 023	General Physics I	5
PHYS 025	General Physics II	5
Three HESP Electives *		9-12

* Excludes: HESP 023 and HESP 025.

course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

Bachelor of Arts Major in Health, Exercise, and Sport Sciences Concentration in Health and Exercise Science

The Health and Exercise Science concentration is scientifically based and human oriented. It prepares students for careers and/or further graduate study in health and fitness related areas such as medicine, physical therapy, occupational therapy, nutrition and exercise/work physiology. A primary goal of this concentration is to provide a scholarly environment in classes and laboratories that supports and encourages the application of theoretical concepts. Students study and apply principles relevant to the rehabilitation and enhancement of human performance.

In addition to completing the Health, Exercise and Sport Sciences, Health and Exercise Science students must successfully complete a series of courses within the department and courses drawn from the life and physical sciences.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in health, exercise and sport sciences with a concentration in health and exercise science.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society
or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements:

Minimum 60 units that include:

HESP 129	Exercise Physiology	4
HESP 133	Kinesiology	4
HESP 157	The Clinician in Health and Exercise Science	4
HESP 180	Epidemiology	4
HESP 187	Internship in Health and Exercise Science	4
BIOL 051	Principles of Biology	5
BIOL 061	Principles of Biology	5
BIOL 071	Human Anatomy	5
BIOL 081	Human Physiology	5
CHEM 025	General Chemistry	5
CHEM 027	General Chemistry	5
Five HESP Electives (Five additional courses excluding HESP 023, HESP 025)		

Career Options for Health and Exercise Science

Employment opportunities following completion of the health and exercise science concentration include cardiac and pulmonary rehabilitation, cardiac disease prevention-rehabilitation, work toward advanced degrees in allied health sciences such as physician assistant, nursing, physical therapy, occupational therapy and medicine or sports medicine. Health and Exercise Science is in part a self-contained program as curricular support for Pacific's Physical Therapy Graduate program.

Pre-Physical Therapy (Optional)

Students in the Health and Exercise Science concentration who are interested in pursuing graduate studies in Physical Therapy are advised to complete the following courses:

MATH 035	Elementary Statistical Inference (or similar course)	4
PHYS 023	General Physics I	5
PHYS 025	General Physics II	5
PSYC 017	Abnormal and Clinical Psychology	4
PSYC 031	Introduction to Psychology	4
HESP 061	Medical Terminology	4

Students are strongly advised to check with individual graduate programs for specific requirements.

course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

Bachelor of Arts Major in Health, Exercise, and Sport Sciences Concentration in Physical Education, Coaching, and Fitness

The Physical Education, Coaching, and Fitness concentration provides an opportunity to study human movement and human performance to facilitate the coaching and teaching of physical education, physical activity, fitness and sports. Through intensive academic courses and fieldwork experiences, students will develop into effective practitioners within their respective fields by employing best practice principles and reflective practices. In addition to successfully completing the Sport Science core, the Physical Education, Coaching and Fitness student must complete a series of courses that culminate with options to qualify for a teaching credential, coaching certifications or advanced study.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in health, exercise and sport sciences with a concentration in physical education, coaching, and fitness.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Core Requirements

Minimum 37 units that include:

BIOL 011	Human Anatomy and Physiology	4
HESP 129	Exercise Physiology	4
HESP 131	Assessment and Evaluation	4
HESP 133	Kinesiology	4
HESP 141	Sport, Culture and U.S. Society	4
HESP 153	Adapted Physical Education and Sport	4
HESP 155	Motor Development and Learning	3
HESP 161	Biomechanics of Human Movement	4
HESP 187D	Sport Pedagogy Internship I	2
HESP 187E	Sport Pedagogy Internship II	4

VII. Emphasis

Select one emphasis below:

Physical Education Teacher Education Emphasis

Minimum 46 units

HESP 120	Instructional Strategies and Methods of Teaching and Coaching	4
HESP 121	Analysis of Team and Individual Sports	3
HESP 123	Analysis of Nontraditional Games and Sports	3
HESP 139	Exercise Psychology	4
HESP 151	Elementary Physical Education	3
HESP 152	Secondary Physical Education	4
HESP 159	Health Optimizing Physical Education	3
EDUC 130	Technology Enhanced Learning Environments	2
EDUC 140	Transformational Teaching and Learning	4
EDUC 156	Content and Disciplinary Literacy Development in Secondary Schools	3
EDUC 166	Teaching English Learners, Single Subject	3
PHIL 127	Philosophy of Sport	4
POLS 041	U.S. Government and Politics	4

Select two of the following:

ACTY 003	Aikido
ACTY 009	Kung Fu

ACTY 010	Karate	
ACTY 011	Kick Box	
ACTY 025	Tae-Kwon Do	

Coaching Science Emphasis

Minimum 36 units

HESP 135	Exercise Metabolism	4
HESP 143	Prevention and Acute Care of Injury and Illness	4
HESP 160	Principles of Coaching	3
HESP 165	Legal Aspects of Health, Exercise and Sport	4
ACTY 021	Weight Training	1
COMM 027	Public Speaking	3
COMM 043	Introduction to Interpersonal Communication	3
COMP 025	Computers and Information Processing	4

Select two of the following: 8

HESP 101 Sport Data and Analytics

HESP 139 Exercise Psychology

HESP 169 Managing Sport Enterprises

Select one of the following: 3

HESP 121 Analysis of Team and Individual Sports

HESP 123 Analysis of Nontraditional Games and Sports

Fitness Emphasis

Minimum 37 units

HESP 135	Exercise Metabolism	4
HESP 143	Prevention and Acute Care of Injury and Illness	4
HESP 147	Muscle Physiology	4
HESP 160	Principles of Coaching	3
HESP 165	Legal Aspects of Health, Exercise and Sport	4
HESP 169	Managing Sport Enterprises	4
ACTY 021	Weight Training	1
CHEM 023	Elements of Chemistry	4
MATH 035	Elementary Statistical Inference	4

Select two of the following: 8

HESP 101 Sport Data and Analytics

HESP 139 Exercise Psychology

HESP 169 Managing Sport Enterprises

Career Options for Physical Education, Coaching, and Fitness

Employment opportunities following completion of the major include, but are not limited to, credentialed teacher, sport coach, group exercise instructor, water safety instructor, strength and conditioning coach, personal trainer, physical activity coordinator, corporate fitness manager and other allied health and wellness professions.

This concentration also prepares students for graduate study in a variety of subject matters. These include, but are not limited to, physical education teacher education, coaching, kinesiology, sport pedagogy, public health, coordinated school health, exercise science, and strength and conditioning.

Bachelor of Arts Major in Health, Exercise, and Sport Sciences Concentration in Sport Management

The Sport Management Concentration is designed to develop an understanding of sport and fitness from a managerial perspective.

Through a unique combination of specialized courses within the Department of Health, Exercise and Sport Sciences and courses from related disciplines, students gain insights into both the theoretical and applied aspects of managing sport or fitness enterprises.

In addition to completing the Health, Exercise, and Sport Sciences Core, Sport Management students must successfully complete a series of courses within the department and adjunct courses from liberal studies, business and computer science. Special attention is given to the behavioral dimensions of sport management and organizational skills, economic and business concerns, and legal and ethical issues in sport.

Degree requirements also include completion of two separate internship experiences in selected sport or fitness settings. These include, but are not restricted to, professional sports, intercollegiate sports, campus sports/intramurals, amateur sports, community recreation, private sport clubs, corporate fitness, hotel fitness and resorts, sport retailing/merchandising, and international sport organizations.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in health, exercise and sport sciences with a concentration in sport management.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements:

Minimum 61 units that include:

HESP 101	Sport Data and Analytics	4
HESP 139	Exercise Psychology	4
HESP 141	Sport, Culture and U.S. Society	4
HESP 142	Sport and Globalization	3
HESP 165	Legal Aspects of Health, Exercise and Sport	4
HESP 167	Introduction to Sport Management	4
HESP 169	Managing Sport Enterprises	4
HESP 171	Sport Economics and Finance	4
HESP 174	Sport Marketing and Promotions	4
HESP 175	Sport Event and Facility Management	4
HESP 176	Sport Management Capstone	4
HESP 187A	Internship: Sport Management	2
BUSI 031	Principles of Financial Accounting	4
BUSI 107	Marketing Management	4
COMP 025	Computers and Information Processing	4
ECON 053	Introductory Microeconomics	4
Select one of the following:		3
COMM 027	Public Speaking	
COMM 043	Introduction to Interpersonal Communication	

Career Options for Sport Management

Employment opportunities following completion of the sport management concentration include, but are not limited to, marketing, sales, management, hospitality, law, sponsorship, community relations, athlete representation, tourism, facility management and public relations. These specialized areas can be found in amateur and professional sport, corporations, community recreation centers, resorts, health and fitness centers, intercollegiate sport, casinos, stadiums and arenas.

The concentration also prepares students for graduate study in business, communications, sport management, and law.

Minor in Health, Exercise, and Sport Sciences

The minor in health, exercise, and sport sciences provides students outside the major with opportunity to gain detailed exposure to one specific sub-discipline of the field. The minor is intended to complement

a student's major course of study, but does not provide the depth of the major curriculum. To earn a minor in health, exercise, and sport sciences, students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0.

Minor Requirements

1. Under the supervision of an advisor, students must select 5 or more complimentary courses that corresponds to one of the following content areas of Health, Exercise, and Sport Sciences: Exercise Physiology, Sport Management, Sport Pedagogy, Health & Exercise Science, Strength & Conditioning.
2. The unit total for all courses must meet or exceed 20 units.
3. Lower division courses (i.e., courses below the 100 level) may not count toward the minor.

Activity Courses

ACTY 001. Dance Team. 1 Unit.
ACTY 002. Aerobics. 1 Unit.
ACTY 003. Aikido. 1 Unit.
ACTY 004. Badminton. 1 Unit.
ACTY 005. Bowling. 1 Unit.
ACTY 006. Cheerleading. 1 Unit.
ACTY 007. Golf. 1 Unit.
ACTY 008. Ice Skating. 1 Unit.
ACTY 009. Kung Fu. 1 Unit.
ACTY 010. Karate. 1 Unit.
ACTY 011. Kick Box. 1 Unit.
ACTY 012. Running for Health. 1 Unit.
ACTY 013. Scuba. 1 Unit.
ACTY 014. Advanced Scuba. 1 Unit.
ACTY 015. Spirit Squad. 1 Unit.
ACTY 016. Strength Training. 1 Unit.
ACTY 017. Swimming for Health. 1 Unit.
ACTY 018. Tennis. 1 Unit.
ACTY 019. Volleyball. 1 Unit.
ACTY 020. Filipino Martial Arts/Self-Def. 1 Unit.
ACTY 021. Weight Training. 1 Unit.
ACTY 022. Yoga. 1 Unit.
ACTY 023. Self-Defense for Women. 1 Unit.
ACTY 024. Basketball. 1 Unit.
ACTY 025. Tae-Kwon Do. 1 Unit.
ACTY 050. Baseball, Intercollegiate. 1 Unit.
ACTY 051. Basketball, Men's Intercollegiate. 1 Unit.
ACTY 052. Football, Intercollegiate. 1 Unit.
ACTY 053. Swimming, Men's Intercollegiate. 1 Unit.
ACTY 054. Tennis, Men's Intercollegiate. 1 Unit.
ACTY 055. Volleyball, Men's Intercollegiate. 1 Unit.
ACTY 056. Water Polo, Men's Intercollegiate. 1 Unit.
ACTY 057. Basketball, Women's Intercollegiate. 1 Unit.
ACTY 058. Cross Country, Women's Intercollegiate. 1 Unit.
ACTY 059. Field Hockey, Women's Intercollegiate. 1 Unit.
ACTY 060. Soccer, Women's Intercollegiate. 1 Unit.
ACTY 061. Tennis, Women's Intercollegiate. 1 Unit.
ACTY 062. Volleyball, Women's Intercollegiate. 1 Unit.
ACTY 063. Golf, Intercollegiate. 1 Unit.
ACTY 064. Softball, Intercollegiate. 1 Unit.
ACTY 065. Water Polo, Women's Intercollegiate. 1 Unit.
ACTY 066. Swimming, Women's Intercollegiate. 1 Unit.
ACTY 067. Soccer, Men's Intercollegiate. 1 Unit.
ACTY 068. Sand Volleyball, Women's Intercollegiate. 1 Unit.
ACTY 069. Track and Field, Women's Intercollegiate. 1 Unit.

Hlth Exercise Snt Sci Courses

HESP 025. Advanced First Aid. 2 Units.

Advanced First Aid and Emergency Care reviews concepts and theories in Standard First Aid and includes more sophisticated skill development: triage, extrication, traction splinting and water rescue. Includes CPR instruction. Standard First Aid is not a prerequisite although it is recommended that students have some basic first aid knowledge. Lab fee is required.

HESP 041. Health and Wellness for Life. 4 Units.

This course presents general principles of health and wellness with a focus on the relationship of exercise and nutrition to cardiovascular health, chronic diseases, body composition, and psycho-social well-being. Students apply course content to their individual circumstances. Each student develops an individualized health plan that addresses physical fitness, nutrition, weight management and stress management. Lab fee is required. (GE3C)

HESP 043. Health Education for Teachers. 3 Units.

This course examines objectives from the California Health Education Framework, the health status of youth, at-risk students, components of comprehensive school health education, the role of the teacher in school health services, and special health concerns of today's youth. It is designed to satisfy the Commission for Teacher Credentialing requirement for health education and includes mandated information on nutrition, alcohol, tobacco, and other drugs.

HESP 045. Nutrition for Health. 4 Units.

This is a basic introductory nutrition course designed to help students make healthy diet choices. This course includes an examination of the digestion and absorption of nutrients, and an overview of the biochemistry of the macronutrients; carbohydrate, lipid, protein, and water; and micronutrients; vitamins and minerals. The role of nutrients in disease processes such as obesity, cardiovascular disease, and aging as well as diet planning, production of food, and control of energy balance are covered. Students may not receive credit for this course if they take either BIOL 045 or HESP 135. (GE3C)

HESP 061. Medical Terminology. 4 Units.

This course provides a foundation in medical terminology for students in allied health curriculums who need to know the language on health care. Students are introduced to the major word parts used in the formation of medical terms which include suffixes, prefixes, and combining forms. Common words associated with the systems of the body are also studied. Instruction takes place online through the Blackboard Learning System. There are no prerequisites for this course.

HESP 087. Fieldwork. 2-4 Units.

This course is laboratory work in school and community agencies. The course is open to non-majors by permission of instructor. Grading is Pass/No credit only.

HESP 089. Practicum. 1 or 2 Unit.

The practicum offers non-classroom experiences in activities related to Health, Exercise and Sport Sciences, under conditions determined by the appropriate faculty member. HESP 189 represents advanced practicum work involving increased independence and responsibility. Enrollment is limited to eight units maximum of 089/189A, B, C, D, H, J, K offerings and no category within a course may be repeated for credit. A list of specific courses follows.

HESP 089A. Practicum: Adapted Physical Education. 2 Units.

Non-classroom experiences in activities related to Sport Medicine, under conditions determined by the appropriate faculty member. HESP 189 represents practicum work involving increased independence and responsibility. Enrollment is limited to six units maximum of HESP 089/189A, B, C, D offerings and no category within a course may be repeated for credit. Grading is Pass/No Credit only.

HESP 089B. Practicum: Athletic Training I. 4 Units.

This clinical education course in the field of athletic training incorporates an experiential learning environment designed to prepare students for a career in athletic training. Basic skills are introduced within the daily operations of the athletic training room and in the care of athletes. Criteria for progression must be met before enrolling in subsequent practicum course. Athletic Training majors or permission of instructor is required.

HESP 089C. Practicum: Biomechanics. 2 Units.

Non-classroom experiences in activities related to Sport Medicine, under conditions determined by the appropriate faculty member. HESP 189 represents practicum work involving increased independence and responsibility. Enrollment is limited to six units maximum of HESP 089/189A, B, C, D offerings and no category within a course may be repeated for credit. Grading is Pass/No Credit only.

HESP 089D. Practicum: Exercise Physiology. 2 Units.

Non-classroom experiences in activities related to sport medicine, under conditions determined by the appropriate faculty member. HESP 189 represents practicum work involving increased independence and responsibility. Enrollment is limited to six units maximum of HESP 089/189A, B, C, D offerings and no category within a course may be repeated for credit. Grading is Pass/No Credit only.

HESP 089H. Practicum: Sports Law. 2 Units.

Non-classroom experiences in activities related to Sport Medicine, under conditions determined by the appropriate faculty member. Enrollment is limited to six units maximum of HESP 089/189A, B, C, D offerings and no category within a course may be repeated for credit. Grading is Pass/No Credit only.

HESP 089J. Practicum: Kinesiology. 2 Units.

Non-classroom experiences in activities related to Sport Medicine, under conditions determined by the appropriate faculty member. HESP 189 represents practicum work involving increased independence and responsibility. Enrollment is limited to six units maximum of HESP 089/189A, B, C, D offerings and no category within a course may be repeated for credit. Grading is Pass/No Credit only.

HESP 089K. Practicum: Athletic Training II. 4 Units.

This is the second in a series of four consecutive clinical education courses in the field of Athletic Training. The course incorporates an experiential learning environment designed to prepare students for a career in Athletic Training. Advanced Athletic Training knowledge and skills will also be introduced within the daily operations of the Athletic Training Facility and your Clinical Assignment and in the care of patients.

HESP 101. Sport Data and Analytics. 4 Units.

Sport analytics refers to the use of data and quantitative methods to measure performance and make decisions to gain advantage in the sport industry. This course aims to explore recent trends in sport analytics from a practical point of view, offering students the skills and ideas to create analytics of potential value to sport organizations. The course content will cover topics such as data management, statistic data analysis, modeling, and decision making in various sport settings.

HESP 110. Health and Exercise Science Law. 4 Units.

This course examines legal issues and responsibilities relevant to health and exercise science professionals. This course is divided into two parts. Part I introduces basic concepts of the legal system and reviews general legal principles of tort and contract law. Part II focuses upon specific topics to which legal principles and risk management strategies apply. This course is taught combining lecture, class discussions, and experientially based assignments designed to develop the ability to practically apply circumstance to the law and risk management planning. In-class oral arguments using relevant case law, review of local facilities and programs, and legal observations in San Joaquin County courtrooms will supplement course content and offer students "hands on" learning opportunities.

HESP 120. Instructional Strategies and Methods of Teaching and Coaching. 4 Units.

This course is designed for the future physical educator or coach to deliver an effective, meaningful physical education curriculum to a diverse population of students. Emphasis is on physical education pedagogy; the skills and techniques that successful teachers use to ensure student learning. Students engage in guided teaching and systematic observation experiences at the primary and secondary school levels in an effort to introduce them to effective teaching and coaching behaviors.

HESP 121. Analysis of Team and Individual Sports. 3 Units.

This is an applied motor learning approach to skill acquisition for team and Individual sports. In addition to personal skill development, students learn to prepare the introduction, explanation and demonstration of sports skills; develop and maintain skill levels through practice and reinforcement; analyze movement by systematically observing performance; utilize biomechanical concepts to analyze, correct and enhance performance and cognitive processes to improve performance. Ten to 15 different team and individual sports are presented and instruction time per sport varies. Lab fee required.

HESP 123. Analysis of Nontraditional Games and Sports. 3 Units.

This is an applied motor learning approach to skill acquisition for nontraditional games and sports. A variety of nontraditional games and outdoor activities embedded in the CA curriculum framework for physical education. Clinical experience is provided for secondary students in the community. Eight to 10 different nontraditional games and sports are presented and instruction time per sport varies. Lab fee required.

HESP 129. Exercise Physiology. 4 Units.

This course is designed to introduce Health and Exercise Science students to core physiological concepts relevant to acute and long-term adaptations to the stress of exercise. An overview of metabolic, cardiovascular, respiratory, and skeletal muscle adaptations will be discussed along with special topics such as environmental stressors, obesity, and nutrition. Outside laboratory assignments are carried out for the purpose of applying lecture to practice and providing "hands on" opportunities to develop basic competencies in the interpretation of laboratory testing in exercise physiology. Lab fee required.

HESP 131. Assessment and Evaluation. 4 Units.

This course is the development of competencies of Health, Exercise and Sport Sciences majors for the design and implementation of procedures to appropriately measure and evaluate students, clients and/or programs. Basic data acquisition methods and statistical analysis techniques are presented. A Lab fee is required.

HESP 133. Kinesiology. 4 Units.

This course is a functional study of musculoskeletal anatomy and its relationship to human movement, posture, exercise prescription, and rehabilitation. Prerequisite: BIOL 011 or BIOL 051 or BIOL 061 or permission of instructor, and lab fee required.

HESP 135. Exercise Metabolism. 4 Units.

This course provides a thorough study of the principles of nutrition as they relate to health of individuals who participate in sports or physical activity. Topics include calculating energy balance and the role of carbohydrates, lipid, protein, vitamins, minerals and water in sports performance. The application of these topics for optimal metabolic functioning to a variety of physical activities is also presented. Prerequisites: HESP 129; BIOL 011 or BIOL 061.

HESP 137. Psycho-Social Aspects of Health Care. 4 Units.

Students study comprehensive, integrated coverage of psychosocial topics in healthcare involving clients, families, and other caregivers affected by pathology, impairment, functional limitations, and/or disability. This course will have a broad coverage of topics in healthcare including multicultural issues, spirituality, chronic condition, abuse/neglect, and PTSD. Emphasis will be placed on current, evidence-based literature, connecting theory to practice.

HESP 139. Exercise Psychology. 4 Units.

This course employs the theories and methods of psychology to examine the related fields of competitive sports, fitness, exercise, and rehabilitation from injury. Major questions addressed in the course include: How do psychological factors influence participation in physical activity and performance of the individual? How does participation in physical activity or incapacity due to an injury affect the psychological make-up of the individual? These questions are explored from educational, coaching, research, and clinical perspectives.

HESP 141. Sport, Culture and U.S. Society. 4 Units.

This course is designed to explore the relationship between sport, culture and society in both the USA and the broader global world. Students learn to critically examine a wide range of topics that include, but not limited to, sport and gender, sport and race, global sports worlds, drugs and violence in sport, sport and politics and the crime-sport nexus. The intention of this course is to develop the student's sociological imagination and encourage the student to think critically about the role sport plays in the development of societies, ideologies and everyday life. (DVSY, ETHC, GE1B, GEND)

HESP 142. Sport and Globalization. 3 Units.

This course examines the interaction between sport and globalization. Globalization and its underlying forces are explored as well as the manner in which sport and these global forces interact. The course then explores the structure, governance, and politics of global sport. Special attention is given to the processes that facilitate and impede globalization and the role sport plays in both. The course also extensively covers the consequences resulting from the reciprocal relationship between sport and globalization.

HESP 143. Prevention and Acute Care of Injury and Illness. 4 Units.

This course provides an overview of the field of Athletic Training, its organization, and the responsibilities of a Certified Athletic Trainer (AT) as part of the sports medicine team. Instruction emphasizes prevention, recognition, and immediate care of injuries and illnesses associated with physical activity. This course is recommended for freshmen.

HESP 145. Therapeutic Modalities. 4 Units.

This course is a lecture and laboratory experience designed to expose the student to the theory, principles, techniques and application of therapeutic modalities pertaining to the treatment of athletic or activity related injuries. Topics include discussions of the physiological effects, indications, contra indications, dosage and maintenance of each modality. Recommended: BIOL 081. Lab fee is required. Junior standing.

HESP 146. Health, Disease, and Pharmacology. 4 Units.

This course is an in-depth exploration of physical, mental, and social health with specific emphasis on recognizing the signs, symptoms, and predisposing conditions associated with the progression of specific illnesses and diseases as they relate to the physically active individual. Students also develop an awareness of the indications, contraindications, precautions, and interactions of medications used to treat those illnesses and diseases.

HESP 147. Muscle Physiology. 4 Units.

This course is focused on skeletal muscle physiology. Topics include the structure and function of muscle tissue, protein synthesis, cell signaling cascades, the specificity of adaptation, enzymes and their roles in metabolism, endocrine function, anabolic steroids, muscle damage, inflammatory physiology, neuromuscular principles (e.g., size principle), and the mechanisms of muscle fatigue. Laboratory assignments focus on skeletal muscle testing and evaluation. Prerequisite: HESP 129 and upper-division class standing. Lab fee required.

HESP 149. Clinical Evaluation and Diagnosis I. 3 Units.

This course presents an in-depth study of musculoskeletal assessment of the lower extremity, thoracic and lumbar spine for the purpose of identifying (a) common acquired or congenital risk factors that would predispose an individual to injury and/or (b) musculoskeletal injury common to athletics or physical activity. Students receive instruction in obtaining a medical history, performing a visual observation, palpating bones and soft tissues, and performing appropriate special tests for injuries and conditions of the foot, ankle, lower leg, knee, thigh, hip, pelvis, lumbar and thoracic spine. This course is directed toward students who pursue athletic training and/or physical therapy professions. Prerequisite: HESP 133 or BIOL 071, and a lab fee is required.

HESP 150. Clinical Evaluation and Diagnosis II. 3 Units.

This course presents an in-depth study of musculoskeletal assessment of the upper extremity, cervical spine, head and face for the purpose of identifying (a) common acquired or congenital risk factors that would predispose an individual to injury and/or (b) musculoskeletal injury common to athletics or physical activity. Students receive instruction in obtaining a medical history, performing a visual observation, palpating bones and soft tissues, and performing appropriate special tests for injuries and conditions of the shoulder, upper arm, elbow, forearm, wrist, hand, fingers, thumb, cervical spine, head, and face. This course is directed toward students who pursue athletic training and/or physical therapy professions. Prerequisites: HESP 149; HESP 133 or BIOL 071. Lab fee is required.

HESP 151. Elementary Physical Education. 3 Units.

This course is designed to prepare students for employment in an elementary school setting and provide them with the tools necessary to formulate and implement a comprehensive elementary PE experience for all students. Participants learn a wide range of teaching skills that facilitate the ability to create a quality active learning environment in elementary PE. Students explore effective teaching and assessment strategies, classroom management skills, the use of constructive feedback, the negotiation of diverse classrooms and the development of appropriate student learning outcomes. Students also are introduced to the subject matter of elementary PE and will undertake several teaching episodes. This course encourages students to engage in reflexive teaching practices, develop physically educated young people, maximize student involvement and enjoyment in PE and integrate core curriculum subject matter into PE lessons.

HESP 152. Secondary Physical Education. 4 Units.

This course is designed for junior/senior level students in the Sport Sciences/Sport Pedagogy concentration to deliver an effective, meaningful physical education curriculum to diverse students. This course covers curriculum components that include content, content organization, distinctive curriculum models and aspects of curriculum application. Students learn how to sustain a positive learning experience, conceive and plan meaningful curricula for school based instruction, and link the school program to opportunities for adolescents outside of school. Prerequisites: HESP 121, HESP 123, HESP 151.

HESP 153. Adapted Physical Education and Sport. 4 Units.

This course is designed to provide students with the theoretical and practical tools necessary to teach Physical Education (PE) and Sport across diverse settings. Students learn a wide range of teaching skills that facilitate their ability to create an inclusive learning environment in PE and Sport. Students explore a variety of adapted motor skills activities, federal/state legislative mandates and related policies, effective pedagogical and assessment strategies, classroom management skills, the use of constructive feedback and the development of appropriate student learning outcomes within diverse classrooms. Students undertake a number of peer-to-peer teaching episodes and apply principles learned in the classroom setting to real-world contexts. The course also encourages the students to engage in reflexive teaching practices, develop inclusive motor skill instruction lessons sensitive to diversity issues and maximize student involvement and enjoyment in PE and Sport. Fieldwork requires clearance for local school districts (clear LiveScan fingerprint screening and negative TB test results). (DVSY)

HESP 155. Motor Development and Learning. 3 Units.

This course examines aspects of skilled performance and motor learning from a developmental perspective. It is concerned with the major principles of human performance and skill learning, the progressive development of a conceptual model of human actions and the development of skill through training and practice. Topics include human information processing, decision-making and movement planning, perceptual processes relevant to human movement, production of movement skills, measurement of learning, practice design, preparation, organization, and scheduling; use of feedback, in addition to the application of motor learning principles to sport, physical education, industrial and physical therapy settings. Fieldwork requires clearance for local school districts (clear LiveScan fingerprint screening and negative TB test results).

HESP 157. The Clinician in Health and Exercise Science. 4 Units.

This course integrates theory and practice and requires students to develop a research topic, consistent with an explicitly and narrowly defined area of interest. Permission of the instructor is required.

HESP 159. Health Optimizing Physical Education. 3 Units.

This course introduces prospective physical education teachers to the principles and components of health-related fitness, appropriate curriculum for K-12 programming, comprehensive school and community-based physical activity planning, effective teaching principles, behavior change strategies, and advocacy approaches of physical activity and fitness. Prerequisites: HESP 131 and HESP 151.

HESP 160. Principles of Coaching. 3 Units.

This course is designed as an introduction to the principles of athletic coaching for modern day athletes. Emphasis is on a holistic approach to the theories, knowledge, and practices of coaching sport as prescribed by the National Standards for Sport Coaches. This course will explore coaching at various levels. Topics will include developing a coaching philosophy, evaluating theories in student-athlete motivation, understanding team dynamics, leadership, administration responsibilities, and improving player performance.

HESP 161. Biomechanics of Human Movement. 4 Units.

This course is an introduction to the biomechanics of human movement and the analytic procedures and techniques for subsequent application in the sport sciences and related fields. The course includes a review of basic functional/mechanical human anatomy and kinesiology. Outcome objectives are an understanding of mechanical principles governing human movement, skill in use of a variety of measurement techniques commonly applied in biomechanics, an ability to analyze motor skill performance via cinematographic/ computer methodologies and skill in prescriptively communicating results of analysis. Prerequisite: BIOL 011 or BIOL 051 or BIOL 061 or permission of instructor, and a lab fee is required.

HESP 163. Therapeutic Exercise and Rehabilitation. 4 Units.

This course is an application of the theory and principles associated with therapeutic exercise and the application of various rehabilitation techniques and procedures during the course of an athlete's rehabilitation to attain normal range of motion, strength, flexibility, and endurance. Prerequisite: BIOL 071; HESP 133 or permission of instructor, and a lab fee is required.

HESP 165. Legal Aspects of Health, Exercise and Sport. 4 Units.

This course addresses legal issues and responsibilities relevant to professionals in the areas of health and exercise science, sport management, sport pedagogy and athletics. General legal principles supported by case law in such areas as negligence, contract law, constitutional law, antitrust laws and unlawful discrimination are offered. (PLAW)

HESP 167. Introduction to Sport Management. 4 Units.

This course is for beginning sport management students and students interested in sport business. Students study general academic, managerial, and business concepts related to sport and explore the variety of sport and fitness-related businesses and organizations within the public and private sectors. Potential career opportunities are considered.

HESP 169. Managing Sport Enterprises. 4 Units.

The purpose of this class is to introduce students to management and leadership in the sport industry. The unique attributes and structures of sport organizations will be explained. The course then covers multiple frames of organizational analysis and applies these to sport settings. In addition, students learn managerial and leadership skills and develop a management philosophy suited to the sport industry. Prerequisites: HESP 167 and HESP 187A.

HESP 171. Sport Economics and Finance. 4 Units.

This course is designed to address the respective areas of sport economics, finance, and labor relations. Both theoretical and practical aspects are explored. Students examine sport as a multi-billion dollar industry and analyze the role of sport within the larger socio-economic structure within the United States and internationally. Prerequisites: ECON 053 and BUSI 031. Junior standing.

HESP 172. Case Analysis in Sport and Fitness Management. 4 Units.

This course addresses the principles and practices pertinent to the development and operation of the private and commercial sport or fitness enterprise. The case study method focuses on designing and implementing the prospectus, feasibility studies, and the analysis of organizational effectiveness. Topics of special interest include the planning and controlling of resources, facility operations, and strategies for production and operations management.

HESP 173. Health Care Management and Professional Development. 4 Units.

This course is an in-depth study of the management of health care organizations related to finances, facilities, equipment, organizations structures, medical/insurance records, risk management, human relations, and personnel. Practical and conceptual skills are taught to help students focus on more efficient health care delivery. Also covered is the development of leadership skills, future trends in health care management, guidelines for designing effective work groups and managing conflict.

HESP 174. Sport Marketing and Promotions. 4 Units.

This course focuses on three main aspects of sports marketing. First, students gain the knowledge necessary to market sport products. Second, the course covers the manner in which sport is used as a marketing tool. Finally, students learn about the variety of forms of public relations that are used by sport organizations. In the process, students become familiar with the role of technology in sport marketing and public relations. Sophomore standing.

HESP 175. Sport Event and Facility Management. 4 Units.

This course is a comprehensive investigation into the principles needed to design, implement, and manage all types of sport events and facilities. Planning, logistics, risk management, human resource management, and marketing of events and facilities are given special attention. Opportunities for the application of these principles are also provided. Prerequisites: BUSI 107 and HESP 174. Junior standing.

HESP 176. Sport Management Capstone. 4 Units.

This class is designed as the integrative pinnacle of the sport management curriculum at Pacific. This integration will occur in several ways. Students will assess critical issues in the sport management field drawing on the expertise gained throughout their Pacific educations. They will also complete comprehensive, immersive assignments that assist local underserved sport organizations. Practitioners from multiple sub-disciplines within the field will also complement instruction in the course. Finally, the course will cover practical skills for career preparation, maintenance, and development.

HESP 177. Cardiovascular Physiology. 4 Units.

This course seeks to fulfill two main objectives: 1) to establish a foundational understanding of clinical cardiovascular physiology and 2) to be able to perform and interpret cardiopulmonary exercise tests to examine cardiac, metabolic and respiratory pathology. Prerequisite: HESP 129 and upper division class standing. Lab fee required.

HESP 179. Introduction to Research. 4 Units.

This course covers the rationale for and status of professional research; research designs and their applicability to students' disciplines, review, critique and synthesis of selected literature; development of research proposal and pretest of instrument.

HESP 180. Epidemiology. 4 Units.

This course is an introduction to the principles and practice of epidemiology. It explores the history, concepts, and methods of epidemiologic investigation. The statistical models taught in this class include the receiver operating characteristic curve, chi-square test, t-test, binary logistic regression, and linear regression. Students will learn to develop research designs that employ these tests and will be able to conduct them to evaluate patient care, quantify risk, and understand the patterns of illness and disease in populations.

HESP 182. Exercise Testing and Prescription. 4 Units.

This course is primarily designed to provide students with the hands-on training and theoretical background to competently assess levels of wellness/fitness in an "apparently healthy" (i.e. low risk) adult population. The topics and skills addressed include health screening protocols/risk stratification, use of Informed Consent documents, as well as measurement protocols for the health-related components of fitness (i.e. cardiorespiratory fitness, muscular fitness, flexibility, body composition). These skills are then used to prescribe lifestyle and/or exercise modifications that result in individual progress toward a desired goal. The content of this course is highly focused toward the knowledge and skills required for taking the ACSM Fitness Specialist (HFS) certification exam. Prerequisite: HESP 147.

HESP 187. Internship in Health and Exercise Science. 4 Units.

This course provides an opportunity for qualifying students to work in an area of Health and Exercise Science that interests them. Prerequisites: HESP 157, GPA 2.0, no grade below "C-" in major, and approval of course supervisor.

HESP 187D. Sport Pedagogy Internship I. 2 Units.

This class involves the student completing a semester-long internship connected to their chosen field of sport pedagogy. This internship develops their evaluation skills and encourage the student to engage in reflexive teaching practices to better prepare themselves for the challenges and terrain of their post-graduation employment. Prerequisite: HESP 131.

HESP 187E. Sport Pedagogy Internship II. 4 Units.

This class involves the student completing a semester-long internship connected to their chosen field of sport pedagogy. This internship develops their evaluation skills and encourage the student to engage in reflexive teaching practices to better prepare themselves for the challenges and terrain of their post-graduation employment. Prerequisite: HESP 187D.

HESP 187F. Internship. 1-4 Units.

HESP 187G. Internship. 1-4 Units.

HESP 189. Practicum: Coaching. 1 or 2 Unit.

The practicum offers non-classroom experiences in activities related to Sports Sciences, under conditions determined by the appropriate faculty member. HESP 189 represents advanced practicum work involving increased independence and responsibility. Enrollment is limited to eight units maximum of HESP 089/189A, B, C, D, H, J, K offerings and no category within a course may be repeated for credit. A list of specific courses follows. Grading option is Pass/No Credit only.

HESP 189A. Practicum: Adapted Physical Education. 2 Units.

These courses provide advanced practicum work in Sport Medicine. See HESP 089 for subcategories and enrollment limitations. Prerequisite: HESP 169 with a "C-" or better.

HESP 189B. Practicum: Athletic Training III. 4 Units.

This is a clinical education course in the field of athletic training. It incorporates an experiential learning environment designed to prepare students for a career in athletic training. Advanced skills are introduced within the daily operations of the athletic training room and in the care of the athletes. Criteria for progression must be met before enrolling in subsequent practicum course. Prerequisite: HESP 089K.

HESP 189C. Practicum: Biomechanics. 2 Units.

These courses provide advanced practicum work in Sport Medicine. See HESP 089 for subcategories and enrollment limitations. Grading option is Pass/No Credit only.

HESP 189D. Practicum: Exercise Physiology. 2 Units.

These courses provide advanced practicum work in Sport Medicine. See HESP 089 for subcategories and enrollment limitations. Grading option is Pass/No Credit only.

HESP 189E. Practicum: Sport Pedagogy. 2 Units.

This course offers a supervised leadership experience in the elementary or secondary school setting. The student works as a physical education specialist and develops as well as conducts appropriate physical activity programs. Prerequisites: HESP 151 or HESP 159 and permission of instructor.

HESP 189F. Practicum: Coaching. 2 Units.

Students are assigned to an intercollegiate or interscholastic sports team for the semester and participate in practice sessions throughout the specific sport season. Written guidelines are developed cooperatively by the supervisor, coach and student. Prerequisites: HESP 139 and HESP 155.

HESP 189G. Practicum: Coaching. 2 Units.

Students will be assigned to an intercollegiate or interscholarship sports team for the semester and will participate in practice sessions throughout the specific sport season. Written guidelines will be developed cooperatively by the supervisor, coach and student. Prerequisites: HESP 139 and HESP 155.

HESP 189H. Practicum: Sports Law. 2 Units.

These courses provide advanced practicum work in Sport Medicine. See HESP 089 for subcategories and enrollment limitations. Grading option is Pass/No Credit only.

HESP 189J. Practicum: Kinesiology. 2 Units.

These courses provide advanced practicum work in Sport Medicine. See HESP 089 for subcategories and enrollment limitations. Prerequisite: HESP 133 with a "C-" or better. Grading option is Pass/No Credit only.

HESP 189K. Practicum: Athletic Training IV. 4 Units.

This is the fourth in a series of four consecutive clinical education courses in the field of Athletic Training. The course incorporates an experiential learning environment designed to prepare students for a career in Athletic Training. Advanced Athletic Training knowledge and skills will also be introduced within the daily operations of the Athletic Training Facility and your Clinical Assignment and in the care of patients. Prerequisite: HESP 189B.

HESP 191. Independent Study. 1-4 Units.**HESP 193. Special Topics. 1-4 Units.****HESP 195. Ethical Issues in Sport. 3 Units.**

The primary goal of this course is to enhance student awareness regarding their values, their evolving moral and ethical codes, and the ways of addressing moral problems. Students examine various ethical theories and questions encountered in the field of Sport Sciences. As part of this course, students need to identify necessary information from various sub-disciplines in order to make professional and ethical decisions. Senior standing.

HESP 197. Independent Research. 1-4 Units.

History

<http://www.go.pacific.edu/history>

Phone: (209) 946-2145

Location: WPC 212

Jennifer Helgren, Chair

Degrees Offered

Bachelor of Arts

Majors Offered

History

History with Departmental Honors

Social Sciences

Social Sciences with Departmental Honors

Minors Offered

History

Public History and Museum Studies

The History Department is comprised of a team of internationally recognized scholars committed to providing students with knowledge and skills necessary for success in many professions. We believe that the study of history is exciting, vibrant and vitally relevant to understanding the world in which we live. Through intense classroom contact, innovative pedagogical methods and extensive student research projects, we instill in our students human values, critical thinking skills and an appreciation for the complexities of issues that have been of perennial importance. As professional historians we have been particularly successful in disseminating these values to a broader audience, by lecturing publicly and publishing works for both academic and popular audiences.

Recommended Progression of Study

Students should begin with the Chair's Seminar HIST 001 and two foundation courses in sequence and proceed to take one course from each of the listed regional and thematic categories. Students must take HIST 070, Historical Imagination, their sophomore year or as soon as possible after transferring into the program and take HIST 160, Pacific History Seminar, the capstone class, as seniors. Students may take independent study courses or special topics courses at any time.

Teaching Credential Track

Teaching credential candidates wishing to qualify to teach history at the secondary level should complete the Single Subject Credential in the Social Sciences. Information on specific course requirements may be obtained from your adviser or the department chair. For other credential requirements, students should consult faculty in the School of Education.

History

1. Historical Information Competence
 - Generate coherent narratives of the history of the following regions and topics: US, Latin America, Europe, Asia, environment and science, and global issues.
2. Communication Competence - Writing
 - Write persuasively using evidence to support an argument, citing sources using Chicago style.
3. Communication Competence - Speaking
 - Speak in public settings in clear and effective ways, including the use of presentation media.
4. Research Skills
 - Find, understand, evaluate and use archival, primary and secondary sources in print and online versions.
5. Critical Analysis
 - Identify and critically analyze historical arguments, theories and methods, and use them in research, writing, and oral presentations.

Social Sciences

1. Use Social Science Frameworks
 - Use Social Science methods (both quantitative and qualitative) from a range of disciplines to frame understanding of human societies in the past and present.
2. Develop Historical Narratives
 - Independently generate a coherent narrative in the context of the history of the United States and the broader world in both written and oral form.
3. Critical Historical Analysis
 - Identify, interpret, integrate, and evaluate the credibility of primary and secondary sources and accurately place these in historical context.
4. Structural and Cross-Cultural Analysis
 - Develop an interdisciplinary analysis of institutional, economic, and political structures and processes across societies.

Bachelor of Arts Major in History

Students must complete a minimum of 120 units with a cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in history.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking and PACS 002 but must take PACS 003 when they are seniors.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society
or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.).

VI. Major Requirements

Minimum 45 units and 12 courses that include:

Select one of the following groups:

8

Group A

HIST 010 Western Civilization I

HIST 011 Western Civilization II

Group B

HIST 020 United States History I

HIST 021 United States History II

Group C

HIST 030 East Asian Civilization I

HIST 031 East Asian Civilization II

Group D

HIST 040 Colonialism in Latin America

HIST 041 The Problem with Latin America

Group E

HIST 050 World History I

HIST 051 World History II

Select one of the following global and transnational courses:

4

HIST 060 A History of Medicine

HIST 061 Global History of Food

HIST 062 History of Warfare

HIST 065 Women and War

HIST 103 Oceans and the Maritime World

HIST 139 Borderlands

Select one of the following Environment and Science courses:

4

HIST 052 John Muir's World: Origins of the Conservation Movement

HIST 063 History of Science and Technology

HIST 136 American Environmental History

HIST 167 Gender in the History of Science/Medicine/Technology

Select one of the following pre-modern Europe or classics courses:

4

HIST 100 Renaissance and Reformation

HIST 101 Tudor and Stuart England

HIST 102 The Spanish Empire

Select one of the following 20th century Europe courses:

4

HIST 111	Europe in Turmoil 1900-1945	
HIST 112	History of the Holocaust	
HIST 113	Europe Since 1945	
HIST 114	Modern Germany	

Select one of the following Early North America courses: 4

HIST 120	Native American History	
HIST 123	Civil War Era	
HIST 124	History of the American West	
HIST 125	Early America: From Settlement to New Nation	

Select one of the following United States courses: 4

HIST 119	History Goes to Hollywood	
HIST 130	History of California	
HIST 132	American Immigration	
HIST 133	Women in United States History	
HIST 135	Women in Time and Place	
HIST 137	His-panic USA	

Select one of the following Asia courses: 4

HIST 140	Southeast Asia and the West	
HIST 141	Pre-Modern China to 1840	
HIST 142	Modern Chinese History	
HIST 143	Japan in War and Peace	
HIST 144	Contemporary China	

Select one of the following Latin America courses: 4

HIST 040	Colonialism in Latin America	
HIST 041	The Problem with Latin America	
HIST 150	Women in Latin America	
HIST 151	People's History of Mexico	

When freshmen, students take:

HIST 001	Chair's Seminar	1
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When sophomores, students must take:

HIST 070	Historical Imagination	4
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When seniors, students must take:

HIST 160	The Capstone (Pacific History Seminar)	4
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Note: 1) Majors are required to complete the foundation requirement, in sequence, in their freshman year or within a year of transfer or declaration of major if comparable courses have not been taken at another institution. **2)** Special Topic and Independent Study courses may satisfy category requirements with departmental approval.

Bachelor of Arts Major in History with Departmental Honors

Students must complete a minimum of 120 units with a cumulative grade point average of 3.3 and major/program grade point average of 3.5 in order to earn the bachelor of arts degree with a major in history with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2

additional General Education elective courses from below in place of taking and PACS 002 but must take PACS 003 when they are seniors.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior
IB. U.S. Studies
IC. Global Studies

Arts and Humanities

IIA. Language and Literature
IIB. Worldviews and Ethics
IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic
IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.).

VI. Major Requirements

Minimum 45 units and 12 courses that include:

Select one of the following groups:	8
Group A	
HIST 010	Western Civilization I
HIST 011	Western Civilization II
Group B	
HIST 020	United States History I
HIST 021	United States History II
Group C	

HIST 030	East Asian Civilization I	
HIST 031	East Asian Civilization II	
Group D		
HIST 040	Colonialism in Latin America	
HIST 041	The Problem with Latin America	
Group E		
HIST 050	World History I	
HIST 051	World History II	
Select one of the following global and transnational courses:		4
HIST 060	A History of Medicine	
HIST 061	Global History of Food	
HIST 062	History of Warfare	
HIST 065	Women and War	
HIST 103	Oceans and the Maritime World	
HIST 139	Borderlands	
Select one of the following Environment and Science courses:		4
HIST 052	John Muir's World: Origins of the Conservation Movement	
HIST 063	History of Science and Technology	
HIST 136	American Environmental History	
HIST 167	Gender in the History of Science/Medicine/Technology	
Select one of the following pre-modern Europe or classics courses:		4
HIST 100	Renaissance and Reformation	
HIST 101	Tudor and Stuart England	
HIST 102	The Spanish Empire	
Select one of the following 20th century Europe courses:		4
HIST 111	Europe in Turmoil 1900-1945	
HIST 112	History of the Holocaust	
HIST 113	Europe Since 1945	
HIST 114	Modern Germany	
Select one of the following Early North America courses:		4
HIST 120	Native American History	
HIST 123	Civil War Era	
HIST 124	History of the American West	
HIST 125	Early America: From Settlement to New Nation	
Select one of the following United States courses:		4
HIST 119	History Goes to Hollywood	
HIST 130	History of California	
HIST 132	American Immigration	
HIST 133	Women in United States History	
HIST 135	Women in Time and Place	
HIST 137	His-panic USA	
Select one of the following Asia courses:		4
HIST 140	Southeast Asia and the West	
HIST 141	Pre-Modern China to 1840	
HIST 142	Modern Chinese History	
HIST 143	Japan in War and Peace	
HIST 144	Contemporary China	
Select one of the following Latin America courses:		4
HIST 040	Colonialism in Latin America	
HIST 041	The Problem with Latin America	
HIST 150	Women in Latin America	
HIST 151	People's History of Mexico	

When freshmen, students take:

HIST 001	Chair's Seminar	1
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When sophomores, students must take:

HIST 070	Historical Imagination	4
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When seniors, students must take:

HIST 160	The Capstone (Pacific History Seminar)	4
HIST 197	Independent Research	4

Note: 1) Majors are required to complete the foundation requirement, in sequence, in their freshman year or within a year of transfer or declaration of major if comparable courses have not been taken at another institution. **2)** Special Topic and Independent Study courses may satisfy category requirements with departmental approval. **3)** Students must present their Senior Research Project at a conference approved by the History Department. **4)** Students must maintain an active membership in Phi Alpha Theta (PAT), once admitted to the department's Honor's program and participate in the department's PAT chapter as an active member through graduation.

Below are the recommended coursework options for the BA in Social Sciences for preparation for the CSET-Social Sciences examinations.

Bachelor of Arts Major in Social Sciences With CSET-Social Sciences (California Subject Exams for Teachers)

This major appeals to students with a broad range of interests and those interested in pursuing a social science teaching credential. It requires a minimum of 45 semester units, distributed as follows.

History: eight courses that include one introductory course, one course in California history, two courses in World History, two courses in U.S. history, one course in the history of a non-U.S. country or region, and one course with a world geography component. Political Science: two courses that include one course in U.S. national government and one course that deals with either a) comparative politics and government, b) politics and government of a foreign country or c) international relations. Sociology: two courses which include one course that deals with the basic concepts of Sociology and one course that deals with either a) structural analysis, b) social psychological analysis or c) cultural anthropology. Economics: one introductory course that includes microeconomics and macroeconomics. Quantitative methods: one course, selected with the approval of the Social Science advisor. Please see the College of the Pacific Social Science advisor for a list of specific course recommendations for all courses required for the major.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in social science.

Note: Transfer students who enter with sophomore standing or above, or students who declare the major after completion of their freshman year, are exempt from the HIST 001 requirement.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 16 or more transfer units complete 2 additional

General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

HIST 001	Chair's Seminar	1
HIST 020	United States History I	4
HIST 021	United States History II	4
HIST 050	World History I	4
HIST 051	World History II	4
HIST 103	Oceans and the Maritime World	4
HIST 130	History of California	4
POLS 041	U.S. Government and Politics	4
Select one of the following non-U.S., upper-level history courses:		4
HIST 063	History of Science and Technology	

HIST 100	Renaissance and Reformation	
HIST 113	Europe Since 1945	
HIST 142	Modern Chinese History	
HIST 151	People's History of Mexico	
Select one of the following:		3
ECON 051	Economic Principles and Problems	
ECON 053	Introductory Microeconomics	
& ECON 055	and Introductory Macroeconomics: Theory and Policy	
Select one of the following basic sociology courses:		4
SOCI 021	Culture and Society	
SOCI 031	Deviant Behavior	
SOCI 051	Introduction to Sociology	
Select one of the following analysis courses:		4
ANTH 053	Cultural Anthropology	
SOCI 079	Self and Society	
SOCI 108	Food, Culture and Society	
SOCI 111	Environment and Society	
SOCI 123	Sex and Gender	
SOCI 125	Sociology of Health and Illness	
SOCI 141	Race and Ethnicity	
Select one of the following:		4
POLS 051	Introduction to International Relations	
POLS 160	Theories of International Politics	
POLS 162	International Organization	
POLS 164	International Political Economy	
POLS 166	International Conflict and Conflict Management	
POLS 168	Comparative Foreign Policy	
POLS 170	U.S. Foreign Policy	
POLS 172	Inter-American Relations	
Recommended for CSET (Optional)		6
EDUC 140	Transformational Teaching and Learning	
EDUC 141	Transformational Teaching and Learning Practicum	

Bachelor of Arts Major in Social Sciences with Departmental Honors

Students must complete a minimum of 120 units with a Pacific cumulative grade point average of 3.3 and major/program grade point average of 3.5 in order to earn the bachelor of arts degree with a major in social science with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 16 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

HIST 001	Chair's Seminar	1
HIST 020	United States History I	4
HIST 021	United States History II	4
HIST 050	World History I	4
HIST 051	World History II	4
HIST 103	Oceans and the Maritime World	4
HIST 130	History of California	4
POLS 041	U.S. Government and Politics	4
Select one of the following non-U.S., upper-level history courses:		4
HIST 063	History of Science and Technology	
HIST 100	Renaissance and Reformation	
HIST 113	Europe Since 1945	
HIST 142	Modern Chinese History	
HIST 151	People's History of Mexico	

Select one of the following: 3

ECON 051	Economic Principles and Problems
ECON 053 & ECON 055	Introductory Microeconomics and Introductory Macroeconomics: Theory and Policy

Select one of the following basic sociology courses: 4

SOCI 021	Culture and Society
SOCI 031	Deviant Behavior
SOCI 051	Introduction to Sociology

Select one of the following analysis courses: 4

ANTH 053	Cultural Anthropology
SOCI 079	Self and Society
SOCI 108	Food, Culture and Society
SOCI 111	Environment and Society
SOCI 123	Sex and Gender
SOCI 125	Sociology of Health and Illness
SOCI 141	Race and Ethnicity

Select one of the following: 4

POLS 051	Introduction to International Relations
POLS 160	Theories of International Politics
POLS 162	International Organization
POLS 164	International Political Economy
POLS 166	International Conflict and Conflict Management
POLS 168	Comparative Foreign Policy
POLS 170	U.S. Foreign Policy
POLS 172	Inter-American Relations

HIST 160 The Capstone (Pacific History Seminar) 4

HIST 197 Independent Research * 4

Recommended for CSET (Optional) 6

EDUC 140	Transformational Teaching and Learning
EDUC 141	Transformational Teaching and Learning Practicum

* Students should complete HIST 197 the semester after completing HIST 160, in order to revise and refine their senior capstone paper under the mentorship of a faculty advisor. Students must present their Senior Research Project at a conference approved by the History Department.

Bachelor of Arts Major in History, Political Science, Economics, or Sociology With CSET-Social Sciences

Students are encouraged to take courses in World History and/or Western Civilization, United States History, California History, and other courses, as are possible in one's bachelor's degree program, in the courses listed in option 1 listed above.

Students who do not major in social sciences, history, or political science but wish to earn a California Social Sciences Single Subject Credential may want to consider earning a minor in history to help prepare them for the CSET exams. Above are minor coursework options recommended for social sciences teacher preparation.

Students interested in getting a social science credential contact the School of Education or the social science advisor to determine which pre-professional education courses are required for the Single Subject Credential (Department of Curriculum and Instruction):

Minor in History

Students must complete seven courses and a minimum of 25 units with a Pacific minor grade point average of 2.0 in order to earn the minor in history.

Minor Requirements:

Select two of the following pre- modern or 20th century Europe courses: 8

HIST 100	Renaissance and Reformation	
HIST 101	Tudor and Stuart England	
HIST 102	The Spanish Empire	
HIST 111	Europe in Turmoil 1900-1945	
HIST 112	History of the Holocaust	
HIST 113	Europe Since 1945	
HIST 114	Modern Germany	
HIST 119	History Goes to Hollywood	

Select two of the following United States or early North America courses: 8

HIST 120	Native American History	
HIST 123	Civil War Era	
HIST 124	History of the American West	
HIST 125	Early America: From Settlement to New Nation	
HIST 130	History of California	
HIST 132	American Immigration	
HIST 133	Women in United States History	
HIST 135	Women in Time and Place	
HIST 137	His-panic USA	

Select two thematic or non-western courses: 8
HIST 070 Historical Imagination 4

Note: 1) 10 units must be completed at Pacific. 2) 3 of the 7 courses must be or higher. 3) Special Topics courses may satisfy areas with departmental approval.

Minor in Public History and Museum Studies

(Also open to History majors)

Students must complete 6 courses and a minimum of 20 units, with a Pacific minor grade point average of 2.0 in order to earn the minor in public history and museum studies.

Minor Requirements:

HIST 070	Historical Imagination	4
HIST 160	The Capstone (Pacific History Seminar)	4
HIST 080	Digital Narratives	4
HIST 187	Internship	2-4

Electives

Select two of the following: 6-8

HIST 191	Independent Study (of an approved public history field)	
An approved HIST course from existing listings and that includes a public history project such as:		
HIST 112	History of the Holocaust	
HIST 123	Civil War Era	
HIST 132	American Immigration	

HIST 133	Women in United States History
HIST 135	Women in Time and Place
HIST 136	American Environmental History
HIST 137	His-panic USA
HIST 140	Southeast Asia and the West
HIST 144	Contemporary China
HIST 151	People's History of Mexico
HIST 167	Gender in the History of Science/Medicine/Technology
COMM 133	Documentary Film as Persuasive Communication

Notes: 1) 10 units must be completed at Pacific. 2) Special Topics courses may satisfy elective requirements with departmental approval.

History Courses

HIST 001. Chair's Seminar. 1 Unit.

This course provides freshmen with some essential skills for success in either the History or Social Science major at Pacific. Topics include study, research and writing skills, internships and career planning. Along the way, freshmen are introduced to department faculty, staff, librarians, (who they come to know and love) and their fellow students.

HIST 010. Western Civilization I. 4 Units.

This course is an introductory survey of the history of Western Civilization that begins with the emergence of classical Greek culture and ending with the Reformation in the sixteenth century. The political, social and religious ideas of ancient Rome and Greece have shaped European culture and formed an enduring legacy for our societies until today. The course examines the life and interactions of men and women throughout the centuries and traces the development of political and social institutions in a geographic area that we know as Europe. Studying this fascinating history of war and peace, destruction and great achievements helps understand what our present life has to do with the past. (GE2B)

HIST 011. Western Civilization II. 4 Units.

This course is an introductory survey of the history of Western Civilization from the sixteenth century to the present. The class explores some of the great political, social and economic transformations that led to the Western world as we know it today. The Scientific Revolution and the Enlightenment permanently changed humans' view of the world. Modern states and new forms of governments emerged as the French and Industrial Revolutions undermined the political and economic order. The rise of nationalism and totalitarianism led to catastrophes in the twentieth century. After the Cold War, we faced new problems that pushed us to take stock of where we are at the beginning of the new millennium. (GE2B)

HIST 020. United States History I. 4 Units.

This is an introductory level course in U.S. history. It begins with Native American societies at the time of European contact and examines major social, political, and cultural issues in U.S. history through colonial settlement, the American Revolution, the early national period, the antebellum era, the Civil War, and Reconstruction. The course considers dominant cultural traditions and perspectives as well a minority cultures and dissent. (DVSY, GE1B)

HIST 021. United States History II. 4 Units.

This is an introductory level course in U.S. history that considers the major social, economic, and cultural forces in American society from the Civil War to the present. It examines dominant cultural traditions and perspectives as well as minority cultures and dissent. Topics include the closing of the frontier, progressive reform, industrialization and urban life, the Great Depression, World War II, the Cold War, Civil Rights and social justice movements, the Vietnam War, and the Reagan years. Central themes are the U.S.'s increasing role in international affairs, political realignments, reform movements, race and racism, diversity, mass culture, and the historical legacies of the American past. (DVSY, GE1B)

HIST 030. East Asian Civilization I. 4 Units.

A broad overview of the rich histories and cultures of East Asia is the focus of this class. Students study the timeless writings of Confucius, take a dusty journey down the Silk Road and follow Prince Genji's adventures in medieval Japan. The course focuses primarily on China and Japan, but also nomadic peoples such as Tibetans, Mongols and others in Southeast Asia. Students will discover that East Asian civilizations were at the center of world history in terms of technology, wealth, cultural sophistication, political organization and quality of life. (GE1C)

HIST 031. East Asian Civilization II. 4 Units.

This course is a survey of East Asian Civilizations from the 19th century to the present. The course covers China and Japan as well as Korea, Singapore and Vietnam and the class focuses on East Asian transformation from traditional societies to modern ones as a result of confrontation with the West. The course examines East Asian political, economic and cultural histories and traditions, providing a model of modernization different from that of the West. (GE1C)

HIST 040. Colonialism in Latin America. 4 Units.

Tracing the gruesome experiences of members of a Maya village at the hands of their colonizers, the film *Apocalito* aptly ends at the first sighting of Spanish arrival, but not without leaving the viewer with the sense that things will never be the same again. Indeed, colonial rule forever changed the lives of Indians, Africans and Spaniards in the Americas. This course covers the history of Mesoamerica and colonial Latin America from pre-Columbian times to Independence in the 1820s. Students consider the political, economic, religious, and cultural history of the Viceroyalty of New Spain (present-day Mexico, Central America and the Caribbean) and the Viceroyalty of Peru (the Andes), with a limited discussion of Portuguese colonies. The class focuses on the social relationships between the three dominant racial groups, Indigenous, African and European. (GE1C)

HIST 041. The Problem with Latin America. 4 Units.

Since independence from Spain in the early nineteenth century Latin America has been plagued with struggles to achieve political stability, social justice, and economic development. Though an analysis of social movements, this course focuses on salient issues in the history of the independent nations of Latin America from the 1820s to the present and emphasizes the development of diverse societies and cultures. Students examine issues of state building, labor movements, inter-regional conflicts, and interethnic relations. The course uses a variety of sources - films, lectures, readings, and discussions - in an attempt to understand how social movements shaped and were shaped by economic and political forces. Finally, the class studies how colonial legacies, neocolonial ties and globalization have affected Latin America and its people. (GE1C, GEND)

HIST 050. World History I. 4 Units.

This course is a broad survey of ancient civilizations (i.e. Mesopotamian, Egyptian, Hebrew, Greek, Indian, Chinese, Roman), social and economic structures and patterns of trade, cultural and religious traditions and intellectual contributions. The second half of the course covers the development of medieval and early modern civilizations to the 1500s. Particular emphasis is placed on the decline of the Roman Empire, the role and impact of Christianity and Islam, the European Expansion and global markets, and the European Scientific Revolution. (DVSY, GE2B)

HIST 051. World History II. 4 Units.

This course is a survey of World civilization from 1500 to the present which focuses on patterns of colonization, globalization and the impact of such forces as science and technology, consumerism, and intellectual movements on world history. Other topics include war, the impact of religious movements and the environmental impact of modernity. (GE2B)

HIST 052. John Muir's World: Origins of the Conservation Movement. 4 Units.

John Muir (1838-1914) is considered by most the "father" of the modern Conservation Movement. This course traces his life, his conservation crusades, and his global legacy. Home of the John Muir Papers, University of the Pacific's Library is used by all students in the course for research on an aspect of John Muir's contributions to conservation. Field trips to the John Muir National Historic Site in Martinez and to Yosemite National Park are often a part of this course. (ENST, GE2B)

HIST 060. A History of Medicine. 4 Units.

This course begins by objectively examining ancient medical systems across the globe: Chinese, Ayurvedic, Native American, and comes to focus on the Greek tradition in the West. Class discussions include the transmission of medical knowledge through Arab, Jewish, and medieval Christian authorities, and the impact of the discovery of the New World. The second half of the course traces the influence of the scientific revolution and the development of modern medicine in the 19th century and 20th centuries. Particular emphasis is placed on the subfields of physiology, nutrition and herbal lore; in the second half of the course emphasis is on anatomy, pathology and surgery. Biology, Pre-med. and Pharmacy students are encouraged to enroll, as well as non-science majors. No prerequisites or specialized knowledge are required. (GE2B)

HIST 061. Global History of Food. 4 Units.

The scope of the course is global, covering civilizations of Asia, America, Africa and Europe and how these cultures domesticated unique staples, which literally enabled these civilizations to expand and flourish. The course covers history of the interaction of humans with food resources from earliest hunting and gathering societies to the present. The major theme of the course is the process of globalization, imperialism and the growth of capitalist enterprise and the cost to indigenous cultures and traditional farming practices and how these processes were shaped by trade in food. (GE1C)

HIST 062. History of Warfare. 4 Units.

Taking a global approach, this course examines the history of warfare from ancient times through the present. It looks at how warfare was shaped, and shaped by, social, political and technological changes. After briefly looking at warfare in ancient, traditional and medieval societies, the class turns to the era of modern war beginning in the seventeenth century. From then on, technological and social changes transformed the conduct of war in many parts of the world. The course ends with a consideration of nuclear capability and terrorism. In class assignments, students have an opportunity to pursue their own interests on a variety of military related themes, events, or issues. (GE2B)

HIST 063. History of Science and Technology. 4 Units.

Almost every aspect of society, from the automobile to the Internet, from racial and class inequality to gender relations, from AIDS to global warming, includes an important scientific component and has deep historical roots. This course examines the global history of science and technology from antiquity through the present. It seeks to understand how science and technology shape human lives and how society and culture, in turn, shape the development of science and technology. (GE3C)

HIST 064. A History of Alcohol and Intoxicants. 4 Units.

A survey of how humans have used alcohol and intoxicants from ancient times to the present and how and why they have been central to religion, art, social interaction and many other endeavors. Discussion of the cultural and legal ramifications of intoxication and why standards differ greatly from society to society. (GE1A)

HIST 065. Women and War. 4 Units.

This course takes an international approach to studying the history of women and war. The objective is to better understand how women's experience during war has changed over time and differed for women in a variety of countries. The class begins by studying the mythology of women and war, connecting ancient Greek war goddess Athena with present-day Hollywood depictions of women warriors. Lectures then focus on the theories positioning women in war history, and proceeds with a survey of women's participation in several modern wars, comparing women's experience in the U.S. with women in other parts of the world. Finally, the course ends with an in-depth discussion of several key themes in the histories of women and war: domestic ideology, prostitution, nursing, soldiering, war work, and protest/peace politics. (GEND)

HIST 066. Ancient Arithmetic. 4 Units.

This course traces mathematical and historical developments throughout the ancient world, ending with the Scientific Revolution. Students will gain mathematical knowledge through the analysis of historical problems and solution methods, while contextualizing these endeavors into a larger historical context. Students will read mathematical primary sources, and will learn to think about the development of mathematical primary sources, and will learn to think about the development of mathematics as an intellectual pursuit over time. This course is cross-listed with MATH 064. Prerequisite: Fundamental Skills. (GE3B)

HIST 070. Historical Imagination. 4 Units.

This course explores some of the ways people have thought about, represented, and used the past across time and space. It introduces students to modern historical practices and debates through examination and discussion of texts and archives that range from scholarly monographs and documents to monuments, oral traditions, and media. This course is required for history majors and minors and recommended at the sophomore level. It is open to others interested in the practice of the historical craft.

HIST 080. Digital Narratives. 4 Units.

This course is an introductory seminar in telling stories about the past through digital mediums and other public spaces that make history accessible. It places special emphasis on emerging digital technologies and new media for communicating narratives about the past while also providing background in the debates and theories of preserving and displaying local history in archives and museums. Local history is studied as a tool for community engagement and for educators wanting to bring primary sources into the classroom. The course's experiential learning component gives students the opportunity to design and publish their research on the history of the Delta region, including Stockton, San Francisco and Sacramento, in virtual galleries. (GE3C)

HIST 089. Public History Practicum. 1 Unit.

Students wishing to gain credit toward the Public History and Museum Studies Minor through selected upper-level history classes (HIST 112, 121, 122, 123, 132, 133, 134, 135, 136, 137, 140, 144, 151, 167) may enroll in the Public History Practicum. Working under close faculty supervision, students gain valuable practical experience in applying public history and museum studies methods to the materials covered in the linked history course. (Notes: A student may not take more than 2 units of practicum credit toward the Public History and Museum Studies Minor; additional HIST courses may be combined with the HIST 093- Special Topics as History Practicum to satisfy the elective requirements with departmental approval.) Prerequisite: None.

HIST 093. Special Topics. 4 Units.**HIST 100. Renaissance and Reformation. 4 Units.**

An in-depth examination of the cultural, intellectual and artistic forces which shaped Europe from 1300-1600. The first half of the course focuses on Renaissance Italy, the second on the various Reformations: German, Swiss, English, Radical and Catholic. (GE2B)

HIST 101. Tudor and Stuart England. 4 Units.

A multi-disciplinary approach to the history of England from 1485-1688 which examines the social, economic, political and religious forces which shaped this brilliant and barbaric era. The course focuses on the personalities, noble and base, which have shaped English history, and it traces the development of institutions (Crown Parliament, Church) and longtime trends in society and economy, intellectual and cultural history.

HIST 102. The Spanish Empire. 4 Units.

The course covers the late Middle Ages to the 18th century. This course attempts to objectively assess the emergence of the first world empire, its triumphs and tragedies, and its motivations for conquest: glory, greed and God. Social and economic forces are examined as well as disease, warfare, slavery and statecraft in Spanish possession throughout Europe, the Americas and Asia.

HIST 103. Oceans and the Maritime World. 4 Units.

This course explores how oceanic exchanges shaped the early-modern and modern era from the 1400 BCE to the present. Beginning with the Mediterranean Sea and continuing with units on the Indian, Atlantic, and Pacific Oceans, the course examines various political, religious, technological, cultural, economic, artistic, and military aspects of the maritime world connecting the Americas, Europe, Africa, the Middle East, and Asia. We will pay particular attention to individuals—sailors, smugglers, slaves, etc.—to unravel how large bodies of water affected the lives of historical actors. Recognizing oceans as vibrant living spaces will challenge our conceptions of borders, empires, and the nation-state and help us define what we mean by the terms global and transnational history.

HIST 111. Europe in Turmoil 1900-1945. 4 Units.

This first fifty years of the twentieth century were years of turmoil for Europe. Two world wars left the countries in ashes and devastated the political, social and political order of Europe. A communist revolution took place in Russia that shook other places in the world. The rise of Nazism in Germany led to the Holocaust. In between these enormous crises, there were years where people hoped for a new era of peace, growth and democracy. This course examines the origins of the conflicts, the course of events and their legacy for our societies today. (GE1C)

HIST 112. History of the Holocaust. 4 Units.

The Holocaust remains a unique and ultimately incomprehensible event in human history. Nevertheless, or perhaps because of this dilemma, it teaches us many profound ideas that we should never forget. This course examines the role of the perpetrators, the attitudes of the bystanders, and the reaction of the victims. The class looks at the emergence of Nazism, the life and career of Adolf Hitler and his helpers, and the implementation and execution of mass murder. How did other countries respond to the Holocaust? How did survivors live with the memory of the horrific events? How do we remember the Holocaust today? The course also analyzes the portrayal of the Holocaust in popular film and media today. (DVSY)

HIST 113. Europe Since 1945. 4 Units.

Since the end of World War II, Europe experienced a period of peace and stability unprecedented in its history. This course examines the emergence of Europe out of the rubble, the new postwar order, the division of Europe during the cold war, and the political, economic and social changes in modern Europe. The class looks at the building and the collapse of the Berlin Wall, life behind the Iron Curtain, the break-up of European empires and the end of colonialism. European life and societies changed dramatically with the establishment of the European Union, the students' revolt in the 1960s and the women's movement. Since the collapse of the Soviet Union, new hopes and problems have replaced Cold War fears. The class also examines these changes and look at Europe at the beginning of a new millennium. (GE1C, GEND)

HIST 114. Modern Germany. 4 Units.

This course addresses politics and the social and cultural movements that shaped German history. In the last one hundred years, Germany has decisively shaped the world we live in. The country's history is framed by two unifications; Bismarck's unification in 1871 and the reunification of Germany in 1989 after the forty year-long Cold War split. The time between these dates was like a terrible roller coaster. Twice Germany tried to become a world leader and dominate large areas of land and people, Both times it failed but not without first bringing war and destruction to tens of millions of people. Good times included the rapid industrialization in the last decades of the nineteenth century, the "roaring twenties" in the metropolis Berlin, the miraculous economic recovery after 1945, and the euphoric atmosphere after the fall of the Berlin Wall. How can we explain these events and developments? Who are the Germans?

HIST 119. History Goes to Hollywood. 4 Units.

This course examines how films shape our understanding of certain historical events. It provides students with the tools to watch films critically and to place them in the context of a broader historical time period. The films selected cover different time periods from the ancient to the modern world and portray a variety of national and cultural contexts. (FILM, GE2C, GEND)

HIST 120. Native American History. 4 Units.

Taking an international interdisciplinary approach, this course examines the history of native peoples of different regions of North America from contact to the present. This course looks at how environmental change, disease, and biological vulnerability interacted with racial ideologies, economic, and social factors to facilitate European conquest. While this course is primarily concerned with the United States, considering the whole of North America enables students to see the similarities and differences between Indian experiences in a variety of regions. (DVSY, ETHC, GE1B)

HIST 123. Civil War Era. 4 Units.

This course begins with an analysis of events and factors leading up to the Civil War. It then examines in depth the war years covering the development of technology, leadership, military medicine, and the social experience of war for men and women, free and slave. The course concludes with a study of the immediate post-war years of Reconstruction across the nation. (DVSY, ETHC, GEND)

HIST 124. History of the American West. 4 Units.

This course studies the causes and consequences of America's westward expansion and along with the beginnings of Spanish and French settlements to modern times, with emphasis on the people, the myths, and the technologies that have shaped western development and culture. (ETHC)

HIST 125. Early America: From Settlement to New Nation. 4 Units.

This class focuses on the period from the arrival of Europeans and Africans in British North America at the beginning of the seventeenth century through the establishment of the new United States. In a combination of lecture and seminar format, we explore the social, political, cultural, and environmental changes that occurred as the new arrivals and native peoples learned about each other. They created a new world and ultimately, formed a new nation born in blood and fire. But exactly what kind of nation that would be was something that still needed to be resolved. (ETHC)

HIST 130. History of California. 4 Units.

This course is a survey of the Golden State from its first description as a mythical island in the sixteenth century to the state's economic and political prominence in our own times. Native American beginnings, Spanish Mission Period, Mexican California, the Gold Rush and its consequences, and Modern California from World War II to the present are emphasized. Class participants select famous "California History Makers" and present their own research with presentations on notable figures in the State's unique history from Spanish friars and explorers to politicians, inventors, scientists, Hollywood's most influential, and others in California's Hall of Fame. This class is especially recommended for future educators, but it is open to all. (ETHC)

HIST 132. American Immigration. 4 Units.

This course focuses on immigration in the 19th and 20th centuries exploring the experiences of the diverse immigrant communities in the United States. It also explores causes of immigration; experiences within the U.S.; effects of class, race and gender; and issues of identity. America's changing understandings of race and ethnicity over time are also central themes covered. Immigration and ethnicity are pressing social concerns in contemporary America. Congress debates "reform" bills while ordinary Americans protest current policy. While immigration policy issues impress us with their urgency, they are by no means new. (DVSY, ETHC, GE1C)

HIST 133. Women in United States History. 4 Units.

The course examines the history of women in the United States from the colonial era to the present. In addition to examining political reform, it offers insights into the day-to-day lives of diverse American women at various points in the female life cycle. The course is organized chronologically and thematically to promote the study of women in relation to major historical events and to explore women's roles in families, communities, the nation, and the world. It examines cultural models of American womanhood, including maternal, domestic, sexual, and social models, their development and recent changes. The course uses various primary and secondary sources to evaluate both current and historical arguments regarding the status, roles, and experiences of American women. (DVSY, GE1B, GEND)

HIST 135. Women in Time and Place. 4 Units.

In the early twenty-first century news reports have covered the first mainstream woman presidential candidate, the Supreme Court's upholding of the Congressional "partial birth" abortion ban, mothers protesting the war in Iraq and young women fighting there, and how women in the US still make only 77 cents for every dollar men make. This course uses historical analysis to understand several current "women's issues." such as reproductive rights, women's roles in wartime, political participation, sports and body image, and work. The course considers the perspectives and experiences of women from various social and cultural groups and sets US women's experience in an international context. (DVS, GE2B, GEND)

HIST 136. American Environmental History. 4 Units.

This course is a topical survey of historical roots of environmental crises in contemporary North America beginning with Western concepts of natural history. The course mainly focuses on three centuries of changing American attitudes and policies and activities that led to the rise of the Conservation Movement by the late nineteenth century, With includes tensions between users and preservers, and the development of an ecological school of environmentalism beginning in the 1940's. (ENST)

HIST 137. His-panic USA. 4 Units.

When writer Oscar Hijuelos first set eyes on the word "Hispanic" he read it as "His-Panic," believing that this group of people caused alarm to Anglo society. Why do Hispanics cause so much panic? Hispanics have replaced African Americans as the largest minority group in the United States. Major news sources have written about the US government's preoccupation and concern with what "Hispanics"/Latinos do, eat, say, wear, and watch. Yet, and perhaps what is at the root of the "panic", the "largest minority" continues to be seen as "foreign." As a group, Hispanics represent all racial groups, while at the same time, they continue to identify with their country of origin rather than with a particular racial group, making it difficult to fit them into the United States' system of racial categorization. (ETHC)

HIST 138. United States Since 1945. 4 Units.

This course focuses on the U.S. since World War II and explores how the diplomatic, economic, social, and political changes shaped American culture and society. Specifically, the course examines the origins and characteristics (both domestic and international) of the Cold War, America's expanding role as a super power, the struggles and legacies of the Civil Rights Movement, the emergence of the "culture wars," and the significance of America's increasing racial, ethnic, religious, sexual, gender, and class diversity. Moreover, the course reflects how America's past choices inform current debates such as those regarding the war on terror, immigration, and social reform.

HIST 139. Borderlands. 4 Units.

This course takes a unique approach by combining historical inquiry with analysis of contemporary issues in teaching this course. The relationship between Mexico and the United States has been one of conflict and codependency, constantly changing with the shifts in domestic politics and economics on each side of the border. The Mexican and U.S. communities located on or near the border frequently feel the strongest and most immediate impact of this (dis)union. The borderlands are the areas of intersections between cultures, nations, histories. The borderlands, straddling the periphery of two nations, are fundamentally different from either country. Moreover, the border and its culture have many implications that reach far beyond that region, affecting the lives of migrants, laborers, and, on a larger scale, governments and the environment. (ETHC)

HIST 140. Southeast Asia and the West. 4 Units.

In this course examines the history of the "lands below the winds" - maritime and mainland southeast Asia - from their epochs of pre-modern greatness to the present as well as the lands of Southeast Asia as both a regional and global crossroads. Southeast Asians were connected with other civilizations through trade and religion early and consistently. Topics include the glories of Angkor and Khmer civilization, the spice trade and the world economy, and the spread of Islam. The course also focus on the European and U.S. colonization of the region's states and their subsequent independence struggles, with in-depth consideration of the Philippines, the Indo-Chinese wars and the events leading to the world's most destructive genocide under the Pol Pot regime in Cambodia.

HIST 141. Pre-Modern China to 1840. 4 Units.

For much of its history, China was the most powerful empire in the world. It had the grandest cities, the most formidable armies, the best technology and the biggest economy. At the dawn of the twenty first century, China is poised to retake its position as the world's superpower. What lessons does history teach us about China as world hegemon? This course surveys Chinese dynastic history since its founding in 221 BC by the Qin Shihuang and ends with the last dynasty, the Qing. Topics include the dynastic cycle, politics and policies, noted statesmen and rebels, and borderlands history, including Tibet, Mongolia and the oases of Turkestan. (GE1C)

HIST 142. Modern Chinese History. 4 Units.

China's modern history is dramatic. Civil wars, foreign invasions, revolutions, high hopes, heroism, betrayed and bitterness marked what some called China's century of humiliation (ca. 1842-1950). The Chinese monarchy that collapsed in 1911 was replaced with a constitutional republic that never managed to achieve the heroic modernity imagined by its fervent patriots. The People's Republic of China sought to re-invent Chinese society from top to bottom and create a rich and powerful nation. The grimly spectacular failures to achieve this goal left many disappointed. Today, China is still run by a communist party but the newly assertive nation is now heralded by many as the next superpower. In this course, students gain specialized knowledge of events, individuals and ideas that shaped this tumultuous period. The focus is especially on the tension between westernization and modernization.

HIST 143. Japan in War and Peace. 4 Units.

In this course, you gain a broad overview of the processes, events and individuals in Japan's history since 1800, a period of terrible war and uncertain peace. The historical vulnerabilities of its Pacific Rim location – including both natural disasters and international political rivalries – have been a constant throughout its history. Although life got better for most as the country raced from its feudal past to become an industrial and military giant, the nation could not escape the geopolitical rivalries that brought total war and foreign occupation to its lands for the first time in history. Its 1946 "Peace Constitution" helped lay the foundation for Japan's global economic clout but did not extend Japan's political interests in the same way. In 2011, its natural vulnerabilities were brought into focus again by the tsunami and nuclear accident that shook the nation's confidence. The course concludes with a survey of contemporary East Asian international relations in which South Korea and China have become partners and rivals to Japan. As a seminar for History majors, the course is designed to focus especially on conceptual and theoretical consideration of the facts of Japanese history. This course satisfies the Asia requirement for History majors. This course also counts towards the Asian Studies major.

HIST 144. Contemporary China. 4 Units.

Since about 1990, China has been racing into the future: hundreds of millions of farmers have been lifted out of poverty as the country has grown to be a colossus of the world economy. Its government has a growing "hard power" reach as well as a sophisticated array of "soft power" initiatives. It is sweatshop to the world but also a leader in high-tech fields such as solar panels and mobile devices. Farmers in remote areas struggle to survive, while globe-trotting nouveau riches party the night away in chic nightclubs. This course surveys contemporary issues in China since about 1990, and focuses on the environment and population issues; foreign policy and grand strategy; and society and culture at the street and village level.

HIST 150. Women in Latin America. 4 Units.

The history of Latin America is still, in many ways, the history of male leaders and heroes. This course analyzes gender as both a field of resistance and of the creation and internalization of social norms. Students explore the gendered roles of women and men in Latin America but focus primarily on the lives of women. The course also examines the institutions and ideas that have expanded and limited their place in history and society. Through the use of art, literature, film, and religious forms, students study the cultural attitudes that have affected Latin American women since pre-Columbian times to the present. Topics include: Indian women and the conquest of Latin America, the Virgin Mary, women and Revolution, and icons such as Eva Peron and Frida Kahlo.

HIST 151. People's History of Mexico. 4 Units.

This course surveys the history of Mexico from its origins in pre-Columbian civilizations to the present day. In the process, students examine major historical themes and developments - the society and culture of the Aztecs and Mayas, the distinctive features of the colonial empire, the eras of Independence and of Revolution, modernization and post-modernity - as experienced by or as expressions of the actions and aspirations of Mexico's people. The course focuses on the historical experiences and struggles of Mexico's diverse ethnic and social groups and foregrounds their roles in the development of a uniquely Mexican nation. (GE1C, GEND)

HIST 160. The Capstone (Pacific History Seminar). 4 Units.

The Pacific History Seminar is the capstone experience of the history program. Students take this course the fall of their senior year or, with permission, as juniors. In this course, students write a research paper based on primary documents from our own and local libraries. The course culminates with the department's capstone conference at which the students present their research orally and submit their final research paper. Interested and qualified students can later submit these research projects at campus and regional undergraduate research conferences and use them as writing samples for professional or graduate school applications.

HIST 167. Gender in the History of Science/Medicine/Technology. 4 Units.

This course introduces students to the literature on gender in the history of science, technology, and medicine. Students learn how to use gender to analyze scientific practice and examine how it intersects with other historical categories such as race, ethnicity, sexuality, class, and nationality. The course explores five interrelated topics: (1) The historical participation of women and men in scientific work, (2) the scientific and historical construction of sex and sexuality, (3) the influence of ideologies of gender on the methodology of science, medicine, and engineering, (4) the gendering of technologies and artifacts, (5) the relation between ideas of gender, science, and politics. Based on their increased historical understanding, students reflect upon their own gendered experiences and expectations in encountering science as students, as laboratory workers, patients, and consumers. This course is open to both science and non-science majors. (DVSY, ETHC, GE3C, GEND)

HIST 187. Internship. 2-4 Units.

This is an experiential learning opportunity. This may not be substituted for an upper level course.

HIST 189. Practicum. 2-4 Units.**HIST 191. Independent Study. 2-4 Units.**

This is a reading tutorial or research tutorial as well as an experiential learning opportunity.

HIST 193. Special Topics. 4 Units.**HIST 197. Independent Research. 1-4 Units.**

Jacoby Center for Public Service and Civic Leadership

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/About/Centers-and-Institutes/Jacoby-Center.html>

Phone: (209) 946-7444

Location: WPC 242

Vacant, Director

Minors Offered

Civic Leadership

Helping Professions

The Harold S. Jacoby Center for Public Service and Civic Leadership encourages students to engage in civic life and leadership development through varying curricular and co-curricular options including opportunities for learning which introduce them to urban life and public issues through community service.

Jacoby Center cooperates with the Governmental Affairs Program of the McGeorge School of Law and the Washington Center in Washington, DC, to provide off-campus semester long study and experiential learning opportunities for Pacific undergraduates. Minor programs in the Helping Professions and Public Affairs are also offered through the Center.

The Civic Leadership minor is designed to prepare participants to assume positions of leadership in governmental and non-profit organizations. The curriculum addresses significant aspects of management in the public and not-for-profit sectors and invites undergraduates to study with adult students currently employed in these sectors. Special attention is given to the connection between the workplace and social science theory. Courses are taught by Pacific faculty with the assistance of community leaders. The capstone course is a field study, consisting in a research project focused on public or community service. The program can be completed in a year and is offered in eight week modules so that

two courses can be easily completed in one semester. To facilitate the participation of adult students enrolled in the program through the Center for Professional and Continuing Education, courses are usually held once a week in the evening. Students must be admitted into the program as enrollment is limited. Interested students should seek applications from the Jacoby Center office.

The Helping Professions Minor exposes students to interdisciplinary knowledge, theory and practice related to the full range of health, social and education services for individuals and their families. The minor enables students to explore career interests in one of the contributing professions and the collaboration and connections between that profession and other helping professions. Jacoby Center is particularly committed to nonprofit and governmental organizations, and most health, social and education services are provided through governmental and/or non-profit agencies.

The Center also offers a minor in Public Affairs which enables students to integrate studies in public issues with disciplinary study in a variety of majors. This cross-disciplinary minor is designed to prepare students for advanced study and professional careers in fields such as government and public policy, education, social work, planning, and non-profit organization.

Students in both minor programs are encouraged to participate in the Sacramento Experience and Washington Center internship and study programs. Students make application to these unique study opportunities through the Jacoby Center to study and intern for a full semester either in Sacramento or Washington, D.C. Through these and other programs Jacoby Center provides numerous options for involvement in policy level activities with government, non-profit, and cultural organization at all levels.

Minor in Civic Leadership

Students must complete a minimum of 20 units and 7 courses with a Pacific minor grade point average of 2.0 in order to earn the minor in Civic Leadership.

Minor Requirements:

JCTR 100	Leadership Theory and Practice	3
JCTR 110	Public Outreach: Public Relations and Fundraising	3
JCTR 125	Human Capital: Building Capacity and Organizations	3
JCTR 135	Public Finance	3
JCTR 145	Research Methods: Analysis, Program Design and Evaluation	3
JCTR 197	Undergraduate Research (Internship in a non-profit or governmental organization)	2

Minor in Helping Professions

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn the minor in helping professions.

Minor Requirements:

JCTR 075	Introduction to Helping Professions	2
Select one of the following:		2-4
JCTR 087A	Service Learning Practicum	
JCTR 087B	Service Learning Practicum	
At least 14 units from the following:		14
EPSY 121X	Learner-Centered Concerns	

HESP 153	Adapted Physical Education and Sport
HESP 155	Motor Development and Learning
MTHR 011	Music as Therapy: A Survey of Clinical Applications
MTHR 018	Basic Skills for Music Therapists and Allied Professionals
PSYC 053	Behavioral Psychology
RELI 145	Biomedical Ethics
SLPA 051	Introduction to Communication Disorders
SLPA 127	Audiology
SOCI 081	Introduction to Social Services
SOCI 125	Sociology of Health and Illness
SPED 123	The Exceptional Child
SPED 166	Building Family-Professional Partnerships

Note: 1) Limit of 2 courses per department will count towards these electives.

Experiential/Independent Learning

JCTR 187	Community Affairs Internship	2-4
JCTR 191	Independent Study	2 or 4
JCTR 197	Undergraduate Research	1-3

The experiential/independent learning options (JCTR 087, JCTR 187, JCTR 191, JCTR 197) are available to any qualified student and may be repeated for credit. They need not be taken only to complete minor requirements. Jacoby Center also sponsors periodic Special Topics study options depending on current Center service or research projects which may also meet Helping Professions or Public Affairs minor requirements. Although not required for students who seek to participate, these minors provide excellent preparation for the Sacramento Experience and/or Washington Center programs. Students are encouraged to apply to these programs and may substitute the internships and seminars in these programs for elective and experiential learning requirements in the minors.

Sacramento Experience

Students apply to this program and upon acceptance enroll in a combination of JCTR 187 and JCTR 191 depending on the internship assignment and advising by the Jacoby Center Executive Director. Students ordinarily combine study and internship activities in Sacramento with other courses on the Stockton campus.

SACR 185	Sacramento Experience Seminar	2
SACR 187	Sacramento Experience Internship	4

Washington Semester

Students work with a faculty advisor in Jacoby Center to submit an application to the Washington Semester in Washington, D.C. Upon acceptance to this full semester, the student's typical registration will be:

WASH 185	Washington Seminar	4
WASH 187	Washington Semester Internship	4
WASH 000	Pacific Washington Program	8

Jacoby Center Courses

JCTR 075. Introduction to Helping Professions. 2 Units.

This course familiarizes undergraduate students with the fields that provide health and education services to individuals and their families. Students are introduced to various career options through panel presentations, discussions, and case studies which focus on prevention, assessment and treatment issues. Faculty from several departments that include Adapted Physical Education, Education, Music Therapy, Speech-Language Pathology, Special Education, Counseling Psychology, Physical Therapy, Pharmacy and Psychology present information on their respective professions during the course of the semester. Other related fields such as Occupational Therapy and Social Work are integrated into the course design.

JCTR 087A. Service Learning Practicum. 2-4 Units.

A service learning community exploration experience for students who want to work with at risk youth and/or other high need groups through direct involvement. Students receive training from Pacific staff and community based organizations in methods common to the helping professions, and work on-site in schools and other community settings. The course explores how the helping professions respond to human development needs and other social issues at the community level.

JCTR 087B. Service Learning Practicum. 2-4 Units.

A service learning community exploration experience for students who want to work with at risk youth and/or other high need groups through direct involvement. Students receive training from Pacific staff and community based organizations in methods common to the helping professions, and work on-site in schools and other community settings. The course explores how the helping professions respond to human development needs and other social issues at the community level.

JCTR 089. Practicum. 1-4 Units.

JCTR 093. Special Topics. 1-4 Units.

JCTR 100. Leadership Theory and Practice. 3 Units.

This multidisciplinary introduction course is the study of leadership and ethics, which examines the relationships between leaders and followers and the circumstances which enable leadership to occur and the forces that shape leadership methods.

JCTR 110. Public Outreach: Public Relations and Fundraising. 3 Units.

This course outlines the reciprocal relationships between the public and non-profit or governmental agencies and how they function within a regulatory framework which involves public trust and accountability, while having to raise funds in both the public and private sectors. This course will cover media relations, events management, and grant writing.

JCTR 125. Human Capital: Building Capacity and Organizations. 3 Units.

Students are introduced to the theory of organizations, how organizations are structured to accomplish their objectives, and how different models of developing and managing human resources can affect results. The course emphasis is on the practical application of organizational principles to administration and problem solving in the nonprofit and public organizations which make up the civic sector.

JCTR 135. Public Finance. 3 Units.

This course deals with the financial management of non-profit and public agencies, which includes budgeting, payroll and accounting practices. This courses also addresses the relationship between strategic planning and budgeting, and the development of investment strategies and policies.

JCTR 145. Research Methods: Analysis, Program Design and Evaluation. 3 Units.

This course offers a framework to assist managers in designing instruments for needs assessment, organizational analysis, and outcomes assessment.

JCTR 189. Practicum. 1-4 Units.

JCTR 191. Independent Study. 2 or 4 Units.

Open to student with C average in major field with permission of instructor.

JCTR 197. Undergraduate Research. 1-3 Units.

JCTR 197A. Community Independent Research. 1-4 Units.

This course is an opportunity for appropriately prepared students to carry out community based research which meets the university experiential learning requirement, and which contributes to a body of knowledge suitable for presentation to professional academic or community audiences. Methods used may include observation, surveys, interviews, document analysis, experimentation, or other methods common to the social or behavior sciences.

JCTR 197B. Community Independent Research. 1-4 Units.

This course is an opportunity for appropriately prepared students to carry out community based research which meets the university experiential learning requirement, and which contributes to a body of knowledge suitable for presentation to professional academic or community audiences. Methods used may include observation, surveys, interviews, document analysis, experimentation, or other methods common to the social or behavior sciences.

JCTR 197C. Research Independent Project: Field Study. 3 Units.

This course is the capstone course which consists of a research project focused on a particular government or non-profit organization. The project will demonstrate the practical application in a working agency setting of material considered throughout the curriculum. Project findings will be discussed in seminar class sessions.

Sacramento Experience Courses

SACR 011. California Politics and Process. 4 Units.

This course introduces students to the actors, agencies, and day-to-day activities that determine California law and policy. The course will combine classroom instruction with guest speakers and on-site experiences, such as city council meetings, agency and legislative hearings and courtroom proceedings. Enrollment requires instructor permission. Co-requisite: SACR 187.

SACR 185. Sacramento Experience Seminar. 2 Units.

SACR 187. Sacramento Experience Internship. 4 Units.

Washington Program Courses

WASH 185. Washington Seminar. 1-6 Units.

WASH 187. Washington Semester Internship. 1-6 Units.

John Muir Center

<http://go.pacific.edu/johnmuir/>

Phone: (209) 946-2527

Location: WPC 99

Director: W. R. Swagerty

Program Description

John Muir Center (established in 1989) serves as a liaison between Pacific and the community on environmental issues. This internship is designed to accommodate a broad variety of interests in experiential

learning, from library and museum work, to placement with local, state, and federal agencies that focus on environmental policy, research, and education.

John Muir Center Courses

MUIR 187. Internship. 1-4 Units.

Supervised experiential learning opportunity (ELO) in (a) library/museum research and operations on a subject connected with John Muir's life or legacy; (b) field work or office setting within an environmental organization; federal, state, or local environmental agency; or educational work through an environmental institute or institution, to be contracted on an individual basis. Prerequisites: sophomore standing and permission of the supervisor. (ENST)

MUIR 189. Undergraduate Practicum. 1-4 Units.

Mathematics

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Mathematics.html>

Phone: (209) 946-2347

Location: Main Office in CR 106

Larry Langley, Chair

Degrees Offered

Bachelor of Arts

Bachelor of Science

Majors Offered

Mathematics (BA, BS)

Mathematics with Departmental Honors (BS)

Applied Mathematics (BS)

Applied Mathematics with Departmental Honors (BS)

Actuarial Science (BS)

Minors Offered

Mathematics

Applied Mathematics

Statistics

The Mathematics Department shares the University mission of providing a superior, student-centered education. Education in mathematics assists students in developing, to their fullest potential, their mathematical reasoning, communication and problem solving skills. Students who choose to major in mathematics are provided opportunities to develop strong problem solving skills that use quantitative methods and appropriate technology. They understand the strengths, limitations and wide applicability of mathematical modeling in a variety of disciplines. Students develop an appreciation for the discipline and esthetics of mathematics, effectiveness in problem solving, and an appropriate understanding of theory. Graduates who major in mathematics are prepared for the many careers in which mathematics plays an important role, for further study in Mathematics at the graduate level, or for careers in teaching mathematics.

Students who prepare for careers in mathematics, mathematics teaching, or for graduate study in mathematics elect the Bachelor of Science degree. Students interested in applied areas or majoring in a discipline which uses mathematics elect the Bachelor of Science in Applied Mathematics. Students interested in mathematics primarily as a component of a liberal education or as a second major may elect the Bachelor of Arts degree. Minors in Mathematics, Applied Mathematics and Statistics are available to students who wish to add this component

to their college experience. Students who choose to double major or minor in mathematics or who choose to study mathematics as part of their liberal arts education learn the major methods, applicability, and spirit of the mathematical sciences.

The Department of Mathematics also provides courses offering opportunities for students from other disciplines and professional programs to develop the quantitative skills necessary for success in their chosen field.

Preparation for Studying Mathematics

Since many degree programs within the University require courses in mathematics, students are encouraged to complete four years of high school mathematics. In general this would include two years of algebra, a year of geometry and a year of Math Analysis that includes Trigonometry. Four years of IMP or CPM mathematics are usually equivalent to these traditional courses. Students with Advanced Placement AB credit (score of 4 or 5) or Math IB Higher Level (score of 5, 6, or 7) start college mathematics in Calculus II while students with AP BC credit (score of 4 or 5) start in Calculus III. AP credit in Statistics (score of 4 or 5) is equivalent to MATH 037. All students are tested for quantitative skills during student orientation sessions. A quantitative fundamental skills requirement is part of the general education program and requires passing an Intermediate Algebra or higher level test during orientation or completing a college level Statistics or College Algebra course. In order to enroll in mathematics department courses numbered MATH 033, MATH 035, MATH 041, MATH 045, MATH 051, MATH 053, or MATH 161, students must take and pass a mathematics placement examination appropriate to the course prerequisite. Some courses in Economics, Chemistry, Physics, Computer Science, Psychology, the Educational Resource Center and Political Science also have mathematics placement requirements. Students choose the test level to be taken in consultation with their faculty advisor. All freshmen are tested. These tests include placement tests in Calculus for students who have had Calculus but do not have AP credit or do not know their AP score. The Calculus (Form E placement) test is for placement only and does not award credit for MATH 051. Subject material for the examinations and sample questions are available at the Educational Resource Center website.

For students who need additional preparation before entering introductory college mathematics courses, the Mathematics Lab of the Educational Resource Center in the Benerd School of Education offers developmental skill courses in the areas of fundamental mathematics, algebra and Trigonometry.

Pre-Professional Education Courses for Single Subject Mathematics or Foundational-Level Mathematics

Students who plan to earn a degree and a teaching credential through the University of the Pacific simultaneously are required to take certain professional education courses during their undergraduate years. Contact Marilyn Draheim in the Benerd School of Education or Dennis Parker in the Mathematics Department for details about these course requirements.

Departmental Honors

The honors programs in mathematics and applied mathematics gives students the chance to work with a faculty supervisor on an advanced project, possibly related to current research in mathematics. It is ideal preparation for students interested in graduate study in math, applied math or a related field.

In order to be admitted into the Mathematics with Departmental Honors program, students must have a major GAP of at least 3.5, have completed MATH 049, and have completed or currently enrolled in two of the following: MATH 141, MATH 143, or MATH 155. In order to be admitted into the Applied Mathematics with Departmental Honors program, students must have a major GPA of at least 3.5, have completed MATH 055 and have completed or be currently enrolled in MATH 145. Junior or Senior class standing is recommended.

Students meeting the eligibility requirements may apply to graduate with Honors any time prior to the start of their final two semesters. To apply, a student must obtain the consent of a mathematics faculty member who is willing to supervise an honors project (typically completed during the student's senior year) and submit an application form to the Department Chair. **Once approved, a Change of Program form must be submitted to the Office of the Registrar.**

Mathematics and Applied Mathematics

Proficiency in Calculus

- Students will be able to solve routine, non-routine, and applied problems in single and multivariable calculus.

Proficiency in Linear Algebra

- Students will be able to solve routine, non-routine, and applied problems involving matrices, linear transformations, eigenvalues, eigenvectors, vector spaces, and systems of linear equations.

Mathematical Writing

- Students will be able to convey the solutions to problems, providing the underlying logic and analysis in a way that is clear and unambiguous.

Research, Independent Learning

- Students will demonstrate the ability to research a topic, summarize, and report findings. Students will be able to learn on their own. They will recognize when additional information is needed. They will find it, if possible. They will cultivate good questions. Students will use appropriate means to find answers.

Problem Solving

- Students will be able to solve mathematical problems. They will be able to use prescribed methodology as well as adapt theory and methodology in new ways.

Modeling (Applied Math)

- Students will be able to apply mathematical structures and theory to real world problems. Students will be able to take a new problem given in words, translate it into a mathematical problem, investigate solutions using analytic techniques, and put the solution back into words.

Proof (Math)

- Students will demonstrate the ability to read, write, and assess the accuracy of mathematical proof.

Actuarial Science

Proficiency in Calculus

- Students will be able to solve routine, non-routine, and applied problems in single and multivariable calculus as outlined by the ETS Field Test guidelines.

Proficiency in Probability and Statistics

- Students will be able to apply the laws of probability and statistics to problems encountered by actuaries. Students will be able to solve routine, non-routine, and applied problems using statistical data analysis and statistical modelling.

Proficiency in Communication

- Students will be able to convey the solutions to problems, providing the underlying logic and analysis in a way that is clear and unambiguous.

Problem Solving

- Students will demonstrate the ability to research a topic, summarize, and report findings. Students will be able learn on their own. They will recognize when additional information is needed. They will find it, if possible. They will cultivate good questions. Students will use appropriate means to find answers.

Research/Independent Learning

- Students will be able to solve problems. They will be able to use prescribed methodology as well as adapt theory and methodology in new ways.

Modeling

- Students will be able to apply mathematical structures and theory to real world problems. Students will be able to take a problem given in words, translate it into a mathematical problem, investigate solutions using analytic techniques, and put the solution back into words.

Preparation for the Major

The first course in all Mathematics majors is Calculus I, II or III depending on the student's high school preparation in mathematics. Majors with AP Math AB or IB Math HL credit start in Calculus II. Majors with AP Math BC credit start in Calculus III. Students who are not able to start in Calculus I because of deficiencies in their algebra or Trig skills start in MATH 041, Precalculus. Students who place lower than MATH 041 discuss with their advisor how much extra time is required to complete their degree program because of the required developmental work. Mathematics majors are proficient with graphing calculators and consider taking elective courses that use quantitative skills in areas such as business, economics, computer science, science and engineering.

Bachelor of Arts Major in Mathematics

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in mathematics.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional

General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 36 units and 10 courses that include:

MATH 049 Introduction to Abstract Mathematics 4

MATH 051 Calculus I 4

MATH 053 Calculus II 4

MATH 075 Introduction to Linear Algebra 4

Select one of the following: 4

MATH 037 Introduction to Statistics and Probability

MATH 131 Probability and Mathematical Statistics I

Select one of the following: 4

MATH 141 Linear Algebra

MATH 145 Applied Linear Algebra

Select one of the following: 4

MATH 143 Abstract Algebra I

MATH 155 Real Analysis I

Three MATH Electives (excluding MATH 005, MATH 033, MATH 035, 9-12 MATH 041, MATH 045, MATH 161, and MATH 162) Minimum 3 units each.

Note: Electives must be approved by a mathematics advisor.

Bachelor of Science Major in Mathematics

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in mathematics.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001 What is a Good Society 4

PACS 002 Topical Seminar on a Good Society 4

PACS 003 What is an Ethical Life? 3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 46 units and 13 courses that include:

MATH 049	Introduction to Abstract Mathematics	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 075	Introduction to Linear Algebra	4
MATH 141	Linear Algebra	4
MATH 143	Abstract Algebra I	4
MATH 155	Real Analysis I	4

MATH Electives (Two courses with any number, excluding MATH 005, 6-9 MATH 033, MATH 035, MATH 041, MATH 045, MATH 161 and MATH 162, minimum 3 units each)

MATH Upper Division Electives (Three courses numbered MATH 110 9-12 or higher excluding MATH 161, and MATH 162, minimum 3 units each)

Bachelor of Science Major in Mathematics with Departmental Honors

Students must complete a minimum of 120 units with a Pacific cumulative grade point average of 3.3 and major/program grade point average of 3.5 in order to earn the bachelor of science degree with a major in mathematics with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 46 units and 13 courses that include:

MATH 049	Introduction to Abstract Mathematics	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 075	Introduction to Linear Algebra	4
MATH 141	Linear Algebra	4
MATH 143	Abstract Algebra I	4
MATH 155	Real Analysis I	4

MATH Electives (Two courses with any number, excluding MATH 005, 6-9 MATH 033, MATH 035, MATH 041, MATH 045, MATH 161 and MATH 162, minimum 3 units each)

MATH Upper Division Electives (Three courses numbered MATH 110 9-12 or higher excluding MATH 161, and MATH 162, minimum 3 units each)

MATH 197 Undergraduate Research* 2-4

Honors Thesis*

Note: 1) Two semesters of MATH 197 under the direction of their chosen faculty supervisor. The second semester may focus on writing the Honors Thesis.

CSET Preparation (Future High School Math Teachers)

Students who pursue a California mathematics or foundational-level mathematics single-subject teaching credential may elect either the BA or BS program. In addition to earning a degree, students must show subject matter competency by passing the CSET (California Subject Exams for Teachers) in mathematics. Contact the Mathematics Credential Coordinator, Dr. Dennis Parker at dparker@pacific.edu

for additional credential requirements. Below are the recommended coursework options for the BA and the BS.

1. BA for Single Subject Math with CSET (California Subject Exams for Teachers)

Core

MATH 049	Introduction to Abstract Mathematics	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 141	Linear Algebra	4
MATH 143	Abstract Algebra I	4
Select one of the following Probability and Statistics course:		4
MATH 037	Introduction to Statistics and Probability	
MATH 131	Probability and Mathematical Statistics I	

Recommended Electives

MATH 164	Topics in History of Mathematics	
MATH 166	Mathematical Concepts for Secondary Education	
MATH 168	Modern Geometries	

2. BS for Single Subject Math with CSET

Core

MATH 049	Introduction to Abstract Mathematics	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 141	Linear Algebra	4
MATH 143	Abstract Algebra I	4
MATH 155	Real Analysis I	4

Recommended Electives

MATH 037	Introduction to Statistics and Probability	
MATH 072	Operations Research Models	
MATH 074	Discrete and Combinatorial Mathematics	
MATH 164	Topics in History of Mathematics	
MATH 166	Mathematical Concepts for Secondary Education	
MATH 168	Modern Geometries	

Students who do not major in mathematics, but wish to earn a California mathematics or foundational-level mathematics teaching credential, may consider earning a minor in mathematics to help prepare them for the CSET exams. Below are minor coursework options recommended for mathematics teacher preparation.

MATH 037	Introduction to Statistics and Probability	4
MATH 049	Introduction to Abstract Mathematics	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 141	Linear Algebra	4
MATH 166	Mathematical Concepts for Secondary Education	3
MATH 168	Modern Geometries	4

Bachelor of Science Major in Applied Mathematics

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in applied mathematics.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

IV. Breadth Requirement

Students complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 44 units and 13 courses that include:

MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 075	Introduction to Linear Algebra	4
MATH 145	Applied Linear Algebra	4
COMP 051	Introduction to Computer Science	4
Select one of the following:		4
MATH 049	Introduction to Abstract Mathematics	
MATH 057	Applied Differential Equations I: ODEs	
Select three of the following (minimum 3 units per course):		9-12
MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	
MATH 072	Operations Research Models	
MATH 074	Discrete and Combinatorial Mathematics	
MATH 110	Numerical Analysis	
MATH 121	Financial Mathematics I	
MATH 122	Financial Mathematics II	
MATH 130	Topics in Applied Statistics	
MATH 131	Probability and Mathematical Statistics I	
MATH 132	Probability and Mathematical Statistics II	
MATH 133	Topics in Applied Statistics II	
MATH 148	Cryptography	
MATH 152	Vector Analysis	
MATH 157	Applied Differential Equations II	
MATH 174	Graph Theory	
MATH 193	Special Topics (to be approved by advisor)	

Note: 1) Electives are to be chosen in consultation of a major advisor. **2)** At most one elective may be numbered lower than 110. **3)** One elective may be chosen from the following experiences: independent study, undergraduate research, internship, and practicum.

Choose either 1 or 2, 8-12 units

- Students take three mathematically oriented courses from one or several of the mathematical sciences (e.g. Physics, Chemistry, Engineering, Computer Science, Economics, Management Sciences or other fields), chosen from a list of approved courses available in the mathematics department. In most cases, this requirement is fulfilled by courses required for the degree programs mentioned, with suitable electives.
- Students take two mathematically oriented courses from one of the several mathematical sciences, as described in (1), plus one MATH elective (at least 3 units) numbered MATH 049 or higher (excluding MATH 161, MATH 162, and MATH 166).

Bachelor of Science Major in Applied Mathematics with a concentration in Actuarial Science

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in applied mathematics with a concentration in actuarial science.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

COMP 051	Introduction to Computer Science	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4
MATH 075	Introduction to Linear Algebra	4
MATH 121	Financial Mathematics I	3
MATH 131	Probability and Mathematical Statistics I	4
MATH 145	Applied Linear Algebra	4
Select two of the following:		7-8

MATH 037	Introduction to Statistics and Probability	
MATH 122	Financial Mathematics II	
MATH 124	Advanced Financial Mathematics	
MATH 125	Actuarial Models I	
MATH 126	Actuarial Models II	
MATH 127	Models of Life Contingencies I	
MATH 128	Models of Life Contingencies II	
MATH 130	Topics in Applied Statistics	
MATH 132	Probability and Mathematical Statistics II	
MATH 133	Topics in Applied Statistics II	
Select two of the following:		8
BUSI 104	Operations Management	
BUSI 105	Financial Management	
BUSI 123	Investment Analysis	
BUSI 125	Intermediate Financial Management	
BUSI 188	Data and Decisions	
COMP 047	Discrete Math for Computer Science	
COMP 137	Parallel Computing	
COMP 147	Computing Theory	
COMP 151	Artificial Intelligence	
ECON 160	Mathematical Economics	
ECON 161	Empirical Methods	
ECON 190	Econometrics	

Bachelor of Science Major in Applied Mathematics with Departmental Honors

Students must complete a minimum of 120 units with a Pacific cumulative grade point average of 3.3 and minimum major/program grade point average of 3.5 in order to earn the bachelor of science degree with a major in applied mathematics with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society
or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 44 units and 13 courses that include:

MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 075	Introduction to Linear Algebra	4
MATH 145	Applied Linear Algebra	4
COMP 051	Introduction to Computer Science	4
Select one of the following:		4

MATH 049	Introduction to Abstract Mathematics	
MATH 057	Applied Differential Equations I: ODEs	
Select three of the following (minimum 3 units per course):		9-12

MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	
MATH 072	Operations Research Models	
MATH 074	Discrete and Combinatorial Mathematics	
MATH 110	Numerical Analysis	
MATH 121	Financial Mathematics I	
MATH 122	Financial Mathematics II	
MATH 130	Topics in Applied Statistics	
MATH 131	Probability and Mathematical Statistics I	
MATH 132	Probability and Mathematical Statistics II	
MATH 133	Topics in Applied Statistics II	
MATH 148	Cryptography	
MATH 152	Vector Analysis	
MATH 157	Applied Differential Equations II	
MATH 174	Graph Theory	
MATH 193	Special Topics (to be approved by advisor)	
MATH 197	Undergraduate Research *	2-4
Honors Thesis *		

Note: Note: 1) Electives are to be chosen in consultation of a major advisor. **2)** At most one elective may be numbered lower than 110. **3)** One elective may be chosen from the following experiences: independent study, undergraduate research, internship, and practicum. **4)** Two semesters of MATH 197 under the direction of their chosen faculty supervisor. The second semester may focus on writing the Honors Thesis.

Choose either 1 or 2, 8-12 units

1. Students take three mathematically oriented courses from one or several of the mathematical sciences (e.g. Physics, Chemistry, Engineering, Computer Science, Economics, Management Sciences or other fields), chosen from a list of approved courses available in the mathematics department. In most cases, this requirement is fulfilled by courses required for the degree programs mentioned, with suitable electives.
2. Students take two mathematically oriented courses from one of the several mathematical sciences, as described in (1), plus one MATH elective (at least 3 units) numbered MATH 049 or higher (excluding MATH 161, MATH 162, and MATH 166).

Bachelor of Science Major in Actuarial Science

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in actuarial science.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

BUSI 031	Principles of Financial Accounting	4
COMP 051	Introduction to Computer Science	4
ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
MATH 037	Introduction to Statistics and Probability	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4
MATH 075	Introduction to Linear Algebra	4
MATH 121	Financial Mathematics I	3
MATH 122	Financial Mathematics II	3
MATH 130	Topics in Applied Statistics	3
MATH 131	Probability and Mathematical Statistics I	4
MATH 132	Probability and Mathematical Statistics II	4
MATH 133	Topics in Applied Statistics II	3

Select three of the following: 9-12

BUSI 033	Principles of Managerial Accounting	
BUSI 113A	Intermediate Accounting I	
BUSI 113B	Intermediate Accounting II	
BUSI 123	Investment Analysis	
BUSI 125	Intermediate Financial Management	
ECON 190	Econometrics	
MATH 124	Advanced Financial Mathematics	
MATH 125	Actuarial Models I	
MATH 126	Actuarial Models II	
MATH 127	Models of Life Contingencies I	
MATH 128	Models of Life Contingencies II	
MATH 145	Applied Linear Algebra	

Minors

The study of mathematics is a process that develops important modes of critical thinking. Because quantitative problem solving is a desirable skill, a minor in mathematics can be a beneficial addition to the program of any student at Pacific irrespective of his/her major. Mathematics minors may also benefit students who plan on further graduate education in

related areas. Minors in mathematics are designed to offer a measure of breadth and some depth in the student's mathematical experience. Only courses passed with a C- or better grade are used to meet the minor requirements. A minimum of 12 of the minor units must be completed at Pacific. Students who plan to minor in mathematics contact the chair of the Mathematics Department and are assigned a minor advisor.

Minor in Mathematics

Students must complete a minimum of 23 units with a Pacific minor grade point average of 2.0 in order to earn a minor in Mathematics.

Minor Requirements:

MATH 049	Introduction to Abstract Mathematics	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 075	Introduction to Linear Algebra	4
Select one of the following:		4
MATH 141	Linear Algebra	
MATH 143	Abstract Algebra I	
MATH 155	Real Analysis I	
Select one MATH elective		3-4

Minor in Statistics

Students must complete a minimum of 25 units with a Pacific minor grade point average of 2.0 in order to earn a minor in statistics.

Minor Requirements:

Select one of the following:		4
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 130	Topics in Applied Statistics	3
MATH 131	Probability and Mathematical Statistics I	4
Two additional courses relevant to statistics (at least 3 units each)		6-8

Note: Electives are to be chosen in consultation of a minor advisor.

Minor in Applied Mathematics

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in applied mathematics.

Minor Requirements:

MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 075	Introduction to Linear Algebra	4
MATH 145	Applied Linear Algebra	4
Three MATH Electives (see notes below)		9-12

Note: 1) Electives are to be chosen in consultation of a minor advisor. 2) Units earned for MATH 033, MATH 035,, MATH 041, MATH 045, MATH 161, or MATH 162 do not count as elective units toward the minor in applied mathematics.

Mathematics Courses

MATH 001. Pre-algebra and Lab. 3 Units.

This course is designed for students whose Mathematics Placement Test score indicates a need to review arithmetic skills and Pre-algebra material. Topics covered include fractions, decimals, percents, basic area and volume formulas, signed numbers, use of variables in mathematical statements, translating statements in English to mathematical equations, solving linear equations and ratio and proportion. The course is taught using a Personalized System of Instruction. Neither the course credit nor course grade applies towards graduation. Prerequisite is an appropriate test score or permission of instructor.

MATH 003. Elementary Algebra and Lab. 3 Units.

Topics covered include signed numbers, linear equations, polynomials, factoring, algebraic fractions, radicals, quadratic equations, inequalities and systems of linear equations. This is an introductory course for students with limited high school background in mathematics. This course is taught using a Personalized System of Instruction. This course is inappropriate for students who have passed the Elementary Algebra placement exam or any higher level placement exam. Neither the course credit nor course grade applies towards graduation. Prerequisite: MATH 001 with a "C" or better or an appropriate test score or permission of instructor.

MATH 005. Intermediate College Algebra. 3 Units.

This course is taught in a traditional lecture format. Topics covered in this course include the real number system, solution of linear equations and inequalities, word problems, factoring, algebraic equations, exponents and radicals, quadratic equations, relations, functions, graphs, systems of equations and logarithmic and exponential functions. This course is not appropriate for students who have passed the Intermediate Algebra placement test of any higher level test. Pass/No Credit (P/NC) grading option is not allowed for this course. A grade of C- or better is required to satisfy the University's Fundamental Skills requirement in quantitative analysis/math. Prerequisite: MATH 003 with a "C-" or better or an appropriate test score or permission of instructor. **(MATH)**

MATH 005E. Intermediate College Algebra and Lab. 3 Units.

This course is taught using the emporium model in which students use technology to drive their learning in a lab setting with on-demand support from the instructor and tutors. Topics covered in this course include the real number system, solution of linear equations and inequalities, word problems, factoring, algebraic equations, exponents and radicals, quadratic equations, relations, functions, graphs, systems of equations and logarithmic and exponential functions. This course is not appropriate for students who have passed the Intermediate Algebra placement test of any higher level test. Pass/No Credit (P/NC) grading option is not allowed for this course. A grade of C- or better is required to satisfy the University's Fundamental Skills requirement in quantitative analysis/math. Prerequisite: MATH 003 with a "C-" or better or an appropriate test score or permission of instructor. **(MATH)**

MATH 007. Trigonometry and Lab. 2 Units.

Topics in this course include angle measure, trigonometric functions, applications of trigonometry, graphs of trigonometric functions, trigonometric identities, inverse functions and complex numbers. This course is designed for students who have not studied trigonometry in high school. Prerequisites include a satisfactory score on the Intermediate Algebra placement test. This course is taught using a Personalized System of Instruction and meets three hours per week. Pass/No credit (P/NC) grading option is not allowed for this course. Students who complete MATH 005 and MATH 007 with a C- or better may enroll in MATH 051. Prerequisite: MATH 005 with a "C-" or better, an appropriate test score, or permission of instructor. **(MATH)**

MATH 033. Elements of Calculus. 4 Units.

This course covers polynomial, rational, exponential and logarithmic functions as well as differentiation, integration and maxima/minima of functions of several variables. Elementary differential equations are studied and applications to natural sciences, social sciences and other fields are covered. Credit is not given for this course if a student has received credit for MATH 051 or AP credit in Calculus. Prerequisites: Two years of high school algebra and an appropriate score on either the Intermediate Algebra placement test or the Pre-Calculus placement test; or MATH 005 or MATH 041 with a "C-" or better. (GE3B, MATH)

MATH 035. Elementary Statistical Inference. 4 Units.

Emphasis is on the applications and limitations of statistical methods of inference, especially in the social and behavioral sciences. Topics include: estimation and test of hypothesis concerning a single group, One-way Analysis of Variance and analysis of categorical data. The use of statistical computer programs is addressed. Credit is not given for this course if a student has received credit for MATH 037 or has AP credit in Statistics. Prerequisite: MATH 003 or MATH 005 or MATH 041 with a "C-" or better, or an appropriate score on either the Elementary Algebra placement test, the Intermediate Algebra Placement test, or the Pre-calculus placement test or permission of instructor. (ENST, GE3B, MATH, PLAW)

MATH 037. Introduction to Statistics and Probability. 4 Units.

Students study elements of descriptive statistics: graphs, tables, measures of central tendency and dispersion. Probability models including binomial and normal are covered. The course introduces to estimation, hypothesis testing and analysis of variance in addition to linear and multiple regression and correlation. The use of statistical computer programs is addressed. The course is not recommended for first semester freshmen. Credit is not given for this course if a student has received credit for MATH 035 or has AP credit in Statistics. Prerequisites: MATH 033 or MATH 041 or MATH 045 or MATH 051 or MATH 053 with a "C-" or better or appropriate score on the calculus placement test. (ENST, GE3B, MATH, PLAW)

MATH 039. Probability with Applications to Statistics. 4 Units.

Probability concepts in discrete and continuous spaces is explored in some depth as well as important probability models (e.g., binomial, Poisson, exponential, normal, etc.), mathematical expectation and generating functions. Applications to statistical inference includes maximum likelihood, moment and least squares estimation. Confidence intervals and hypothesis testing is also covered. Credit is not given for both MATH 039 and MATH 131. Prerequisite: MATH 053 with a "C-" or better. (GE3B)

MATH 041. Pre-calculus. 4 Units.

The algebraic and trigonometric concepts which are necessary preparation for Calculus I are studied. Topics include the real number system, algebraic, trigonometric, exponential and logarithmic functions. Emphasis is on the function concept; graphing functions; solving equations, inequalities and linear systems; and applied problems. Credit for this course is not given if a student has AP Calculus credit. Prerequisite: MATH 005 with a "C-" or better or an appropriate score on either the Intermediate Algebra placement test, the Pre-calculus placement test or the calculus placement test. (GE3B, MATH)

MATH 045. Introduction to Finite Mathematics and Calculus. 4 Units.

This course introduces calculus, applications to problems in economics, management and other fields. Students study systems of equations, elements of matrix algebra, and elementary linear programming. Credit for this course is not given if a student has credit for MATH 051 or AP Calculus credit. Prerequisites: two years of high school Algebra and an appropriate score on either the Intermediate Algebra placement test, the Pre-calculus placement test, or the Calculus placement test; or MATH 005 or MATH 041 with a "C-" or better. (GE3B, MATH)

MATH 049. Introduction to Abstract Mathematics. 4 Units.

An introduction to the spirit and rigor of mathematics is the focus of the course. The content may vary with instructor, but the objective is to develop the skills required to read and write mathematics and prove theorems. Concepts include elementary logic, sets and functions, cardinality, direct and indirect proofs, mathematical induction. Prerequisite: MATH 053 with a "C-" or better or permission of the instructor.

MATH 051. Calculus I. 4 Units.

Students study differential calculus of algebraic and elementary transcendental functions, anti-derivatives, introductory definite integrals, and the Fundamental Theorem of Calculus. Applications, include the first and second derivative tests and optimization. Students who earn AP Math AB credit do not receive credit for MATH 051. Prerequisites: MATH 007 or MATH 041 with a "C-" or better or four years of high school mathematics including Trigonometry and an appropriate score on the placement test for calculus. (GE3B, MATH)

MATH 052. A Calculus Companion. 1 Unit.

An introduction to the foundations of calculus. This course provides a deeper look into the inner workings, formalities, history, and mysteries of Calculus. Foundations of the real numbers from axiomatic and set-theoretic perspectives. Number systems: real numbers, rationals, irrationals, integers, natural numbers, complex numbers. Cardinal numbers, Functions. The formal definition of the limit. Continuity and differentiability. Why the tangent line is the best linear approximation. A brief history of the differential. The theorems of calculus: Intermediate Value Theorem, Mean Value Theorem, Extreme Value Theorem, The Fundamental Theorem of Calculus, et al. Prerequisite may be taken concurrently: MATH 051.

MATH 053. Calculus II. 4 Units.

This course covers techniques and applications of integration, sequences and series, convergence of series, and Taylor Polynomials. Students who earn AP Math BC credit do not receive credit for MATH 053. Prerequisite: MATH 051 with a "C-" or better or an appropriate score on the calculus placement test. (GE3B, MATH)

MATH 055. Calculus III. 4 Units.

This course introduces multivariable calculus. Topics covered include vector geometry of the plane and Euclidean 3-space; differential calculus of real-valued functions of several variables, as well as partial derivatives, gradient, max-min theory, quadratic surfaces, and multiple integrals. Prerequisite: MATH 053 with a "C-" or better or AP Math BC credit. (GE3B)

MATH 057. Applied Differential Equations I: ODEs. 4 Units.

Students study ordinary differential equations, first-order equations, separable and linear equations. Also covered are direction fields, second order linear equations with constant coefficients, method of undetermined coefficients, laplace transforms, and unit impulse response and convolutions. Homogeneous systems of first order linear equations and matrix algebra determinants, eigenvalues, eigenvectors are also studied. Existence and uniqueness theorems are discussed and calculators or computers are used to display solutions and applications. Prerequisite: MATH 055 with a "C-" or better or permission of instructor.

MATH 064. Ancient Arithmetic. 4 Units.

This course traces mathematical and historical developments throughout the ancient world, ending with the Scientific Revolution. Students will gain mathematical knowledge through the analysis of historical problems and solution methods, while contextualizing these endeavors into a larger historical context. Students will read mathematical primary sources, and will learn to think about the development of mathematical primary sources, and will learn to think about the development of mathematics as an intellectual pursuit over time. This course is cross-listed with HIST 066. Prerequisite: Fundamental Skills. (GE3B)

MATH 072. Operations Research Models. 4 Units.

Operations Research (OR) is concerned with scientific design and operation of systems which involve the allocation of scarce resources. This course surveys some of the quantitative techniques used in OR. Linear Programs are solved using graphical techniques and the simplex algorithm. Among the other models studied is the transportation, assignment, matching, and knapsack problems. Prerequisite: MATH 033 or MATH 045 or MATH 051 with a "C-" or better or the appropriate score on the calculus placement test. (GE3B)

MATH 074. Discrete and Combinatorial Mathematics. 4 Units.

The fundamental principles of discrete and combinatorial mathematics are covered. Topics include the fundamental principles of counting, the Binomial Theorem, generating functions, recurrence relations and introductory graph theory, that includes trees and connectivity. Prerequisite: MATH 033 or MATH 045 or MATH 051 with a "C-" or better, or an appropriate score on the calculus placement test.

MATH 075. Introduction to Linear Algebra. 4 Units.

Linear algebra is the generalized study of solutions to systems of linear equations. The study of such systems dates back over 2000 years and now is foundational in the design of computational algorithms for many modern applications. This course will serve as an introduction to basic computational tools in linear algebra including the algebra and geometry of vectors, solutions to systems of linear equations, matrix algebra, linear transformations, determinants, eigenvalue-eigenvector problems, and orthogonal bases. Prerequisite: MATH 051 with a "C-" or better.

MATH 081. Writing Math Problems. 1 Unit.

This course is an introduction to LaTeX math typesetting software commonly used by mathematicians including document creation, special document classes, mathematics commands and terminology. Writing problems for contests in multiple content areas and proofreading math problems. Practicum aspect: students will provide the content and grading for Pacific's Avinash Raina High School Math Competition. Prerequisite may be taken concurrently: MATH 051. (Spring).

MATH 093. Special Topics. 1-4 Units.**MATH 093D. Math Literacy for College. 3 Units.****MATH 095. Problem Solving Seminar. 1 Unit.**

The objective of this course is to learn mathematics through problem solving. Students in mathematics courses are often given the impression that to solve a problem, one must imitate the solution to a similar problem that has already been solved. This course will attempt to develop student creativity in solving problems by considering problems not commonly encountered in other mathematics courses. Students enrolled in this course are expected to participate in the William Lowell Putnam Mathematical Competition on the first Saturday in December. Students may take this course for credit at most four times. Prerequisite: MATH 053 with a "C-" or better.

MATH 110. Numerical Analysis. 4 Units.

Numerical analysis deals with approximation of solutions to problems arising from the use of mathematics. The course begins with a necessary but brief discussion of floating point arithmetic, and then proceeds to discuss the computer solution of linear algebraic systems by elimination and iterative methods, the algebraic eigenvalue problem, interpolation, numeric integration, that includes a discussion of adaptive quadrature, the computation of roots of nonlinear equations and the numerical solution of initial value problems in ordinary differential equations. Prerequisite: MATH 055 with a "C-" or better.

MATH 121. Financial Mathematics I. 3 Units.

This course provides understanding of fundamental concepts in financial mathematics and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in reserving, valuation, pricing, asset/liability management, investment income, capital budgeting, and valuing contingent cash flows. Topics include interest rates, determinants of interest rates, and interest-related concepts, annuities involving both level and varying payments, and varying interest rates, projects appraisal evaluation, loans and loan payment methods, bonds and bond evaluations. This course, together with MATH 122, prepares students for the Society of Actuaries Financial Mathematics examination. Prerequisite: MATH 053 with a "C-" or better or permission of instructor.

MATH 122. Financial Mathematics II. 3 Units.

This course is the second semester of one-year financial mathematics. The course starts with reviewing bonds and bond evaluations. New topics include: discount model in common stock evaluation, analysis of term structure of interest rates, concepts of duration and convexity, and using and convexity to approximate bond price changes with respect to interest rate change, cash flow matching, immunization (including full immunization), Redington immunization, interest rate swaps. This course, together with MATH 121, prepares students for the Society of Actuaries Financial Mathematics examination. Prerequisite: MATH 121 with a "C-" or better or permission of instructor.

MATH 122P. Problem Solving in Financial Mathematics. 1 Unit.

This 1 unit course is designed to prepare students for actuarial professional Exam FM. The course will review basic concepts in theory of interest and interest rate swaps (material covered in both MATH 121 and MATH 122). The course is entirely problem driven. Prerequisite: MATH 122 with a "C-" or better.

MATH 124. Advanced Financial Mathematics. 4 Units.

This course is designed to develop student's knowledge of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. The primary topics are: Option relations, binomial option pricing, Black-Scholes equation, market-making and delta hedging, exotic options, and Lognormal Distribution. Prerequisites: BUSI 123 and MATH 131 with a "C-" or better.

MATH 125. Actuarial Models I. 3 Units.

Actuaries put a price on risk, and this course considers constructing and analyzing actuarial loss models (risk theory, severity and ruin models). This is the first part of a two-course series that covers the theory and applications of actuarial modeling. Actuarial Models I covers topics in probability theory relevant to the construction of actuarial models. After a review of random variables and basic probability distributional properties, the course examines severity and frequency loss models. Aggregate loss models, risk measures and the impact of coverage modifications on both frequency and severity will also be discussed. Finally, we will explore various ways of simulating random variables. Prerequisite: MATH 132 with a "C-" or better or Permission of Instructor.

MATH 126. Actuarial Models II. 3 Units.

This course is the second part of a two-course series that covers the theory and applications of actuarial modeling. The course continues a study of the loss modeling processes introduced in Actuarial Models I. The primary topics the course cover are: (1) Estimation for complete data: empirical distributions for complete, individual data and grouped data. (2) Estimation for modified data: point estimation, Mean, variance, and interval estimation, kernel density models, approximations for large data sets. (3) Frequentist estimation: method of moments and percentile matching, maximum likelihood estimation, variance and interval estimation, Bayesian estimation, estimation for discrete distribution. (4) Frequentist estimation for discrete distribution. (5) Model selection: representations of the data and model, hypothesis tests, two types of selection criteria, extreme value models, copula models, models with covariates. (6) Simulation. Prerequisite: MATH 125 with a "C-" or better or Permission of Instructor.

MATH 127. Models of Life Contingencies I. 4 Units.

This course is an introduction to life contingencies as applied in actuarial practice. This course is the first semester of two-semester course sequence, and it is designed to develop knowledge of the theoretical basis of life-contingent actuarial models and the application of those models to insurance and other financial risks. It covers the mathematical and probabilistic topics that underlie life contingent financial instruments like life insurance, pensions and lifetime annuities. Topics include life tables, present value random variables for contingent annuities and insurance, their distributions and actuarial present values, equivalence principle, and other principles for determining premiums and reserves. Prerequisites: MATH 122; MATH 131 with a "C-" or better or Permission of Instructor.

MATH 128. Models of Life Contingencies II. 4 Units.

This course is a continuation of the study of life contingencies. It is designed to develop the student's knowledge of the theoretical basis of life-contingent actuarial models and the application of those models to insurance and other financial risks. Topics include insurance and annuity reserves, characterization of discrete and continuous multiple decrement models in insurance, employee benefits, benefit reserves, and multiple life models. Prerequisite: MATH 127 with a "C-" or better or Permission of Instructor.

MATH 130. Topics in Applied Statistics. 3 Units.

This course covers topics in applied statistics not normally covered in an introductory course. Students study multiple regression and correlation, analysis of variance of one- and two-way designs and other topics selected from non-parametric methods, time series analysis, discriminant analysis, factor analysis, that depend upon student interest. There is extensive use of packaged computer programs. Prerequisites: MATH 035 or MATH 037 with a "C-" or better.

MATH 131. Probability and Mathematical Statistics I. 4 Units.

This course covers counting techniques, discrete and continuous random variables, distribution functions, special probability densities such as binomial, hypergeometric, geometric, negative binomial, Poisson, Uniform, Gamma, Exponential, Weibull, and Normal. Students study joint distributions, marginal and conditional distributions, mathematical expectations, moment generating functions, functions of random variables, sampling distribution of the mean, and the Central Limit Theorem. Credit is not given for both MATH 039 and MATH 131. Prerequisite: MATH 053 with a "C-" or better.

MATH 131P. Problem Solving in Probability. 1 Unit.

This course is designed to prepare students for actuarial professional Exam P. This course will review basic concepts in theory of probability. The primary focus is problem solving; applying fundamental probability tools in assessing risks. Prerequisite: MATH 131 or permission of instructor.

MATH 132. Probability and Mathematical Statistics II. 4 Units.

Sampling distributions such as Chi-square, t and F are studied as estimation methods such as methods of moments, maximum likelihood and least squares. The course covers properties of estimators such as unbiasedness, consistency, sufficiency, tests of hypothesis concerning means, difference between means, variances, proportions, one and two-way analysis of variance. Prerequisite: MATH 131 with a "C-" or better.

MATH 133. Topics in Applied Statistics II. 3 Units.

This course will cover additional topics in applied statistics including supervised vs unsupervised learning, time series models, principal component analysis, decision trees, and cluster analysis. Prerequisite: MATH 130 with a "C-" or better or permission of instructor.

MATH 141. Linear Algebra. 4 Units.

Fundamental linear algebra concepts from an abstract viewpoint, with the objective of learning the theory and writing proofs. Concepts include: vector spaces, bases, linear transformations, matrices, invertibility, eigenvalues, eigenvectors, invariant subspaces, inner product spaces, orthogonality, and the spectral theorem. Prerequisites: MATH 049, MATH 075 with a "C-" or better.

MATH 143. Abstract Algebra I. 4 Units.

This is an introductory course to groups, rings and fields, with an emphasis on number theory and group theory. Students study finite groups, permutation groups, cyclic groups, factor groups, homomorphisms, and the isomorphic theorem. The course concludes with an introduction to polynomial rings. Prerequisite: MATH 049 with a "C-" or better or permission instructor.

MATH 144. Abstract Algebra II. 4 Units.

This course is a continuation of MATH 143, and it emphasizes field theory and the application of groups to geometry and field extensions. Students study algebraic and separable field extensions, dimension, splitting fields, Galois theory, solvability by radicals, and geometric constructions. Prerequisite: MATH 143 with a "C-" or better or permission of instructor.

MATH 145. Applied Linear Algebra. 4 Units.

This is the second semester course in linear algebra with an emphasis on the theory and application of matrix decompositions. Topics include methods for solving systems of equations, QR factorization, the method of least squares, diagonalization of symmetric matrices, singular value decomposition, and applications. Prerequisites: MATH 053, MATH 075 with a "C-" or better.

MATH 148. Cryptography. 3 Units.

Cryptography and cryptanalysis from historical cryptosystems through the modern use of cryptology in computing are studied. Topics include public and symmetric key cryptosystems, digital signatures, modular arithmetic and other topics in number theory and algebra. Possible additional topics include error correcting codes, digital cash, and secret sharing techniques. Prerequisite: MATH 053 with a "C-" or better or permission of instructor.

MATH 152. Vector Analysis. 4 Units.

Vector analysis and topics for students of applied mathematics, physics and engineering are studied. Topics include vector fields, gradient, divergence and curl, parametric surfaces, line integrals, surface integrals, and integral theorems. Formulations of vector analysis in cylindrical and spherical coordinates are also included. Prerequisites: MATH 055 with a "C-" or better.

MATH 154. Topology. 4 Units.

This course introduces general topology and its relation to manifold theory. Topics include metric spaces, general spaces, continuous functions, homeomorphisms, the separation axioms, connectedness, compactness, and product spaces. Prerequisite: MATH 049 with a "C-" or better.

MATH 155. Real Analysis I. 4 Units.

This course focuses on properties of real numbers, sequences and series of real numbers, limits, continuity and differentiability of real functions. Prerequisites: MATH 049 and MATH 055 with a "C-" or better.

MATH 156. Real Analysis II. 4 Units.

This course covers integration, series of real numbers, sequences and series of functions, and other topics in analysis. Prerequisite: MATH 155 with a "C-" or better.

MATH 157. Applied Differential Equations II. 4 Units.

This course covers partial differential equations, derivation and solutions of the Wave, Heat and Potential equations in two and three dimensions as well as Fourier series methods, Bessel functions and Legendre polynomials, and Orthogonal functions. Additional topics may include Fourier integral transform methods, the Fast Fourier Transform and Sturm-Liouville theory. Computer exercises that use MATLAB are included. Prerequisite: MATH 057 with a "C-" or better.

MATH 161. Elementary Concepts of Mathematics I. 4 Units.

Concepts of arithmetic and geometry underlying elementary school programs in mathematics are studied. Laboratory materials are used to reinforce understanding of concepts. Prerequisite: MATH 003 or higher with a "C-" or better, or appropriate score on the algebra placement test. Not open to freshmen this course does not count as an elective for a BS degree.

MATH 162. Elementary Concepts of Mathematics II. 4 Units.

Students study the development of arithmetic and geometric concepts within a classroom setting. The course includes related topics such as diagnostic/prescriptive techniques, the use of calculators and computers, approaches to a K-8 math curriculum and current trends within mathematics education. The course includes field experiences, seminar discussions and laboratory workshops. Prerequisite: MATH 161 with a "C-" or better, or permission of the instructor.

MATH 164. Topics in History of Mathematics. 3 Units.

Topics in mathematics are studied from a historical perspective. Topics are chosen from: numeration systems; mathematics of the ancient world, especially Greece; Chinese, Hindu and Arabic mathematics; the development of analytic geometry and calculus; and modern axiomatic mathematics. Students solve problems using historical and modern methods. Students read and report on the biography of a mathematician. Prerequisite: MATH 053 with a "C-" or better. Junior standing or permission of the instructor.

MATH 166. Mathematical Concepts for Secondary Education. 3 Units.

This course covers secondary school mathematics from an advanced viewpoint and pedagogical perspective. Content is aligned with the mathematics subject matter requirements from the California Commission on Teacher Credentialing. Prerequisite: MATH 053 with a "C-" or better.

MATH 168. Modern Geometries. 4 Units.

Selected topics in this course are from Euclidean, non-Euclidean and transformational geometry in addition to both analytic and synthetic methods. The history of the development of geometries and axiomatic systems is covered. The course uses laboratory materials and computer packages used to reinforce understanding of the concepts. The course is required for high school teacher candidates. Prerequisite: MATH 049 with a "C-" or better or permission of instructor.

MATH 174. Graph Theory. 4 Units.

This course is an in-depth consideration of discrete structures and their applications. Topics include connectivity, Eulerian and Hamiltonian paths, circuits, trees, Ramsey theory, digraphs and tournaments, planarity, graph coloring, and matching and covering problems. Applications of graph theory to fields such as computer science, engineering, mathematics, operations research, social sciences, and biology are considered. Prerequisites: MATH 051 or MATH 074 or COMP 047 with a "C-" or better or an appropriate score on the calculus placement test.

MATH 189A. Statistical Consulting Practicum. 2 Units.

While working under close faculty supervision, students gain valuable practical experience in applying statistical methods to problems presented by University researchers, business and industry. Students enrolled in MATH 189A ordinarily participate in more sophisticated projects and take a more responsible role than students in MATH 089A. Pass/No credit. Prerequisites: for MATH 089A, MATH 130 with a "C-" or better or permission of the instructor; for MATH 189A, 089A with a "C-" or better and permission of the instructor.

MATH 191. Independent Study. 2-4 Units.

Student-initiated projects cover topics not available in regularly scheduled courses. A written proposal that outlines the project and norms for evaluation must be approved by the department chairperson.

MATH 197. Undergraduate Research. 2-4 Units.

Media X

Degrees Offered

Bachelor of Arts

Majors Offered

Media X (BA)

Mission

Media X is an undergraduate program in expressive media design, development, distribution, and analysis. Utilizing evolving technologies for the 21st century, Media X is positioned at the crossroads between the creative and the technical, the social and commercial, bringing together affiliated faculty with expertise in art and graphic design, business, communication, computer science, literature, music, theater, film, and digital media. Media X is an ideal program for students who want to pursue careers in modern creative and performance industries that are increasingly dominated by digital technology.

The program builds on the University of the Pacific's foundation as a liberal arts college, providing students with much more than a narrow technical education in digital media tools. Media X students achieve fluency in a variety of media platforms, including social media, film and video production, transmedia storytelling, live performance, graphic design, marketing, and coding as well as website, app, and game design. Preparing students for a dynamic workplace, the program combines the traditional strengths of the creative process, interdisciplinarity, and critical analysis with an emphasis on the real world applications of traditional, digital, and emerging media technologies. Working in small classes with dedicated faculty, students also acquire a nuanced awareness of the economic, political, and cultural hierarchies that influence global artistic production and media practices.

The program emphasizes internships, practicums, and experiential learning opportunities to help students transition strategically from college to careers.

Media X offers three pathways for students to choose from:

Maker: Production, Performance, and Design

The Maker pathway is for students seeking to design, produce, and perform content across multiple platforms—ranging from digital and emerging media to the original platform—the stage. This pathway is about much more than the finished product, stressing the importance of all facets of production. Students have the opportunity to learn both what goes on behind the scenes as well as how to create performances in front of the cameras and microphones, enabling them to become well-rounded producers, directors, performers, and designers. They will learn the arts of filmmaking, animation, directing, acting, designing, gaming, and so much more. This pathway aims to graduate artist-entrepreneurs who understand the needs of the entire production community in one of the fastest growing job markets in the world.

Manager: Creative Entrepreneurship, Persuasive Communication, and Social Media Management

The Manager pathway examines the intersection between business, creativity, and technology and provides the tools for entrepreneurs to explore methods to build, showcase, and grow by taking advantage of the opportunities that both new media and social media bring to the business world. A focus on creative entrepreneurship enables students to navigate the complex dynamics of a global business culture that is being rapidly transformed by developments in technology and emerging cultural geographies. Courses in social media management, marketing, consumer behavior, business communications, and analytics prompt students to explore the applications of digital media across industries as well as cultivate the skills necessary to address both the challenges and opportunities associated with evolving technology and media landscapes.

Analyst: Research, Interpretation, and Analytics

The Analyst pathway is both innovative and eminently practical, combining the traditional strengths of the arts and sciences with digital media, cultural studies, and the twenty-first century tools of data analytics. Students develop judicious research and interpretive habits, allowing them to cultivate an aesthetic sensibility alongside analytical skills, with the added awareness of how media and content always function within broader cultural or business contexts. The Analyst pathway enables students to develop a holistic understanding of "big data" as well as to engage in cross-disciplinary analysis, aimed at developing a deeper, contextual understanding of digital content and cultural products. A familiarity with data-driven decision-making puts students in this path miles ahead of other job seekers in any digital content or marketing career.

Learning Outcomes

1. **Create Multilayered Content.** Synthesize and apply knowledge from the liberal arts to produce culturally relevant, effective content.
2. **Integratively Apply Theories.** Integrate and apply media and performance theories in multiple media and illustrate technical fluency, including computer programming.
3. **Articulate Cultural Frameworks.** Articulate an understanding of economic, political, and cultural differences and hierarchies that influence global artistic production and media practices.
4. **Adapt Across Platforms.** Adapt and translate content across multiple media and performance platforms using historical, theoretical, and technical knowledge to make and defend creative decisions.

5. **Manage Creative Projects.** Exercise self-initiative and project management techniques congruent with a field characterized by high levels of autonomy, independence, interdependence, and entrepreneurship.
6. **Practice Interprofessional Collaboration.** Demonstrate knowledge of expected and alternative forms of collaboration in the professional media and performance industries when creating and executing collaborative projects
7. **Demonstrate Entrepreneurship and Professional Development.** Formulate career options and demonstrate activities that connect with emerging opportunities and are congruent with the student's career interests and strengths.

Bachelor of Arts Major in Media X

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in media x.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Course includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

MEDX 011	Critical Media Making (Tools)	4
MEDX 013	Media Literacies	4
MEDX 109	Capstone	4
Experiential Learning *		4
Production Requirement - Select one of the following: **		4
ARTS 103	Graphic Production	
COMM 131	Media Production	
COMM 134	Documentary Film Production	
MEDX 117	Film Production	
MMGT 120	Media Production	
THEA 089G	Practicum: Production	
Curriculum Pathways/Electives ***		20
Maker: Production, Performance, Design		
ARTH 101	Design Thinking	
ARTS 005	Drawing	
ARTS 095	Video I	
ARTS 105	Web Design	
ARTS 107	Video II	
ARTS 115	Animation	
COMM 132	Writing for Media	
COMP 051	Introduction to Computer Science	
ENGL 115	Screenwriting	
MCOM 019	Music and Computer Technology	
MEDX 117	Film Production	
MEDX 118	Advanced Film Production	
MMGT 005	Introduction to Music Industry Technology	
MMGT 106	Sound Recording Fundamentals	
MMGT 109	Beyond Talent: Managing Performance Career	
MMGT 120	Media Production	
MMGT 130	Popular Songwriting	
THEA 037A	Costume Construction and Technology	
THEA 071	Beginning Acting	
THEA 073	Acting for the Camera	
THEA 075	Expressive Movement	
THEA 112	Playwriting	
THEA 137	Lighting Technology	
Manager: Creative Entrepreneurship, Persuasive Communication, and Social Media Management		
BUSI 053	The Legal and Ethical Environment of Business	
BUSI 107	Marketing Management	

BUSI 148	Promotions Management
BUSI 153	Entertainment Law
COMM 132	Writing for Media
COMM 135	Principles of Public Relations
ECON 053	Introductory Microeconomics
ECON 055	Introductory Macroeconomics: Theory and Policy
ENGL 106	Content Engineering
ENGL 109	Professional Communications
MMGT 011	Music, Entertainment in U.S. Society
MMGT 021A	Follow the Money I
MMGT 021B	Follow the Money II
MMGT 081A	How to Run and Independent Record Label I
MMGT 081B	How to Run and Independent Record Label II
MMGT 106	Sound Recording Fundamentals
MMGT 109	Beyond Talent: Managing Performance Career
MMGT 121	Media Promotion
MMGT 130	Popular Songwriting
Analyst: Research Methods, Culture, and Analytics	
ARTH 114	20th Century Art and Film
ARTH 116	Contemporary World Art 1945 to Present
ASIA 120	Asian Cinemas
COMM 031	Media and Society
COMM 133	Documentary Film as Persuasive Communication
COMM 139	Theory of Mass Communication
COMM 160	Communication Research Methods
COMP 051	Introduction to Computer Science
COMP 053	Data Structures
ECON 053	Introductory Microeconomics
ECON 055	Introductory Macroeconomics: Theory and Policy
ECON 161	Empirical Methods
ENGL 124	Film History
FREN 120	Le Cinema Francais/French Cinema in English
HIST 080	Digital Narratives
MATH 035	Elementary Statistical Inference
MATH 037	Introduction to Statistics and Probability
MATH 039	Probability with Applications to Statistics
MATH 130	Topics in Applied Statistics
MEDX 119	Business of Film & Media
MMGT 011	Music, Entertainment in U.S. Society
PHIL 037	Introduction to Logic
RELI 039	Introduction to Digital Humanities
SPAN 114	Cine hispano/Hispanic Film
THEA 111	Script Analysis
Additional Electives:	
ARTS 007	Principles of 2-D Design and Color
ARTS 009	Principles of 3-D Design
ARTS 011	Digital Photography
ARTS 021	Life Drawing I
ARTS 077	Graphic Design II
ARTS 079	Typography I
ARTS 091	Print Media Graphics
ARTS 095	Video I
ARTS 105	Web Design
ARTS 107	Video II

ARTS 115	Animation
ARTS 121	Life Drawing II
ARTS 141	Photography II
ARTS 171	Graphic Design III
COMP 127	Web Applications
COMP 153	Computer Graphics
COMP 159	Computer Game Technologies
ECON 190	Econometrics
ENGL 106	Content Engineering
MMGT 081A	How to Run and Independent Record Label I
MMGT 081B	How to Run and Independent Record Label II
RELI 171	Religion and Cinema
THEA 031	Stage Makeup Fundamentals
THEA 113	What's Past is Prologue: Practice and Perspective in Theatre History I
THEA 115	What's Past is Prologue: Practice and Perspective in Theatre History II

- * Experiential Learning can come from the following: MEDX 187, MEDX 189 or MEDX 197.
- ** Or other production course approved by the advisor or program director.
- *** Candidates for the BA in MediaX select one of three curricular elective paths to pursue or chose to self-design their major. Students take courses in any of the three paths to fulfill their elective requirements.

Media X Courses

MEDX 011. Critical Media Making (Tools). 4 Units.

This course is an introduction to the equipment, technologies, and applications of the allied arts of digital media and live performance. Through lectures, hands-on projects, and discussion, students will become familiar with the basic processes of working in digital and real world environments. Required for Media X majors.

MEDX 013. Media Literacies. 4 Units.

Students will be introduced to different ways of reading and analyzing media objects, learning to discern the conditions and limits of various media from multiple vantage points and methodological frameworks, including those of political economy, science, ecology, global history, and arts and letters. Students will also undertake various compositional "experiments" that will allow them to discover the surprising ways in which we, so far from expressing ourselves through our media, become instead impressed by them.

MEDX 021. Liveness in a Mediated Age. 4 Units.

Blending theory and history with hands-on experiments in the arts, this course introduces students to the importance of liveness in a mediated age. The digital and social media revolutions have transformed the ways in which live performance is inspired, created, and shared. This course examines both the historic roots of performance and its increasingly intermedial nature. The class also looks at how live performance uses theatrical, cinematic, and digital structures to create content and engage audiences.

MEDX 089. Practicum. 1-4 Units.

MEDX 093. Special Topics. 1-4 Units.

MEDX 109. Capstone. 4 Units.

This course reflects the culmination of study and practice in the Media X major. In addition to refining students' skills in research, writing, and collaborative and creative work, this course will engage them in thinking critically about individual and collective agency across the new media landscape. The capstone requires that students apply the readings and discussions about what constitutes the 'digital revolution' as they produce a research essay and collaborative portfolio project. Prerequisites: MEDX 011; MEDX 013; MEDX 021; Senior Standing.

MEDX 117. Film Production. 4 Units.

Students are introduced to the fundamental principles of motion picture production. Emphasis is on visual storytelling and auditory communication through demonstration, hands-on production and critical analysis. Students produce short films in small crews. Some equipment and materials are provided by the school, but approximately \$300 should be budgeted for miscellaneous expenses and lab fees. (FILM, GE2C)

MEDX 118. Advanced Film Production. 4 Units.

This course is a production course focused on the collaborative process of creating professional-quality film and video content. Students will work in teams to produce short works throughout the semester. The primary focus in this class will be on telling a story visually. Students will learn advanced film production techniques (pre-production, production and post-production) based on current industry practices and standards. This course builds upon the film making knowledge of Introduction to Film Production. Prerequisite: MEDX 117.

MEDX 119. Business of Film & Media. 4 Units.

Film and media are both an art and a business – a multi-billion-dollar business. To be successful in today's film and media industry, students need to possess the business skills necessary to not only secure a hot property, but also navigate the rapidly evolving marketplace. The aim of this class is to give students a thorough overview of the business environment in which film and media productions are financed, developed, produced and distributed. Students will learn the "creative" side of producing for film and media, as well as the current business standards practiced in the industry in multiple formats and across a variety of platforms.

MEDX 187. Internship. 1-4 Units.

MEDX 189. Practicum. 1-4 Units.

MEDX 189A. Practicum. 1-4 Units.

MEDX 191. Independent Study. 1-4 Units.

MEDX 193. Special Topics. 1-4 Units.

MEDX 197. Independent Research. 1-4 Units.

Other Media X Courses

ARTS 011. Digital Photography. 3 Units.

This course provides an introduction to the theory, process, and aesthetics of digital photography. Through a series of practical and conceptual assignments, students learn to work with digital cameras and a selection of software for image editing and printing. Students must provide their own digital cameras with fully manual exposure controls. Approximately \$150 should be budgeted for other photographic materials that are not supplied by the University. Additional lab fees also apply. (FILM, GE2C)

ARTS 095. Video I. 3 Units.

Video I is an introductory level course teaching the construction of time-based visual narratives. Students will develop projects using camera generated images and time-based software applications. Assignments focus on sequential storytelling, animation, video editing, and thematic development. Students must provide their own digital still cameras for this course. Approximately \$100 is needed for other materials and equipment that are not supplied by the University. Additional lab fees. **(FILM)**

ARTS 105. Web Design. 3 Units.

This intermediate level course for studio art and graphic design majors teaches the development of web sites for commercial applications and artist's portfolios. Emphasis is placed upon effective approaches to the organization and design of web sites for self-promotion, employment, and e-commerce. Lab fees apply. Prerequisite: ARTS 091 or permission of instructor.

ARTS 115. Animation. 3 Units.

This course challenges the student to create interpretive design solutions for complex interactive problems, which rely primarily upon motion and time to communicate visual ideas. Students explore these highly conceptual problems through use of digital technology. The course emphasizes dynamic, thoughtful, and appropriate visual communication solutions. Lab fees apply. Prerequisite: ARTS 091 or permission of instructor.

ASIA 120. Asian Cinemas. 4 Units.

This is an introductory course on Asian films that focuses on how contemporary films from China, Hong Kong, Taiwan, Japan, Korea, Vietnam and India represent their people, re-imagine their cultural identities, and negotiate the local and global, tradition and modernity. Possible topics include the relationship between film and literary/cultural discourses, and traditional aesthetic praxis; different film genres; visual images and cinematic techniques; and various thematic concerns. The course aims to both expand the knowledge of the cinematic and socio-historical contexts of Asian cinemas and to enhance critical thinking. Lectures and readings are in English; all films have English subtitles. **(FILM, GE2C)**

COMM 131. Media Production. 4 Units.

Practical and theoretical application of audio and video production techniques are covered in this course with an emphasis on aesthetic qualities of sight and sound productions. Some work involves student media facilities. A Lab fee is required. Prerequisite: COMM 031 or permission of instructor. **(FILM)**

COMP 051. Introduction to Computer Science. 4 Units.

The course emphasizes program design and problem solving techniques that use a high-level programming language. The course introduces basic concepts such as assignment, control flow, iteration, and basic data structures in addition to a supervised lab. Credit for this course is not given if a student has credit for COMP 061. Prerequisite: Fundamental Math Skills requirement. **(GE3B)**

ENGL 031. Aesthetics of Film. 4 Units.

This course introduces the principles of artistic expressiveness of films; lighting, color, camera, composition, space, movement, image, setting and sound. Attention is also given to narrative techniques and editing styles. This course explores such theories as realism, formalism, surrealism, Marxism, psychoanalysis and gender theory. Both American and foreign films are viewed and discussed. **(FILM, GE2C)**

ENGL 115. Screenwriting. 4 Units.

In this comprehensive course, students study the art and craft of short subject and feature film screenwriting, including, but not limited to: theme, plot, story, structure, characterization, format, and dialogue via writing, lecture, discussion, close analysis, and instructor-peer critique. Time is spent not only on idea generation and visual storytelling, but on how to meaningfully connect with the audience. Students are required to write: two short film treatments (one original and one adaption), a short film script, a detailed film treatment, and the first 10+ pages of a feature film screenplay. **(FILM)**

ENGL 124. Film History. 4 Units.

This course is a comprehensive look at the history of cinema, from its beginnings in Europe and America, through the emergence of national cinematic traditions and the classical period tied to the Hollywood studio system, and concluding with current transnational developments. This course includes screening and analysis of significant American and international films. **(FILM)**

ENGL 131. Shakespeare. 4 Units.

Eight to ten of Shakespeare's plays, are studied from a variety of critical perspectives, such as the historical, psychological, philosophical, formalist, cultural and theatrical approaches. Selections are examined from each major genre (comedy, tragedy, history). Specific plays vary from term to term; the reading list may include such works as Twelfth Night, The Tempest, King Lear, Macbeth, Richard II, Henry IV (Parts One and Two) and Henry VIII. **(DVSY, FILM, GE2A, GEND)**

RELI 039. Introduction to Digital Humanities. 4 Units.

We humans often turn to literature and the arts as we seek meaning, beauty and connection in our lives. Poetry, art, religion, philosophy, literature, theatre, and film all speak to this human yearning. Have you ever felt like a song was "your" song? Have you ever wondered why people of a different religion believe or do something differently than you? Did you ever debate with a friend about an ethical question? Now how many of these moments occurred online or were inspired by an event online - music video, a Facebook conversation, a blog. Increasingly, we have turned to technology to create and to discuss the arts and the humanities (poetry, art, religion, philosophy, literature, theatre, film, etc.). How might we use computers and digital media to make new discoveries in the arts and humanities? How might we use digital methods to communicate or share our explorations of what it means to be human? This collaborative, project-based course will introduce students to various methodologies in digital humanities, to the use of technology to publish research and creative work digitally, and to critical questions about digital technology and society. **(GE3C)**

SPAN 114. Cine hispano/Hispanic Film. 4 Units.

A study of the development of Latin American or Peninsular cinema through the analysis of themes, styles, and cinematic techniques. Themes include Latin American women film directors or films of Pedro Almodovar, among others. The course is taught in Spanish. Films in Spanish have English subtitles. The course is occasionally offered in English. **(FILM, GE2C, GEND)**

THEA 031. Stage Makeup Fundamentals. 2 Units.

Students study essentials of makeup for stage, including basics of makeup application, color theory, etc. Class projects include two-dimensional and three-dimensional techniques, cross-gender and stylized makeup designs. Students learn to apply makeup on themselves and, through service hours to Theatre Arts productions, on others. **(FILM)**

THEA 033. Theatrical Design Fundamentals. 4 Units.

In this lecture and demonstration course, students study the theory and application of the fundamental principles of theatre design, covering costumes, lights, and scenery. Topics include color theory, sketching, drafting, rendering, script analysis, model-building, research, and historical analysis. Assignments also include hands-on work in the Scene Shop and Costume Shop.

THEA 071. Beginning Acting. 3 Units.

This course introduces students to the theories and techniques of acting. Fundamental skills of acting are explored through exercises, character analysis, scene study, and improvisation, based on the theories of Konstantin Stanislavsky. This course satisfies a G.E. II-C requirement. **(FILM, GE2C)**

THEA 073. Acting for the Camera. 4 Units.

The course will explore acting theory and practice as they pertain to the art and craft of acting for the camera. Students will perform scenes and monologues, which will be recorded on video for study and critique, as well as acting exercises. This course will introduce the student to the techniques, skills, and vocabulary required for acting for the camera. Students will be introduced to performing on camera working with scripts from plays, feature films, and television shows. The students will be on camera very frequently. Upon completion of this course the student will know the basic techniques of acting for the camera. Students will know what to expect when they walk onto a film/TV set or location. They will also know basic camera, lighting, audio, and non-linear video editing techniques.

THEA 115. What's Past is Prologue: Practice and Perspective in Theatre History II. 4 Units.

This course examines our theatrical inheritance and how theatre has been conceived and utilized historically. By looking comparatively at theatrical works from 1800 to present, we will discover how theatre practices reflect the societies from which they emerge; how theatrical traditions and aesthetics change over time; and how the diversity of what is called "theatre" in the present day arises from a wide array of performance practices, time periods, and cultures. This course fulfills the GE IIA general education breadth requirement in language and literature as well as the diversity requirement. **(DVS, GE2A)**

Modern Language and Literature

<http://www.pacific.edu/college/modern/language>

Phone: (209) 946-2291

Location: WPC 1st floor – Annex

Traci Roberts-Camps, Chair

Degrees Offered

Bachelor of Arts

Majors Offered

French

- **Language and Literature**
- **French Studies**

Spanish

- **Spanish Pedagogy**
- **Hispanic Language and Literature**
- **Cultura y civilización**

Asian Language and Studies

- **Japanese**
- **Chinese**

Minors Offered

Chinese Studies

French

Japanese

Spanish

Latin American/U.S. Latina/o Studies

The Department of Modern Language and Literature offers language, literature and cultural history courses in Chinese, French, German, Japanese and Spanish. Programs are offered leading to a major or minor in French, Asian Language and Studies, Chinese, Japanese, or Spanish. Cross-disciplinary degree programs with the Department of Economics, the School of International Studies, the School of Engineering and the Eberhardt School of Business are also offered. Some literature, civilization, film and interdisciplinary courses are taught in English translation.

Classes, particularly at the intermediate and upper-division level, are small and provide opportunity for a great deal of individualized attention.

The University has chapters of two national honor societies for outstanding work in a language, literature and culture: Pi Delta Phi for French and Sigma Delta Pi for Spanish. The Jan Good Award is presented to winners of an annually posted essay contest in French or Spanish. The MLL Annual Awards night celebrates achievement in all of the above languages.

College of the Pacific Language Requirement

In order to promote an appreciation of diverse cultures and to encourage greater understanding of the English language, the College of the Pacific requires one year of college instruction (two semesters or three quarters) or equivalent training in a language other than English for all students seeking a Bachelor of Arts (BA) degree. Students who transfer to University of the Pacific with sophomore standing or above, or who seek a Bachelor of Science (BS) degree or a Bachelor of Fine Arts (BFA) degree, are exempt from this requirement, but are encouraged to cultivate their language skills.

Ways to meet the Language Requirement:

- Complete second semester language course (11B) or higher level course (23, 25 or 100-series) with a C- or higher at Pacific.
- Complete a transferable full first-year language sequence (equivalent to Pacific's 11A and 11B) at another college or University with a grade of C or higher.
- Complete full-year sequence of college level American Sign Language with a grade of C or higher.
- Document completion of high school diploma in a language other than English.
- Achieve a score of 4 or higher on AP language exam.
- Achieve a score of 58 or higher on CLEP language exam.
- Achieve appropriate score on written paper test administered in person by the Department of Modern Language & Literature at Pacific to show competency in Chinese, French, German, Japanese, Russian or Spanish. Online tests administered through Sakai are for placement only and may not be used to meet the language

requirement. No unit credit is assigned based on testing. Precise placement score information for each language available through the Department of Modern Language & Literature.

Note: Students who wish to arrange for competency testing in a language not taught at Pacific may go to the College Dean and the Department of Modern Language & Literature for approval of accredited testing. Students are responsible for all arrangements regarding outside testing. Only tests pre-approved by the College of the Pacific are valid for this purpose.

While the University makes every effort to meet student interests and needs, it does not guarantee that every student is able to fulfill this requirement by studying their first choice of language. The University also does not guarantee that students who study languages other than those offered through the Pacific Department of Modern Language and Literature have access to the courses needed to complete the requirement. In some cases, a student who takes language courses not offered by the Department of Modern Language and Literature may also need to pass an approved competency examination in addition to their course work. As with all subjects, students must get prior approval before taking course work or a competency examination outside of the University that they intend to use toward completion of their Pacific degree.

Departmental Study Abroad Programs

Department-led summer language programs in Guatemala, Italy and China offer students the opportunity to earn credits toward the COP language requirement and/or GE in a total immersion experience. The Guatemala program offers both lower and upper division Spanish language courses, as well as a volunteer service opportunity. The Italy program offers 8 units of beginning Italian as well as intermediate Italian conversation. The China program, a joint program with the School of Business, offers Chinese language courses at all levels and a China-focused course.

Oral Communication

1. Produce and give descriptive, narrative and/or analytical presentations with all basic structures and tenses in target language.
2. Orally express complex ideas and analyses in target language.
3. Evaluate, analyze, and report on complex texts.

Written Communication

1. Produce a descriptive, narrative and critical essay with all basic structures and tenses in target language.
2. Express complex ideas and analyses in target language.
3. Evaluate, analyze, and integrate academic articles into arguments.

Reading

1. Read and understand target language fiction and non-fiction texts.
2. Classify, summarize, infer, compare, explain, and critique readings.

Culture/Civilization

1. Identify and differentiate major periods of artistic and cultural production.
2. Analyze and synthesize characteristics of literary and cultural texts.
3. Identify, distinguish, and interpret cultural differences, cross-cultural and ethical issues.

Integrated Skills

1. Explain, illustrate, and evaluate critical elements of target language texts in class discussions.
2. Conceive of ideas and opinions and discuss them with others.

Descriptions of Major Programs

The major requirements for all three majors and self-designed majors within the Modern Language and Literature Department are designed so that students with no prior training or those with advanced training are equally well served. The major requirements which are listed separately under each language are the requirements which begin after the student has acquired a strong intermediate proficiency in the language and culture. Thus the primary requirement of any major is the acquisition of the equivalent of four college semesters of a particular language.

The number of advanced courses which constitutes the major is intentionally kept moderate so that a student has the opportunity to begin a language in college. Similarly an advanced student is strongly encouraged to do coursework beyond the minimum courses. The extra coursework that students need for the acquisition of language skills before they can begin the major increases the number of major courses which form the total degree, while it reduces the number of University electives.

Students who major or minor in all languages except Spanish and who study abroad for one semester may count up to 8 units of appropriate courses from an approved program toward the major or minor. Majors who study two or more semesters abroad may count up to 12 units of appropriate coursework. Students who major or minor in Spanish and study abroad for one semester may count up to 12 units of appropriate courses from an approved program toward the major or minor. Majors who major in two or more semesters abroad may count up to 16 units of appropriate course work. Students may petition the department to count additional units from abroad. These petitions are considered on a case-by-case basis. All majors and minors must enroll in at least one advanced course in the target language upon return to meet the major or minor requirements. Only one on-line course may be counted toward major requirements.

Requirements for the Major French

The curriculum in French includes beginning multi-media based language classes, intermediate courses that focus on culture and language, advanced language and composition courses, surveys of literature and civilization, theme-based advanced courses that cover French and Francophone literature and cinema, and other cross-listed courses such as the History of French Cinema. All courses are in French unless otherwise specified.

The BA in French has two concentration:

1. the Language and Literature Concentration which requires completion of six French courses above the intermediate level which provides background in French civilization, French and Francophone literature and/or film; and
2. the French Studies Concentration which requires five French courses beyond the intermediate level plus three approved related courses in complementary fields.

Approved equivalents of major requirements are acceptable, but at least three (3) advanced courses must be completed in the French section of the Department of Modern Language and Literature. One of these must be completed upon return from study abroad. A student may take no more than one online advanced course to complete the major.

Bachelor of Arts Major in French Concentration in Language and Literature

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in French and a concentration in language and literature.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 21 upper division units (6 advanced courses) that include:

Select one of the following (or the equivalent from study abroad): 3-4

FREN 107	Introduction to French of Business and Economics
FREN 110	Grammaire, Composition et Discussion

Select one from each of the following groups (or the equivalent from study abroad): 7-8

Group A (choose one)

FREN 112	Civilisation Française A
FREN 116	Littérature Française A

Group B (choose one)

FREN 114	Civilisation Française B
FREN 118	Littérature Française B

Three FREN Electives (Three additional courses above FREN 025) 11-12

Note: 1) 3 of these advanced courses must be completed at Pacific and one of these must be completed upon return from study abroad. **2)** At least one semester of study abroad in a French-speaking country is strongly urged.

Bachelor of Arts Major in French Concentration in French Studies

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in French and a concentration in French studies.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 8 courses that include:

Five FREN Electives (Five courses above FREN 025) 17-20

Select three of the following: 9

ARTH 112 19th Century European Art

ARTH 114 20th Century Art and Film

HIST 111 Europe in Turmoil 1900-1945

HIST 113 Europe Since 1945

POLS 141 Western European Comparative Politics

POLS 168 Comparative Foreign Policy

ECON 121 International Trade

Note: 1) FREN 051 or FREN 120 may be taken in English to count towards one of the five courses above. **2)** Two of the advanced courses may be completed in a study abroad program. **3)** Other courses may be negotiable with a French advisor. **4)** At least one semester of study abroad in a French speaking country is strongly urged.

Spanish

The curriculum in Spanish includes beginning, intermediate and advanced level classes for both native and non-native speakers of Spanish. Spanish linguistics, Hispanic literature and civilization courses are complemented by Experiential Learning opportunities. All courses are given entirely in Spanish.

The BA in Spanish has three concentrations: **1)** The Hispanic Language and Literature Concentration; **2)** The Spanish Pedagogy Concentration. (Students who seek a teaching credential must complete the Spanish Pedagogy Concentration in addition to courses required by the School of Education.); and **3)** Cultura y Civilización.

Bachelor of Arts Major in Spanish Concentration in Hispanic Language and Literature

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in Spanish and a concentration in Hispanic language and literature.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 32 units and 9 courses that include:

Select one of the following: 4

SPAN 027 Conversación (for non-native speakers)

SPAN 029 Leng/cultura hispanohablantes (for native speakers)

SPAN 101 Composición avanzada 4

SPAN 103 Introducción a la literatura hispánica 4

Select one of the following:	4
SPAN 132 Literatura española	
SPAN 133 Don Quijote	
Select one of the following:	4
SPAN 134 Literatura latinoamericana	
SPAN 135 Literatura del boom latinoamericano	
SPAN 141 Sintaxis, semántica y morfología	4
Select one of the following Hispanic Civilization courses:	4
SPAN 110 Civilización hispanoamericana	
SPAN 112 Civilización española	
SPAN Electives (One additional upper division classes)	4

Note: 1) 16 of these units must be completed at Pacific.

course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department that offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 38 units that include:

Select one of the following:	4
SPAN 027 Conversación	
SPAN 029 Leng/cultura hispanohablantes	
SPAN 101 Composición avanzada	4
SPAN 103 Introducción a la literatura hispánica	4
Select one of the following:	4
SPAN 132 Literatura española	
SPAN 133 Don Quijote	
Select one of the following:	4
SPAN 134 Literatura latinoamericana	
SPAN 135 Literatura del boom latinoamericano	
SPAN 141 Sintaxis, semántica y morfología	4
SPAN 143 Fonética y fonología	4
Select one of the following Hispanic Civilization courses:	4
SPAN 110 Civilización hispanoamericana	
SPAN 112 Civilización española	
Select one of the following Hispanic Literature of North America courses:	4
SPAN 122 Literatura mexicana	
SPAN 124 Escritores hispanos en los Estados Unidos	
Select one of the following experiential learning courses:	2
LANG 087 Internship in Applied Language	
LANG 089 Practicum	
One SPAN Elective (upper division course)	4

Note: 1) Presentation of Professional Proficiency and exit examination are required during the semester prior to graduation.

Bachelor of Arts Major in Spanish Concentration in Cultura y civilización

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in Spanish and a concentration in *Cultura y civilización*.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

Bachelor of Arts Major in Spanish Concentration in Spanish Pedagogy

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in Spanish and a concentration in Spanish pedagogy.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001 What is a Good Society	4
PACS 002 Topical Seminar on a Good Society	4
PACS 003 What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department that offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Students must take a minimum of 34 units beyond the intermediate level (a maximum of 8 units may be counted from courses taught in English), as follows:

Select one of the following:		4
SPAN 027	Conversación	
SPAN 029	Leng/cultura hispanohablantes	
SPAN 101	Composición avanzada	4
SPAN 103	Introducción a la literatura hispánica	4
SPAN 110	Civilización hispanoamericana	4
SPAN 112	Civilización española	4

SPAN 114	Cine hispano/Hispanic Film	4
Select one of the following:		4
SPAN 132	Literatura española	
SPAN 133	Don Quijote	
SPAN 134	Literatura latinoamericana	
SPAN 135	Literatura del boom latinoamericano	
Elective courses to reach 34 units required in the major:		
LANG 087	Internship in Applied Language	
SPAN 122	Literatura mexicana	
SPAN 124	Escritores hispanos en los Estados Unidos	
SPAN 126	Poesía hispánica	
SPAN 128	Teatro hispánico	
HIST 040	Colonialism in Latin America	
HIST 041	The Problem with Latin America	
HIST 150	Women in Latin America	
HIST 151	People's History of Mexico	

Asian Language and Studies Bachelor of Arts Major in Asian Language and Studies Concentration in Chinese

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in Asian Language Studies and a concentration in Chinese.

I. General Education Requirements

Students must take a minimum of 32 units and 12 courses, that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department that offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 32 units that includes:

CHIN 023	Intermediate Chinese, Third Semester	4
CHIN 025	Intermediate Chinese, Fourth Semester	4
CHIN 125	Advanced Chinese I	4
CHIN 126	Advanced Chinese II	4
SABD 000	Overseas Study (Study Abroad in China or Taiwan)	8-12
Select four of the following:		16
ARTH 120	Chinese Art History	
ASIA 120	Asian Cinemas	
ASIA 124	Society, Gender and Culture in East Asia	
ASIA 130	East Asian Literature	
HIST 030	East Asian Civilization I	
HIST 031	East Asian Civilization II	
HIST 141	Pre-Modern China to 1840	
HIST 142	Modern Chinese History	
RELI 135	Asian Religious Traditions	
RELI 152	Confucian Traditions	
RELI 154	Buddhist Traditions	
POLS 152	Politics of Asia	

Note: 1) Language requirement begins with the intermediate level; at least one semester (or a summer with a minimum of 8 weeks) of language requirement must be completed in China or Taiwan. **2)** No more than two equivalent courses (as determined by the advisor) may be completed while studying in China/Taiwan.

Bachelor of Arts Major in Asian Language and Studies, Concentration in Japanese

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in Asian Language Studies and a concentration in Japanese.

I. General Education Requirements

Minimum 32 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department that offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 32 units that include:

JAPN 023	Intermediate Japanese, Third Semester	4
JAPN 025	Intermediate Japanese, Fourth Semester	4
JAPN 125	Advanced Japanese I	4
JAPN 126	Advanced Japanese II	4
SABD 000	Overseas Study (Study Abroad in Japan) *	8-12
Select four of the following:		16
ARTH 122	Japanese Art History	
ASIA 120	Asian Cinemas	
ASIA 124	Society, Gender and Culture in East Asia	

ASIA 130	East Asian Literature
HIST 030	East Asian Civilization I
HIST 031	East Asian Civilization II
HIST 143	Japan in War and Peace
JAPN 170	Japanese Literature in Translation
POLS 152	Politics of Asia
RELI 135	Asian Religious Traditions
RELI 152	Confucian Traditions
RELI 154	Buddhist Traditions

Note: 1) *Language requirement begins with the intermediate level; at least one semester (or a summer with a minimum of 8 weeks) of language requirement must be completed in Japan **2)** No more than two equivalent courses (as determined by the advisor) may be completed while studying in Japan.

Requirements for Minors

Minor in Chinese Studies

Students must complete a minimum of 24 units and 6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in Chinese Studies.

Minor Requirements:

CHIN 011A	First-Year Chinese, First Semester	4
CHIN 011B	First-Year Chinese, Second Semester	4
CHIN 023	Intermediate Chinese, Third Semester	4
CHIN 025	Intermediate Chinese, Fourth Semester	4

Select two of the following: 8

ARTH 122	Japanese Art History
ASIA 120	Asian Cinemas
ASIA 124	Society, Gender and Culture in East Asia
ASIA 130	East Asian Literature
CHIN 125	Advanced Chinese I
HIST 030	East Asian Civilization I
HIST 031	East Asian Civilization II
HIST 141	Pre-Modern China to 1840
HIST 142	Modern Chinese History
POLS 152	Politics of Asia
RELI 135	Asian Religious Traditions
RELI 152	Confucian Traditions
RELI 154	Buddhist Traditions

Notes: 1) At least 3 of the minor courses must be taken in the Department of Modern Language and other departments approved by MLL. **2)** Approved semester or year-long program in China or Taiwan recommended. **3)** Students can waive 8 minor units if they have already satisfied first and second semester language.

Minor in French

Students must complete a minimum of 23 units and 6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in French.

Minor Requirements:

FREN 011A	First-Year French, First Semester	4
FREN 011B	First-Year French, Second Semester	4
FREN 023	Intermediate French, Third Semester	4

FREN 025	Intermediate French, Fourth Semester	4
Two FREN Electives (upper division courses)		7-8

Note: 1) At least one of these electives must be taken at Pacific. **2)** Students are encouraged to study abroad in a French-speaking country and/or participate in a summer work program or internship there. **3)** Students can waive 8 minor units if they have already satisfied first and second semester language.

Minor in Japanese

Students must complete a minimum of 24 units and 6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in Japanese.

Minor Requirements:

JAPN 011A	First-Year Japanese, First Semester	4
JAPN 011B	First-Year Japanese, Second Semester	4
JAPN 023	Intermediate Japanese, Third Semester	4
JAPN 025	Intermediate Japanese, Fourth Semester	4

Select two of the following: 8

ARTH 122	Japanese Art History
ASIA 120	Asian Cinemas
ASIA 124	Society, Gender and Culture in East Asia
ASIA 130	East Asian Literature
HIST 030	East Asian Civilization I
HIST 031	East Asian Civilization II
HIST 143	Japan in War and Peace
JAPN 125	Advanced Japanese I
JAPN 170	Japanese Literature in Translation
POLS 152	Politics of Asia
RELI 135	Asian Religious Traditions
RELI 152	Confucian Traditions
RELI 154	Buddhist Traditions

Note: 1) At least 3 of the minor courses must be taken in the Department of Modern Languages and other departments approved by MLL. **2)** Approved semester program in Japan Recommended. **3)** Students can waive 8 minor units if they have already satisfied first and second semester language.

Minor in Spanish

Students must complete a minimum of 20 units and 5-6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in Spanish.

Minor Requirements:

SPAN 101	Composición avanzada	4
SPAN 103	Introducción a la literatura hispánica	4
SPAN 141	Sintaxis, semántica y morfología	4

Select one of the following: 4

SPAN 110	Civilización hispanoamericana
SPAN 112	Civilización española

One SPAN Elective (One course numbered SPAN 025 or higher) 4

Note: 1) 12 of the 20 units must be taken in the Department of Modern Language.

Minor in Latin American/U.S. Latina/o Studies

The Latin American and U.S. Latina/o Studies minor is interdisciplinary and is designed to develop an understanding of the cultural, historical, political and social conditions of the region, and also the migrations of peoples and their process of integration and hybridization in the US. In this minor, the students are taught to establish socio-cultural and political connections in these diverse cultural societies from Pre-Columbian times to the challenges of the XXI Century.

1. Language requirement: Students must complete at least 3-4 units in an upper-division course in Spanish. Those students who want to focus on another language related to Latin America (Portuguese or Amerindian languages determined in consultation with the program director) can count 3-4 language units in that language toward the minor.
2. Interdisciplinary requirement: No more than 12 units from the same given discipline.
3. Residency requirement: At least 12 units must be completed at Pacific with a maximum of 8 Study Abroad or transfer units eligible to count toward the minor.
4. Students are strongly encouraged to study abroad in Latin America and/or engage in Spanish-language internship opportunities locally or internationally.

Students must complete a minimum of 20 units and 5-6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in Latin American/U.S. Latina/o Studies.

Minor Requirements:

Select 5-6 courses for 20 units from the following: 20

HIST 041	The Problem with Latin America
HIST 137	His-panic USA
HIST 139	Borderlands
HIST 151	People's History of Mexico
LANG 087	Internship in Applied Language
SPAN 103	Introducción a la literatura hispánica
SPAN 110	Civilización hispanoamericana
SPAN 114	Cine hispano/Hispanic Film
SPAN 122	Literatura mexicana
SPAN 124	Escritores hispanos en los Estados Unidos
SPAN 126	Poesía hispánica
SPAN 134	Literatura latinoamericana
SPAN 135	Literatura del boom latinoamericano

Note: 1) Courses listed as *Independent Studies* are not offered on a regular basis and are not requirements. With the director's approval, they may count toward the minor.

Asian Studies Courses

ASIA 120. Asian Cinemas. 4 Units.

This is an introductory course on Asian films that focuses on how contemporary films from China, Hong Kong, Taiwan, Japan, Korea, Vietnam and India represent their people, re-imagine their cultural identities, and negotiate the local and global, tradition and modernity. Possible topics include the relationship between film and literary/cultural discourses, and traditional aesthetic praxis; different film genres; visual images and cinematic techniques; and various thematic concerns. The course aims to both expand the knowledge of the cinematic and socio-historical contexts of Asian cinemas and to enhance critical thinking. Lectures and readings are in English; all films have English subtitles. **(FILM, GE2C)**

ASIA 124. Society, Gender and Culture in East Asia. 4 Units.

The major social, gender and cultural issues in contemporary China, Japan and South Korea are emphasized in the global and local political and economic contexts. The course takes a multidisciplinary approach in reading and examining theoretical, literary and filmic texts. The course satisfies Asian Language and Studies Major, Chinese and Japanese minors. **(GE1C)**

ASIA 130. East Asian Literature. 4 Units.

This course is an introduction of East Asian Literature through the reading of selected works in translation. The purpose of the course is to provide the student with an overview of modern Chinese, Korean, and Japanese literature, and the larger historical and cultural context within which it developed. There are no prerequisites: the course is open to all students who wish to expand their intellectual horizons and to enjoy lively and culturally significant reading.

ASIA 193. Special Topics. 1 or 4 Unit.

Chinese Courses

CHIN 011A. First-Year Chinese, First Semester. 4 Units.

Students begin training in the basic language skills of listening, speaking, reading and writing at the first semester level. A focus is on the Chinese culture, and the course includes a laboratory. **(GE2A)**

CHIN 011B. First-Year Chinese, Second Semester. 4 Units.

Students begin training in the basic language skills of listening, speaking, reading and writing at the second semester level. A focus is on the Chinese culture, and the course includes a laboratory. Prerequisite: CHIN 011A with a "C-" or better or permission of instructor. **(GE2A)**

CHIN 023. Intermediate Chinese, Third Semester. 4 Units.

Chinese culture and society is examined through readings, videos, conversations on daily life and cultural behaviors in China. Emphasis is on the development of critical thinking as well as 4-skills proficiency in Chinese language at the intermediate level. Prerequisite: CHIN 011B with a "C-" or better or permission of the instructor. **(GE1C)**

CHIN 025. Intermediate Chinese, Fourth Semester. 4 Units.

This course is a continuation of cultural themes begun in CHIN 023. Chinese culture and society is examined through readings, videos, conversations on Chinese cultural behaviors and social issues. There is a continued emphasis on developing critical thinking as well as proficiency of 4-skills in Chinese language at the intermediate level. Prerequisite: CHIN 023 with a "C-" or better or permission of instructor. **(GE1C)**

CHIN 125. Advanced Chinese I. 4 Units.

Students examine selective readings in Chinese that focus on traditions and social issues in contemporary Chinese speaking regions (China and Taiwan). This course continues training in reading, writing, and conversation at an advanced level. Prerequisite: CHIN 025 with a "C-" or better or permission of instructor. **(GE1C)**

CHIN 126. Advanced Chinese II. 4 Units.

Students examine selective readings in Chinese that focus on Chinese literature and culture. This course continues training in reading, writing and conversation at an advanced level. Prerequisite: CHIN 125 with a "C-" or better or permission of instructor.

CHIN 191. Independent Study. 2-4 Units.**French Courses****FREN 011A. First-Year French, First Semester. 4 Units.**

Students begin training in the basic language skills of understanding, speaking, reading and writing at the first semester level. A communicative and cultural approach is the focus and students with previous experience in French are initially placed in accordance with their linguistic proficiency. Placement is subject to continual re-evaluation. **(GE2A)**

FREN 011B. First-Year French, Second Semester. 4 Units.

Students begin training in the basic language skills of understanding, speaking, reading and writing at the second semester level. A communicative and cultural approach is the focus, and placement is subject to continual re-evaluation. Prerequisite: FREN 011A with a "C-" or better or permission of instructor. **(GE2A)**

FREN 023. Intermediate French, Third Semester. 4 Units.

Culture and civilization through a study of current issues and events in the press, cinema, and fiction. Integrated acquisition and review of grammar as a functioning language system. Prerequisite: FREN 011B with a "C-" or better, or permission of the instructor. **(GE1C)**

FREN 025. Intermediate French, Fourth Semester. 4 Units.

Students continue and expand on cultural themes begun in FREN 023 that include current issues and events in the press, cinema, and fiction. The course includes an integrated acquisition and review of grammar as a functioning system. Prerequisite: FREN 023 with a "C-" or better, or permission of the instructor. **(GE1C)**

FREN 051. French Literature in English. 4 Units.

A study of selected themes, periods, and genres in French and Francophone literature is examined. For specific topics, see FREN 124, FREN 122, and FREN 128. All readings, discussions, lectures, and exams are in English. This course is applicable to French Studies Majors, Minors, Gender Studies minor and all interested students. **(GE2A, GEND)**

FREN 107. Introduction to French of Business and Economics. 4 Units.

French language is studied with a focus on the cultures of business, politics, and social science. This course uses mass media and documents from business and world events to prepare students for work in professional settings. Prerequisite: FREN 025 with a "C-" or better or permission of instructor.

FREN 110. Grammaire, Composition et Discussion. 4 Units.

The essential principles of written and oral expression in French at the advanced level is covered, and the course focuses on essays, non-fiction, current events, film, and other media. Prerequisite: FREN 025 with a "C-" or better or permission of instructor.

FREN 112. Civilisation Française A. 4 Units.

Topics in the culture and civilization of France from the Middle Ages through the 17th century are covered with a focus on scholastic and gothic cultures; Renaissance connections around the world; politics and the arts; and court culture of the Sun King. Prerequisite: FREN 025 with a "C-" or better or permission of instructor.

FREN 114. Civilisation Française B. 4 Units.

Topics in the culture and civilization of France from the 18th century to the present are covered and studies include philosophers and revolutionaries, development of literary culture, avant-gardes, multi-cultural France, and the French nation within Europe. Prerequisite: FREN 025 with a "C-" or better or permission of instructor.

FREN 116. Littérature Française A. 4 Units.

An introductory study of French literature from the Middle Ages through the 18th century. Includes works by Chretien de Troyes, Marie de France, Rabelais, Villon, Louise Labbe, Montesquieu, Voltaire, Mme de Stael, Rousseau, Graffigny, Diderot, Beaumarchais, and others. Prerequisite: FREN 025 with a "C-" or better or permission of instructor.

FREN 118. Littérature Française B. 4 Units.

An introductory study of French literature from the 19th century to the present. Includes works by Balzac, Sand, Flaubert, Zola, Proust, Colette, Gide, Modiano, Duras and others. Prerequisite: FREN 025 with a "C-" or better or permission of instructor.

FREN 120. Le Cinema Francais/French Cinema in English. 4 Units.

Students study the development of French cinema from its inception to the present through the analysis of themes, culture, styles, and cinematography. Directors who are studied include Lumiere, Melies, Vigo, Gance, Renoir, Carne, Godard, Truffaut, Resnais, Chabrol, Tavernier, Varda, Cantet, Kassovitz and others. The course is in French. Occasionally offered in English with no prerequisite. (Course is applicable to the French Studies Track in French or English version.) Prerequisite: FREN 025 with a "C-" or better or permission of the instructor. **(FILM, GE2C)**

FREN 122. La Francophonie. 4 Units.

The course examines studies in the literature and film of French-speaking Africa, the Antilles, and/or Canada. Emphasis is on issues of language, race, gender, power, cultural-identity, and international development. The course is in French, and it is occasionally offered in English as FREN 051. Prerequisite: FREN 025 with a "C-" or better or permission of the instructor. **(GE1C)**

FREN 124. Individu et Societe. 4 Units.

This course is the exploration of the construction of the self and its relation to the social in various periods in French culture through literature and film. The course focuses on universality and difference, the autobiographical project, social determinism, exclusion and revolt. Students examine works by Madame de Lafayette, Laclos, Rousseau, Votaire, Diderot, Balzac, Sand, Baudelaire, Flaubert, Zola, Gide, Camus, Ba, Modiano and others. This course is occasionally offered in English as FREN 051. Prerequisite: FREN 025 with a "C-" or better or permission of the instructor.

FREN 126. Penseurs et Philosophes. 4 Units.

Students study the French moralists, essayists and philosophers from the Renaissance to the present with a focus on the history of French thought and its preferred fields of speculation. Selected readings are from Montaigne, Pascal, Montesquieu, Voltaire, Diderot, Rousseau, Sartre, Camus, de Beauvoir, Foucault, Wittig and others. This course is taught in French. Prerequisite: FREN 025 with a "C-" or better or permission of the instructor.

FREN 128. Images et Voix de Femmes. 4 Units.

Students study images and voices of women from medieval times to the present. The course includes an analysis of "la condition feminine" in the French literary and cultural context with a focus on authors that include Marie de France, Louis Labe, Mme de Lafayette, George Sand, Colette, Wittig, Nemirovsky and others. The course is in French. Prerequisite: FREN 025 with a "C-" or better or permission of the instructor. It is occasionally offered in English as FREN 051. May be repeated with permission of the instructor. **(GEND)**

FREN 130. L'Adaptation cinématographique. 4 Units.

This is a study of the aesthetics of film adaptation in French cinema. Readings of major works of French and Francophone literature adapted to the screen: Zola, Maupassant, Gide, Duras, Balzac, Diderot, Laferriere and others. The course includes discussion of cross-cultural film adaptations. Prerequisite: FREN 025 with a "C-" or better or permission of instructor.

FREN 191. Etudes Independantes. 2-4 Units.

This course is ordinarily limited to majors in their senior year.

German Courses**GERM 011A. First-Year German, First Semester. 4 Units.**

Students begin training in the basic language skills of understanding, speaking, reading and writing at the first semester level. The focus is on a cultural approach and the course includes a laboratory. (GE2A)

GERM 011B. First-Year German, Second Semester. 4 Units.

Students begin training in the basic language skills of understanding, speaking, reading and writing at the second semester level. The course is on a cultural approach and the course includes a laboratory. Placement is subject to continual re-evaluation. Prerequisite: GERM 011A with a "C-" or better, or permission of instructor. (GE2A)

GERM 023. Intermediate German, Third Semester. 4 Units.

Culture and civilization of the German-speaking countries are examined through readings, conversations, and videos about daily life and customs in Germany, Austria and Switzerland as well as exploration of German-language web sites. this course is an integrated review of German as a functioning language-system. Prerequisite: GERM 011B with a "C-" or better or permission of instructor. (GE1C)

GERM 025. Intermediate German, Fourth Semester. 4 Units.

This course is a continuation of the cultural themes begun in GERM 023. This course explores culture and civilization of the German-speaking countries through readings, conversations, and videos about daily life and customs in Germany, Austria and Switzerland as well as exploration of German-language web sites. The course includes a continuation of the integrated review of German as a functioning language-system. Prerequisite: GERM 023 with a "C-" or better or permission of the instructor. (GE1C)

GERM 191. Independent Study. 2-4 Units.

Senior standing.

Japanese Courses**JAPN 011A. First-Year Japanese, First Semester. 4 Units.**

Students begin training in the basic language skills of listening, speaking, reading and writing at the first semester level. The focus is on a cultural approach, and the course includes a laboratory. (GE2A)

JAPN 011B. First-Year Japanese, Second Semester. 4 Units.

Students begin training in the basic language skills of listening, speaking, reading and writing at the second semester level. The focus is on a cultural approach, and the course includes a laboratory. Prerequisite: JAPN 011 with a "C-" or better or permission of instructor. (GE2A)

JAPN 023. Intermediate Japanese, Third Semester. 4 Units.

Students examine Japanese culture and society through readings, videos, conversations on Japanese cultural behaviors and social issues. The emphasis is on developing critical thinking as well as proficiency of 4-skills in Japanese language at the intermediate level. Prerequisite: JAPN 011B with a "C-" or better or permission of instructor. (GE1C)

JAPN 025. Intermediate Japanese, Fourth Semester. 4 Units.

This course is a continuation of cultural themes begun in JAPN 023. Students examine Japanese culture and society through readings, videos, conversations on Japanese cultural behaviors and social issues. A continued emphasis is on developing critical thinking as well as proficiency of 4-skills in Japanese language at the intermediate level. Prerequisite: JAPN 023 with a "C-" or better or permission of instructor. (GE1C)

JAPN 125. Advanced Japanese I. 4 Units.

Selective readings in Japanese focus on traditions and social issues in contemporary Japan. Students continue training in reading, writing and conversation at an advanced level. Prerequisite: JAPN 025 with a "C-" or better or permission of instructor. (GE1C)

JAPN 126. Advanced Japanese II. 4 Units.

Selective readings in Japanese focus on Japanese literature and culture. Students continue training in reading, writing and conversation at an advanced level. Prerequisite: JAPN 025 with a "C-" or better or permission of instructor.

JAPN 170. Japanese Literature in Translation. 4 Units.

A survey of Japanese literature from the 8th century to the present is covered with an emphasis on the unique body of prose, poetry and drama that developed during this thousand-year epoch - mostly in relative isolation from the rest of the world - which represents a brilliant literary heritage rarely matched anywhere in the world. This course is taught in English.

JAPN 180. Modern Japanese Fiction. 4 Units.

Students study Japanese fiction as a literary genre after 1867 and up to the present. This course examines representative works by Natsume Soseki and Mori Ogai, the greatest figures among the early modern novelists, and also deals with several leading authors of the post-war period that include Mishima Yukio and Abe Kobo. The readings are in Japanese. Prerequisite: JAPN 125 or JAPN 126 with a "C-" or better, or permission of the instructor.

JAPN 191. Independent Study. 2-4 Units.

Senior standing.

Language Courses**LANG 011A. First Year Language, 1st Sem. 4 Units.****LANG 011B. First Year Language, 2nd Sem. 4 Units.****LANG 023. Intermediate Language, 3rd Sem. 4 Units.****LANG 025. Intermediate Language, 4th Sem. 4 Units.****LANG 087. Internship in Applied Language. 2-4 Units.**

This course provides opportunities to use language(s) studied under supervised conditions in a professional venue, either in local schools and businesses or in study-abroad internships. Registration is subject to departmental approval and is ordinarily limited to advanced students. Pass/No credit grading only.

LANG 089. Practicum. 2 Units.

This course is designed to give the student opportunity to work with language in practical situations under supervised conditions. Permission of the instructor is required for registration. Registration is ordinarily limited to advanced students who are registered in another course in the same language. Pass/No credit grading only.

LANG 191. Independent Study. 2-4 Units.

LANG 193. Special Topics. 1-4 Units.

LANG 197. Undergraduate Research. 2-4 Units.

This course provides opportunity for qualified students majoring in a language in the Department of Modern Language and Literature to complete a supervised original research project. Students are encouraged to travel to collections and use unique materials and resources in developing an original paper or other public presentation of their findings.

Russian Courses

RUSS 011A. First-Year Russian, First Semester. 4 Units.

Students begin training in the basic language skills of understanding, speaking, reading and writing at the first semester level. The focus is on a cultural approach, and the course includes a laboratory. (GE2A)

RUSS 011B. First-Year Russian, Second Semester. 4 Units.

Students are trained in the basic language skills of understanding, speaking, reading and writing at the second semester level. The focus is on a cultural approach and the course includes a laboratory. Prerequisite: RUSS 011A with a "C-" or better or permission of instructor. (GE2A)

RUSS 023. Intermediate Russian, Third Semester. 4 Units.

Students examine Russian culture through readings, conversations, videos and discussions on daily life and culture of Russia and former Soviet Republics. The course includes a review of Russian language as a functioning system. Prerequisite: RUSS 011B with a "C-" or better or permission of instructor. (GE1C)

RUSS 025. Intermediate Russian, Fourth Semester. 4 Units.

This course is a continuation of the cultural themes begun in RUSS 023. Students examine Russian culture through readings and discussions on daily life in Russia and former Soviet Republics. The course continues review of Russian language as a functioning system. Prerequisite: RUSS 023 with a "C-" or better or permission of instructor. (GE1C)

RUSS 073. Russian Culture and Civilization. 4 Units.

Students examine the major cultural and artistic developments in Russia from the founding of the Kievan state to the 20th century. The course includes readings, lectures, discussions and student presentations on Russian literature and art as well as a survey of major literary works of the Golden Age of Russian literature. There is extensive use of audiovisual aids, and the course is taught in English.

RUSS 120. Contemporary Russian Film. 4 Units.

This is a 4-unit course designed for a general audience. No knowledge of Russian is required; lectures and readings are entirely in English. All the movies that are screened have English subtitles. This course is an overview of contemporary Russian film as representation and reflection of Russian cultural values and political and economic changes for the 1980s to the present. Students see and discuss works of major film directors in their social, political, historical, and cultural context. They learn about new cultural trends, the relationship between culture and officialdom, as well as peculiarities of national self-perception (the Russian Idea), gender/ethnicity based interpretations, and artistic realities in Russian film. (GE2C)

RUSS 191. Independent Study. 2-4 Units.

This course may be used for advanced work in Russian reading, composition and conversation, or for work on other topics.

RUSS 193. Special Topics. 2 or 4 Units.

Spanish Courses

SPAN 011A. First-Year Spanish, First Semester. 4 Units.

Students begin training in the basic language skills of understanding, speaking, reading and writing at the first semester level. The focus is on a communicative approach, and the course includes a laboratory. (GE2A)

SPAN 011B. First-Year Spanish, Second Semester. 4 Units.

Students begin training in the basic language skills of understanding, speaking, reading and writing at the second semester level. The focus is on a communicative approach, and the course includes a laboratory. Placement is subject to continual reevaluation. Prerequisite: SPAN 011A with a "C-" or better or permission of instructor. (GE2A)

SPAN 023. Intermediate Spanish, Third Semester. 4 Units.

Students examine culture and civilization of the Hispanic world through readings, videos and conversations on daily life and culture in the Hispanic world. The course also includes rapid review of Spanish language as a functioning system. Prerequisite: SPAN 011B with a "C-" or better or permission of instructor. (GE1C)

SPAN 025. Intermediate Spanish, Fourth Semester. 4 Units.

This course is a continuation of the cultural themes students study in SPAN 023. Students examine culture and civilization of the Hispanic world through readings, videos and conversations on daily life and culture in the Hispanic world. The course continues review of Spanish language as a functioning system. Prerequisite: intermediate SPAN 023 with a "C-" or better or permission of instructor. (GE1C)

SPAN 027. Conversación. 4 Units.

This course is an intermediate level course that develops social skills in a Hispanic context. The emphasis is directed to the practical interpersonal skills important to every day living as well as those cultural manifestations inherent in speaking Spanish among native speakers. Prerequisite: SPAN 011B with a "C-" or better or permission of instructor. May be repeated once for credit.

SPAN 029. Leng/cultura hispanohablantes. 4 Units.

Heritage speakers study the formal use of Spanish and the diverse cultures of Latin American communities in the US. Through literature, art, music, cinema and essay students hone their skills in writing, grammar, orthography, and advanced reading comprehension, while they learn about standard versus vernacular usages, and cross language interference. This course meets the College of the Pacific language requirement. Prerequisite: Course requires native speaking ability in Spanish.

SPAN 089. Practicum. 1-4 Units.

SPAN 101. Composición avanzada. 4 Units.

This course prepares students for formal writing in Spanish in academic and professional contexts. Course includes grammar review and vocabulary building. Prerequisite recommended: SPAN 025 or SPAN 029 with a "C-" or better.

SPAN 103. Introducción a la literatura hispánica. 4 Units.

This course is a systematic survey of Hispanic literature. The course addresses topics as the function of literature, the analysis and interpretation of texts, literary periods, movements and trends. Recommended: SPAN 025 or SPAN 029 or SPAN 101 with a "C-" or better. (GE2A)

SPAN 110. Civilización hispanoamericana. 4 Units.

This course is a systematic survey of Hispanic-American civilization from pre-Columbian times to the modern era. Special attention is paid to the Incas, Aztecs and Mayans. The course may include national and regional historic, political, economic and cultural developments and their impact on Hispanic life. Prerequisite recommended: SPAN 101 with a "C-" or better.

SPAN 112. Civilización española. 4 Units.

This course is a systematic survey of Hispanic literature and an overview of Spanish Peninsular culture and history through literature and art. Representative works from the Middle Ages to the contemporary period are studied in the context of intellectual history and local and international historic developments. Prerequisite recommended: SPAN 101 with a "C-" or better.

SPAN 114. Cine hispano/Hispanic Film. 4 Units.

A study of the development of Latin American or Peninsular cinema through the analysis of themes, styles, and cinematic techniques. Themes include Latin American women film directors or films of Pedro Almodovar, among others. The course is taught in Spanish. Films in Spanish have English subtitles. The course is occasionally offered in English. (FILM, GE2C, GEND)

SPAN 122. Literatura mexicana. 4 Units.

This course is an in-depth analysis of 20th Century Mexican literature, includes narrative, poetry, drama, and essay. Themes taught include Mexican Revolution, Avant-Garde, Modern Novel, Latin American Boom, and Postmodernism. The course includes concurrent study of Mexican culture through literary supplement La Jornada Semanal; art of Deigo Rivera, Frida Kahlo, and their contemporaries; New Mexican Cinema; current politics; contemporary music; and food. Prerequisite recommended: SPAN 101 or SPAN 103 with a "C-" or better.

SPAN 124. Escritores hispanos en los Estados Unidos. 4 Units.

This course is a systematic survey of U.S. Latino literature. This course provides an overall view of Hispanic literature in the United States with emphasis on the literature of one or more of its major groups: Mexican-Americans, Cuban-Americans, or "Nuyoricans." This course may be repeated with permission of the instructor. Recommended: SPAN 101 or SPAN 103 with a "C-" or better. (DVSY, ETHC)

SPAN 126. Poesía hispánica. 4 Units.

A study the poetry of the Spanish-speaking world. Writers, periods and regional focus vary from medieval Spain to contemporary Latin America. The changing emphasis of the course ranges from the Middle Ages to the mysticism of Sor Juana Ines de la Cruz, Modernismo, Vanguardias, Las generaciones del '98 y del '27 and poesia social with authors such as Jorge Manrique, Garcilaso, Becquer, Dario, Machado, Lorca, Neruda, Vallejo, Paz, Parra, and Mistral among many others. Prerequisite recommended: SPAN 101 or SPAN 103 with a "C-" or better.

SPAN 128. Teatro hispánico. 4 Units.

A study of the works of major playwrights of the Spanish-speaking world. Writers, periods and regional focus varies. Prerequisite recommended: SPAN 101 or SPAN 103 with a "C-" or better.

SPAN 132. Literatura española. 4 Units.

This course is a survey of peninsular Spanish literature from its origins in the Middle Age up to the present. Students read and analyze texts of several genres including poetry, prose and theater presented in chronological order. In the analysis of the works we pay attention not just to the literary techniques employed by their authors corresponding with the literary fashions of their time but also explore the social, historical, ideological, religious, philosophical, aesthetical and political backgrounds that contributed to their creation. At the end of the semester the students learn the basic components of literary analysis and be familiarized with the origin and evolution of the main genres: poetry, prose and drama.

SPAN 133. Don Quijote. 4 Units.

A study of the major themes and social-historical context of Cervantes' masterpiece with a broad consideration of the human experience from the middle ages to present day. The course is an interdisciplinary approach that includes topics ranging from knights, religious conflicts, racism, economics and politics to classical literature, Joseph Campbell, soap operas, sitcoms, Star Wars, Velazquez, Magritte and Woody Allen. Recommended: SPAN 101 and SPAN 103 with a "C-" or better. Not recommended for freshmen. (GE2A)

SPAN 134. Literatura latinoamericana. 4 Units.

This course is a broad overview of Latin American literature. Focus of the course varies but ranges from pre-Columbian through 21st Century works. Reading is enriched and contextualized through a multi-disciplinary approach that may include history, art, architecture, geography, popular culture and film.

SPAN 135. Literatura del boom latinoamericano. 4 Units.

This course is an analytical study of the novels of Gabriel Garcia Marquez, Carlos Fuentes, and Mario Vargas Llosa, among others. The writers of the "Boom" are an important focus in the overview of literary trends as well as the cultures of Columbia, Mexico, Peru, Argentina, Chile, and other Latin American countries. Recommended: SPAN 101 and SPAN 103 with a "C-" or better.

SPAN 141. Sintaxis, semántica y morfología. 4 Units.

This course is an overview of syntaxes, semantics and morphology within the context of Spanish linguistics that focuses on pedagogical descriptions to explain the structure of language as a complete system. The course is designed to facilitate the understanding and teaching of Spanish. Prerequisite: SPAN 101 with a "C-" or better or permission of instructor. This course requires a high level of proficiency in Spanish. Not recommended for freshmen.

SPAN 143. Fonética y fonología. 4 Units.

This course is an overview of phonetics and phonology within the context of Spanish linguistics. This course focuses on the study of the sound system of the Spanish language, the mechanics of sound production, the manner in which the language has organized these sounds into a system of logical relationships, and the way geographical, social and ethnic variations are made manifest through that system. Prerequisite: SPAN 141 with a "C-" or better. Not recommended for freshmen.

SPAN 191. Independent Study. 2-4 Units.**SPAN 193. Special Topics. 4 Units.**

Pacific Humanities Program

The Pacific Humanities Scholars program offers an accelerated, 3-year degree and a unique cohort experience for exceptional students majoring in the humanities disciplines. To be eligible for an interview, an incoming freshman should have a minimum 3.5 GPA, 1200 SAT (math and verbal), a strong personal statement, 12 Advanced Placement Units, and a declared major or minor in one of the following subjects: Art, English, Graphic Design, Media X, Modern Languages, Philosophy, or Religious Studies. Students admitted to this 3-year B.A. program must complete all the University breadth and unit requirements, as well as the Pacific Seminars. In addition, they take one 1-unit cohort seminar in the first year, as well as one in their second year. Pacific Humanities Scholars enroll in Honors sections of relevant GE courses and must maintain a 3.0 cumulative GPA to remain in the program.

Learning Outcomes

1. Acquire knowledge of the Humanities disciplines and their collective capacity for cultivating empathy, ethics, and civic responsibility in global society.

2. Develop skills for creative problem-solving across a wide range of social, cultural, and political contexts.
3. Define and illustrate the relationship between information technology and humanistic inquiry.
4. Manage interdisciplinary collaboration and teamwork.
5. Exhibit mastery of independent research and writing.
6. Analyze, synthesize, and apply humanistic understanding to real-world settings, including the workplace and the community, toward the production of transformative action.

Pacific Humanities Program

Students must complete two 1-unit cohort seminars in the first year, as well as two 2-unit capstone courses in the third year in order to complete the Pacific Humanities program.

PHUM 010	Expressing the Humanities	1
PHUM 100	Collective Expression, Expressing the Collective	1
PHUM Capstone		2
PHUM Capstone		2

Pacific Humanities Courses

PHUM 010. Expressing the Humanities. 1 Unit.

This first of two one-unit seminars designed for Pacific Humanities Scholars, this course addresses the challenges facing the traditional humanities disciplines. Students are tasked with articulating a variety of responses, using multiple expressive media, to the question: "what does it mean to be human in the information age?" Prerequisite: Admission to the Pacific Humanities Scholars Program.

PHUM 100. Collective Expression, Expressing the Collective. 1 Unit.

The second of two one-unit seminars designed for Pacific Humanities Scholars, this course challenges students to explore the interface between the humanities and technology, as well as to think globally about how the humanities function as a means of collective expression in the information age. Prerequisite: Admission to the Pacific Humanities Scholars Program.

Pacific Legal Scholars Program

<http://www.go.Pacific.edu/LegalScholars/>

Phone: (209) 946-2194

Location: WPC 138

Cindy Ostberg, Director

Program Description

The Pacific Legal Scholars Program offers students interested in pursuing a career in law the opportunity to earn a bachelor's degree and a JD degree in an abbreviated period of time. The program offers both a 3+3 and 4+3 track. Students work with the program director to design an individualized curriculum based on each student's track and chosen major. The Legal Scholars Program is designed to work with any major to prepare students for advanced legal study (Note: some majors require a 4+3 track). To qualify for the 3+3 program, students must have a 3.5 unweighted, high school GPA and a 1320 SAT, while those in the 4+3 program must have a 3.5 unweighted, high school GPA and a 1250 SAT.

Program Requirements

Qualified students must complete all major and general education course requirements, 3 seminar classes for law school preparation, 1 upper-division law course, 5 off-campus law-related activities, and 4 on-campus law-related activities (1 activity each year) in order to complete the undergraduate part of the program. Students in the 4+3 track must

complete 60 units on the Stockton campus, while those in the 3+3 track must complete 75 units on the Stockton campus.

Law Seminars

Law Course Requirements

POLS 060	Legal Study Seminar	1
POLS 062	Legal Practice Seminar	1
POLS 175	Legal Writing and Research Seminar	1

Upper-Division Law Course

Select one of the following (or one approved by the Director of the Program): 4

BUSI 053	The Legal and Ethical Environment of Business
BUSI 127	Legal Aspects of Real Estate
BUSI 157	Commercial Law
BUSI 159	Employment Law
GESC 137	Environmental Law
HESP 165	Legal Aspects of Health, Exercise and Sport
INTL 167	Advanced Model United Nations (MUN II)
MMGT 153	Entertainment Law
POLS 031	Introduction to Law and Policy in the American Political System
POLS 122	Constitutional Law
POLS 124	Constitutional Law: Civil Liberties
POLS 126	Criminal Law

Political Science Courses

POLS 011. Introduction to Comparative Politics. 4 Units.

Students examine the basic functions performed by a political system, compare the different organizations and procedures societies have developed for handling these functions, and analyze of recurring patterns of political behavior from the level of the individual to that of the nation/state. (GE1C)

POLS 021. Introduction to Political Theory. 4 Units.

This course introduces the philosophical study of basic issues in political life, such as democracy, freedom, the responsibilities of political power, the role of the state, and justice through the close reading and analysis of selected major political thinkers. (GE2B)

POLS 031. Introduction to Law and Policy in the American Political System. 4 Units.

This is an introductory course examining courses, law, and the role the judiciary plays in policy-making in the American political system. Focus on political aspects of legal rulings, as well as the constitutional limits to government power.

POLS 041. U.S. Government and Politics. 4 Units.

Students analyze the constitutional structure of the federal government and its function as well as the political processes involved. This course satisfies the state teaching credential requirement on the U.S. Constitution. (GE1B, PLAW)

POLS 051. Introduction to International Relations. 4 Units.

This course introduces the major issues of international politics and the analytical approaches applied to their study. Topics include: the causes of war, intervention, pursuit of economic prosperity and managing global resources. (GE1C)

POLS 060. Legal Study Seminar. 1 Unit.

Students are introduced to the legal profession, court structure, and practical skills needed for law school. This course also examines current problems in different fields of law through panel discussions by law faculty. Prerequisite: Pacific Legal Scholar Student or permission of the instructor.

POLS 062. Legal Practice Seminar. 1 Unit.

Students examine different legal career trajectories, legal scholarship, and career exploration. This course also draws connections between academic training and legal practice through panel discussions by legal practitioners, and courthouse visits. Prerequisite: Pacific Legal Scholar Student or permission of the instructor.

POLS 081. Career and Internship Preparation. 2 Units.

POLS 081 orients and prepares students for the workplace expectations commonly encountered by students in political science internships. The course also provides information about careers commonly pursued by political science majors and how to prepare for them. Prerequisites: POLS 041. Sophomore standing.

POLS 093. Special Topics. 1-4 Units.**POLS 104. Urban Government. 4 Units.**

Students examine the structure and operation of urban units of government with emphasis on inter-governmental and inter-group relations in the United States. Problems of finance, racial, ethnic and class conflict, the adequacy of services and planning for future growth are included. The course emphasizes the role of race, class, and ethnicity in the city and is approved by Ethnic Studies. (DVSY, ETHC)

POLS 106. California Government and Politics. 4 Units.

This course covers an overview of California governmental structures and selected political, economic and ecological conflicts, both historic and contemporary.

POLS 112. Congress and the Presidency. 4 Units.

This course examines the relative influence of Congress and the presidency on politics and policy making in America. Topics include the development, organization, operation, interactions, and policy making role of the two branches. Prerequisite: POLS 041.

POLS 114. Political Parties and Interest Groups. 4 Units.

Students analyze of the role of political parties and interest groups in the American political system in addition to the origins, development, and current state of parties and interest groups. The group includes a focus of the ways that these groups organize and influence the policy-making process.

POLS 116. Campaigns and Elections. 4 Units.

This course is designed to introduce students to campaigns and elections in the American political system. The focus is on what political science has discovered about campaigns, their operation, and their relative influence on elections. Other determinants of election outcomes are also examined. Prerequisite: POLS 041.

POLS 119. Government in Action: Public Policy Analysis. 4 Units.

This course is an analysis and evaluation of how government makes and implements policy at various levels, both state and local. This is a core major requirement that develops political science learning objectives that are the bases for advanced coursework in the major. Prerequisite: POLS 041. (ENST, PLAW)

POLS 120. Courts and Judicial Behavior. 4 Units.

Students examine the role, nature and sources of law, the courts and the adversary system; schools of jurisprudence. An emphasis is on contemporary problems such as reform, the jury system, selection of judges and selected problems. (PLAW)

POLS 122. Constitutional Law. 4 Units.

this course is a study of the development of the American Constitutional System through court cases. Law school techniques and methods are stressed. (PLAW)

POLS 124. Constitutional Law: Civil Liberties. 4 Units.

Students analyze the rights and guarantees contained in the Bill of Rights and other constitutional and statutory provisions. (PLAW)

POLS 126. Criminal Law. 4 Units.

This course focuses on the concepts, principles and problems of substantive criminal law. (PLAW)

POLS 128. Introduction to Public Administration. 4 Units.

This course introduces students to the study of public administration. It examines the role of public agencies and their personnel in a democratic political system. Topics include what public agencies are, why they exist in democracies, the functions they carry out, the mutual influence public agencies have with elected officials and the public, and interactions between public and not-for-profit spheres.

POLS 130. Ancient to Medieval Political Theory. 4 Units.

Students analyze ancient and medieval political thinkers examine the formation of social and political thought from approximately fifth century Greece through twelfth century Europe. The course materials address tensions between democracy and empire, ideas of democracy, freedom, the responsibilities of political power, the place of ambition, the role of justice, and the meaning of the good life. (GE2B)

POLS 132. Modern to Contemporary Political Theory. 4 Units.

Students analyze modern and contemporary political thinkers and examine the formation of social and political thought from the sixteenth through the twenty-first centuries. The course materials address the development of the nation state, individual rights and freedom, religious liberty and toleration, popular sovereignty, popular consent, social equality, and intellectual, social, and historical progress. (GE2B)

POLS 133. Political Science Research. 4 Units.

This course develops skills needed for conducting and understanding research in political science and other social sciences. The course includes research design, critical statistical techniques and computer applications. Prerequisite: Fundamental Skills Math. (ENST, GE3B, PLAW)

POLS 134. American Political Thought. 4 Units.

Principles and problems of political theory within the American setting are examined as they emerge from the founding period to the present. The course explores both the mainstream tradition and branches of counter traditions of political ideas in America. Emphasis is on the themes of authority, community, equality, liberty. (DVSY, ETHC, GE2B)

POLS 136. Jurisprudence. 4 Units.

Students analyze of the nature and functions of law, law as an instrument of social control, and the relationship between law, morality, and justice. This course examines current problems in law as it intersects with politics and society. Readings are drawn from legal and political philosophy, social science, and judicial opinions.

POLS 141. Western European Comparative Politics. 4 Units.

This course is a comparative analysis of the political and economic forces that have shaped the advanced industrial states of Western Europe. Topics include: 1) state-building, nation-building and industrialization; 2) political and economic reconstruction of France, Great Britain and Germany; 3) contemporary problems facing the advanced capitalist states of Western Europe.

POLS 146. Latin American Politics. 4 Units.

Students study the political processes and governmental structures of Latin American states, and focus on Mexico and Brazil, as well as certain other South and Central American countries. Selective attention is given to the expanding regional and international relations of Latin America.

POLS 148. Politics of the Middle East. 4 Units.

This course is a comparative study of contemporary politics in the Middle East, and it emphasizes the problems of development and the background, issues and political forces involved in the Arab-Israeli conflict.

POLS 150. Political Development. 4 Units.

This course is a general introduction to the problems and politics of post-colonial or lesser developed countries. Case studies from Asia, Africa and Latin America are included.

POLS 151. Principles of Comparative Politics. 4 Units.

Students examine the most important analytical approaches used by political scientists in the comparative analysis of political systems and application of those approaches to selected examples. This is a core major requirement that develops political science learning objectives that are the basis for advanced coursework in the major. Prerequisites: POLS 041 and POLS 051 or permission of instructor.

POLS 152. Politics of Asia. 4 Units.

This course is a general political introduction to modern East, South-East and South Asia. The course includes a survey of geography, history and culture and it uses selected case studies in all three areas, an exploration of problems of development and modernization, as well as regional interaction and the relation of Asia to the West. (GE1C)

POLS 160. Theories of International Politics. 4 Units.

This course is an intensive study of the principal theories of international politics and behavior. The course covers major social scientific theories, critical approaches to theory, and international political theory. Prerequisite: POLS 051, or permission of instructor.

POLS 162. International Organization. 4 Units.

Students examine the role of international organization in the contemporary global political system. Major theories and approaches in the field are studied in conjunction with topics such as interstate conflict and peacekeeping, arms control and nonproliferation, human rights, economic relations between developed and developing countries, food and nutrition and management of the global commons. Prerequisite: POLS 051 or permission of instructor. (PLAW)

POLS 164. International Political Economy. 4 Units.

Students examine the major analytical and substantive issues in the field of international political economy and explore the political and economic problems generated by growing interdependence among advanced industrial states and the conflicts between industrialized and developing countries over the structure and functioning of the postwar international economic order. Prerequisite: POLS 051.

POLS 166. International Conflict and Conflict Management. 4 Units.

This course is a study of the sources and nature of conflict and methods of conflict management in the international arena. The focus is to identify and understand the kinds and functions of nonviolent conflict management now in use. Topics include international law, international regimes, negotiation and arbitration. Prerequisite: POLS 051 or permission of instructor.

POLS 168. Comparative Foreign Policy. 4 Units.

Students examine of foreign policy making around the world, across major powers, middle powers, and small states. The course begins with a study of the different theories that try to explain why nations make the choices they do in the international arena, and then it considers the validity of those theories as students look at cases from the United States to China to New Zealand and a number of stops in between. Prior to the completion of a basic course in political science is recommended.

POLS 170. U.S. Foreign Policy. 4 Units.

Students examine of the major developments and current issues in U.S. foreign policy and various analytical approaches to their study. Topics include: U.S. diplomatic history, the processes and structures by which the U.S. government develops and implements foreign policy. Emphasis is placed on students developing the analytical capacity to pose and pursue significant puzzles about U.S. foreign policy. Prerequisite: POLS 051.

POLS 172. Inter-American Relations. 4 Units.

This course covers regional principles, laws, treaties and agreements, foreign policy formulation, hemispheric organizations, and exploration and analysis of contemporary trends in Latin American international relations.

POLS 175. Legal Writing and Research Seminar. 1 Unit.

Students are exposed to legal writing and advanced research skills, the content of first year law courses, and resources and facilities at Pacific McGeorge. Prerequisites: POLS 060 and POLS 062. Pacific Legal Scholar Student with Sophomore or Junior standing and an overall GPA of 3.0, or permission of the instructor. This course must be taken in the spring semester of their sophomore year (regardless of whether a student is in the 3+3 or 4+3 program).

POLS 187C. Pre-Law Internship. 4 Units.

This course is a supervised experience in an approved legal or judicial setting that is contracted on an individual basis. Prerequisites: POLS 041; POLS 031 or POLS 122 or POLS 124 or POLS 126. Junior standing is required with an overall GPA of 2.0. Department permission is also required.

POLS 189. Capstone Seminar. 4 Units.

This seminar course is for political science majors about to graduate. Students demonstrate their mastery of political science program learning objectives and outcomes through analysis and discussion of recent significant work in the major political science subfields; American Politics, Political Theory, Comparative Politics, and International Politics and by the completion and presentation of a substantial political science research project. Prerequisite: Political Science majors with senior standing or by permission of instructor is required.

POLS 189A. Practicum. 4 Units.**POLS 189B. Practicum. 4 Units.****POLS 189C. Practicum. 4 Units.****POLS 191. Independent Study. 2-4 Units.**

Political science majors with a "B" average in their work in political science take this course.

POLS 197. Undergraduate Research. 2-4 Units.

Students acquire skills in the design and implementation of political science research while they serve as a research assistant to a faculty member or conduct an independent research project under the supervision of a faculty member. Junior or senior standing as a political science major and permission from department is required.

Philosophy

<http://www.pacific.edu/college/philosophy/>

Phone: (209) 946-2281
Lou Matz, Chair

Degrees Offered

Bachelor of Arts

Majors Offered

Philosophy

Minors Offered

Philosophy

The study of philosophy is at the core of a liberal arts education. The ideal of a liberal arts education is not simply to prepare students for a specific career but to prepare them for a meaningful personal life and for intelligent participation in their communities. There are issues that all human beings confront regardless of what career they choose or community they live in, such as the nature and limits of knowledge, the principles of right and wrong, the meaning of life, the truth of religious claims, and the nature of reality. Philosophers raise critical questions about these issues, and some attempt to construct comprehensive systems that explain how all human activities fit together in a unified way. Moreover, through the exposure to some of the great minds in human history and the discussion of their ideas with their professors and peers, students develop the reading, writing, and critical thinking skills that are essential to a human being. In the words of the American Philosophical Association, the study of philosophy serves:

to develop intellectual abilities important for life as a whole, beyond the knowledge and skills required for any particular profession. Properly pursued, it enhances analytical, critical and interpretive capacities that are applicable to any subject matter, and in any human context. It cultivates the capacities and appetite for self-expression and reflection, for exchange and debate of ideas, for life-long learning and for dealing with problems for which there are no easy answers. It also helps to prepare one for the tasks of citizenship. Participation in political and community affairs today is all too often insufficiently informed, manipulable and vulnerable to demagoguery. A good philosophical education enhances the capacity to participate responsibly and intelligently in public life.

Students choose the Bachelor of Arts degree in philosophy for various reasons. Most enjoy the intellectually provocative and challenging nature of philosophical thinking that opens their minds and has relevance for their personal lives. Some study philosophy in order to go to graduate school and eventually teach philosophy or to enter other professional fields, such as law. And others take philosophy as a second major since it is a good complement to virtually any other major. In all cases, the study of philosophy is personally enriching and develops skills that are transferable to a variety of occupations.

The Department of Philosophy offers different kinds of courses. Historical courses survey the major philosophers and periods in the history of philosophy. Specialized courses focus more narrowly on topics such as applied ethics, religion, the meaning of life, politics, or the thought of one philosopher. Systematic courses are advanced and deal with problems that arise in relation to all human activities, such as the activity of knowing (epistemology), the nature of reality (metaphysics), and the experience of value (meta-ethics). The departmental offerings are grouped as follows:

1. Introductory Course: Introduction to Philosophy
2. Formal Reasoning Course: Introduction to Logic

3. Historical Courses: Ancient & Medieval Philosophy; History of Modern Philosophy
4. Specialized Courses: Moral Problems; The Meaning of Life; Fundamentals of Ethics; Environmental Ethics; Philosopher in Depth; Philosophy of Science; Philosophy of Law; Philosophy of Mind; Philosophy of Language; Philosophy of Religion; Political Philosophy; Biomedical Ethics, Special Topics
5. Systematic Courses: Metaphysics; Theory of Knowledge; Meta-Ethics: What Is Morality?

Typical First Year Program

During the freshman year a student who is interested in pursuing the philosophy major is especially encouraged to take:

PHIL 011	Introduction to Philosophy	4
PHIL 037	Introduction to Logic	4
Select one of the following ethics courses:		4
PHIL 021	Moral Problems	
PHIL 027	Fundamentals of Ethics	
PHIL 035	Environmental Ethics	

Philosophy majors should be able to:

1. Comprehend complex philosophical texts (content and structure).
2. Write clear, succinct, well-organized essays, that demonstrate understanding of the topic and critically evaluate the claims and arguments for them.
3. Express complex ideas and arguments clearly, succinctly and respectfully in both discussion and presentations.
4. Comprehend and apply formal techniques of reasoning.
5. Recognize, create and/or respond to reasoned objections to an argument using relevant and convincing evidence and arguments.
6. Contextualize and evaluate arguments relative to major philosophical movements and developments.

Bachelor of Arts Major in Philosophy

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in philosophy.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics

IIC. Visual and Performing Arts
Natural Sciences and Mathematics
IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic
IIIC. Science, Technology and Society
or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 33 units and 9 courses that include:

PHIL 011	Introduction to Philosophy	4
PHIL 037	Introduction to Logic	4
PHIL 053	Ancient and Medieval Philosophy	4
PHIL 055	History of Modern Philosophy	4
Select three of the following specialized courses:		12
ENGL 125	Critical Colloquium	
PHIL 015	Introduction to Cognitive Science	
PHIL 021	Moral Problems	
PHIL 025	The Meaning of Life	
PHIL 027	Fundamentals of Ethics	
PHIL 035	Environmental Ethics	
PHIL 047	Philosopher in Depth	
PHIL 061	Philosophy of Science	
PHIL 079	Sensation and Perception	
PHIL 106	Philosophy of Law	
PHIL 121	Philosophy of Mind	
PHIL 122	Philosophy of Language	
PHIL 124	Philosophy of Religion	
PHIL 127	Philosophy of Sport	

PHIL 135	Political Philosophy	
PHIL 145	Biomedical Ethics	
PHIL 193	Special Topics	
Select two of the following systemic courses:		8
PHIL 180	Metaphysics	
PHIL 182	Theory of Knowledge	
PHIL 184	Meta-Ethics: What is Morality?	

Note: 1) 6 of these courses must be completed at Pacific. **2)** POLS 130 or POLS 132 are accepted as substitutes for PHIL 135. However, a student cannot get credit toward the philosophy major for taking more than one of these. **3)** RELI 145 is accepted as a substitute for PHIL 145.

Minor in Philosophy

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in philosophy.

Minor Requirements:

PHIL 011	Introduction to Philosophy	4
Four PHIL Electives		16

Note: 1) 3 of these courses must be taken at Pacific. **2)** POLS 130 and POLS 132 are accepted as substitutes for PHIL 135. However, a student cannot get credit toward the philosophy minor for taking more than one of these. **3)** RELI 145 is accepted as a substitute for PHIL 145.

Philosophy Courses

PHIL 011. Introduction to Philosophy. 4 Units.

This course is an overview of answers that philosophers across the world have provided to questions that most of us ask ourselves at one time or another in life, such as: Can we know anything beyond what our senses tell us? Can we even be sure that what our senses tell us is accurate? Is there a God? Is life after death possible? Do we have free will, and hence moral responsibility for what we do? Are we merely selfish beings or can we do things for the sake of others? Are there moral rules that all cultures and people recognize, or should recognize? Do our lives have meaning without God and without some sort of afterlife? (GE2B)

PHIL 015. Introduction to Cognitive Science. 4 Units.

Cognitive science is an exciting cross-disciplinary field devoted to understanding how the mind works. It draws on research done in a wide variety of disciplines, including philosophy, psychology, artificial intelligence, linguistics, and neuroscience. This course examines some of the main assumptions, concepts, methods, applications, and limits of the cognitive scientific approach to the mind. Questions include: Is the mind a computer and, if so, what kind of computer? What are the prospects for genuine artificial intelligence? How is the mind organized? Does the mind have innate structures? Can we explain memory, action, perception, reasoning, and social cognition? What can the brain tell us about the mind, and what can we learn from damaged brains? How did minds evolve? To what extent does cognition depend on the body and the environment? (GE3C)

PHIL 021. Moral Problems. 4 Units.

Students explore some of the "big ticket" moral issues of our time for example: physician-assisted suicide, capital punishment, abortion, animal rights, pornography, the limits of free speech, the legalization and use of drugs, affirmative action, war, torture, civil disobedience, gun control, and the distribution of wealth. The best philosophical arguments on both sides of each issue are considered so that each student can decide which positions are most rationally compelling. (GE2B, PLAW)

PHIL 025. The Meaning of Life. 4 Units.

This course is an exploration of one overall question - Do human lives have meaning? - and the answers provided by philosophers, both ancient and modern, across the world. Subsidiary questions include: Is meaning found in this life or in life after death? What makes a life meaningful - is it what we achieve, or the experiences we have, or our relationships, or something else? Is the meaning of life something we make for ourselves or is it provided by some other source, such as God? (GE2B)

PHIL 027. Fundamentals of Ethics. 4 Units.

This course is an inquiry into the question "How should we lead our lives?" Each student is asked to reflect on her/his own moral commitments and how she/he makes morally difficult decisions, and then to consider whether there is any coherent, unifying system or procedure underlying this. The course then explores several of the most durable and influential philosophical approaches to moral decision making which include the strengths and weaknesses of each approach and how each might apply to various real-life situations. Additional issues might include: why we ought to take morality's demands seriously; whether moral judgments are mere opinions; and whether it is legitimate to criticize morally the practices of other cultures. (GE2B, PLAW)

PHIL 035. Environmental Ethics. 4 Units.

Students investigate into various environmental problems and the ethical attitudes and principles required to address them. Questions might include: Do animals have rights? Do plants, or whole ecosystems, or future generations of people, have interests, and if so, are we obligated to respect these interests? Are humans part of nature, and is that which is natural always good? Are you required to perform environmentally-friendly acts even in cases where doing so involves some cost to you and you lack assurance that enough others will join you to make a collective difference? Can we put a "price" on environmental goods like clean water, a species' existence, a beautiful vista, and even a human life—as economists frequently try to do? (ENST, GE2B)

PHIL 037. Introduction to Logic. 4 Units.

This course is an introduction to the basic concepts and methods employed in the analysis of arguments. The course begins with some of the basic concepts of logic, such as truth, probability, validity, soundness, proof, and consistency. Students learn how to translate arguments into symbolic languages (categorical, sentential, and predicate logics) and evaluate them using various formal techniques. Time may also be spent examining the notion of probability and the character of inductive inference, as well as detecting and explaining common fallacies. (GE3B, PLAW)

PHIL 047. Philosopher in Depth. 4 Units.

This course is a sustained study of a single, highly important philosophical figure. Typically, this course involves looking at this person's views in various areas of philosophy - ethics, epistemology, and metaphysics - and explores how these views cohere (or fail to cohere). The philosopher studied differs from semester to semester, but candidates include such thinkers as: Plato, Aristotle, Descartes, Hobbes, Hume, Kant, Mill, or Nietzsche. Course may be repeated with a different focus. (GE2B)

PHIL 053. Ancient and Medieval Philosophy. 4 Units.

Students examine influential philosophers up to roughly 1500A.D., such as Socrates, Plato, Aristotle, the Hellenistic philosophers (Epicureans, Stoics, Skeptics), Augustine, and Aquinas. Potential topics students investigate are: What does happiness consist of? Which character traits count as virtues, and how do we become virtuous? What is the origin and nature of justice? Why be moral? What are the aims of government and law? What is the difference between knowledge and opinion? Does a divine being exist, and if so what are its attributes? (GE2B)

PHIL 055. History of Modern Philosophy. 4 Units.

Students study central philosophers and issues starting from roughly 1500 A.D. Authors students read might include: Descartes, Leibniz, Spinoza, Locke, Berkeley, Hume, and Kant. Examples of questions addressed: Do we have assurance that the "real world" is as we perceive it to be? Is there actually a world that exists independent of our perceptions? When does what we believe count as knowledge? Does God exist? Do we have free will? Do we have souls? How can we best govern ourselves? (GE2B)

PHIL 061. Philosophy of Science. 4 Units.

Students examine the main philosophical issues regarding the nature and methods of science. Among the questions to be considered are: Can we clearly distinguish science and non-science? Is there such a thing as a scientific method? What counts as sufficient evidence for a scientific law? In what sense are new theories better than old ones? Is science converging on the ultimate truth about the natural world? What is it to say that electrons, black holes, or genes really exist? What are scientific explanations and how do they differ from descriptions and predictions? Examples are drawn from the natural and social sciences. No background in science is needed though science majors are especially welcome. (GE3C)

PHIL 079. Sensation and Perception. 4 Units.

This course is an introduction to human sensory systems and perception. Building upon a detailed analysis of visual processing, students explore through lecture, readings, demonstrations, case studies, and investigations how scientists research the various sensory systems and how they shape our experience of, and interaction with the world. This draws on diverse fields such as biology, physics, philosophy and art in addition to psychology. This course is open to all students. (GE3C)

PHIL 087. Internship. 1-4 Units.**PHIL 093. Special Topics. 4 Units.****PHIL 106. Philosophy of Law. 4 Units.**

This course is an analysis of the nature and function of law. More specific topics in the course might include: the idea of law as an instrument of social control; whether democratically decided laws can ever be illegitimate; the extent to which we are obligated to obey the law; the justification for punishment, and its permissible forms; the relationship between law, morality, and justice; the appropriate role of legislators, lawyers, and judges; and the role of interpretation, coherence, and precedent in judicial reasoning. Readings draw from legal and political philosophy, social sciences, and judicial opinions. Not recommended for first-year students. (PLAW)

PHIL 121. Philosophy of Mind. 4 Units.

Students explore some of the major issues and debates in recent philosophy of mind and cognitive science. Possible questions include: Are mental states just brain states? Are minds like computers? What are the prospects for artificial intelligence? Can non-human animals think? How essential are the body and external environment to the character of the mind? Can the subjective aspects of experience ever be explained in objective (e.g. physical) terms? Could one person's experience of the world be radically different from another's? How do thoughts get their contents? What is the relationship between thought and action? What can pathological cases teach us about the mental? Recommended: a previous course in philosophy.

PHIL 122. Philosophy of Language. 4 Units.

Students investigate the main philosophical issues that concern the nature of language and communication. Questions include: How do words come to have meaning? What exactly do we know when we understand a language? Which comes first, language or thought? What are the functions of language, if not merely to convey information? How do we sometimes manage to communicate so much more than what we literally say? How do metaphor, irony, and other figurative uses of language work? To what do fictional names like Sherlock Holmes refer? Recommended: a previous course in philosophy.

PHIL 124. Philosophy of Religion. 4 Units.

This course is a philosophical treatment of questions such as: Does God exist? Is it prudent to believe that God exists, even if one cannot be sure? Is belief without sufficient evidence morally irresponsible? If God is all-knowing, can we actually have free will? Does the existence of evil in the world show that God is either not all-powerful or not all-knowing? Do we ever have reason to believe in miracles? Do science and religion make competing claims? Do we have souls that survive our bodily death? Does the very existence of morality depend on God? Recommended: a previous course in philosophy. (GE2B)

PHIL 127. Philosophy of Sport. 4 Units.

Sporting activity raises various kinds of philosophical questions: What defines a "sport"? What should be the purpose of sports? Do sports develop moral character? What is cheating in sports? What is sportsmanship? What is performance enhancement and what is wrong with it? Should violent sports be banned? Are university sports compatible with a university's mission? Are students-athletes exploited? What is the role of sports in a meaningful life? The philosophy of sport analyzes these and other philosophical questions that arise in sports and that have practical applications for athletes, coaches, sports organizations, fans, and society at large. (GE2B)

PHIL 135. Political Philosophy. 4 Units.

Students investigate issues such as: the justification for and limits on governmental power; the origin and extent of rights; the nature and proper extent of individual liberty; the nature and substantive demands of social, economic, and legal justice; the virtues and vices of various political systems; and tensions between political goods such as freedom, equality, fairness, security, and tradition. Not recommended for first-year students. (GE2B)

PHIL 145. Biomedical Ethics. 4 Units.

Students examine the ethical theories, principles, and concepts that justify decisions in health care and medical science. Topics covered may include: physician-assisted suicide, termination or refusal of life-sustaining treatment, abortion, reproductive technologies such as cloning, in vitro fertilization, and surrogacy, the allocation of scarce medical resources (including transplant organs) genetic manipulation, and experimentation on humans and animals. Not recommended for first-year students. (GE2B)

PHIL 180. Metaphysics. 4 Units.

This course is a philosophical exploration of the ultimate nature of reality. Metaphysical questions include: What is the nature of existence? Of necessity and possibility? What kinds of things are there? In virtue of what is something the very thing it is (rather than something else)? Does an object persist as the same object through time and change? What, if anything, makes you the same person over the course of your life? What is it to be a person at all? To what extent are we genuinely free to choose our actions? If one could not have done other than what one did then how can one be held responsible for one's actions? What is the nature of time? Recommended: a previous course in philosophy.

PHIL 182. Theory of Knowledge. 4 Units.

Students study the nature, sources, and limits of human knowledge. Questions to be considered include: What is knowledge and how does it differ from belief or opinion? What justifies what I claim to know or believe? How do I acquire knowledge—via perception, testimony, memory, pure reason, etc.—and how reliable are these sources? Is all knowledge acquired through experience or are there truths that can be known by pure reason? Does knowledge require certainty? Can we know anything about the future (or the past)? Can I know that there is an external world or that there are other minds? What is the nature of self-knowledge? Do I know myself better than anyone else? Are humans really rational? Recommended: a previous course in philosophy.

PHIL 184. Meta-Ethics: What is Morality? 4 Units.

Questions such as "Which actions are right?" and "Which character traits are virtues?" are first-order ethical questions. Meta-ethics, by contrast, involves second-order questions—that is, reflecting philosophically on the nature of our first-order moral judgments. Thus, questions students explore in this course might include: What do terms like "good," "bad," "right," and "wrong" mean? Can these attributes be reduced to natural properties, such as the property of being desired, or being conducive to the production of happiness or social harmony? Do moral claims (such as "Lying is wrong") state objective facts, or merely express personal or social approval/disapproval, or what? If there are moral facts, how do we learn them? What is the relationship between judging an action to be right and having reasons or motives to perform that action? What is the relationship between morality and evolution? Recommended: a previous course in philosophy.

PHIL 187. Internship. 1-4 Units.**PHIL 191. Independent Study. 2-4 Units.**

Permission of the instructor.

Physics

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Physics.html>

Phone: (209) 946-2220

Location: Olson Hall, South Campus

Kieran Holland, Chair

Degrees Offered

Bachelor of Arts

Bachelor of Science

Majors Offered

Physics (BA)

Physics (BS)

- Standard Track
- Computational Physics

- Astrophysics
- Mathematical Physics

Minors Offered

Physics
Data Science

Matter, energy, space and time obey a few general but precise laws, which are fundamental to the structure and behavior we see in our universe. The evolving understanding of this over the centuries has changed our minds, our lives, and our world profoundly.

The Physics Department helps students understand and explore these natural relationships, their meaning, interconnectedness, and their use. The study of physics includes mastering very broad fundamentals which apply to everything from atoms to galaxies, as well as specific studies in topical specializations such as computational and astrophysics. Students are also encouraged to participate in undergraduate research projects both here at Pacific and at other institutions during the summer break.

Degrees in Physics

The degree programs in Physics prepare students to think deeply through questions, to find and connect abstract relationships to new situations, and to be academically confident and broadly knowledgeable scientists and teachers. Bachelor of Science degrees are offered in Physics and Engineering. A Bachelor of Arts degree is also offered in Physics, which is combined with the credential program for secondary school teaching. The department also offers a Physics Minor, intended for students majoring in other disciplines, who have a strong interest in Physics and the underlying principles of science.

Facilities

The Physics Department occupies Olson Hall. Labs are equipped with modern facilities for advanced experiments in quantum optics and condensed matter physics, astrophysics, particle physics, ultra-high vacuum and thin film fabrication, and a 2.3 meter radio telescope for student use. The department has three computer-equipped labs for introductory physics, musical acoustics, and astronomy courses, a scientific computing lab, a machine shop and an electronics shop. Additionally there is ample space for student research projects. Olson Hall features room 120 with 90 seats and state-of-the-art computer displays for large lectures, as well as a number of smaller classrooms.

Recommended High School Preparation

Physics majors should be prepared to take calculus in their first semester at Pacific, and it is highly recommended that they take high school physics and chemistry. Some experience with computer programming in a language such as C++ or Python is also useful.

Bachelor of Arts - Physics

The Bachelor of Arts degree program requires fewer advanced courses in Physics and Mathematics than are required for the three Bachelor of Science programs. Students complete six courses in Physics and four in Mathematics, which allows time for a student to develop greater breadth in other areas as is appropriate for a high school physical science teaching credential. Thus, this degree is at present limited to students in the secondary school teaching track. (Students interested in teaching credential programs with a physics or physical sciences

emphasis can obtain the Teaching Credential Major sheet from the Office of Admissions.)

Bachelor of Science - Physics

The Bachelor of Science in Physics degree program is the standard preparation for professional careers in physics and related physical sciences. Graduates may enter industrial and government positions directly at the BS level or may proceed to graduate study in preparation for higher level research positions.

In addition to the *Standard Track* for the Bachelor of Science in Physics described above, students may choose a focused concentration for their studies, and follow one of the three concentrations below. These concentrations engage the student further in areas where our department has particular expertise and resources.

Computational Physics Concentration

This concentration enhances the student's understanding and experience in using computers to solve physics problems and build simulations of complex phenomena, that use the department's high performance computing resources. Students in this concentration are required to take PHYS 127 and one other applied Math or Physics course, and their Senior Thesis (PHYS 199) is a computationally intensive project.

Astrophysics Concentration

Through coursework and projects that uses the department's astronomical telescopes (optical and radio) and other equipment, students in the Astrophysics Concentration enhance their understanding of the Universe beyond the Earth. Students in this concentration are required to take PHYS 041 and PHYS 141, and their Senior Thesis (PHYS 199) involves either an experimental or theoretical astrophysics project.

Mathematical Physics Concentration

This concentration is for students who are mathematically gifted or might be considering a dual major in Math. Students in the Mathematical Physics Concentration are exposed to more advanced techniques and aspects of theoretical physics. The requirements of this concentration are PHYS 137 and another upper division MATH elective, and the Senior Thesis (PHYS 199) involves a theoretical investigation.

Bachelor of Science – Engineering Physics

The Bachelor of Science in Engineering Physics is offered in cooperation with the School of Engineering. The proportions of courses taken in these two areas are roughly equal.

Today's engineer must be able to understand and apply new and changing technologies which arise from advances in fundamental science. Pacific engineering physics graduates have a firm understanding of the fundamental physics upon which modern technologies are based. He or she is able to use advanced mathematical methods and problem solving techniques to relate new ideas and scientific developments to practical problems in engineering. By acquiring skills applicable for lifelong learning, the Pacific engineering physics graduate is well prepared for a competitive career.

Students who pursue a Bachelor of Science in Engineering Physics degree are subject to all of the requirements of an engineering degree student. Among these requirements is a work experience component called the Cooperative Education Program. Students must complete 32 units of full-time work experience in order to graduate. See the

Engineering and Computer Science, Cooperative Education for Engineering Programs section of this catalog for more details.

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

The Physics Minor

A minor in Physics provides the student of any discipline with a very strong understanding of the foundations of science and the workings of the physical world. The study of physics teaches abstract problem solving skills which are both of great benefit to the student, and impressive to prospective employers.

Conceptual and Analytical Capabilities

- Map physical problems into a set of equations and solve them using analytical/numerical methods.
- Identify the relevant physical principles that govern the dynamics of physical problems and obtain solutions for these problems in the areas of (1) classical mechanics, (2) electromagnetism, (3) statistical mechanics, and (4) quantum mechanics/special relativity.

Inquiry and Research Capabilities

- Propose a research project, complete the necessary theoretical background study required for the project, design an experiment or write a computer program for performing necessary calculation/ simulation, and analyze the results to verify/nullify the hypothesis.

Communication Capabilities

- Make clear and effective presentations of research projects in both written and oral form.

Bachelor of Arts Major in Physics

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in physics.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (The courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 42 units that include:

PHYS 027	Scientific Computing Tutorial	1
PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5
PHYS 057	Modern Physics	4
PHYS 181	Classical Mechanics	4
Two PHYS Electives (Two additional upper division courses)		8
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4

Bachelor of Science Major in Physics

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in physics.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 77 units that include:

PHYS 027	Scientific Computing Tutorial	1
PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5
PHYS 057	Modern Physics	4
PHYS 101	Electricity and Magnetism	4
PHYS 102	Electrodynamics	4
PHYS 151	Advanced Physics Laboratory	4
PHYS 161	Thermal Physics	4
PHYS 181	Classical Mechanics	4
PHYS 183	Quantum Mechanics	4
PHYS 199	Senior Thesis	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs *	4
Select one of the following chemistry courses: **		5

CHEM 025	General Chemistry	
CHEM 027	General Chemistry	
COMP 051	Introduction to Computer Science	4

Select one of the following concentrations:

Standard Track

Two PHYS Electives (Two additional upper division courses) 8

Computational Physics Concentration

PHYS 127 Computational Physics 4

Select one of the following: 4

MATH 110 Numerical Analysis

MATH 145 Applied Linear Algebra

MATH 157 Applied Differential Equations II

Astrophysics Concentration

PHYS 041 Astronomy 4

PHYS 141 Cosmology 4

Mathematical Physics Concentration

PHYS 137 Mathematical Physics 4

Select one of the following: 4

MATH 145 Applied Linear Algebra

MATH 157 Applied Differential Equations II

MATH or PHYS course as approved by Department Chair

* An upper level vector calculus or complex analysis course is recommended, such as MATH 152

** Students take the Chemistry Placement Exam during orientation to determine which course is appropriate.

Bachelor of Science in Engineering Physics

For information and program requirements for the bachelor of science degree with a major in engineering physics, please see the School of Engineering and Computer Science, Department of Engineering Physics (<http://catalog.pacific.edu/stocktongeneral/schoolofengineeringandcomputerscience/engineeringphysics>) portion of the general catalog.

Minor in Physics

Students must complete a minimum of 22 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn the minor in physics.

Minor Requirements:

PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5
PHYS 057	Modern Physics	4
Two PHYS Electives (Two additional upper-level courses)		8

Minor in Data Science

Minor in Data Science Requirements

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in data science.

COMP 061	Introduction to Programming for Data Science	4
COMP 162	Data Analytics Programming	4
Select one of the following:		3-4

MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	
MATH 130	Topics in Applied Statistics	
MATH 131	Probability and Mathematical Statistics I	
MATH 132	Probability and Mathematical Statistics II	
Select one of the following:		4
MATH 075	Introduction to Linear Algebra	
MATH 141	Linear Algebra	
MATH 145	Applied Linear Algebra	
Select one of the following:		4-5
BIOL 158	Computerized Data Acquisition	
BUSI 053	The Legal and Ethical Environment of Business	
BUSI 100	Management Information Systems	
BUSI 104	Operations Management	
BUSI 105	Financial Management	
BUSI 107	Marketing Management	
BUSI 111	Accounting Information Systems	
BUSI 123	Investment Analysis	
BUSI 137	Database Management Systems	
BUSI 140	Business Systems Analysis	
BUSI 141	Marketing Research	
BUSI 143	Product Innovation	
BUSI 147	Consumer Behavior	
BUSI 149	Strategic Marketing	
BUSI 188	Data and Decisions	
CHEM 181	Intro to Molecular Simulation	
CIVL 173	Sustainable Engineering	
COMM 160	Communication Research Methods	
COMP 151	Artificial Intelligence	
COMP 163	Database Management Systems	
ECON 125	Economic Development	
ECON 157	Environmental and Natural Resource Economics	
ECON 161	Empirical Methods	
ECON 180	Labor Economics	
ECON 183	Health Economics	
ECON 190	Econometrics	
ECPE 127	Random Signals	
ECPE 155	Autonomous Robotics	
ECPE 161	Automatic Control Systems	
EDUC 140	Transformational Teaching and Learning	
EMGT 155	Computer Simulation	
EMGT 162	Introduction to Data Analytics for Engineers and Computer Scientists	
EMGT 170	Project Decision Making	
EMGT 172	Engineering Economy	
EMGT 176	Systems Engineering Management	
ENGL 039	Introduction to Digital Humanities	
ENGL 106	Content Engineering	
ENGL 130	Digital Chaucer	
ENGR 110	Instrumentation and Experimental Methods	
GESC 102	Earth Surface Processes and GIS	
HESP 131	Assessment and Evaluation	
HESP 157	The Clinician in Health and Exercise Science	
HESP 171	Sport Economics and Finance	

HESP 172	Case Analysis in Sport and Fitness Management	
HESP 173	Health Care Management and Professional Development	
HESP 174	Sport Marketing and Promotions	
HESP 175	Sport Event and Facility Management	
MECH 120	Machine Design and Analysis I	
MECH 175	Systems Analysis and Control	
MMGT 111	Music Industry Analysis	
MMGT 121	Media Promotion	
PHIL 015	Introduction to Cognitive Science	
PHIL 121	Philosophy of Mind	
PHYS 127	Computational Physics	
POLS 133	Political Science Research	
PSYC 101	Research Methods and Statistics in Psychology I	
PSYC 102	Research Methods and Statistics in Psychology II	
PSYC 158	Behavioral Assessment	
SOCI 125	Sociology of Health and Illness	
SOCI 171	Social Research Methods	
SOCI 172	Social Inequality	

Physics Courses

PHYS 017. Concepts of Physics. 4 Units.

This course is a descriptive, general education course for students who have not had high school physics. Topics include motion, heat, energy, light, sound and other wave phenomena, electricity and magnetism, and atomic structure. Practical applications are emphasized. The course includes laboratory work. Prerequisite: a passing score on the Intermediate Algebra placement test or MATH 005 or MATH 033 or MATH 037 or MATH 039 or MATH 041 or MATH 051 or MATH 053. **(GE3A)**

PHYS 021. Energy for Global Citizens. 4 Units.

This lab course empowers the students to make informed energy decisions in their everyday life as they become global citizens. The students learn basic practical knowledge about energy use and production, and the impact of their personal decisions on energy conservation, environmental protection, and the global community. Prerequisite: a passing score on the Intermediate Algebra placement test or MATH 005 or MATH 033 or MATH 037 or MATH 039 or MATH 041 or MATH 051 or MATH 053. **(GE3A)**

PHYS 023. General Physics I. 5 Units.

Students study the physics of mechanics and motion, rotation fluids, and thermodynamics. The course includes laboratory work. Prerequisite: a passing score on the Pre-Calculus placement test or MATH 039 or MATH 041 or MATH 045 or MATH 051 or MATH 053 or MATH 055. **(GE3A)**

PHYS 025. General Physics II. 5 Units.

Students study acoustics and waves, electricity and magnetism, quantum mechanics and relativity. The course includes laboratory work. Prerequisite: PHYS 023. **(GE3A)**

PHYS 027. Scientific Computing Tutorial. 1 Unit.

This course meets weekly and provides students with an introduction to the department's computer facilities and their use. After an introduction to unix, students learn basic programming in C++. The course then covers scientific software and libraries for data analysis and visualization. Prerequisite: a passing score on the Intermediate Algebra placement test or MATH 005 or MATH 033 or MATH 037 or MATH 039 or MATH 041 or MATH 045 or MATH 051 or MATH 053 or MATH 055.

PHYS 039. Physics of Music. 4 Units.

This liberal arts lab-science course is designed to enhance students' enjoyment and appreciation of music by developing an understanding of the basic physics involved. Topics include: the physics of motion, vibration, waves and sound; some aspects of hearing, harmony and musical scales; the physical behavior of the various families of musical instruments; electronic sound systems; architectural acoustics. Prerequisite: High school level ability in algebra and geometry. (GE3A)

PHYS 041. Astronomy. 4 Units.

Students examine a broad overview of modern astronomy, with emphasis on conceptual understanding. Topics include motions of stars and planets, the solar system, stellar evolution, pulsars, black holes, quasars, galaxies and cosmology. The course includes some outdoor observing activities and laboratory work. Prerequisite: a passing score on the Intermediate Algebra placement test or MATH 005 or MATH 033 or MATH 037 or MATH 039 or MATH 041 or MATH 045 or MATH 051 or MATH 053 or MATH 055. (GE3A)

PHYS 053. Principles of Physics I. 5 Units.

Students investigate kinematics, dynamics, oscillations, wave motion and fluids. This course includes laboratory work. Prerequisite: MATH 053 (or concurrent enrollment) or MATH 055 or MATH 057. Recommended: High school physics or PHYS 023. (GE3A)

PHYS 055. Principles of Physics II. 5 Units.

Students study thermodynamics, electricity, magnetism, light and optics, atomic and nuclear physics, particle physics and cosmology. This course includes laboratory work. Prerequisite: PHYS 053. (GE3A)

PHYS 057. Modern Physics. 4 Units.

This course covers special relativity, quantization, wave/particle duality and the uncertainty principle, solution and interpretation of simple Schrodinger equations, atomic structure, as well as an introduction to nuclear and elementary particle physics. Laboratory work is included. Prerequisites: PHYS 055 and MATH 055. Prerequisite, may be taken concurrently: MATH 057.

PHYS 093. Special Topics. 4 Units.**PHYS 101. Electricity and Magnetism. 4 Units.**

This course examines the theory of electrostatic and electromagnetic fields and their interaction with matter with practical applications. Studies also examine the development of Maxwell's equations. Prerequisites: PHYS 055 and MATH 055. Prerequisite, may be taken concurrently: MATH 057.

PHYS 102. Electrodynamics. 4 Units.

Students examine Maxwell's equations, propagation of electromagnetic radiation, transmission lines, wave guides, antennas as well as their applications. Prerequisites: PHYS 057, PHYS 101, MATH 057.

PHYS 105. Optics. 4 Units.

This course is a modern introduction to optics. Topics include geometrical optics, optical instrumentation, the wave nature of light, polarization, diffraction, lasers and fiber-optics and it includes laboratory. Prerequisites: PHYS 055; MATH 055 and MATH 057 (or concurrent enrollment).

PHYS 125. Molecular Nanotechnology. 4 Units.

Molecular nanotechnology (MNT) is a rather young discipline, which came up in the nineties. Nevertheless, MNT has gained so much importance within the last years that universities at all rankings introduce or are going to introduce MNT teaching programs. Predictions say that MNT will change our lives and society more than computer technology and electricity have done together. The course provides both an overview of MNT. It shows that the nano regime is so different from other regimes because both classical and quantum effects can be active and thus, lead to unique properties of nano devices. MNT is a highly interdisciplinary science, which is reflected in the course by making reference to physics, chemistry, biology, pharmacy, and engineering. Students discuss applications of MNT as they are already in use today and as they are planned for the future as well as the implications of MNT for our society. Prerequisite: CHEM 025 or PHYS 055.

PHYS 127. Computational Physics. 4 Units.

This course provides an introduction to the main computational and simulation techniques used in modern physics. Topics include numerical solution of ordinary and partial differential equations, matrix and linear algebra, Monte Carlo and random variable methods, and computer algebra. Prerequisites: PHYS 055, MATH 057, COMP 051 or permission of instructor for other programming experience.

PHYS 137. Mathematical Physics. 4 Units.

This course covers infinite series and sequences, complex analysis, techniques of solving differential equations (ODEs and partial diff. eqs.), linear operators in Hilbert space, special functions, symmetry and group theory. Prerequisites: PHYS 055 and MATH 057.

PHYS 140. Astrophysics. 4 Units.

This course is an introduction to the physics of stars. Topics include: celestial coordinate systems, observational properties of stars, stellar structure, stellar evolution, close binary stars, white dwarfs, neutron stars and black holes. Prerequisite: PHYS 055.

PHYS 141. Cosmology. 4 Units.

Students are introduced to the physics of stars, galaxies and the universe. Topics include: observational properties of stars, stellar structure, star formation, stellar evolution, close binary stars, white dwarfs, neutron stars and black holes, observational properties of galaxies, galactic dynamics, interstellar and intergalactic medium, expansion of the universe and cosmology. Prerequisite: PHYS 055. Prerequisite, may be taken concurrently: MATH 057.

PHYS 151. Advanced Physics Laboratory. 4 Units.

Students examine experimental studies in modern physics, especially ones that require the design, construction and use of special apparatus. the course includes experiments in atomic, nuclear, and particle, optics, solid state physics and astrophysics are possible. Prerequisite: PHYS 057.

PHYS 161. Thermal Physics. 4 Units.

This course covers the general laws of thermodynamics with applications to heat engines and thermal properties of solids. Students are also introduced statistical mechanics with applications to molecules, solids, thermoelectric phenomena and radiation. Prerequisites: PHYS 055 and MATH 055.

PHYS 170. Solid State Devices. 4 Units.

This course introduces concepts related to the crystal structure of semiconductors and electronic, optical, and magnetic properties of semiconductors. Dynamics of carriers under equilibrium and non-equilibrium conditions are presented as a frame work for understanding the behavior of a number of devices including Metal-Oxide-Semiconductor (MOS) and Hetero-junction Bipolar (HBT) devices. On such a background, the course builds an understanding of the latest advances in the field. This course is cross listed with ECPE 133 and EPHY 133. Prerequisite: MATH 057, PHYS 055 with a "C-" or better.

PHYS 181. Classical Mechanics. 4 Units.

Students examine Newtonian mechanics, Hamilton's principle, Lagrangian and Hamiltonian dynamics. Oscillations, central force motion, waves, nonlinear systems and chaos are also covered. Prerequisites: PHYS 055 and MATH 057.

PHYS 183. Quantum Mechanics. 4 Units.

This course is an introduction to quantum mechanics as it contrasts with classical physics. Topics include the Wave Particle Duality, Dirac Formalism, Postulates of Quantum Mechanics, Two Level Systems in Spin 1/2, The Harmonic Oscillator, Angular Momentum, and The Hydrogen Atom. Prerequisites: PHYS 057 and MATH 057.

PHYS 191. Independent Study. 2-4 Units.

PHYS 197. Undergraduate Research. 1-4 Units.

PHYS 199. Senior Thesis. 4 Units.

Political Science

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Political-Science.html>
Phone: (209) 946-2524

Location: 212 Wendell Phillips Center
Jeffrey Becker, Chair
Cynthia Ostberg, Director of Pre-law and Legal Scholars programs

Degrees Offered

Bachelor of Arts

Majors Offered

Political Science

Political Science with Departmental Honors

Political Science/Master of Public Policy Blended Program

Minors Offered

Political Science

Pre-Law

Public Affairs

Political Science seeks to understand, to explain, and to evaluate how humans live and work together in public ways. To do so, political scientists focus on what happens in and around government and politics, how humans cooperate with and how they fight against one another, why some nations succeed and others fail. They study voting and revolutions, the Supreme Court and the United Nations, the idea of justice and the nature of power, environmental policy, criminal law and gender roles - all in the pursuit of clearer knowledge about the characteristic ways humans interact in the public sphere.

Students majoring in Political Science gain from the major a well-grounded education that focuses on the knowledge and skills necessary to understand the public realities of their world. They study the fundamental concepts and values that underlie human decision-making,

examine the social and political structures and processes through which such decisions are shaped and carried out, learn to analyze complex organizational and legal phenomena, and survey the inventiveness of cultures in devising a variety of ways people provide govern themselves. Students in Political Science also become familiar with the contributions to their understanding that they can gain from closely-related social sciences, such as economics, history, anthropology, and psychology. In acquiring this knowledge, Political Science majors are challenged to extend their analytical and research skills, to improve and polish their written and oral communication, and to sharpen their abilities for rigorous and independent judgment.

Career Opportunities

The skills and experiences developed through a Political Science program are central to a great variety of career fields, and our majors go on to work as journalists and lawyers, managers and teachers, politicians and administrators. One out of every six Americans now works for one level of public government or another, and Political Science majors can have a head start in such fields because of their understanding of how these systems work. Many of our graduates go on to law school, and Political Science serves as an ideal major for that training, as well as essential preparation for graduate study.

Internships

Special opportunities are provided for internships in public agencies in Stockton, Sacramento, and in Washington, D.C. (as well as abroad). Many of these opportunities have a legal focus. Course credit may be earned for these internships.

Pre-Law Program

The Department of Political Science also offers a program and minor in Pre-Law. For a complete description of that program, please see the section on Cross-Disciplinary Majors and Programs.

The Pacific Legal Scholars Program offers honors students in various majors a richly supported accelerated path leading to Pacific McGeorge Law School after three years on Pacific's Stockton campus. For a complete description of that program, please see the section on Cross-Disciplinary Majors and Programs.

Conceptual and Analytical

Students should be able to use key concepts and analytical approaches from Political Theory, U.S. Government and Politics, Comparative Politics, and International Relations to explain and understand government, politics, and public affairs.

Inquiry and Research

Students should be able to construct a summative project or paper that draws on current, research, scholarship, and techniques in a political science subfield.

Communication

Students should be able to make clear and effective presentations of their work in writing and in public presentations.

Professionalism and Citizenship

Students should know, understand, and be able to meet the expectations of professionalism and citizenship.

Bachelor of Arts Major in Political Science

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in political science.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that

discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 14 courses that include:

POLS 011	Introduction to Comparative Politics	4
or POLS 151	Principles of Comparative Politics	
POLS 021	Introduction to Political Theory	4
POLS 041	U.S. Government and Politics	4
POLS 051	Introduction to International Relations	4
POLS 133	Political Science Research	4

Minimum 2 units from one of the following orientation courses: 2

INTL 151	Cross-Cultural Training I *	
POLS 081	Career and Internship Preparation	

Minimum 3 units from the following experiential learning courses: ** 3-4

POLS 187A	Political Science Internship	
POLS 187C	Pre-Law Internship	
POLS 197	Undergraduate Research	
JCTR 187	Community Affairs Internship	
JCTR 197A/197B	Community Independent Research	
SACR 187	Sacramento Experience Internship	
WASH 187	Washington Semester Internship	

6 Upper-Division Courses with at least one course in four of the following subfields: 12

US Government and Politics

POLS 104	Urban Government	
POLS 106	California Government and Politics	
POLS 112	Congress and the Presidency	
POLS 114	Political Parties and Interest Groups	
POLS 116	Campaigns and Elections	
POLS 119	Government in Action: Public Policy Analysis	
POLS 128	Introduction to Public Administration	

Public Law

POLS 120	Courts and Judicial Behavior	
POLS 122	Constitutional Law	
POLS 124	Constitutional Law: Civil Liberties	
POLS 126	Criminal Law	

Political Theory

POLS 130	Ancient to Medieval Political Theory	
POLS 132	Modern to Contemporary Political Theory	
POLS 134	American Political Thought	
POLS 136	Jurisprudence	

Comparative Politics

POLS 141	Western European Comparative Politics	
POLS 146	Latin American Politics	
POLS 148	Politics of the Middle East	
POLS 150	Political Development	
POLS 151	Principles of Comparative Politics	
POLS 152	Politics of Asia	

International Relations

POLS 160	Theories of International Politics	
POLS 162	International Organization	
POLS 164	International Political Economy	

POLS 166	International Conflict and Conflict Management	
POLS 168	Comparative Foreign Policy	
POLS 170	U.S. Foreign Policy	
POLS 172	Inter-American Relations	
POLS 189	Capstone Seminar	4

* Only students who participate in an approved study-abroad program may take INTL 151—Cross-Cultural Training I

** Students may meet the Political Science major's experiential learning requirement by participating in an approved education abroad program. Any SABD (education abroad) course may be used to satisfy the experiential learning requirement.

Bachelor of Arts Major in Political Science with Departmental Honors

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 3.5 in order to earn the bachelor of arts degree with a major in political science with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 14 courses that include:

POLS 011	Introduction to Comparative Politics	4
or POLS 151	Principles of Comparative Politics	
POLS 021	Introduction to Political Theory	4
POLS 041	U.S. Government and Politics	4
POLS 051	Introduction to International Relations	4
POLS 133	Political Science Research	4

Minimum 2 units from one of the following orientation courses: 2

INTL 151 Cross-Cultural Training I *

POLS 081 Career and Internship Preparation

Minimum 3 units from the following experiential learning courses: ** 3-4

POLS 187A Political Science Internship

POLS 187C Pre-Law Internship

POLS 197 Undergraduate Research

JCTR 187 Community Affairs Internship

JCTR 197A/197B Community Independent Research

SACR 187 Sacramento Experience Internship

WASH 187 Washington Semester Internship

6 Upper-Division Courses with at least one course in four of the following subfields: 12

US Government and Politics

POLS 104 Urban Government

POLS 106 California Government and Politics

POLS 112 Congress and the Presidency

POLS 114 Political Parties and Interest Groups

POLS 116 Campaigns and Elections

POLS 119 Government in Action: Public Policy Analysis

POLS 120 Courts and Judicial Behavior

POLS 128 Introduction to Public Administration

Public Law

POLS 120 Courts and Judicial Behavior

POLS 122 Constitutional Law

POLS 124 Constitutional Law: Civil Liberties

POLS 126 Criminal Law

Political Theory

POLS 130	Ancient to Medieval Political Theory
POLS 132	Modern to Contemporary Political Theory
POLS 134	American Political Thought
POLS 136	Jurisprudence

Comparative Politics

POLS 141	Western European Comparative Politics
POLS 146	Latin American Politics
POLS 148	Politics of the Middle East
POLS 150	Political Development
POLS 151	Principles of Comparative Politics
POLS 152	Politics of Asia

International Relations

POLS 160	Theories of International Politics	
POLS 162	International Organization	
POLS 164	International Political Economy	
POLS 166	International Conflict and Conflict Management	
POLS 168	Comparative Foreign Policy	
POLS 170	U.S. Foreign Policy	
POLS 172	Inter-American Relations	
POLS 189	Capstone Seminar ***	4

* Only students who participate in an approved study-abroad program may take INTL 151 – Cross-Cultural Training I

** Students may meet the Political Science major's experiential learning requirement by participating in an approved education abroad program. Any SABD (education abroad) course may be used to satisfy the experiential learning requirement.

*** The capstone project must be completed individually and receive a minimum grade of B+.

Bachelor of Arts Major in Political Science/Master Public Policy Blended Program

Students must complete a minimum of 150 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in political science and a 3.0 in the master of public policy degree.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior
IB. U.S. Studies
IC. Global Studies

Arts and Humanities

IIA. Language and Literature
IIB. Worldviews and Ethics
IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic
IIIC. Science, Technology and Society
or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 14 courses that include:

POLS 011	Introduction to Comparative Politics	4
or POLS 151	Principles of Comparative Politics	
POLS 021	Introduction to Political Theory	4
POLS 041	U.S. Government and Politics	4
POLS 051	Introduction to International Relations	4
POLS 133	Political Science Research	4
Minimum 2 units from one of the following orientation courses:		2
INTL 151	Cross-Cultural Training I *	
POLS 081	Career and Internship Preparation	
Minimum 3 units from the following experiential learning courses: **		3-4
POLS 187A	Political Science Internship	
POLS 187C	Pre-Law Internship	
POLS 197	Undergraduate Research	
JCTR 187	Community Affairs Internship	
JCTR 197A/197B	Community Independent Research	
SACR 187	Sacramento Experience Internship	

WASH 187	Washington Semester Internship	
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6 Upper-Division Courses with at least one course in four of the following subfields: 12

US Government and Politics

POLS 104	Urban Government	
POLS 106	California Government and Politics	
POLS 112	Congress and the Presidency	
POLS 114	Political Parties and Interest Groups	
POLS 116	Campaigns and Elections	
POLS 119	Government in Action: Public Policy Analysis	
POLS 128	Introduction to Public Administration	

Public Law

POLS 120	Courts and Judicial Behavior	
POLS 122	Constitutional Law	
POLS 124	Constitutional Law: Civil Liberties	
POLS 126	Criminal Law	

Political Theory

POLS 130	Ancient to Medieval Political Theory	
POLS 132	Modern to Contemporary Political Theory	
POLS 134	American Political Thought	
POLS 136	Jurisprudence	

Comparative Politics

POLS 141	Western European Comparative Politics	
POLS 146	Latin American Politics	
POLS 148	Politics of the Middle East	
POLS 150	Political Development	
POLS 151	Principles of Comparative Politics	
POLS 152	Politics of Asia	

International Relations

POLS 160	Theories of International Politics	
POLS 162	International Organization	
POLS 164	International Political Economy	
POLS 166	International Conflict and Conflict Management	
POLS 168	Comparative Foreign Policy	
POLS 170	U.S. Foreign Policy	
POLS 172	Inter-American Relations	
POLS 189	Capstone Seminar	4

* Only students who participate in an approved study-abroad program may take INTL 151 –Cross-Cultural Training I

** Students may meet the Political Science major’s experiential learning requirement by participating in an approved education abroad program. Any SABD (education abroad) course may be used to satisfy the experiential learning requirement.

VII. Undergraduate Public Policy Preparation

Courses may be used also to meet general education and/or major/minor requirements.

ECON 053	Introductory Microeconomics	4
SOCI 041	Social Problems	4
Select one of the following Political Science courses:		4
POLS 119	Government in Action: Public Policy Analysis	
POLS 128	Introduction to Public Administration	

Four of the following courses, with at least one each coming from the 16 Sociology and the Economics sets:

Economic Courses

ECON 131	Public Finance	
ECON 157	Environmental and Natural Resource Economics	
ECON 180	Labor Economics	
ECON 183	Health Economics	

Sociology Courses

SOCI 111	Environment and Society	
SOCI 125	Sociology of Health and Illness	
SOCI 133	Criminology	

Other Public Affairs Courses

COMM 117	Public Advocacy	
COMM 143	Intercultural Communication	
HIST 132	American Immigration	
HIST 133	Women in United States History	
HIST 136	American Environmental History	
INTL 174	Global Environmental Policy	
POLS 162	International Organization	
POLS 170	U.S. Foreign Policy	

VIII. Master of Public Policy Requirements

Refer to the Sacramento catalog for degree requirements for the MPP degree.

Note: 1) A total of eight upper division units can count towards both degrees. 2) An additional 11 graduate units can count towards the BA degree.

Minor in Political Science

Students must complete a minimum of 21 units and 6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in political science.

Minor Requirements:

POLS 011	Introduction to Comparative Politics	4
POLS 041	U.S. Government and Politics	4
POLS 051	Introduction to International Relations	4
POLS Electives - 3 additional courses at the 100-level or from:		12
PHIL 106	Philosophy of Law	
PHIL 135	Political Philosophy	
INTL 174	Global Environmental Policy	

Note: 1) At least ten of these units must be taken at Pacific.

Minor in Pre-Law

Students must complete a minimum of 21 units and 6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in pre-law.

Minor Requirements:

Select one of the following public law courses:		4
POLS 122	Constitutional Law	
POLS 124	Constitutional Law: Civil Liberties	
POLS 126	Criminal Law	
Select one of the following law courses:		4
BUSI 053	The Legal and Ethical Environment of Business	
BUSI 127	Legal Aspects of Real Estate	
BUSI 157	Commercial Law	

BUSI 159	Employment Law	
INTL 167	Advanced Model United Nations (MUN II)	
MMGT 153	Entertainment Law	
HESP 165	Legal Aspects of Health, Exercise and Sport	
POLS 031	Introduction to Law and Policy in the American Political System	
Select one of the following communication courses:		4
COMM 027	Public Speaking	
COMM 114	Argumentation and Advocacy	
ENGL 025	English 25	
Select one of the following philosophy courses:		4
PHIL 021	Moral Problems	
PHIL 027	Fundamentals of Ethics	
PHIL 037	Introduction to Logic	
PHIL 106	Philosophy of Law	
Select one of the following business administration/statistics courses:		4
BUSI 031	Principles of Financial Accounting	
ECON 190	Econometrics	
ECON 161	Empirical Methods	
INTL 101	Social Science Research Methods	
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
POLS 133	Political Science Research	
PSYC 101	Research Methods and Statistics in Psychology I	
SOCI 171	Social Research Methods	
Select one of the following social sciences courses:		4
BUSI 157	Commercial Law	
ECON 053	Introductory Microeconomics	
ECON 055	Introductory Macroeconomics: Theory and Policy	
POLS 041	U.S. Government and Politics	
POLS 119	Government in Action: Public Policy Analysis	
POLS 120	Courts and Judicial Behavior	
POLS 162	International Organization	
PSYC 017	Abnormal and Clinical Psychology	
PSYC 031	Introduction to Psychology	
SOCI 133	Criminology	
SOCI 139	Corrections	

Note: 1) 12 of these units must be taken at Pacific. 2) All courses must be graded "C-" or higher. 3) Only two courses may be transferred from community colleges. 4) Courses transferred from community colleges cannot fulfill the public law requirement. 5) No more than 3 courses from a single academic department can be counted in the pre-law minor.

Minor in Public Affairs

Students must complete a minimum of 24 units and 6 courses with a Pacific minor grade point average of 2.0 in order to earn the minor in public affairs.

Minor Requirements:

SOCI 041	Social Problems	4
Select one of the following:		4
ECON 053	Introductory Microeconomics	
ECON 055	Introductory Macroeconomics: Theory and Policy	

Select one of the following:		4
POLS 011	Introduction to Comparative Politics	
POLS 041	U.S. Government and Politics	
Select one of the following public policy/administration courses:		4
POLS 119	Government in Action: Public Policy Analysis	
POLS 128	Introduction to Public Administration	
Select one of the following research methods courses:		4
COMM 160	Communication Research Methods	
ECON 161	Empirical Methods	
INTL 101	Social Science Research Methods	
POLS 133	Political Science Research	
SOCI 171	Social Research Methods	
Select one of the following topic courses:		4
COMM 117	Public Advocacy	
COMM 143	Intercultural Communication	
ECON 131	Public Finance	
ECON 157	Environmental and Natural Resource Economics	
ECON 180	Labor Economics	
ECON 183	Health Economics	
HIST 132	American Immigration	
HIST 133	Women in United States History	
HIST 136	American Environmental History	
INTL 174	Global Environmental Policy	
POLS 162	International Organization	
POLS 170	U.S. Foreign Policy	
SOCI 111	Environment and Society	
SOCI 125	Sociology of Health and Illness	
SOCI 133	Criminology	

Note: 1) 16 units must be completed at Pacific.

Political Science Courses

POLS 011. Introduction to Comparative Politics. 4 Units.

Students examine the basic functions performed by a political system, compare the different organizations and procedures societies have developed for handling these functions, and analyze of recurring patterns of political behavior from the level of the individual to that of the nation/state. (GE1C)

POLS 021. Introduction to Political Theory. 4 Units.

This course introduces the philosophical study of basic issues in political life, such as democracy, freedom, the responsibilities of political power, the role of the state, and justice through the close reading and analysis of selected major political thinkers. (GE2B)

POLS 031. Introduction to Law and Policy in the American Political System. 4 Units.

This is an introductory course examining courses, law, and the role the judiciary plays in policy-making in the American political system. Focus on political aspects of legal rulings, as well as the constitutional limits to government power.

POLS 041. U.S. Government and Politics. 4 Units.

Students analyze the constitutional structure of the federal government and its function as well as the political processes involved. This course satisfies the state teaching credential requirement on the U.S. Constitution. (GE1B, PLAW)

POLS 051. Introduction to International Relations. 4 Units.

This course introduces the major issues of international politics and the analytical approaches applied to their study. Topics include: the causes of war, intervention, pursuit of economic prosperity and managing global resources. (GE1C)

POLS 060. Legal Study Seminar. 1 Unit.

Students are introduced to the legal profession, court structure, and practical skills needed for law school. This course also examines current problems in different fields of law through panel discussions by law faculty. Prerequisite: Pacific Legal Scholar Student or permission of the instructor.

POLS 062. Legal Practice Seminar. 1 Unit.

Students examine different legal career trajectories, legal scholarship, and career exploration. This course also draws connections between academic training and legal practice through panel discussions by legal practitioners, and courthouse visits. Prerequisite: Pacific Legal Scholar Student or permission of the instructor.

POLS 081. Career and Internship Preparation. 2 Units.

POLS 081 orients and prepares students for the workplace expectations commonly encountered by students in political science internships. The course also provides information about careers commonly pursued by political science majors and how to prepare for them. Prerequisites: POLS 041. Sophomore standing.

POLS 093. Special Topics. 1-4 Units.

POLS 104. Urban Government. 4 Units.

Students examine the structure and operation of urban units of government with emphasis on inter-governmental and inter-group relations in the United States. Problems of finance, racial, ethnic and class conflict, the adequacy of services and planning for future growth are included. The course emphasizes the role of race, class, and ethnicity in the city and is approved by Ethnic Studies. (DVSY, ETHC)

POLS 106. California Government and Politics. 4 Units.

This course covers an overview of California governmental structures and selected political, economic and ecological conflicts, both historic and contemporary.

POLS 112. Congress and the Presidency. 4 Units.

This course examines the relative influence of Congress and the presidency on politics and policy making in America. Topics include the development, organization, operation, interactions, and policy making role of the two branches. Prerequisite: POLS 041.

POLS 114. Political Parties and Interest Groups. 4 Units.

Students analyze of the role of political parties and interest groups in the American political system in addition to the origins, development, and current state of parties and interest groups. The group includes a focus of the ways that these groups organize and influence the policy-making process.

POLS 116. Campaigns and Elections. 4 Units.

This course is designed to introduce students to campaigns and elections in the American political system. The focus is on what political science has discovered about campaigns, their operation, and their relative influence on elections. Other determinants of election outcomes are also examined. Prerequisite: POLS 041.

POLS 119. Government in Action: Public Policy Analysis. 4 Units.

This course is an analysis and evaluation of how government makes and implements policy at various levels, both state and local. This is a core major requirement that develops political science learning objectives that are the bases for advanced coursework in the major. Prerequisite: POLS 041. (ENST, PLAW)

POLS 120. Courts and Judicial Behavior. 4 Units.

Students examine the role, nature and sources of law, the courts and the adversary system; schools of jurisprudence. An emphasis is on contemporary problems such as reform, the jury system, selection of judges and selected problems. (PLAW)

POLS 122. Constitutional Law. 4 Units.

this course is a study of the development of the American Constitutional System through court cases. Law school techniques and methods are stressed. (PLAW)

POLS 124. Constitutional Law: Civil Liberties. 4 Units.

Students analyze the rights and guarantees contained in the Bill of Rights and other constitutional and statutory provisions. (PLAW)

POLS 126. Criminal Law. 4 Units.

This course focuses on the concepts, principles and problems of substantive criminal law. (PLAW)

POLS 128. Introduction to Public Administration. 4 Units.

This course introduces students to the study of public administration. It examines the role of public agencies and their personnel in a democratic political system. Topics include what public agencies are, why they exist in democracies, the functions they carry out, the mutual influence public agencies have with elected officials and the public, and interactions between public and not-for-profit spheres.

POLS 130. Ancient to Medieval Political Theory. 4 Units.

Students analyze ancient and medieval political thinkers examine the formation of social and political thought from approximately fifth century Greece through twelfth century Europe. The course materials address tensions between democracy and empire, ideas of democracy, freedom, the responsibilities of political power, the place of ambition, the role of justice, and the meaning of the good life. (GE2B)

POLS 132. Modern to Contemporary Political Theory. 4 Units.

Students analyze modern and contemporary political thinkers and examine the formation of social and political thought from the sixteenth through the twenty-first centuries. The course materials address the development of the nation state, individual rights and freedom, religious liberty and toleration, popular sovereignty, popular consent, social equality, and intellectual, social, and historical progress. (GE2B)

POLS 133. Political Science Research. 4 Units.

This course develops skills needed for conducting and understanding research in political science and other social sciences. The course includes research design, critical statistical techniques and computer applications. Prerequisite: Fundamental Skills Math. (ENST, GE3B, PLAW)

POLS 134. American Political Thought. 4 Units.

Principles and problems of political theory within the American setting are examined as they emerge from the founding period to the present. The course explores both the mainstream tradition and branches of counter traditions of political ideas in America. Emphasis is on the themes of authority, community, equality, liberty. (DVSY, ETHC, GE2B)

POLS 136. Jurisprudence. 4 Units.

Students analyze of the nature and functions of law, law as an instrument of social control, and the relationship between law, morality, and justice. This course examines current problems in law as it intersects with politics and society. Readings are drawn from legal and political philosophy, social science, and judicial opinions.

POLS 141. Western European Comparative Politics. 4 Units.

This course is a comparative analysis of the political and economic forces that have shaped the advanced industrial states of Western Europe. Topics include: 1) state-building, nation-building and industrialization; 2) political and economic reconstruction of France, Great Britain and Germany; 3) contemporary problems facing the advanced capitalist states of Western Europe.

POLS 146. Latin American Politics. 4 Units.

Students study the political processes and governmental structures of Latin American states, and focus on Mexico and Brazil, as well as certain other South and Central American countries. Selective attention is given to the expanding regional and international relations of Latin America.

POLS 148. Politics of the Middle East. 4 Units.

This course is a comparative study of contemporary politics in the Middle East, and it emphasizes the problems of development and the background, issues and political forces involved in the Arab-Israeli conflict.

POLS 150. Political Development. 4 Units.

This course is a general introduction to the problems and politics of post-colonial or lesser developed countries. Case studies from Asia, Africa and Latin America are included.

POLS 151. Principles of Comparative Politics. 4 Units.

Students examine the most important analytical approaches used by political scientists in the comparative analysis of political systems and application of those approaches to selected examples. This is a core major requirement that develops political science learning objectives that are the basis for advanced coursework in the major. Prerequisites: POLS 041 and POLS 051 or permission of instructor.

POLS 152. Politics of Asia. 4 Units.

This course is a general political introduction to modern East, South-East and South Asia. The course includes a survey of geography, history and culture and it uses selected case studies in all three areas, an exploration of problems of development and modernization, as well as regional interaction and the relation of Asia to the West. (GE1C)

POLS 160. Theories of International Politics. 4 Units.

This course is an intensive study of the principal theories of international politics and behavior. The course covers major social scientific theories, critical approaches to theory, and international political theory. Prerequisite: POLS 051, or permission of instructor.

POLS 162. International Organization. 4 Units.

Students examine the role of international organization in the contemporary global political system. Major theories and approaches in the field are studied in conjunction with topics such as interstate conflict and peacekeeping, arms control and nonproliferation, human rights, economic relations between developed and developing countries, food and nutrition and management of the global commons. Prerequisite: POLS 051 or permission of instructor. (PLAW)

POLS 164. International Political Economy. 4 Units.

Students examine the major analytical and substantive issues in the field of international political economy and explore the political and economic problems generated by growing interdependence among advanced industrial states and the conflicts between industrialized and developing countries over the structure and functioning of the postwar international economic order. Prerequisite: POLS 051.

POLS 166. International Conflict and Conflict Management. 4 Units.

This course is a study of the sources and nature of conflict and methods of conflict management in the international arena. The focus is to identify and understand the kinds and functions of nonviolent conflict management now in use. Topics include international law, international regimes, negotiation and arbitration. Prerequisite: POLS 051 or permission of instructor.

POLS 168. Comparative Foreign Policy. 4 Units.

Students examine of foreign policy making around the world, across major powers, middle powers, and small states. The course begins with a study of the different theories that try to explain why nations make the choices they do in the international arena, and then it considers the validity of those theories as students look at cases from the United States to China to New Zealand and a number of stops in between. Prior to the completion of a basic course in political science is recommended.

POLS 170. U.S. Foreign Policy. 4 Units.

Students examine of the major developments and current issues in U.S. foreign policy and various analytical approaches to their study. Topics include: U.S. diplomatic history, the processes and structures by which the U.S. government develops and implements foreign policy. Emphasis is placed on students developing the analytical capacity to pose and pursue significant puzzles about U.S. foreign policy. Prerequisite: POLS 051.

POLS 172. Inter-American Relations. 4 Units.

This course covers regional principles, laws, treaties and agreements, foreign policy formulation, hemispheric organizations, and exploration and analysis of contemporary trends in Latin American international relations.

POLS 175. Legal Writing and Research Seminar. 1 Unit.

Students are exposed to legal writing and advanced research skills, the content of first year law courses, and resources and facilities at Pacific McGeorge. Prerequisites: POLS 060 and POLS 062. Pacific Legal Scholar Student with Sophomore or Junior standing and an overall GPA of 3.0, or permission of the instructor. This course must be taken in the spring semester of their sophomore year (regardless of whether a student is in the 3+3 or 4+3 program).

POLS 187C. Pre-Law Internship. 4 Units.

This course is a supervised experience in an approved legal or judicial setting that is contracted on an individual basis. Prerequisites: POLS 041; POLS 031 or POLS 122 or POLS 124 or POLS 126. Junior standing is required with an overall GPA of 2.0. Department permission is also required.

POLS 189. Capstone Seminar. 4 Units.

This seminar course is for political science majors about to graduate. Students demonstrate their mastery of political science program learning objectives and outcomes through analysis and discussion of recent significant work in the major political science subfields; American Politics, Political Theory, Comparative Politics, and International Politics and by the completion and presentation of a substantial political science research project. Prerequisite: Political Science majors with senior standing or by permission of instructor is required.

POLS 189A. Practicum. 4 Units.**POLS 189B. Practicum. 4 Units.****POLS 189C. Practicum. 4 Units.****POLS 191. Independent Study. 2-4 Units.**

Political science majors with a "B" average in their work in political science take this course.

POLS 197. Undergraduate Research. 2-4 Units.

Students acquire skills in the design and implementation of political science research while they serve as a research assistant to a faculty member or conduct an independent research project under the supervision of a faculty member. Junior or senior standing as a political science major and permission from department is required.

Pre-Law Courses**BUSI 031. Principles of Financial Accounting. 4 Units.**

Students analyze the recording and reporting of business transactions, use of financial statements, and the use of accounting information in management decision-making. (PLAW)

BUSI 053. The Legal and Ethical Environment of Business. 4 Units.

This course is designed to acclimate students to the American legal system and regulatory law. The student will be exposed to a variety of statutory and regulatory law areas as well as torts, contracts, product liability, ethics and international law. The course is intended to broaden the student's awareness of legal issues. The emphasis of the course will be on solving issues utilizing legal reasoning. (GE1B, PLAW)

BUSI 127. Legal Aspects of Real Estate. 4 Units.

Students study the legal aspects that concern real estate and real estate transactions. Topics include deeds, listing agreements, title insurance, real estate contracts, closing, property taxation, land use regulations and landlord-tenant relationships. Prerequisite: BUSI 053. Junior standing. (PLAW)

BUSI 157. Commercial Law. 4 Units.

This course is an in-depth study of commercial transactions between entities and individuals in the business environment. The topics that are covered include contracts, commercial paper, sales, secured transactions, bankruptcy, personal property, securities regulation and other related topics over the semester. Case materials and problems are used extensively in the course. Prerequisite: BUSI 053 with a "C" or better. Junior standing. (PLAW)

BUSI 159. Employment Law. 4 Units.

This course examines major labor-management relations legislation and its interpretation and treatment by administrative agencies and the courts. Primary emphasis is on the National Labor Relations Act as amended, but attention is also given to law concerning public sector labor relations, employment discrimination and other related law. Prerequisite: BUSI 053 with a "C" or better. Junior standing. (PLAW)

COMM 027. Public Speaking. 3 Units.

Basic principles of public speaking are studied. This course is one of the four lower core courses for the communication major. (GE2A, PLAW)

COMM 114. Argumentation and Advocacy. 4 Units.

Students are introduced to the theory and practice of argumentation, which is a method of decision-making emphasizing reason giving and evidence. The course includes instruction in debating, research, and critical writing, as well as advanced topics in the study of public deliberation. Prerequisites: COMM 027 or COMM 031 or COMM 043 or COMM 050, with a grade of C or higher. (PLAW)

ECON 053. Introductory Microeconomics. 4 Units.

Economic decisions of individuals and firms are studied as well as the evaluation of efficiency and equity in individual choice processes. The course examines the economics of monopoly and competition as well as the economics of pollution and governmental regulation. Prerequisites: Completion of the Fundamental Skills Math requirement, or placement into MATH 005 or MATH 005E. (GE1A, PLAW)

ECON 055. Introductory Macroeconomics: Theory and Policy. 4 Units.

Students study the national economy with special emphasis placed on policies designed to meet the national goals of full employment, stable prices and economic growth. The course examines the spending and saving behavior of households and business, government spending and taxing policies, and the Federal Reserve's monetary policies. Prerequisites: Completion of the Fundamental Skills Math requirement, or placement into MATH 005 or MATH 005E. (GE1B, PLAW)

ECON 161. Empirical Methods. 4 Units.

This course teaches students to use current statistical software to perform empirical analysis of economic theory and applications. It is designed to provide students with practical data and econometric analysis skills for the workplace (private sector or government). The course will cover data collection, entry management, analysis and presentation. Some Familiarity with computer programming is recommended. Prerequisites: ECON 053; ECON 055; MATH 037 or MATH 037 or MATH 130 or MATH 131 or INTL 101; or permission of instructor. (PLAW)

ECON 190. Econometrics. 4 Units.

Students study the methods used to test economic theory with real-world data. The course presents the theory underlying common econometric methods and gives students experience in applying these analytical tools to data from a variety of sources. Students learn to develop testable hypotheses based on economic theories they have learned in earlier courses and to make reliable statistical inferences about these hypotheses. Students gain a working, applicable knowledge of the skills and software used by many professional economists and sought by many employers. Prerequisites: ECON 053; ECON 055; MATH 037 or MATH 039 or MATH 130 or MATH 131 or INTL 101. (PLAW)

ENGL 025. English 25. 4 Units.

English 025 Provides an introduction to the discipline of English studies. Students are expected to write about and discuss various topics that arise in the study of literary works. Prerequisite: a passing score on the General Education writing skills examination or WRIT 021. Multiple and varied sections are listed by thematic focus title each semester. (GE2A, PLAW)

HESP 165. Legal Aspects of Health, Exercise and Sport. 4 Units.

This course addresses legal issues and responsibilities relevant to professionals in the areas of health and exercise science, sport management, sport pedagogy and athletics. General legal principles supported by case law in such areas as negligence, contract law, constitutional law, antitrust laws and unlawful discrimination are offered. (PLAW)

INTL 101. Social Science Research Methods. 4 Units.

Students are introduced to how research is conducted in the social sciences. The course shows how qualitative and quantitative research complements each other and it compares research methodologies in the different social science disciplines. The course also introduces basic statistical methods for analyzing social scientific data, and introduces the use of computers for quantitative analysis. Prerequisite: fundamental quantitative skills. (ENST, GE3B, PLAW)

INTL 167. Advanced Model United Nations (MUN II). 1-2 Units.

This course offers advanced instruction on the workings of the specialized agencies of the United Nations and other international organizations with particular attention paid to current world issues before those bodies. Emphasis is placed on independent research and writing, as well as leadership skills, in preparation for attending a competitive Model United Nations conference. Prerequisite: POLS 051. May be taken for up to 2 units. (PLAW)

MATH 035. Elementary Statistical Inference. 4 Units.

Emphasis is on the applications and limitations of statistical methods of inference, especially in the social and behavioral sciences. Topics include: estimation and test of hypothesis concerning a single group, One-way Analysis of Variance and analysis of categorical data. The use of statistical computer programs is addressed. Credit is not given for this course if a student has received credit for MATH 037 or has AP credit in Statistics. Prerequisite: MATH 003 or MATH 005 or MATH 041 with a "C-" or better, or an appropriate score on either the Elementary Algebra placement test, the Intermediate Algebra Placement test, or the Pre-calculus placement test or permission of instructor. (ENST, GE3B, MATH, PLAW)

MATH 037. Introduction to Statistics and Probability. 4 Units.

Students study elements of descriptive statistics: graphs, tables, measures of central tendency and dispersion. Probability models including binomial and normal are covered. The course introduces to estimation, hypothesis testing and analysis of variance in addition to linear and multiple regression and correlation. The use of statistical computer programs is addressed. The course is not recommended for first semester freshmen. Credit is not given for this course if a student has received credit for MATH 035 or has AP credit in Statistics. Prerequisites: MATH 033 or MATH 041 or MATH 045 or MATH 051 or MATH 053 with a "C-" or better or appropriate score on the calculus placement test. (ENST, GE3B, MATH, PLAW)

MMGT 153. Entertainment Law. 4 Units.

Students study all aspects of legal relationships and rights of problems in films, television, music and records. Prerequisites: BUSI 053 and MMGT 011 or permission of instructor. Junior standing. (PLAW)

PHIL 021. Moral Problems. 4 Units.

Students explore some of the "big ticket" moral issues of our time for example: physician-assisted suicide, capital punishment, abortion, animal rights, pornography, the limits of free speech, the legalization and use of drugs, affirmative action, war, torture, civil disobedience, gun control, and the distribution of wealth. The best philosophical arguments on both sides of each issue are considered so that each student can decide which positions are most rationally compelling. (GE2B, PLAW)

PHIL 027. Fundamentals of Ethics. 4 Units.

This course is an inquiry into the question "How should we lead our lives?" Each student is asked to reflect on her/his own moral commitments and how she/he makes morally difficult decisions, and then to consider whether there is any coherent, unifying system or procedure underlying this. The course then explores several of the most durable and influential philosophical approaches to moral decision making which include the strengths and weaknesses of each approach and how each might apply to various real-life situations. Additional issues might include: why we ought to take morality's demands seriously; whether moral judgments are mere opinions; and whether it is legitimate to criticize morally the practices of other cultures. (GE2B, PLAW)

PHIL 037. Introduction to Logic. 4 Units.

This course is an introduction to the basic concepts and methods employed in the analysis of arguments. The course begins with some of the basic concepts of logic, such as truth, probability, validity, soundness, proof, and consistency. Students learn how to translate arguments into symbolic languages (categorical, sentential, and predicate logics) and evaluate them using various formal techniques. Time may also be spent examining the notion of probability and the character of inductive inference, as well as detecting and explaining common fallacies. (GE3B, PLAW)

PHIL 106. Philosophy of Law. 4 Units.

This course is an analysis of the nature and function of law. More specific topics in the course might include: the idea of law as an instrument of social control; whether democratically decided laws can ever be illegitimate; the extent to which we are obligated to obey the law; the justification for punishment, and its permissible forms; the relationship between law, morality, and justice; the appropriate role of legislators, lawyers, and judges; and the role of interpretation, coherence, and precedent in judicial reasoning. Readings draw from legal and political philosophy, social sciences, and judicial opinions. Not recommended for first-year students. (PLAW)

PSYC 031. Introduction to Psychology. 4 Units.

This course is an introduction to the major fields within psychology. Topics include: 1) experimental methods in psychology, 2) physiological psychology, 3) sensation and perception, 4) psychology of learning, 5) memory, 6) cognition and language, 7) cognitive abilities, 8), motivation and emotion, 9) human development, 10) personality, 11) abnormal psychology and treatment of mental illness, and 12) social psychology. (GE1A, PLAW)

SOCI 133. Criminology. 4 Units.

Students analyze the nature and distribution of crime, theories of crime causation and prevention as well as an examination of the operation of police and judicial agencies. (ETHC, GE1A, PLAW)

SOCI 139. Corrections. 4 Units.

Students examine the history and theories of and current practices in institutional and non-institutional programs addressed to the correctional treatment of juvenile and adult offenders. Prerequisite: a course in sociology or permission of instructor. (PLAW)

SOCI 171. Social Research Methods. 4 Units.

This course reviews and examines the various methods used in social science research to gather and analyze data. The course considers the relationship between social theory and such methodologies as experiments, observations, interviews, surveys and content analysis. It guides students in each of these data collection techniques and introduces students to quantitative and qualitative data analysis. It also considers the ethical issues involved in the use of such methods. Student designed research projects are a central part of this course. Prerequisite, may be taking concurrently: SOCI 051 or permission of instructor. (PLAW)

Psychology

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Psychology.html>

Phone: (209) 946-2133

Location: Psychology/Communications Building

Scott Jensen, Chair

Degrees Offered

Bachelor of Science

Master of Arts (see Graduate Catalog for information)

Majors Offered

Psychology

Psychology with Departmental Honors

Minors Offered

Psychology

The programs of study offered by the Psychology Department are designed to help the student understand the behavior of human beings and other organisms. Behavior is a complicated subject, whether it's a

high school student trying to solve mathematics problems or a puppy learning to retrieve. As a result, there are many ways to understand it. Behavioral variety is reflected in both the course offerings of our department and in the interests of the faculty. Students may study parenting, children learning moral concepts, adolescents, adults who are depressed or anxious, and people who have chronic health problems, all in one academic year.

This diversity of interests and activities is tied together by the faculty's commitment to scientific inquiry. Throughout their coursework, students learn how to answer questions about behavior through empirical research and theoretical analysis.

Several objectives can be met by studying psychology at the University which includes increased understanding of behavior, career preparation, and post-graduate studies preparation.

Increased Understanding of Your Own and Others' Behavior

Students interested in a liberal arts education may satisfy a desire for a better understanding of themselves and others through a major in psychology. The diversity of course, fieldwork and internship offerings provides students with opportunities to study and have first-hand experience with a wide range of human behaviors and problems. Beyond personal development, the knowledge and skills acquired from this approach to the major have application to a wide variety of activities that students may find themselves engaged in following graduation, including business, science, education, sports, and the arts.

Career Preparation

The department offers programs of study that provide the psychology major with psychology-related employment opportunities directly upon receiving the Bachelor's degree. This involves specialization in a) applied behavior analysis which provides students skills to work with a variety of populations, or b) applications in business which provides students, in cooperation with the School of Business, skills in the use of psychological approaches in the personnel, training, and performance management areas of business and government.

Graduate and Professional School Preparation

Students interested in entering Masters and Doctoral programs in psychology or professional schools such as law and education have the opportunity to pursue an intensive series of course, practicum and research experiences that can significantly improve their chances of admission and later achievement. The program provides students with research and hands-on experience as early as the freshman year, so that by the time of graduation students may have authored or co-authored conference presentations and research papers and worked with a wide range of applied problems.

Whatever objectives students may select, they find that the department provides much more than traditional in-classroom instruction. There are opportunities for direct work with children and adults in a number of community agencies, institutions and businesses. Research experience is encouraged through one or more of the several ongoing research projects, and many courses have laboratory and fieldwork experiences associated with them. As a result, students can become a part of the continuing work of psychology.

Knowledge Base

- Students use the concepts, language, and major theories of the discipline to account for psychological phenomena

Communication

- Students communicate ideas clearly, accurately, and in accordance with APA style.

Scientific Inquiry and Critical Thinking

- Students evaluate the quality of information and use empirical evidence to craft arguments.
- Students distinguish between scientific and pseudoscientific claims and use skepticism when considering the causes of behavior.
- Students Perform mathematical computations and evaluate claims based upon mathematical arguments.

Bachelor of Science Major in Psychology

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in psychology.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. 2) In selecting courses to meet GE requirements, try to choose from the Biology, Literature, Mathematics and Philosophy offerings.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline, (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 51 units that include:

PSYC 001	Orientation to the Psychology Major	1
PSYC 002	Professional Development in Psychology	1
PSYC 031	Introduction to Psychology	4
PSYC 101	Research Methods and Statistics in Psychology I	5
PSYC 102	Research Methods and Statistics in Psychology II	5
Select one of the following: *		3
BIOL 011	Human Anatomy and Physiology	
BIOL 041	Introduction to Biology	
BIOL 051	Principles of Biology	
BIOL 061	Principles of Biology	
CHEM 023	Elements of Chemistry	
COMP 135	Human-Computer Interface Design	
COMP 151	Artificial Intelligence	
Select one of the following:		4
PHIL 037	Introduction to Logic	
PHIL 061	Philosophy of Science	
PSYC 125	History and Systems of Psychology	
Select four of the following:		
PSYC 015	Cognitive Psychology	
PSYC 017	Abnormal and Clinical Psychology	
PSYC 029	Developmental Psychology	
PSYC 053	Behavioral Psychology	
PSYC 069	Social Psychology	
PSYC 079	Sensation and Perception	
Select three of the following:		
PSYC 115	Advanced Lab in Cognitive Psychology	
PSYC 117	Advanced Lab in Clinical Psychology	
PSYC 118	Advanced Lab in Child Clinical Psychology	
PSYC 129	Advanced Lab in Developmental Psychology	
PSYC 153	Advanced Lab in Behavioral Psychology	
PSYC 169	Advanced Lab in Social Psychology	

* Students must select one of these courses in addition to the GE3A requirement.

Note: Only courses graded with a C- or better will count in the major.

Bachelor of Science Major in Psychology with Departmental Honors

Students must complete a minimum of 120 units with a Pacific cumulative grade point average of 3.4 and major/program grade point

average of 3.8 in order to earn the bachelor of science degree with a major in psychology with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. 2) In selecting courses to meet GE requirements, try to choose from the Biology, Literature, Mathematics and Philosophy offerings.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline, (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

Minimum 51 units that include:

PSYC 001	Orientation to the Psychology Major	1
PSYC 002	Professional Development in Psychology	1

PSYC 031	Introduction to Psychology	4
PSYC 101	Research Methods and Statistics in Psychology I	5
PSYC 102	Research Methods and Statistics in Psychology II	5
Select one of the following: *		3
BIOL 011	Human Anatomy and Physiology	
BIOL 041	Introduction to Biology	
BIOL 051	Principles of Biology	
BIOL 061	Principles of Biology	
CHEM 023	Elements of Chemistry	
COMP 135	Human-Computer Interface Design	
COMP 151	Artificial Intelligence	
Select one of the following:		4
PHIL 037	Introduction to Logic	
PHIL 061	Philosophy of Science	
PSYC 125	History and Systems of Psychology	
Select four of the following:		
PSYC 015	Cognitive Psychology	
PSYC 017	Abnormal and Clinical Psychology	
PSYC 029	Developmental Psychology	
PSYC 053	Behavioral Psychology	
PSYC 069	Social Psychology	
PSYC 079	Sensation and Perception	
Select three of the following:		
PSYC 115	Advanced Lab in Cognitive Psychology	
PSYC 117	Advanced Lab in Clinical Psychology	
PSYC 118	Advanced Lab in Child Clinical Psychology	
PSYC 129	Advanced Lab in Developmental Psychology	
PSYC 153	Advanced Lab in Behavioral Psychology	
PSYC 169	Advanced Lab in Social Psychology	
Select one of the following: **		1
PSYC 187	Internship	
PSYC 189	Practicum	

* Students must select one of these courses in addition to the GE3A requirement.

** Students must complete a committee approved project that focuses on applied learning/research.

Note: Only courses graded with a C- or better will count in the major.

Graduate and Professional School Preparation

Students who plan to go on to graduate study in psychology or to use psychology as a basis for advanced professional study may select from the following sequence of courses in addition to the major requirements: PSYC 089/PSYC 189, MATH 130 and PSYC 183 (by instructor permission only). It is strongly recommended that major courses include a representation of the basic subfields of psychology as well as additional PSYC 197 and PSYC 087. Options that include both psychology and other courses provide the student with coursework as well as research and applied experience appropriate to graduate study in all areas of psychology, as well as professional study in education, social work, and law.

Minor in Psychology

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in psychology.

Minor Requirements:

PSYC 031	Introduction to Psychology	4
Select three of the following:		12
PSYC 015	Cognitive Psychology	
or PHIL 015	Introduction to Cognitive Science	
PSYC 017	Abnormal and Clinical Psychology	
PSYC 029	Developmental Psychology	
PSYC 053	Behavioral Psychology	
PSYC 069	Social Psychology	
PSYC 079	Sensation and Perception	
Select one of the following:		4
BIOL 011	Human Anatomy and Physiology	
BIOL 041	Introduction to Biology	
BIOL 051	Principles of Biology	
BIOL 061	Principles of Biology	
CHEM 023	Elements of Chemistry	
PHIL 037	Introduction to Logic	
PHIL 061	Philosophy of Science	
PSYC 125	History and Systems of Psychology	

Note: 1) All courses must be graded "C-" or better to count towards the minor.

Psychology Courses

PSYC 001. Orientation to the Psychology Major. 1 Unit.

This is a 1-credit seminar designed to familiarize students with the psychology major at the University of the Pacific. The logic and basic elements of the psychology curriculum will be reviewed, and students will be introduced to each of the faculty members in the psychology department. Additionally, the seminar will review several foundational skills necessary for success as a psychology major, including, but not limited to study skills, professional and ethical behavior, and time management. The class is for beginning Psychology majors only. Prerequisite: Psychology major.

PSYC 002. Professional Development in Psychology. 1 Unit.

This is a 1-credit seminar designed to familiarize psychology majors with various professional issues related to the field of psychology, including preparation for graduate school and career. Prerequisites: PSYC 001; Psychology major; Senior standing.

PSYC 015. Cognitive Psychology. 4 Units.

Cognitive psychology is the scientific study of mental processes, that is, how the mind works (and sometimes fails to work). This course focuses on the way perceptual information enters the mind and the role of attention in selecting or filtering incoming sensory information. It examines the ways in which knowledge is organized in memory, how new information is added to memory, and how old information is retrieved. We will study how language is represented in the mind, how it is comprehended and how it is produced. We will examine how knowledge is transformed and/or applied through reasoning and decision-making, and how well we can assess our own cognitive processes and abilities. Throughout the course, we will discuss the importance of theories of cognitive processes and their role in understanding and predicting behavior.

PSYC 017. Abnormal and Clinical Psychology. 4 Units.

This course covers the history of mental health and mental health diagnoses; past and current research findings, and prevailing thoughts and current controversies in the field of mental health and treatments. (DVSY, ETHC, GE1A)

PSYC 029. Developmental Psychology. 4 Units.

This course provides an overview of the growth and change that occurs in physical, cognitive, social, and emotional domains across the life span. Current theory and findings from empirical research are highlighted. (GE1A)

PSYC 031. Introduction to Psychology. 4 Units.

This course is an introduction to the major fields within psychology. Topics include: 1) experimental methods in psychology, 2) physiological psychology, 3) sensation and perception, 4) psychology of learning, 5) memory, 6) cognition and language, 7) cognitive abilities, 8) motivation and emotion, 9) human development, 10) personality, 11) abnormal psychology and treatment of mental illness, and 12) social psychology. (GE1A, PLAW)

PSYC 053. Behavioral Psychology. 4 Units.

This course provides an introduction to the science and application of basic principles related to learning and behavior. Students learn about approaches to behavioral observation, measurement of behavior, gathering and analyzing of data using single subject designs, classical and operant conditioning and the application of behavior change principles to oneself and society.

PSYC 066. Human Sexuality. 4 Units.

This course is the study of the biological, psychological and cultural bases of human sexual behavior. Topics include female and male sexual anatomy and physiology, love and communication, sexual behavior patterns, homosexuality and bisexuality, contraception, pregnancy and childbirth, sexual difficulties and sex therapy as well as sexually transmitted diseases. The course also examines changes in sexual functioning throughout the life span and it explores the development of male and female gender roles and the effect of gender roles on various aspects of life. This course is open to freshmen but does not count toward major. (GE1A, GEND)

PSYC 069. Social Psychology. 4 Units.

Social psychology is the scientific study of thoughts, feelings, and behaviors of individuals in social situations. This course examines the theories, research, and applications of social psychology. Specific topics to be covered include: self-awareness, self-esteem, self-deception, the power of first impressions, nonverbal communication, stereotypes and prejudice, interpersonal attraction, love and romantic relationships, altruism, aggression, conformity, obedience, persuasion and propaganda, leadership, and group behavior and decision-making. Throughout the course, these topics will be discussed as they inform us about human behavior in domains such as politics, sports, entertainment, health, education, advertising, and law.

PSYC 079. Sensation and Perception. 4 Units.

This course is an introduction to human sensory systems and perception. Building upon a detailed analysis of visual processing, students explore through lectures, readings, demonstrations, case studies, and investigations how scientists research various sensory systems and how they shape our experience of, and interaction with the world. This draws on diverse fields such as biology, physics, philosophy and art in addition to psychology. (GE3C)

PSYC 087. Internship. 1-4 Units.

This internship course gives experiences in a work setting, and is contracted on an individual basis. Students may register for only one course listed below in any semester and may receive no more than four units of credit for any of these courses. Pass/no credit is the only grading.

PSYC 087A. . 1-4 Units.**PSYC 089. Practicum. 1-4 Units.**

The practicum offers non-classroom experiences in activities related to the curriculum under conditions that is determined by the appropriate faculty member. Students may register for only one course listed below in any semester and may receive no more than four units of credit for any of these courses. Pass/no credit is the only grading.

PSYC 101. Research Methods and Statistics in Psychology I. 5 Units.

This course is the first course in a two-course sequence required for the psychology major. This course will teach the student how to design, complete, analyze, interpret, and report empirical research used to test hypotheses derived from psychological theory or its application, and to be able to critically evaluate scientific research produced by others. Prerequisite: Fundamental Math Skills requirement. (GE3B)

PSYC 102. Research Methods and Statistics in Psychology II. 5 Units.

This course is the second course in a two-course sequence required for the psychology major. This course will teach you how to design, complete, analyze, interpret, and report empirical research used to test hypotheses derived from psychological theory or its application, and to be able to critically evaluate scientific research produced by others. Prerequisite: PSYC 101 with a "C-" or higher.

PSYC 115. Advanced Lab in Cognitive Psychology. 4 Units.

This advanced lab will focus on more in-depth exploration of a specific topic area within the field of Cognitive Psychology. The course will include strong research/applied component that will help students get more hands on feel for research and/or application of the concepts within the field. Possible topics include Memory, Thinking Fast and Slow, or other topics. Prerequisites: PSYC 015, PSYC 11102 with a C- or better.

PSYC 117. Advanced Lab in Clinical Psychology. 4 Units.

This advanced lab will focus on a more in-depth exploration of a specific topic area within the field of Clinical Psychology. The course will include a strong research/applied component that will help students get more hands on feel for research and/or application of the concepts Psychology, Testing and Assessment, or other topics. Prerequisites: PSYC 017, PSYC 053, PSYC 102 with a C- or better, or permission of instructor.

PSYC 118. Advanced Lab in Child Clinical Psychology. 4 Units.

This advanced lab will focus on a more in-depth exploration of a specific topic area within the field of Child Clinical Psychology. The course will include a strong research/ applied component that will help students get a more hands on feel for research and/or application of the concepts within the field. Possible topics include Parenting, Child Mental Health, or other topics. Prerequisites: PSYC 017, PSYC 102 with a C- or better.

PSYC 125. History and Systems of Psychology. 4 Units.

This course traces the development of "modern psychology" from its birth in early philosophy to its founding as an independent discipline in the late 1800s to its current status with an emphasis on modern behaviorism and cognitive psychology as the two dominant theoretical systems in psychology. In addition, other modern developments such as evolutionary psychology and cognitive neuroscience are discussed. The course focuses on specific content areas and ideas in psychology and the individuals who are most credited with their development.

PSYC 129. Advanced Lab in Developmental Psychology. 4 Units.

This advanced lab will focus on a more in-depth exploration of a specific topic area within the field of Developmental Psychology. The course will include a strong research/ applied component that will help students get a more hands on feel for research and/ or application of the concepts within the field. Possible topics include The Study of Infants, Psychology of Aging, Cognitive Aging, or other topics. Prerequisites: PSYC 029, PSYC 102 with a C- or better. (DVSY, ETHC)

PSYC 153. Advanced Lab in Behavioral Psychology. 4 Units.

This advanced lab will focus more in-depth exploration of a specific topic area within the field of Behavioral Psychology. The course will include a strong research/ applied component that will help students get a more hands on feel for research and/or application of the concepts within the field. Possible topics may include Behavioral Economics, Behavioral Approaches to Common Childhood Problems, the Power of Habit, or other topics. Prerequisites: PSYC 053, PSYC 102 with a C- or better.

PSYC 158. Behavioral Assessment. 4 Units.

An overview of behavioral assessment techniques is examined. Specific topics include data collection, inter-observer agreement, social validity, treatment integrity, functional assessment, stimulus preference assessment, indirect assessment techniques, and functional analysis procedures. Prerequisites: PSYC 053 and permission of instructor.

PSYC 162. Ethical Behavior. 4 Units.

This course will cover professional conduct and ethical behavior within the broad discipline of psychology, as well as the specific ethical and professional guidelines for the Behavior Analysis Certification Board (BACB®). This course addresses ethical decision-making, regulatory standards, and professional behavior in assessment, treatment, and research, in a variety of settings. Although this course will encompass a variety of disciplines and settings within psychology, primary attention will be given to those disciplines intersecting with the practice of applied behavior analysis and on those settings in which behavior analysts in practice are most likely to operate. Topics include accountability, confidentiality and informed consent, quality of services, quality of life, emergency management, research and academic settings, professional collaborations, boundaries, cultural competence, and ethical safeguards. Prerequisites: Junior standing or higher and permission of the instructor.

PSYC 169. Advanced Lab in Social Psychology. 4 Units.

This advanced lab will focus on a more in-depth exploration of a specific topic area within the field of Social Psychology. The course will include a strong research/applied component that will help students get a more hands on feel for research and/ or application of the concepts within the field. Possible topics may include Social Influence, Conformity, or other topics. Prerequisites: PSYCH 069, PSYCH 102 with a C- or better.

PSYC 183. Research Design. 4 Units.

This course is the design and analysis of research using single subject and group designs. Prerequisite: PSYC 105 and permission of instructor.

PSYC 187. Internship. 1-4 Units.

This internship course gives experiences in a work setting and is contracted on an individual basis. PSYC 187 represents advanced internship work that involves increased independence and responsibility. Students may register for only one course listed below in any semester and may receive no more than four units of credit for any of these courses. Pass/no credit is the only grading.

PSYC 189. Practicum. 4 Units.

The practicum offers non-classroom experiences in activities related to the curriculum under conditions that is determined by the appropriate faculty member. PSYC 189 represents advanced practicum work which involves increased independence and responsibility. Students may register for only one course listed below in any semester and may receive no more than four units of credit for any of these courses. Pass/no credit is the only grading.

PSYC 189A. Applied Psychology Practicum. 4 Units.

Students will acquire skills necessary to the application of principles of general psychology to solve personal, organizational and social problems while serving as assistants to faculty and professional psychologists.

PSYC 191. Independent Study. 1-4 Units.**PSYC 195. Seminar. 4 Units.****PSYC 197. Independent Research. 1-4 Units.**

Religious Studies

<http://www.pacific.edu/PacificRS>

Phone: (209) 946-2161

Location: WPC Annex

Alan Lenzi, Chair

Degree Offered

Bachelor of Arts

Majors Offered

Religious Studies

Religious Studies with Departmental Honors

Minors Offered

Religious Studies

Ancient Studies

The Department of Religious Studies challenges students to study the religious practices, beliefs, institutions, and texts of ancient and modern societies. Through these studies, students learn about the religious phenomena that have shaped human civilizations. In addition to deep knowledge of this religious and cultural activity, our students acquire intellectual skills that serve them throughout their educational endeavors and beyond. Religion has historically shaped and continues to influence cultures and institutions worldwide. It is useful to explore spiritual traditions in order to examine ultimate religious and ethical questions. Our coursework provides perspectives that prepare citizen-leaders to engage these matters in a thoughtful, humane, historically broad and intellectually rigorous manner. A typical course in the Department includes students from various backgrounds and academic disciplines, and it affords significant opportunity for inter-disciplinary discussion.

Career Opportunities

A major in Religious Studies provides groundwork for students to be citizen-leaders in various careers. These possible career paths include teaching, journalism, publishing, film, law, government, business, non-profit organizations, social work, nursing, and medicine in addition to the more obvious vocations in ministry or religiously affiliated organizations. A minor in Religious Studies or Ancient Studies can also provide groundwork for these careers while it supplements a student's major field of study.

Disciplinary Knowledge

Students will identify and summarize more than one theory or method used in the critical study of religion.

Students will identify and explain the influence of culture on religious rituals, beliefs, practices, and social structures.

Students will identify and explain the significance of major aspects of more than one religious tradition.

Critical Analysis

Students will read and analyze primary source materials within their historical and cultural contexts.

Students will analyze and articulate in writing the function(s) and/or definition(s) of religion in specific texts, media (e.g. film/websites/music/art), or communities.

Students will analyze and articulate orally the function(s) and/or definition(s) of religion in specific texts, media (e.g. film/websites/music/art), or communities.

Inquiry and Research

Students will evaluate theories and methods for the critical study of religion to investigate a specific research question and apply at least one theory and/or method.

Students will compile and synthesize appropriate primary and/or secondary source material to investigate a specific research question.

Students will construct an evidence-based argument about religion and either culture, society, or history.

Bachelor of Arts Major in Religious Studies

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in religious studies. Although not required, the Department strongly encourages students to take advantage of education abroad opportunities.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Core Requirements

Minimum 24 units that include:

RELI 034	Introduction to Religion	4
RELI 134	World Religions	4
RELI 196	Religious Studies Seminar *	4
Electives: 3 Additional RELI courses **		12

* RELI 196 is recommended to be taken during the last two semesters.

** Students can opt to replace no more than two Religious Studies courses with internships at religious communities in Stockton or another nearby city (i.e., a local church, mosque, synagogue, and Buddhist or Sikh temple.)

VII. Concentration

Complete one of the following concentrations:

Minimum 12 units and three courses in the concentration.

Core Area Concentrations

Religion, Culture, and Media

Select three of the following: 12

RELI 027 Portraits of Jesus

RELI 039 Introduction to Digital Humanities

RELI 104 Religion of the Pharaohs

RELI 170 Bible in America

RELI 171 Religion and Cinema

Asian Religions

Select three of the following: 12

RELI 043 Social Ethics

RELI 135 Asian Religious Traditions

RELI 152 Confucian Traditions

RELI 154 Buddhist Traditions

Egypt and Near East

Select three of the following: 12

RELI 023 Hebrew Bible

RELI 025 New Testament and Christian Origins

RELI 030 Comparative Religion

RELI 102 History of Ancient Egypt and the Near East

RELI 104 Religion of the Pharaohs

RELI 130 The Christian Tradition

Pre-Seminary

Select three of the following: 12

RELI 023 Hebrew Bible

RELI 025 New Testament and Christian Origins

RELI 027 Portraits of Jesus

RELI 043 Social Ethics

RELI 130 The Christian Tradition

Society and Ethics

Select three of the following: 12

RELI 039 Introduction to Digital Humanities

RELI 043 Social Ethics

RELI 044 Sex, Sin, and Salvation

RELI 142 Business Ethics

RELI 145 Biomedical Ethics

Bachelor of Arts Major in Religious Studies with Departmental Honors

Students must complete a minimum of 120 units with a Pacific cumulative grade point average of 3.5 and major/program grade point average of 3.75 in order to earn the bachelor of arts degree with a major in religious studies with departmental honors. Although not required, the Department strongly encourages students to take advantage of education abroad opportunities.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001 What is a Good Society 4

PACS 002 Topical Seminar on a Good Society 4

PACS 003 What is an Ethical Life? 3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Core Requirements

Minimum 24 units that include:

RELI 034 Introduction to Religion 4

RELI 134 World Religions 4

RELI 196 Religious Studies Seminar * 4

Electives: 3 Additional RELI courses ** 12

Thesis ***

* RELI 196 is recommended to be taken during the last two semesters.

** Students can opt to replace no more than two Religious Studies courses with internships at religious communities in Stockton or another nearby city (i.e., a local church, mosque, synagogue, and Buddhist or Sikh temple.)

*** Students must submit a senior thesis, written under the supervision of a sponsoring faculty member in the department. The thesis must earn the grade of A- or higher.

VII. Concentration

Complete one of the following concentrations:

Minimum 12 units and three courses in the concentration.

Core Area Concentrations

Religion, Culture, and Media

Select three of the following: 12

RELI 027 Portraits of Jesus

RELI 039 Introduction to Digital Humanities

RELI 104 Religion of the Pharaohs

RELI 170 Bible in America

RELI 171 Religion and Cinema

Asian Religions

Select three of the following: 12

RELI 043 Social Ethics

RELI 135	Asian Religious Traditions	
RELI 152	Confucian Traditions	
RELI 154	Buddhist Traditions	

Egypt and Near East

Select three of the following: 12

RELI 023	Hebrew Bible	
RELI 025	New Testament and Christian Origins	
RELI 030	Comparative Religion	
RELI 102	History of Ancient Egypt and the Near East	
RELI 104	Religion of the Pharaohs	
RELI 130	The Christian Tradition	

Pre-Seminary

Select three of the following: 12

RELI 023	Hebrew Bible	
RELI 025	New Testament and Christian Origins	
RELI 027	Portraits of Jesus	
RELI 043	Social Ethics	
RELI 130	The Christian Tradition	

Society and Ethics

Select three of the following: 12

RELI 039	Introduction to Digital Humanities	
RELI 043	Social Ethics	
RELI 044	Sex, Sin, and Salvation	
RELI 142	Business Ethics	
RELI 145	Biomedical Ethics	

Minor in Religious Studies

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in religious studies,

Minor Requirements:

RELI 034	Introduction to Religion	4
Four RELI Electives		16

Note: 1) 16 of these units must be completed at Pacific.

Minor in Ancient Studies

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in ancient studies.

Minor Requirements:

RELI 051	Classical Mythology	4
Select one of the following ancient history courses:		4
MATH 164	Topics in History of Mathematics	
RELI 102	History of Ancient Egypt and the Near East	
RELI 104	Religion of the Pharaohs	
RELI 126	Ancient Israel in Its Historical Context	
Select one of the following ancient literature courses:		4
RELI 023	Hebrew Bible	
RELI 025	New Testament and Christian Origins	
RELI 152	Confucian Traditions	
RELI 154	Buddhist Traditions	
or another course by permission of the department chair		
Two Electives from GREK, HBRW, or RELI		8

Note: 1) Electives are chosen in consultation with the advisor. 2) 16 of these units must be completed at Pacific.

Health and Humanities Courses

HHUM 051. Introduction to Health & Humanities. 4 Units.

This course will promote student understanding of the humanistic, social, and cultural elements of health, disease, illness, death, dying, and healthcare. It will utilize various humanistic approaches to the study of health and health care (e.g. literature, film, philosophy, and religion). (GE2B)

Religious Studies Courses

RELI 023. Hebrew Bible. 4 Units.

The Old Testament (Hebrew Bible) is a central book of western culture that serves as a foundation for Judaism and Christianity. This course surveys the biblical literature, familiarizes students with critical methods for the study of the Bible, situates the Bible within the literature and culture of the ancient Near East, and discusses the religion of ancient Israel. Issues of history and archaeology are also addressed. (GE2A)

RELI 025. New Testament and Christian Origins. 4 Units.

This course offers a soci-historical and literary introduction to the writings of the earliest Christians. The course emphasizes the importance of the historical context of these writings and investigates the ways these texts fit into Mediterranean cultures. Topics includes: the Jewish origins of the "Jesus movement;" the formation of early Christian communities and their varying patterns of belief and practice; the development of oral and written traditions about Jesus, especially in the gospels and letters of Paul; and various images of Jesus and their significance. Students learn how to read ancient texts closely, gain an understanding of the various methods of scholarly biblical interpretation, and learn how to evaluate these interpretations critically. (GE2B)

RELI 027. Portraits of Jesus. 4 Units.

In this course, students examine some of the different "Jesuses" that have emerged from the "Quest for Jesus" through the ages, which include several historical studies, art, and literature. Was Jesus and itinerant, charismatic teacher? Was he a healer and miracle-worker or a social revolutionary? Or is he an historical figure on whom we have projected our own needs and desires for two millennia? (GE2B)

RELI 030. Comparative Religion. 4 Units.

This course compares various religious traditions with a focus on Judaism, Christianity, and Islam. We begin with a brief examination of three lesser known religions, Ancient Mesopotamian Religions, Zoroastrianism, and Pre-Christian European Religions. All three of these connect in some way to the three great monotheistic religions, Judaism, Christianity, and Islam, which are studied in the remainder of the course. These three traditions are examined comparatively under seven rubrics: Scripture, Authority, Monotheism, Ritual and Worship, Ethics, Material Culture, and Political Organization. The various connections made throughout the course between and among the religions studied will enable students to 1. identify variations on ideas common to each, 2. discern influences some have exerted upon others, and 3. understand the distinctive that developed within each. (GE2B)

RELI 031. Jerusalem through the Ages. 4 Units.

This course follows the history and culture of Jerusalem, a sacred city to three major world religions, from pre-history to the present. The course sets the city's political, cultural, and religious history against the broader backdrop of the history of the region and, in the Common Era, the rise and interactions of various forms of Judaism, Christianity, and Islam. Along the way students will examine key primary documents as well as important material artifacts that illuminate both the city's rich history as well as the religions that view it as sacred. (GE1C)

RELI 034. Introduction to Religion. 4 Units.

This class is designed to introduce students to religion as an academic field of study. While one can easily locate groups who identify themselves as Buddhists, Christians, Hindus, Jews, Muslims, Sikhs, and so forth, one might actually have more difficulty figuring out what - if anything - unifies all of these groups, and therefore what it is that people mean when they use the term religion. In this class students explore some of the basic concepts and categories used by scholars when they investigate the social phenomenon of religion. All students discover that this course gives them experience in critical thinking, comparative analysis, and cultural diversity. (GE2B)

RELI 035. Judaism. 4 Units.

This course is a basic introduction to Judaism that covers its history, beliefs and customs with an emphasis on understanding the Jews of today. (DVS, GE2B)

RELI 039. Introduction to Digital Humanities. 4 Units.

We humans often turn to literature and the arts as we seek meaning, beauty and connection in our lives. Poetry, art, religion, philosophy, literature, theatre, and film all speak to this human yearning. Have you ever felt like a song was "your" song? Have you ever wondered why people of a different religion believe or do something differently than you? Did you ever debate with a friend about an ethical question? Now how many of these moments occurred online or were inspired by an event online - music video, a Facebook conversation, a blog. Increasingly, we have turned to technology to create and to discuss the arts and the humanities (poetry, art, religion, philosophy, literature, theatre, film, etc.). How might we use computers and digital media to make new discoveries in the arts and humanities? How might we use digital methods to communicate or share our explorations of what it means to be human? This collaborative, project-based course will introduce students to various methodologies in digital humanities, to the use of technology to publish research and creative work digitally, and to critical questions about digital technology and society. (GE3C)

RELI 043. Social Ethics. 4 Units.

This course examines several contemporary problems in social ethics from the standpoint of religious traditions and philosophical perspectives. It introduces ethical and religious concepts and considers such issues as pacifism and just war, civil disobedience, capital punishment, the distribution of scarce resources, and the environment. Students discuss what selected thinkers say about such issues, and how they reach their conclusions in light of their religious, philosophical, and anthropological convictions. (GE2B)

RELI 044. Sex, Sin, and Salvation. 4 Units.

This course explores and analyzes sexuality and gender in terms of ethics and religion. It focuses primarily on historical and contemporary Christian perspectives with some attention to other religious traditions and philosophical viewpoints. Topics include such issues as sexual ethics, homosexuality, sexuality and spirituality, gender roles and connections between gender and ethical perspectives. (GE2B, GEND)

RELI 047. Unbelief: Atheism and Agnosticism. 4 Units.

After a brief survey of the rise of atheistic and agnostic thought from ancient to modern times, the course turns to recent examples of atheism/agnosticism in contemporary culture, especially the "new atheists" – their viewpoints and the responses they have provoked from both religious and secular thinkers. Students will read various texts and scholarly treatments that argue for and against atheism/agnosticism. Focus will be on placing atheistic/agnostic thinkers in their historical and intellectual contexts and understanding their (mode of) argumentation and the varied response such has provoked: culturally, intellectually, and politically. This course will not condemn or promote atheistic or agnostic ideas per se, though students will be asked to assess claims and argumentation. Ultimately, the course will enable students to understand what atheists, agnostics, and their critics think and to place these ideas in a broader cultural perspective. Thus, students will be prepared to assess these ideas for themselves. (GE2B)

RELI 051. Classical Mythology. 4 Units.

An introductory survey of the Greek and Roman myths of major importance in Western religion, literature, art and music. This course will focus upon Greek mythology against the background of Roman, or Roman mythology against the background of Greek. (GE2B)

RELI 070. Religion and American Culture. 4 Units.

Students examine the way in which religion has contributed to the shaping of American political, social and cultural life, and the way in which the American experience has in turn shaped religion. It moves from the colonial experience through the "awakenings" to the emergence of new religions and cults, the revolutions of the sixties, the revival of conservative Christianity in the American political spectrum and ecology as the "new awakening."

RELI 087. Internship. 2-4 Units.**RELI 102. History of Ancient Egypt and the Near East. 4 Units.**

This course covers the history and cultures of the pre-Greek ancient world, namely, Egypt and the Near East from the third millennium BCE (3300 BCE) to the beginning of the Hellenistic period (333 BCE). After surveying the geography of the area under study, students examine primary and secondary sources to understand the political currents and social practices of Egypt, Sumer, Babylonia, and Assyria. Special emphasis is given to the origins, development, and social uses of writing / literacy. (GE1C)

RELI 104. Religion of the Pharaohs. 4 Units.

The past century has witnessed a fascination with all things ancient Egyptian. From the earliest version of the film, "The Mummy" in 1931 to the traveling art exhibit of the treasures of Tutankhamen's tomb (twice!) to the millennium party at the pyramids, the previous hundred years was marked by an obsession with ancient Egyptian religion and culture. This course examines the religious beliefs and practices of ancient Egyptians and the portrayal of ancient Egypt in popular culture. Topics include: Egyptian royal and social history; Egyptian language and literature; mythology and cosmology; death and the afterlife; temple rituals and architecture; pyramids, tombs and other burial architecture; the intersection of religion with ethnicity, gender, social class, and political power; colonialism and the modern "discovery" of ancient Egypt; and ancient Egypt in American popular culture. (DVS, GE1C)

RELI 106. Illness and Healing in the Ancient World. 4 Units.

This course examines powerful supra-human beings such as deities, demons, witches, and ghosts from ancient Mesopotamia and their assumed relationship, on the one hand, to human sin, disease, illness, disability, and suffering and on the other, to preventative wellness, therapy, and recovery. We answer a number of questions about these relationships throughout the course such as: What constitutes a disease, illness, disability, and suffering in ancient Mesopotamia? How did the ancient Mesopotamians perceive preventative wellness, therapy, and recovery? How did the ancient Mesopotamians combat human suffering and celebrate healing? Whence did the knowledge of such things come? And how was this knowledge transmitted to future generations? Although focused on a long-enduring ancient culture, the course provides an opportunity to learn an number of theoretical and methodological perspectives that is useful for understanding related concepts from other times and places. Using the ancient world as a lens to reflect upon our contemporary American setting is a running theme throughout the course. (GE1C)

RELI 120. Wisdom in Biblical Literature. 4 Units.

This course introduces the student to the biblical books of Proverbs, Job, and Qohelet (Ecclesiastes). These books share the common thread of teaching people how to live skillfully and have incited controversy for millennia. Students read these books in English, examine and discuss the major themes, literary structures, cultural contexts, and issues in interpretation that surround these books, and reflect upon their significance for several communities of readers in various periods of history. In order to situate these Israelite books within their ancient cultural contexts, students read and discuss wisdom texts from the neighboring cultures of Egypt and Mesopotamia. In order to appreciate the position of these books within wisdom tradition, students also look at some wisdom writings from Israel that are not included in the biblical canon.

RELI 124. Ancient Judaism. 4 Units.

The course surveys ancient Judaism from roughly 539 BCE until the Islamic era (c. 600 CE) and emphasizes the ideological importance of the destruction of the second temple in 70 CE. Readings and discussion in primary texts (e.g. Enoch, the Dead Sea Scrolls, Maccabees, the Talmud, Mishnah, and various midrashim) complement our historical investigation. (GE1C)

RELI 126. Ancient Israel in Its Historical Context. 4 Units.

This course focuses on the historical and cultural context in which ancient Israel arose and flourished from the early Iron Age (c. 1200 BCE) to the beginning of the Hellenistic period (323 BCE). In the first part of the course, after surveying the geography and political history of the ancient Near East from 2000-320 BCE, students critically examine the historical rise and existence of Israel in its larger geo-political context. Special consideration is given to understanding the relationship of archaeological, politico-historical, and biblical evidence. In the second part of the course students turn attention to "everyday life" in ancient Israel, that is, to various social and material elements of ancient Israelite culture (e.g., family structure, buildings, vocational activities, art and music, literacy, etc.) as reconstructed from archaeological and biblical evidence, and then apply their learning to various biblical topics and/or texts.

RELI 128. Social Topics in Early Christianity. 4 Units.

Students study of one or more social issues prominent during the early stages of Christianity. Topics vary according to the interests of faculty and students. (DVS, GEND)

RELI 130. The Christian Tradition. 4 Units.

Students examine historical and theological analysis of Christian thought and practice, and the content varies depending upon instructor. Examples of possible study focus are Christian origins in Greek and Hebrew culture, the Reformation Era, or issues of theological reinterpretation for the 21st century. (GE1C)

RELI 134. World Religions. 4 Units.

Students examine fundamental religious questions as developed in major religions of the world which includes primal religious experiences in African, Australian and Native American traditions. Special attention is also given to Islam, in context with other Abrahamic traditions, as the fastest growing religion in the world. Some attention is given to historical development and to major personalities, but attention centers on the religious questions as developed in each religious system. (GE2B)

RELI 135. Asian Religious Traditions. 4 Units.

Students study the traditional religions of India, China, Tibet and Japan, in attempt to delineate the spirituality, beauty, and wisdom of these traditions. The course traces the rich historical and cultural heritages of Hinduism, Buddhism, Confucianism, the Taoist ways of achieving harmony in the world, and the melding of nature and ritual life in Shinto. Each semester one or two of these religions is studied in depth to investigate how they influence society, politics and culture in the countries where they spread. The academic approach is supplemented by practical learning of mediation, energy-regulations and ritual. (GE2B)

RELI 140. Religion and Politics. 4 Units.

This course explores the relationships between religious convictions and political thought and action. The course concentrates on selected eastern or western religious traditions. Topics of discussion include the state, individual liberty, economics, and war. Readings introduce historical and contemporary religious and philosophical perspectives.

RELI 141. Animals, Religion, and Ethics. 4 Units.

This course examines how religious traditions have affected the ways in which we see, speak about, and treat non-human animals. Religions have both reinforced ideas of human superiority over non-human animals and called into question ideas of human dominion and exceptionalism. Pedagogically, the course will be interdisciplinary and seek to expose students to a wide variety of topics related to the issue of religion and animals. (GE2B)

RELI 142. Business Ethics. 4 Units.

This course critically examines some of the social, ethical, economic, and religious foundations of business activity, and considers some of the contemporary problems with, and possibilities for, business practice. Course topics may include: an historical analysis of the rise of capitalism; religious views of economics and responses to capitalism; the role of business in the larger society; the relationship between the individual and the organization; and prospects for human community in a capitalist system. (GE2B)

RELI 143. Religion, Race, Justice in US. 4 Units.

Throughout American history, religion has played a pivotal role in discussions of race, both in justifications for slavery and racial discrimination and in movements for social justice. In the 19th century, white supremacists argued that a passage in Genesis about Noah and his sons preordained the enslavement of Black people. During the Civil Rights movement, the Black church played a central role and Martin Luther King quoted extensively from the Bible in speeches such as his "I Have a Dream speech." Other Black civil rights advocates argued that the connection between racism and Christianity ran so deep that true liberation could not be found in the Christian church. This course will examine the intersection of religion and race. We will look at race and ethnicity in the Bible and early biblical interpretation and then turn to the American experience. The course will address multiple religious traditions, although it will concentrate primarily on Christianity. We will look at both history and pressing contemporary issues. (DVSY, ETHC, GE1B)

RELI 145. Biomedical Ethics. 4 Units.

Students study the ethical concepts and issues that arise in medicine and the health sciences. Topics include the physician-patient relationship, termination of life-sustaining treatment, abortion, artificial reproductive technologies, genetic and technological manipulations, access to healthcare, and biomedical research. (GE2B)

RELI 146. Technology, Ethics, and Religion. 4 Units.

This course offers historic, philosophical, and religious perspectives on science and technology. It endeavors to help students understand the impact of science and technology on our moral and religious traditions and institutions, and how those traditions and institutions in turn impact science and technology. It considers how technology addresses social problems, and the benefits, possibilities, and further problems that it produces.

RELI 152. Confucian Traditions. 4 Units.

Students examine moral, political, philosophical and religious aspects of various Confucian traditions beginning from Confucius and Mencius to Han and Song dynasties Confucianism to modern Du Weiming's school. This course is not recommended for freshmen.

RELI 154. Buddhist Traditions. 4 Units.

This course covers philosophy, literature, and religious beliefs and practices of various Buddhist traditions as they developed over hundreds of years in India, Tibet, China, Japan, and finally, Western countries. For each tradition, students examine its historical formation; the body of its sacred literature, with the focus on one or two most prominent scriptures; biographies of most influential practitioners; and the evolution of philosophical, social and psychological ideas in that particular tradition. (GE2B)

RELI 170. Bible in America. 4 Units.

How do people read, use, interpret, remix, and resist the Bible in America? From the sermons of Jonathan Edwards in colonial America to graphic novels about Christian superheroes, the Bible has been interpreted and even rewritten for American culture and politics. Some politicians and grass-roots activists appeal to the bible in debates about sexual ethics and marriage, while others object to the use of a "sacred scripture" as a source for legislation on morality. American film and art retell biblical stories and use iconic biblical themes and archetypes in crafting new stories. Abolitionists and slave-owners alike cited the bible as an authority for their positions on slavery. This course will ask how biblical traditions have shaped American culture and politics and how diverse Americans have brought their own perspectives to interpreting, experiencing, and even recreating "Bible" in the United States. (GE1B)

RELI 171. Religion and Cinema. 4 Units.

Students study the way religious ideas, institutions and figures are presented on film. The course involves screening and analyzing various films. The scope of the course is international and intercultural, but the majority of the images are Western. The course intends to demonstrate the power of cinematic images to define, illustrate, enrich and sometimes pervert religious sensibility. (FILM, GE2C)

RELI 172. Biblical Themes in Literature. 4 Units.

A reading course in the Bible and the ways in which Biblical themes have informed representative texts in Western literature. Students compare the Biblical world view with that of later ages by reading such authors as Dante, Camus, Hemingway, and John Updike.

RELI 191. Independent Study. 2-4 Units.**RELI 196. Religious Studies Seminar. 4 Units.**

This capstone seminar is for majors, and the focus of the study varies from year to year according to interests of faculty and students (e.g. Religion & Nature, Early Christianity, and Spirituality & Health).

Sociology

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Sociology.html>

Phone: (209) 946-2101

Location: Wendell Phillips Center

Susan Mannon, Chair

Degrees Offered

Bachelor of Arts

Majors Offered

Sociology

Minors Offered

Sociology

Mission Statement

The Sociology Department at University of the Pacific gives students the knowledge and skills to think structurally, systematically, and critically about society. In this program, students will develop a sociological imagination that places individual life experiences in the context of the social and cultural structures that shape them, as well as an appreciation for the role that social inequalities play in organizing social life and shaping life chances. The program provides students a foundation in sociological concepts, social theory, research methods, and public sociology. Through various modes of learning in and outside the classroom, students learn to address social justice issues and systematic inequalities in a complex and diverse society. (*Developed and adopted by department, Fall 2018*)

Career Opportunities

Undergraduate study in sociology leads to employment in a wide variety of careers. Many take positions in social services, counseling, government, criminal justice system and public health. Study in sociology also provides an excellent foundation for further study in law, human resources, public policy, urban planning and similar fields.

Progression of Study

Though some of our students come to Pacific as freshmen with sociology as their major, many students transfer to Pacific after studying sociology

at a community college or declare the major after their first year at Pacific. Regardless of when students become part of the department, we recommend that they take Introduction to Sociology (SOCl 51), Self and Society (SOCl 79), and the Sociology Cohort Seminar (SOCl 71) as soon as possible. In addition to lower and upper division electives, students should then take Theories of Society and Culture (SOCl 177) and Social Inequality (SOCl 172). We recommend that students take their statistics course and Social Research Methods (SOCl 171) their second to last year, since both are important foundations for Experiential Learning (SOCl 187) and the Capstone Seminar (SOCl 179), which students take in their final year at Pacific. Experiential Learning involves an internship, volunteer experience, or work experience around which students design a research project. They are expected to complete this work before their final semester at Pacific, during which they will write up and present their research in the Capstone Seminar (SOCl 179). The major is designed so that it can be completed in two years.

Sociological Perspective

- Explain how sociologists understand the human experience differently than scholars in other disciplines.
- Define and illustrate core concepts in the discipline, including the sociological imagination, socialization, social institutions, social stratification and social change.
- Apply a sociological concept to at least one substantive area addressed by sociologists (e.g. health, criminology, education, etc.)

Social Theory

- Identify the major theoretical traditions in sociology.
- Explain how theories reflect the historical contexts of the times and cultures in which they were developed.
- Demonstrate an ability to apply social theory to some social phenomena or issue.

Social Research Methods

- Describe the different techniques for data collection and analysis.
- Analyze social scientific data using qualitative and quantitative data analysis techniques.
- Evaluate the quality of data used in both sociological research and in public discourse.
- Locate and utilize sociological scholarship to understand a social issue or phenomenon.
- Locate and utilize empirical evidence to construct a sociological argument about the social world.
- Design a research project to address a research question, including plans for sampling, data collection, and analysis.

Public Sociology

- Express sociological ideas clearly in written and oral communication.
- Demonstrate technological proficiency in communicating publicly about social issues.
- Understand the value that sociological knowledge and skills have for life, work and citizenship.

Bachelor of Arts Major in Sociology

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in sociology.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic
- IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. College of the Pacific BA Requirement

Students must complete one year of college instruction or equivalent training in a language other than English.

Note: 1) Transfer students with sophomore standing are exempt from this requirement.

IV. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

V. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

VI. Major Requirements

Minimum 42 units and 10 courses that include:

SOCl 051	Introduction to Sociology	4
SOCl 071	Sociology Cohort Seminar *	1
SOCl 079	Self and Society *	4

SOCI 171	Social Research Methods	4
SOCI 172	Social Inequality	4
SOCI 177	Theories of Society and Culture	4
SOCI 179	Capstone Seminar *	3
Select one of the following statistic courses:		4
POLS 133	Political Science Research	
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
Three SOCI Electives (Three additional courses, two of which are numbered 100 or above excluding SOCI 051, SOCI 187A, SOCI 187B, SOCI 197A, and SOCI 197B) **		12
Select one of the following electives:		4
ANTH 170	Culture and Economy	
ANTH 172	Culture and Power	
COMM 031	Media and Society	
COMM 133	Documentary Film as Persuasive Communication	
COMM 143	Intercultural Communication	
ENGL 025	English 25	
ENGL 126	Environment and Literature	
ENGL 127	Contemporary Critical Issues	
ETHN 011	Introduction to Ethnic Studies	
GEND 011	Introduction to Gender Studies	
HESP 141	Sport, Culture and U.S. Society	
HESP 142	Sport and Globalization	
HIST 133	Women in United States History	
HIST 138	United States Since 1945	
HIST 139	Borderlands	
INTL 077	Contemporary World Issues	
POLS 031	Introduction to Law and Policy in the American Political System	
POLS 041	U.S. Government and Politics	
POLS 119	Government in Action: Public Policy Analysis	
POLS 128	Introduction to Public Administration	
RELI 043	Social Ethics	
RELI 143	Religion, Race, Justice in US	
Select one of the following experiential learning courses:		4
COOP 092	Co-op Internship	
COOP 192	Co-op Internship	
JCTR 187	Community Affairs Internship	
SOCI 187A	Experiential Learning	
SOCI 197A	Independent Research	
SOCI 197B	Independent Research	

- * 1. SOCI 071 and SOCI 079 are strongly recommended prior to SOCI 171 and SOCI 172.
2. SOCI 179 is strongly recommended as the final course in the core sequence and should be taken in spring semester of the senior year.

- ** 1. Majors may elect to develop their own concentration of elective courses in consultation with their faculty advisor.
2. Work toward the major will normally include no more than 8 units transferred from another institution and no more than two introductory level non-required courses.
3. Students who major in sociology are strongly advised to take one or more courses, which build skills in writing, oral communication and computer use.

Minor in Sociology

It is designed to provide a general introduction to the field and a broad overview of social interaction and structure. Students are required to work closely with a minor advisor in constructing a coherent course of study.

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in sociology.

Minor Requirements:

SOCI 051	Introduction to Sociology	4
SOCI 171	Social Research Methods	4
One SOCI Elective (numbered below -100 excluding SOCI 051)		4
Two SOCI Electives (numbered 100 or above excluding SOCI 187A, SOCI 187B, SOCI 197A, and SOCI 197B)		8

Note: 1) Electives are chosen in consultation with the advisor.

Sociology Courses

SOCI 021. Culture and Society. 4 Units.

Students examine the various forms of culture and their linkages to our society. The course looks at what culture is and what it means to people—how it links them together and drives them apart. Topics include how culture is “created,” and by whom; what restraints are placed upon cultural creation by individuals and society; how culture is manufactured and “sold” to large audiences; subcultures and the creation of cultural identity; the diffusion of culture both within societies and between them; the process of globalization and effects of American culture overseas. Special emphasis on the impacts of social stratification, class, gender and race. (DVSY, GE1B)

SOCI 027. Sociology of Families and Intimate Relationships. 4 Units.

In this course, family life is examined through a historical, cultural and political lens to contextualize the changing institution of the family. The evolution of the family is studied both historically and comparatively, but the focus is on the contemporary U.S. family. Special attention is given to the changing significance of sexuality in marriage, the persistent gendered nature of family structure and organization, and evolving norms around childbearing and childrearing. Other topics that will be addressed include domestic violence, divorce, out-of-wedlock childbearing, and alternative family forms. The course emphasizes how family life varies across race and ethnic groups, social class, religion and geographic location. (ETHC, GEND)

SOCI 031. Deviant Behavior. 4 Units.

This course critically examines various sociological approaches to the study of deviant behavior. Special attention is paid to the problem of defining deviance in a useful manner for sociological study—and not just as officially illegal behavior. Most forms of deviance, ranging from major infractions of societal norms (such as rape or child abuse) to less extreme, but still significant deviant acts (such as marijuana smoking or illegal file sharing) is discussed. In addition, the political and economic elite is examined with respect to their ability to define deviance, their use of punishment as social control, and the ways they are able to “hide” crime to their own advantage. American data is supplemented by cross-cultural and comparative materials. (DVSY, GE1A)

SOCI 041. Social Problems. 4 Units.

This course is an exploration of the process by which various social conditions become labeled as social problems worthy of policy responses. It examines the various roles played by the media, government actors, activists and everyday citizens in this process, and pays particular attention to the role of power in enabling some social groups to label the behaviors of others as problematic while deflecting attention from their own practices. This course focuses predominantly on the US, but also engages in comparative analysis with other countries. (DVSY, ETHC, GE1B, GEND)

SOCI 051. Introduction to Sociology. 4 Units.

This course is an introduction to the field of sociology, a discipline that studies how larger social and cultural forces shape the human experience. The course introduces students to the sociological imagination or mindset, the various forms of social inequality, and the major social institutions. Many of the discipline's major concepts, social theories and research methods are highlighted throughout the course, which focuses primarily on U.S. society. (DVSY, GE1B)

SOCI 071. Sociology Cohort Seminar. 1 Unit.

This course is designed to introduce sociology majors to the field of sociology and the sociology program. You will meet weekly in a seminar-like setting to discuss reading material; explore the sociological curriculum; and learn about faculty, resources and opportunities at the university. By the end of the course, students are expected to understand how to make the most of their college experience and their sociological training.

SOCI 079. Self and Society. 4 Units.

Who are we? How did we come to be the way we are? How does the way we understand ourselves relate to our understandings of society? This course addresses these questions through the field of micro-sociology, which examines individual and small-scale social interactions through a sociological lens. Topics include the nature and scope of micro-sociology, the structure of social interaction, the development and maintenance of the social self, and the production and influence of culture. The course also explores the ways that hierarchies of race, class, gender and nation shape social identity. Prerequisite, may be taken concurrently: SOCI 051 or permission of instructor. (GEND)

SOCI 081. Introduction to Social Services. 4 Units.

This course introduces students to social welfare by using various political perspectives and provides an overview of social services. Students gain a comprehensive understanding of social work as a profession and better understand how social policies are applied to attempt to deal with various social problems. The course also examines the types of social services provided, the client population targeted, the organization of agencies, funding mechanisms, and program design and evaluation. This course combines classroom work with minimal fieldwork with non-profit agencies.

SOCI 108. Food, Culture and Society. 4 Units.

Are you what you eat, or do you eat what you are? This course focuses on the role of food in society, with an emphasis on understanding food in its social and cultural contexts. Topics include food and nutrition; problems of over- and under-eating; food fads; food sacrifices and taboos; food and social and ethnic identity; and the global politics of food. Although beginning with a look at American food ways, the course is highly cross-cultural and comparative in nature. (DVSY, ENST, ETHC)

SOCI 111. Environment and Society. 4 Units.

Students examine the relationship between society and the natural world. It comparatively analyzes theories concerning how humans relate to the natural world as well as the causes of environmental degradation. It attends to the various roles of the biological and social sciences in understanding environmental issues, as well as the relationship between environment and inequality. The course analyzes how various social systems, institutions and behaviors contribute to environmental degradation, and highlights and compares political solutions. (DVSY, ENST, ETHC, GE3C)

SOCI 114. Social and Cultural Change. 4 Units.

Foundational theorists like Karl Marx and Max Weber were preoccupied with the rapid changes that overtook Western Europe as societies industrialized, modernized, and became part of a global capitalist economy. Likewise, contemporary sociologists examine how societies are transformed under conditions of advanced capitalism and late modernity. This course goes to the heart of sociology by centering on the "big" question first posed by Marx and Weber: how do capitalism and modernity continue to reconfigure social, political and economic life? The course takes a global perspective on this question, considering case studies from within and outside the United States. It also highlights how race, class and gender are reconfigured in particular societies by macro-structural forces.

SOCI 123. Sex and Gender. 4 Units.

This course introduces students to the sociological study of sex and gender. Sociologists define gender as a social category that is organized around perceived biological differences between men and women. As such, the study of gender is not simply the study of women. It is the study of how gender categories, identities, and institutions structure our lives and society. The course critically analyzes the sex and gender categories that organize social life and investigates how gender identities are constructed in everyday social life. Particular attention is paid to how social institutions reinforce gender identities and reproduce gender inequalities over time, as well as how sex and gender are intricately linked to other social statuses such as race, class, and sexuality. (DVSY, ETHC, GEND)

SOCI 125. Sociology of Health and Illness. 4 Units.

This course introduces students to the sociology of medicine and the delivery of health care, with an emphasis on the interaction of patients, health care professionals, and social institutions. Topics of examination include health care settings, provider-patient relationships, ethical issues in health care, and trends in medicine and policies. Additionally, the course explores how race, class, and gender affect people's health and illness in addition to how health policies shape the medical system, and how definitions, attitudes, and beliefs affect health and illness. (DVSY, ETHC, GE1B, GEND)

SOCI 133. Criminology. 4 Units.

Students analyze the nature and distribution of crime, theories of crime causation and prevention as well as an examination of the operation of police and judicial agencies. (ETHC, GE1A, PLAW)

SOCI 139. Corrections. 4 Units.

Students examine the history and theories of and current practices in institutional and non-institutional programs addressed to the correctional treatment of juvenile and adult offenders. Prerequisite: a course in sociology or permission of instructor. (PLAW)

SOCI 141. Race and Ethnicity. 4 Units.

Historical and contemporary forms of prejudice and racism are the focus of this course. Social institutions such as the media, education, family and government are examined for their role in fostering—as well as challenging—prejudice and racism. Racism, defined by sociologists as structural and institutionalized forms of discrimination, is central to the course. Some of the texts deal with the intersection of anti-Semitism, racism, sexism and classism, that allows students to consider how multiple forms of discrimination, are intertwined. Although centered in Sociology, the course readings and films are interdisciplinary in nature. Prerequisite: a course in sociology or permission of instructor. (DVSY, ETHC)

SOCI 161. Urban Society. 4 Units.

What effects has the historical emergence of cities had on human social interaction and public life? How do urban places structure social relations and create identities and cultural meanings? This course explores the development of the city and its effects on social life. Particular attention is given to issues of poverty, interracial interaction and segregation, suburbanization, gentrification, urban development and urban cultural movements. Though this course takes US metropolitan areas as its primary focus, it also draws on global examples. (ETHC)

SOCI 165. Social Organizations. 4 Units.

Students explore the social structure of communities and the influence of organizations and social institutions on individuals and groups. The course focuses primarily on the dynamics of community level organizations, and it analyzes social service, nonprofit, voluntary, public, and similar kinds of civic sector organizations and agencies, and the social issues to which they respond. Students also examine basic principles of organization that include program development, team building, leadership and related topics as strategies for responding to human needs to solve social problems and achieve social change. Prerequisite: a course in sociology or permission of instructor.

SOCI 171. Social Research Methods. 4 Units.

This course reviews and examines the various methods used in social science research to gather and analyze data. The course considers the relationship between social theory and such methodologies as experiments, observations, interviews, surveys and content analysis. It guides students in each of these data collection techniques and introduces students to quantitative and qualitative data analysis. It also considers the ethical issues involved in the use of such methods. Student designed research projects are a central part of this course. Prerequisite, may be taking concurrently: SOCI 051 or permission of instructor. (PLAW)

SOCI 172. Social Inequality. 4 Units.

This course examines the historical causes, current structure, and consequences of social inequality. The emphasis is on contemporary social, economic and political issues in the United States. This course focuses on various group experiences of inequality due to race, class, gender, sexual orientation, immigration status, nativity, etc. Various sociological perspectives and empirical research are applied to gain a better understanding on how social inequality is created, manifested, and maintained. Students investigate the effects of social inequality on society, and possible frameworks to reduce the level of social inequality. Prerequisites: SOCI 051, SOCI 071, and SOCI 079. (DVSY, ETHC, GEND)

SOCI 177. Theories of Society and Culture. 4 Units.

This course provides a broad overview of sociological theory at both the macro- and micro-levels. The course texts explore classic and contemporary sociological theories. Students who complete this course will learn how scholars define and use theory in the development of sociological knowledge. Throughout the semester students examine basic theoretical assumptions and learn how different perspectives compare and contrast with each other. Prerequisites: SOCI 051, SOCI 071, and SOCI 079.

SOCI 179. Capstone Seminar. 3 Units.

The purpose of the capstone seminar is to give sociology students the opportunity to revisit their sociological training and to consider how sociology might fit into their life after college. The class meets once a week to discuss the value of the sociology degree and the careers available to sociology majors. Throughout the course, students will develop a professional portfolio to showcase their sociological skillset. They will also present on a sociological concept in order to demonstrate their ability to apply and communicate sociological knowledge outside an academic setting. Prerequisite: SOCI 187 or permission of instructor.

SOCI 187A. Experiential Learning. 4 Units.

This course provides an intellectually rigorous experiential learning opportunity to majors. It is an advanced course designed for students who wish to further explore sociological concepts through direct experience, observation, reflection and analysis. Students choose a field site, generally an internship, regular voluntary activity or work place, where they spend approximately 8-10 hours per week. Class meetings guide students toward the development and implementation of an independent research project relevant to their field site. This course results in the production of a publishable or presentation quality piece of original research that extends and/or challenges sociological theory. Prerequisites: SOCI 051, SOCI 071, and SOCI 079.

SOCI 191. Independent Study. 2-4 Units.**SOCI 197. Independent Research. 2-4 Units.**

Theatre Arts

<http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Theatre-Arts.html>

Phone: (209) 946-2116

Location: Theatre Arts Building

Minors Offered

Theatre Arts

The Theatre Arts Department supports the mission of both the University and the College of the Pacific to offer our students:

1. courses that serve the General Education program that explore the nature of the human condition through the study of the lively art of theatre.
2. undergraduate, creative research opportunities through the study of theatre arts and the exploration and presentation of original and established plays and musicals, and transmedia experiences bring live and mediated (film, video, digital recording) performance together.
3. a vital experience in the arts and crafts of the theatre. Faculty and students learn together to enrich themselves, and to connect the University with our immediate and wider community through performances of high quality.
4. a Theatre Arts major within a well-rounded education in the liberal arts.

5. an opportunity to develop and exercise the skills of the “citizen leader” through applied learning experiences in our production program.

Specifically, the students and faculty of the Theatre Arts Department commit themselves to the following goals:

1. To develop an atmosphere where our creative efforts help us to appreciate our past and prepare for the future.
2. To inspire and challenge ourselves and our audience to a richer and deeper experience of life through theatrical presentations.
3. To study the traditions and encourage innovation in the theatrical arts as we provide a worthy training program for our students.
4. To offer opportunities for actors, directors, designers and technicians to collaborate to provide our public excellent productions.
5. To encourage experiments and innovations with the integration of the lively arts of performance and design.
6. To strive for the highest standards of training and production that our talent and resources allow.
7. To help our students fulfill their vocational or avocational interests in the various arts and crafts of theatre and film.

Liberal Studies Major

Liberal Studies majors may elect a 20-unit concentration in Theatre Arts specially designed by the students, and approved by Theatre Faculty, to meet a particular need. Liberal Studies majors or students interested in a minor in Theatre Arts should contact the chair of the department for further details.

University Productions

In line with our academic mission, the Department maintains a schedule of theatrical productions, including plays of varying historical periods and dramatic styles and musicals as a co-curricular aspect of our program. All students, staff and faculty of the University and members of the Stockton Community may audition for departmental productions. Performances are given on the proscenium stage of the Long Theatre or the intimate black-box DeMarcus Brown Studio Theatre (in the Theatre Arts Building). All our facilities are located on the south campus in close proximity.

Our academic program features training in on stage and back stage aspects of theatre, and performance and design courses for on-camera work. Courses range from acting for stage and screen, to various design and tech (theater technology) courses, dramatic literature, theatre history and career management.

Academic Requirement

Academic regulations limit to 20 the number of credit units that can be applied toward graduation in certain experiential courses such as internships, activity classes and practicum courses:

THEA 005 On Stage/Backstage	1-2
THEA 087 Theatre Internship	2-4
THEA 089 Practicum: Performance or Production	2
THEA 187 Theatre Internship	2-4
THEA 189 Practicum in Theatre	2

Research Skills

1. Define research parameters.
2. Assemble pertinent research.
3. Articulate research conclusions.

Critical and Creative Thinking

1. Identify dominant and secondary themes in written work, such as literary texts and play scripts, and in visual work, such as art, film, and stage presentations.
2. Formulate questions pertinent to work or assignments based on themes.
3. Correlate research parameters (based on themes) in response to questions.
4. Explore and consider established thought and analyses with new and novel approaches to generate unique insights.
5. Formulate thesis or conclusions that synthesize research, themes, and questions.

Teamwork and Leadership Skills

1. Function as a member of a productive team.
2. Demonstrate initiative and creativity in accomplishing the team task.
3. Demonstrate self-disciplined follow-through in completion of assignments as part of the team.
4. Function as team leader on a project, respecting and encouraging the ideas and contributions of others.

Diversity/World Cultures

1. Gain an overview of non-Western and non-American theatre culture and history.
2. Identify and correlate shared themes in world theatre culture and history.
3. Identify non-Western and non-American influences on contemporary Western theatre production and culture.
4. Recognize and value all methodologies and techniques of creating theatre.

Communication as a Cumulative Outcome

1. All of the above outcomes and indicators contribute to the development of communication skills from the perspective of the theatre artist. The achievement of all outcomes, as evaluated by all indicators, results in successful communication.

Minor in Theatre Arts

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in Theatre Arts.

Core Courses

Select two units from the following: 2

THEA 003 Stage Works

THEA 005 Theatre: Backstage

THEA 035B Stage Management Practice

Select one of the following: 3-4

THEA 111 Script Analysis

THEA 113 What's Past is Prologue: Practice and Perspective in Theatre History I

THEA 115 What's Past is Prologue: Practice and Perspective in Theatre History II

Electives

Select 14-15 units from the following: 14-15

THEA 003 Stage Works

THEA 005 Theatre: Backstage

THEA 005 Theatre: Onstage

THEA 011 Introduction to the Theatre

THEA 031 Stage Makeup Fundamentals

THEA 033 Theatrical Design Fundamentals

THEA 035B Stage Management Practice

THEA 037A	Costume Construction and Technology
THEA 037C	Scenery
THEA 071	Beginning Acting
THEA 073	Acting for the Camera
THEA 075	Expressive Movement
THEA 077	The Expressive Voice: Vocal Skills for Actors, Teachers and Presenters
THEA 089A	Practicum: Performance
THEA 089E	Practicum: Production
THEA 111	Script Analysis
THEA 112	Playwriting
THEA 113	What's Past is Prologue: Practice and Perspective in Theatre History I
THEA 115	What's Past is Prologue: Practice and Perspective in Theatre History II
THEA 134	Mask-Making
THEA 137	Lighting Technology
THEA 171	Intermediate Acting
THEA 173A	Advanced Acting: Classical Styles
THEA 173B	Advanced Acting: Actor's Repertoire

Theatre Arts Courses

THEA 003. Stage Works. 1 Unit.

This is a hands-on course focusing on many of the technical aspects of theater, including Stage Management, scenery, lighting, costumes, and properties. Students receive detailed instruction from Theatre Arts faculty and staff in methods and materials, enabling students to become significant contributors to future production work. This immersive learning experience utilizes the theater stages and shops as well as the classroom, anchoring students directly in the experiential nature of theatrical study. This course is required for all majors and recommended for minors, but is open to all university students.

THEA 005A. Theatre: On Stage. 1 or 2 Unit.

Open to all students, this course provides 1 or 2 units of credit for full participation as a cast member in a Theatre Department production, which is judged by the faculty to be of suitable scope or difficulty. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005B. Theatre: On Stage. 1 or 2 Unit.

Open to all students, this course provides 1 or 2 units of credit for full participation as a cast member in a Theatre Department production, which is judged by the faculty to be of suitable scope or difficulty. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005C. Theatre: On Stage. 1 or 2 Unit.

Open to all students, this course provides 1 or 2 units of credit for full participation as a cast member in a Theatre Department production, which is judged by the faculty to be of suitable scope or difficulty. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005D. Theatre: On Stage. 1 or 2 Unit.

Open to all students, this course provides 1 or 2 units of credit for full participation as a cast member in a Theatre Department production, which is judged by the faculty to be of suitable scope or difficulty. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005E. Theatre: On Stage. 1 or 2 Unit.

Open to all students, this course provides 1 or 2 units of credit for full participation as a cast member in a Theatre Department production, which is judged by the faculty to be of suitable scope or difficulty. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005F. Theatre: On Stage. 1 or 2 Unit.

Open to all students, this course provides 1 or 2 units of credit for full participation as a cast member in a Theatre Department production, which is judged by the faculty to be of suitable scope or difficulty. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005G. Theatre: On Stage. 1 or 2 Unit.

Open to all students, this course provides 1 or 2 units of credit for full participation as a cast member in a Theatre Arts production, which is judged by the faculty to be of suitable scope or difficulty. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005H. Theatre: On Stage. 1 or 2 Unit.

Open to all students, this course provides 1 or 2 units of credit for full participation as a cast member in a Theatre Arts production, which is judged by the faculty to be of suitable scope or difficulty. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005I. Theatre: Back Stage. 1 Unit.

Open to all students, this course provides 1 unit for experiential, immersive participation on a technical crew for a Theatre Arts production. This course requires satisfactory completion of the work assignment and a written report. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005J. Theatre: Back Stage. 1 Unit.

Open to all students, this course provides 1 unit for experiential, immersive participation on a technical crew for a Theatre Arts production. This course requires satisfactory completion of the work assignment and a written report. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005K. Theatre: Back Stage. 1 Unit.

Open to all students, this course provides 1 unit for experiential, immersive participation on a technical crew for Theatre Arts production. This course requires satisfactory completion of the work assignment and a written report. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005L. Theatre: Back Stage. 1 Unit.

Open to all students, this course provides 1 unit for experiential, immersive participation on a technical crew for a Theatre Arts production. This course requires satisfactory completion of the work assignment and a written report. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005M. Theatre: Back Stage. 1 Unit.

Open to all students, this course provides 1 unit for experiential, immersive participation on a technical crew for a Theatre Arts production. This course requires satisfactory completion of the work assignment and a written report. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005N. Theatre: Back Stage. 1 Unit.

Open to all students, this course provides 1 unit for experiential, immersive participation on a technical crew for a Theatre Arts production. This course requires satisfactory completion of the work assignment and a written report. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 0050. Theatre: Back Stage. 1 Unit.

Open to all students, this course provides 1 unit for experiential, immersive participation on a technical crew for a Theatre Arts production. This course requires satisfactory completion of the work assignment and a written report. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 005P. Theatre: Back Stage. 1 Unit.

Open to all students, this course provides 1 unit for experiential, immersive participation on a technical crew for a Theatre Arts production. This course requires satisfactory completion of the work assignment and a written report. Permission of instructor. Grading is Pass/No Credit only. May be repeated for each sub-section.

THEA 011. Introduction to the Theatre. 4 Units.

Students examine of the different components of theatre making. Using a variety of dramatic texts from various time periods and critical commentaries, students investigate what theatre making means and how theatrical traditions emerge from and reflect the aesthetics and values of specific cultures and societies. Students have a chance to experiment with different elements of theatre making (acting, directing, playwriting, design, and dramaturgy) in order to experience what these disciplines require and consist of. This course satisfies a G.E. II-C. (GE2C)

THEA 031. Stage Makeup Fundamentals. 2 Units.

Students study essentials of makeup for stage, including basics of makeup application, color theory, etc. Class projects include two-dimensional and three-dimensional techniques, cross-gender and stylized makeup designs. Students learn to apply makeup on themselves and, through service hours to Theatre Arts productions, on others. (FILM)

THEA 033. Theatrical Design Fundamentals. 4 Units.

In this lecture and demonstration course, students study the theory and application of the fundamental principles of theatre design, covering costumes, lights, and scenery. Topics include color theory, sketching, drafting, rendering, script analysis, model-building, research, and historical analysis. Assignments also include hands-on work in the Scene Shop and Costume Shop.

THEA 035B. Stage Management Practice. 2 Units.

This course builds upon the theoretical framework studied in THEA 003. Students work as stage managers and assistant stage managers on current Theatre Arts productions and gain immersive experience in the real-world environment of the Performing Arts. Prerequisite: THEA 003 or permission of the instructor.

THEA 037A. Costume Construction and Technology. 2 Units.

This class covers all aspects of costume construction, including pattern making, pattern alterations, fitting adjustments, hand and machine sewing, and other related methods and materials for costume construction. Classwork includes participation in current Theatre Department productions. This course is intended for majors and minors, but is suitable for interested general students. Prerequisite: THEA 033 with a "C-" or better or permission of instructor. (FILM)

THEA 037C. Scenery. 2 Units.

Students study and practice stagecraft as it applies to the design and fabrication of scenery, properties and effects mechanisms for theatre. Course includes history of theatrical scenery technology through to current trends. Several practical projects are created during the semester with an emphasis on creative problem solving. Students are also involved in the practical work on Departmental productions during the semester. This course is intended for Majors and Minors but is suitable for interested general students. Prerequisite: THEA 033 with a "C-" or better or permission of instructor.

THEA 051. Dance Technique. 1 Unit.**THEA 051A. Ballet. 1 Unit.**

Students are instructed in ballet, including terminology, technique, style, musicality, placement and strength. Students are required to demonstrate increased proficiency in order to advance to a successive level. Any combination of three THEA 051 courses satisfies a G.E.II-C requirement. (GE2C)

THEA 051B. Jazz. 1 Unit.

Students are instructed in jazz technique, including style, line, rhythm, isolations, flexibility, strength and percussion. Students are required to demonstrate increased proficiency in order to advance to a successive level. Any combination of three THEA 051 courses satisfies a G.E. II-C requirement. (GE2C)

THEA 051C. Modern Dance. 1 Unit.

Students are instructed in modern dance, including technique, style, musicality, alignment, centering, flexibility and strength. Students are required to demonstrate increased proficiency in order to advance to a successive level. Any combination of three THEA 051 courses satisfies a G.E. II-C requirement. (GE2C)

THEA 051D. Tap. 1 Unit.

Students are instructed in tap, including technique, terminology, time steps, rhythms and combinations. Students are required to demonstrate increased proficiency in order to advance to a successive level. Tap shoes are required. Any combination of three THEA 051 courses satisfies a G.E. II-C requirement. (GE2C)

THEA 071. Beginning Acting. 3 Units.

This course introduces students to the theories and techniques of acting. Fundamental skills of acting are explored through exercises, character analysis, scene study, and improvisation, based on the theories of Konstantin Stanislavsky. This course satisfies a G.E. II-C requirement. (FILM, GE2C)

THEA 073. Acting for the Camera. 4 Units.

The course will explore acting theory and practice as they pertain to the art and craft of acting for the camera. Students will perform scenes and monologues, which will be recorded on video for study and critique, as well as acting exercises. This course will introduce the student to the techniques, skills, and vocabulary required for acting for the camera. Students will be introduced to performing on camera working with scripts from plays, feature films, and television shows. The students will be on camera very frequently. Upon completion of this course the student will know the basic techniques of acting for the camera. Students will know what to expect when they walk onto a film/TV set or location. They will also know basic camera, lighting, audio, and non-linear video editing techniques.

THEA 075. Expressive Movement. 3 Units.

Students learn a non-biased language to describe human movement utilizing Laban Movement Analysis. Students apply their learning in class physical exercises, out-of-class observations, self-observations and journal writing, developing communication skills useful in performance, interviewing, education, therapy, collaborative work and aesthetic expression. The class creates a Movement Choir or other artistic product in order to explore the expressiveness of the body and practice collaborative skills. Offered spring only. (GE2C)

THEA 077. The Expressive Voice: Vocal Skills for Actors, Teachers and Presenters. 2 Units.

Utilizing Kristin Linklater's book *Freeing the Natural Voice*, students will develop a kinesthetic understanding of the use of their voice, with the goal to free the voice to its most expressive and expansive state, thereby increasing their oral communication skills. Totally experiential, the class consists primarily of in-class exercises, with observation skills developed through journal writing.

THEA 087. Theatre Internship. 2-4 Units.

This internship offers immersive work experience off-campus, under the supervision of non-Pacific managers or supervisors, in any theatrical field: stage; film/television; acting; administration; management; design, or construction. The internship may be for a specific production, a specific time length, or a summer season. This course requires satisfactory completion of the work assignment and written reports. Permission of instructor. Grading is Pass/No Credit only.

THEA 089A. Practicum: Performance. 2 Units.

This course provides 2 units of credit for full participation as a cast member in a Theatre Department production, which is judged by the faculty to be of suitable scope or difficulty. Pass/No Credit only, May be repeated for each sub-section. Prerequisites: At least one THEA 005 credit with a "C-" or better and permission of instructor.

THEA 093. Special Topics. 1-4 Units.

THEA 100A. Theatre Tour. 2 Units.

Attendance of theatre in a major center of theatre activity in the U.S or abroad, onsite seminars, lectures and tours are included. Written journals and plan reviews are required.

THEA 100B. Theatre Tour. 2 Units.

Attendance of theatre in a major center of theatre activity in the U.S. or abroad, onsite seminars, lectures and tours are included. Written journals and plan reviews are required.

THEA 100C. Theatre Tour. 2 Units.

Attendance of theatre in a major center of theatre activity in the U.S or abroad, onsite seminars, lectures and tours are included. Written journals and plan reviews are required.

THEA 100D. Theatre Tour. 2 Units.

Attendance of theatre in a major center of theatre activity in the U.S. or abroad onsite seminars, lectures and tours are included. Written journals and plan reviews are required.

THEA 105. Career Workshop. 2 Units.

In this course, Theatre Arts students are guided to transition into a competitive environment in a variety of theatre related opportunities such as: acting auditions, graduate schools, professional training programs, commercial interviews, etc. Projects may include acting auditions, design portfolios, interview simulations for technicians, theatre management prospectuses, etc. Class members also prepare resumes, headshots, and portfolios as part of the course work. Prerequisites: THEA 033, THEA 035B, THEA 071 with a "C-" or better or permission of instructor. Senior standing.

THEA 109. Theatre Arts Capstone. 2 Units.

This course is student-developed and Faculty coordinated learning experience which may involve performance or portfolio development and display, design or directing. All majors create a specific project which demonstrates a synthesis of the training received and an originality of perspective. Project proposals are reviewed and approved by a faculty committee. Senior standing or permission of instructor.

THEA 111. Script Analysis. 3 Units.

Through lecture and discussion, scripts are analyzed for the director, actor, or designer. In addition to script analysis, emphasis is given to the basic skills of character analysis, casting, staging, production concept, and production requirements (scenery, lighting, costumer, and sound) and to the production-audience relationship. (GE2A)

THEA 112. Playwriting. 3 Units.

This course is designed to introduce students to the craft of playwriting. Student read and analyze a diversity of contemporary plays in order to discover the structural techniques, dynamic language, and theatrically inherent to the discipline of playwriting. Students then complete writing assignments designed to explore and develop a unique creative voice. Classroom activities include analysis of master texts, the creation and sharing of short writing exercises, and the writing, staging, and presentation of one ten-minute play or segment from a larger work. (GE2C)

THEA 113. What's Past is Prologue: Practice and Perspective in Theatre History I. 4 Units.

This seminar course examines our theatrical inheritance and how theatre has been conceived and utilized historically. By looking comparatively at theatrical works from Ancient Greece to 1800, we will discover how theatre practices reflect the societies from which they emerge; how theatrical traditions and aesthetics change over time; and how the diversity of what is called "theatre" in the present day arises from a wide array of performance practices, time periods, and cultures. This course fulfills the IIA general education breadth requirement in language and literature as well as the diversity requirement. (DVSY, GE2A)

THEA 115. What's Past is Prologue: Practice and Perspective in Theatre History II. 4 Units.

This course examines our theatrical inheritance and how theatre has been conceived and utilized historically. By looking comparatively at theatrical works from 1800 to present, we will discover how theatre practices reflect the societies from which they emerge; how theatrical traditions and aesthetics change over time; and how the diversity of what is called "theatre" in the present day arises from a wide array of performance practices, time periods, and cultures. This course fulfills the GE IIA general education breadth requirement in language and literature as well as the diversity requirement. (DVSY, GE2A)

THEA 134. Mask-Making. 3 Units.

This course covers a variety of design and fabrication techniques for theatrical mask making and includes the use of many different materials in creating decorative and functional masks. This is a hands-on course involving creative problem solving, research, sculpting and decorating of wearable masks. Discussion includes cultural anthropology and history behind ceremonial masks. Students create and construct several different masks during the semester. This course satisfies a G.E. II-C requirement. (GE2C)

THEA 137. Lighting Technology. 2 Units.

Students study and practice the principals of Theatrical Lighting while working with equipment and technology in both classroom and lab environments. Course includes the controllable properties of lighting, including, color, texture and fixture choice, as well as experience with programming cues through the computer light board. Study includes basic understanding of electricity and electronics and as well as practical participation in current Theatre Department productions. This course is intended for majors, but is suitable for interested general students. Prerequisite: THEA 033 with a "C-" or better or permission of instructor. (FILM)

THEA 170. Storytelling and Creative Drama. 3 Units.

Students examine principles and practice in selecting, preparing and telling stories for children to stimulate exploration and discovery through creative dramatic experiences.

THEA 171. Intermediate Acting. 3 Units.

This course is an in-depth characterization and scene-study class that explores acting theory. Student actors critique acting assignments, prepare scene analyses, define character objectives and intentions and perform a series of scenes and audition pieces. Contemporary and some classical dramatic literature are explored. Final projects include formal written analyses, solo and ensemble presentations. Prerequisites: THEA 071 with a "B" or better and permission of instructor. **(FILM)**

THEA 172. Directing. 4 Units.

Students study the theories, principles, and practice of directing for the stage through directing project for classroom presentation. Prerequisites: THEA 033, THEA 071, THEA 111 with a "C-" or better and permission of instructor. Junior standing.

THEA 173A. Advanced Acting: Classical Styles. 3 Units.

This intensive course is designed to prepare the student actor develop (through scene study, exercises, monologue work, etc.) the basic techniques necessary to perform classical texts. Using the works of Shakespeare, the emphasis is on voice, diction, and text analysis with a focus on the linguistic structure of the text and how that structure reflects, reveals, and expresses the emotional life of the character. This class helps students to develop an understanding of the challenges of performing Shakespeare and the classics by building upon previously acquired acting skills and knowledge. Prerequisite: THEA 171 with a "B" or better and permission of instructor.

THEA 173B. Advanced Acting: Actor's Repertoire. 3 Units.

The actor creates a portfolio of work consisting of classical and contemporary monologues and/or songs. Performance ready material helps facilitate the actor's transition from academic theatre to professional theatre. Prerequisite: THEA 171 with a "B" or better and permission of instructor.

THEA 187. Theatre Internship. 2-4 Units.

This course is immersive work experience off-campus under supervision of non-Pacific managers or supervisors in any theatrical field: stage, film/television/, acting, administration, management, design, or construction. Internship may be for a specific production, a specified time length, or a summer season. This internship requires satisfactory completion of the work assignment and written reports. Graded Pass/No Credit only. Junior and senior standing.

THEA 189. Practicum in Theatre. 2 Units.**THEA 189A. Practicum: Performance. 2 Units.**

Student must have at least one THEA 005 and one THEA 089 credit, and take on a large role judged by the faculty to be of suitable scope or difficulty. Student must have the course work and experience that properly prepares the student for advanced work in order to qualify for the course. This course provides 2 units of credit for full participation as a cast member in a Theatre Department production. Pass/No Credit only, May be repeated for each sub-section. Permission of instructor required.

THEA 189B. Practicum: Performance. 2 Units.

Student must have at least one THEA 005 and one THEA 089 credit, and take on a large role judged by the faculty to be of suitable scope or difficulty. Student must have the course work and experience that properly prepares the student for advanced work in order to qualify for the course. This course provides 2 units of credit for full participation as a cast member in a Theatre Department production. Pass/No Credit only, May be repeated for each sub-section. Permission of instructor required.

THEA 189C. Practicum: Performance. 2 Units.

Student must have at least one THEA 005 and one THEA 089 credit, and take on a large role judged by the faculty to be of suitable scope or difficulty. Student must have the course work and experience that properly prepares the student for advanced work in order to qualify for the course. This course provides 2 units of credit for full participation as a cast member in a Theatre Department production. Pass/No Credit only, May be repeated for each sub-section. Permission of instructor required.

THEA 189D. Practicum: Performance. 2 Units.

Student must have at least one THEA 005 and one THEA 089 credit, and take on a large role judged by the faculty to be of suitable scope or difficulty. Student must have the course work and experience that properly prepares the student for advanced work in order to qualify for the course. This course provides 2 units of credit for full participation as a cast member in a Theatre Department production. Pass/No Credit only, May be repeated for each sub-section. Permission of instructor required.

THEA 189E. Practicum: Production. 2 Units.

This course recognizes further development in experiential learning for students who accept a production task that is judged by faculty to be of suitable scope, responsibility or difficulty. Students have prior experience in production and assume positions with staff-like duties. Graded Pass/No Credit only. Junior or Senior standing. Permission of instructor.

THEA 189F. Practicum: Production. 2 Units.

This course recognizes further development in experiential learning for students who accept a production task that is judged by faculty to be of suitable scope, responsibility or difficulty. Students have prior experience in production and assume positions with staff-like duties. Graded Pass/No Credit only. Junior or Senior standing. Permission of instructor.

THEA 189G. Practicum: Production. 2 Units.

This course recognizes further development in experiential learning for students who accept a production task that is judged by the faculty to be of suitable scope, responsibility or difficulty. Students have prior experience in production and assume positions with staff-like duties. Graded Pass/No Credit only. Junior or Senior standing. Permission of instructor.

THEA 189H. Practicum: Production. 2 Units.

This course recognizes further development in experiential learning for students who accept a production judged by the faculty to be of suitable scope, responsibility or difficulty. Students have prior experience in production and assume positions with staff-like duties. Graded Pass/No Credit only. Junior or Senior standing. Permission of instructor.

THEA 191. Independent Study. 1-4 Units.

Students who desire to study a particular aspect of theatrical practice or theory in depth may suggest a topic and a calendar to the appropriate Theatre Arts faculty. This option is designed for advanced study students. Prerequisite: Minimum 2.7 GPA. Permission of instructor.

THEA 193. Special Topics. 1-4 Units.

Cross-Disciplinary Majors and Programs

The College of the Pacific offers a variety of cross-disciplinary majors in which two areas of study are combined. The College also offers multi-disciplinary majors which draw upon the resources of several departments and programs. The cross-disciplinary programs are directed by faculty members from the cooperating departments. Students interested in one of the following programs should contact the directors of the program listed below for specific information.

College-Wide Courses

COPD 010

COP Exploratory Deans Seminar

1

Geological and Environmental Science Major (BS)

Laura Rademacher, Chair

The Bachelor of Science in Geological and Environmental Science provides opportunities for students to concentrate their studies in Environmental Science or Geology. This interdisciplinary degree program offered through the Department of Geological and Environmental Sciences with the collaboration of multiple departments in the College prepares students to critically evaluate disasters and hazards, natural resources, and environmental problems, as well as develop solutions to these challenges using the practical skills and knowledge gained in their degree program.

See Geological and Environmental Sciences for degree requirements.

Geological and Environmental Sciences Major (BA)

Laura Rademacher, Chair

The Bachelor of Arts in Geological and Environmental Sciences major is a liberal arts degree program that provides an interdisciplinary approach to studying environmental issues and concerns and geological problems that are a hallmark of the early 21st century. It may be especially useful to students who are already pursuing a major in one of the contributing fields or students who wish to pursue a professional degree (Law, Business, Public Policy), but this degree may also appeal to students who simply wish to consider the Earth and its environments and its problems from a variety of perspectives.

See Geological and Environmental Sciences for degree requirements.

Ethnic Studies Minor

Xiaoqing Zhou, Director

Ethnic Studies is an interdisciplinary program. It provides students with multiple models of critical theories and methodologies for examining the intersections of race, ethnicity, gender, culture, and class in the historical formations of the United States, with an emphasis on the experiences and perspectives of historically disenfranchised populations such as African Americans, Asian Americans, Latinos, and Native Americans. Incorporating courses offered in various schools and departments, its curriculum broadens students' major fields of study, prepares students for interdisciplinary studies at the graduate level, and enhances students' employment opportunities in law, education, business, medicine, government, communication, and social services, among other professions.

See ethnic studies program (p. 122) for minor requirements.

Gender Studies Minor

Jennifer Helgren, Director

The Gender Studies Program at Pacific is a thriving interdisciplinary consortium of faculty and students committed to both a curricular and cultural environment supportive of the study of gender. We are interested in how gender intersects with definitions of nationality, race, ethnicity, and class; and how gender identities are constantly redefined over

time. By exploring the relationship between gender identity and cultural meaning, we prepare students to think comparatively, structurally, and critically about their experiences and impact on the world. The dialogue we foster among the liberal arts, natural sciences, and the professions enriches the intellectual life of Pacific's students and faculty, as well as our surrounding community.

See gender studies program (p. 129) for minor requirements.

Latin American Studies Program

Martin Camps, Director

website: [go.Pacific.edu/LatinAmericanStudies \(http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Modern-Languages-and-Literature/Academics/Latin-American-Studies.html\)](http://www.pacific.edu/Academics/Schools-and-Colleges/College-of-the-Pacific/Academics/Departments-and-Programs/Modern-Languages-and-Literature/Academics/Latin-American-Studies.html)

Latin American Studies

Latin American Studies (LAS) is a broad program that encompasses an academic minor, support of the Summer Spanish Immersion Program in Antigua, Guatemala, the *Danzantes de Pacific* Ballet Folklórico, the Spanish language honor society and coordination of related cultural and educational activities. The program maintains close ties to Ethnic Studies, Gender Studies, Latino Outreach and the Multi-Cultural Center.

Minors Offered

Latin American/U.S. Latin@ Studies

Latin American/U.S. Latin@ Studies is an interdisciplinary minor designed to provide cultural and linguistic competencies that deepen the intellectual experience and provide a competitive edge in the job market. Students in the minor will examine the present and past cultures of Latin America, develop communicative competence in at least one of the languages of Latin America, explore the conception of diverse communities and engage in the challenges of the future of the region in a global context. The minor is open to majors in all schools and disciplines. Students may choose a concentration in Latin American or U.S. Latin@ Studies suited to individual academic interests and professional goals.

See Modern Language and Literature for minor requirements.

Pre-Law Program

Cynthia Ostberg, Director

The Political Science Department offers a Pre-Law Program to assist students preparing for law school. The program includes a Pre-Law minor, meetings and programs to provide information about applying to law schools and the Law School Admissions Test, and an advisor for all students preparing for law school. Since law schools prefer that students major in a regular field, the Pre-Law minor is designed to complement the student's major with coursework that helps prepare for the law school admissions test, and which also strengthens students' skills in areas they need in law school.

See political science department for minor requirements.

Pacific Legal Scholars Program

Cynthia Ostberg, Director

Website: <http://www.go.Pacific.edu/LegalScholars/>

The Pacific Legal Scholars Program offers students interested in pursuing a career in law the opportunity to earn a bachelor's degree and a JD degree in an abbreviated period of time. The program offers both a 3+3 and 4+3 track, each with specific admissions requirements. Qualified students complete all major and general education course requirements, 3 seminar classes for law school preparation, 1 upper division law course, 5 off-campus law-related activities, and 4 on-campus law-related activities. Common majors for students in the program include Political Science, Business, International Relations, English, Communications, Psychology, History, Sociology, and Economics.

See the program director for degree and program requirements in Political Science.

Self-Designed Major (BA)

Marcia Hernandez, Associate Dean

A unique opportunity for students who have special academic or career objectives not directly met by existing majors is the "self-designed" major. Students may pursue either an interdisciplinary program or a discipline specific program of study as part of the self-designed major. In this program a student works with several faculty members to construct a major organized around a particular theme or interdisciplinary course of study or around a specific discipline offered in the College which does not have a regular major program. All self-designed majors must be approved by the Associate Dean of the College.

See the College Academic Affairs Office (WPC 113) for degree requirements.

Thematic Minor

Marcia Hernandez, Associate Dean

Students interested in designing their own minor program around a specific area of interest or field of study offered in the College may do so by declaring a Thematic Minor. The student with a declared major and a minimum 2.65 grade point average may select the Thematic Minor so long as it does not duplicate or closely parallel an existing major or minor. The Thematic Minor must contain at least 20 units, normally five courses. No course may count for both the student's major and the Thematic Minor, and no more than one course may be completed outside the University. Some advanced courses must be included.

See the College Academic Affairs Office (WPC 113) for minor requirements.

Major Programs for Students Seeking a Teaching Credential

A student in the College of the Pacific who seeks a Single Subject (SS) preliminary credential through the University of the Pacific must complete: a major leading to a baccalaureate degree, passage of state examinations: CBEST and CSET examinations for the teaching area; a course or successful test on the Constitution of the United States; and specified professional preparation courses offered by the School of Education. The California Basic Educational Skills Test (CBEST) and California Subject Examinations for Teachers (CSET) must be passed before a candidate may student teach or intern. CPR Certification is required for a preliminary credential. See the section on the School of Education in this catalog for information on CBEST. Students who seek entry into Teacher Education Credential Candidacy need a minimum GPA of 2.5 in undergraduate coursework, and the University of the Pacific GPA.

A student in the College who seeks a credential may complete any major program. However, the College offers specified baccalaureate degree programs which fulfill the degree requirements and help with CSET preparation.

Students can pursue single subject credentialing for Art; English; Mathematics; Sciences (see Biology); Science: Chemistry, Physics or Geoscience; Spanish; Physical Education (see Health, Exercise, and Sport Sciences (HESP Department)); Social Sciences (see History) and Music Education (Conservatory of Music). CSET examinations in these fields are required. The Department of Music Education (Conservatory of Music) provides a state-approved subject matter program.

The department major programs recommended for the Single Subject areas are described in the departmental sections of this catalog. Students may also check with the Academic Affairs Office of The College (WPC 111) to learn more about departments that offer majors for the single subject credential. Information on CBEST and CSET is available at the following website: www.ctcexams.nesinc.com (<http://www.ctcexams.nesinc.com>).

Information about curriculum and credential courses in the School of Education required for teacher preparation as well as state requirements are available in room 102 – Teacher Education Program, and the Credentials office in room 108, in the School of Education building. See also the section in the catalog for the Benerd School of Education for Teacher Credentialing.

Social Sciences Major (BA)

Jennifer Helgren, Adviser

The Social Sciences major is an interdisciplinary program that provides training in History, Political Science, Sociology, Economics and Geography. Social Sciences students learn both qualitative and quantitative methodologies in their exploration of human society.

Graduates may pursue careers such as business administration, government, law, law enforcement, human resources, and public policy.

The major is also designed for students interested in high school teaching and coaching. The major is aligned with the Social Science subject matter exam on the California Subject Examination for Teachers (CSET). Prospective teachers must earn a passing score on the the Social Sciences CSET exam to be certified as teachers. Students completing the Social Sciences major in the College of the Pacific may also concurrently complete the Single Subject Credential through the Benerd School of Education.

The major is housed in the History department and shares learning outcomes with the History major. See the history department for degree requirements.

Programs in the Health Professions*

C. Vierra (Biology), Chair

J. Lin-Cereghino (Biology), Assistant Chair

Pre-Health Professions Committee

Pre-medical, pre-dental, pre-physical therapy, pre-nursing and medical technology students may major in any academic subject they prefer as long as they also fulfill the entrance requirements for the medical, dental, nursing schools, or physical therapy programs, or medical technology programs to which they plan to apply.

The University does not list a pre-medical, pre-dental, pre-physical therapy or pre-nursing major. A student in any of these programs must declare

an academic major prior to graduation in order to be a candidate for a baccalaureate degree in the College of the Pacific.

Details of these and other programs appear in this catalog under the section describing the departmental majors and cross-disciplinary majors of the College of the Pacific and the Thomas J. Long School of Pharmacy and Health Sciences (Pre-physical therapy Advantage Program).

Pre-Medical Program*

Advisors: D. Maxwell (Biology), C. Vierra (Biology), A. Franz (Chemistry)

The following courses are suggested as only a minimum preparation for medical school: one year of general chemistry; one year of organic chemistry; one year of beginning biology plus an additional three to five courses in biology; one year of physics; one semester each of calculus and statistics; and additional coursework in English (one year), behavioral and social sciences and humanities.

Pre-Dental Program*

Advisors include all faculty in the Department of Biological Sciences. Dr. Marcos Gridi-Papp is the Pre-Dental Program Advisor for the College of the Pacific.

The following courses are suggested as only a minimum preparation for most dental schools: one year of general chemistry; one year of organic chemistry; four semesters of biology; one year of general physics (all with lab); and one year of English which includes one course in composition. Note: One year in English requirement can be met by Pacific Seminar I and II.

Publications on Admissions Requirements

Medical School Requirements, USA and Canada, Association of American Medical Schools, One Dupont Circle NW, Washington, D.C. 20036.
Admission Requirements of U.S. and Canadian Dental Schools, American Association of Dental Schools, 1625 Massachusetts Avenue, N.W., Washington, D.C. 20036-2212.

* Correspondence regarding the Pre-Dental Program should be directed to L. Wrischnik, Department of Biological Sciences. Correspondence regarding the Pre-Medical Program should be directed to D. Maxwell, Department of Biological Sciences. Correspondence regarding the other programs in the Pre-Health Professions should be directed to D. Maxwell, Department of Biological Sciences.

College of the Pacific Courses

COPD 010. COP Exploratory Deans Seminar. 1 Unit.

This is a general introduction to make a successful transition to college. Emphasis is on styles of learning, research, writing and presentation skills, collaborative learning, critical thinking and self-assessment. This course also provides a format for COP Exploratory students to gain exposure to a variety of disciplines within and outside of The College. Recommended for all COP Exploratory first year students. Offered only in the Fall.

COPD 093. Special Topics. 4 Units.

COPD 193. Special Topics. 1-4 Units.

CONSERVATORY OF MUSIC

<http://www.pacific.edu/conservatory/>
Phone: (209) 946-2415
Location: Faye Spanos Concert Hall
Peter Witte, Dean

Nicolasa Kuster, Assistant Dean

Degrees Offered

Bachelor of Arts
Bachelor of Music
Bachelor of Science

Master of Music (see Graduate Catalog for information)
Master of Arts (see Graduate Catalog for information)

Majors Offered

Music Composition (BM)
Music Education (BM, MM)

- Instrumental
- Choral

Music History (BM)
Music Industry Studies (BS)
Music Management (BM)
Music Therapy (BM, MA)
Performance (BM)

- Woodwinds, Brass, and Percussion
- Voice
- Strings
- Piano

Bachelor of Music in Jazz Studies (Honors, General)

- Performance
- Composition
- Pacific Jazz Ambassadors

Music (BA)

Minors Offered

Creative Music Technology
Music
Music History
Music Theory
Music Management
Jazz Studies

A professional school educating and training musicians for the highest levels of artistic performance, creative endeavor, and intellectual inquiry.

Mission

The mission of the Conservatory of Music is to provide superior educational opportunities in music so students can prepare for successful professional careers and to become artistic leaders of the future, to be a significant musical resource for the University and the community by presenting high quality and diverse forms of the musical arts, and to have a significant impact on the future of music by

doing research, creating new music, and being of service to the music profession.

Vision

The Conservatory of Music will be the finest music school possible, one which sustains and communicates traditional musical and educational values through its curricular programs. Simultaneously, the Conservatory will explore, develop, and employ new and innovative means of communicating those values, and will create and present new music in both traditional and developing forms.

Bachelor of Music

Seven areas of professional study are available in the Bachelor of Music degree.

Music Composition provides students with both a strong understanding and a working knowledge of the creative and technical aspects of music. Composition majors go on to a variety of careers that include composing, sound design and sound for film, music technology development, as well as conducting, and teaching at the college/university level. The Bachelor of Music in Composition often leads to graduate study in composition but can also give direct access to work in the music industry.

Music Education prepares musicians for careers as music teachers at all levels in public and private schools. Music educators can ultimately conduct ensembles and teach private lessons, classroom music, music history, theory, improvisation, electronic music and recording arts, composition or music of diverse traditions. Music education graduates can complete the degree and California teaching credential in four years.

Music History is an academic major within the Conservatory of Music. It has a strong core in the humanities and languages combined with intensive Conservatory training. Students are exposed to a wide range of courses in music history, music theory and the liberal arts. Music History majors can continue to the graduate level in preparation to join and teach in the discipline of musicology. Combining the Music History degree with degrees in other fields is encouraged to enhance career prospects in music librarianship, conducting, performance, or music journalism.

Music Management prepares qualified students for a wide array of career options in recording production and promotion, music products management, music publishing, arts management and administration, business and legal relationships in the entertainment media and a host of other interests in the music industry.

Music Therapy combines the study of music with study in the behavioral sciences, and builds skills for careers as music therapists in hospitals, special education programs, mental health and rehabilitation centers, convalescent homes, correctional facilities, development centers and in the community on contract as specialists in music therapy.

Performance Studies provide students a foundation to pursue careers as instrumentalists in symphony orchestras, bands, singers in opera and musical theatre, solo recitalists, accompanists, conductors, private and college teachers and church musicians.

Jazz Studies provides students a foundation in both traditional and innovative approaches to development as a jazz artist or composer. Courses in jazz history, theory, improvisation, and composition are combined with solo performance, small ensemble and large ensemble experiences. The curriculum culminates in a four-semester sequence of

research-based seminars that investigate the performance techniques and historical development of jazz.

Graduate Study

The Conservatory of Music, through the Graduate School of University of the Pacific, offers the Master of Music in Music Education and the Master of Arts degree in Music Therapy. It also cooperates with the Gladys L. Benerd School of Education and the Graduate School to offer the Master of Education that leads to a graduate degree and teaching credential in music. Complete information on these degrees is available in the Graduate School Catalog and from the Conservatory of Music.

Pacific Music Camp/Pacific Music Business Camp

Pacific Music Camp and Pacific Music Business Camp are summer programs of musical study and performance for junior and senior high school musicians. Students are given the opportunity to work intensively with top music educators, professional musicians, and Conservatory of Music faculty on a daily basis for one-week. Activities include concert band, orchestra, chorus, and piano along with master classes, electives and chamber ensembles. Specialized classes for music business participants include promotion and marketing, social media, record production, and live sound. Each week concludes with public performances and presentations. For more information, contact:

Pacific Music Camp
Conservatory of Music
University of the Pacific
3601 Pacific Ave.
Stockton, CA 95211
Phone: (209) 946.2416
Email: musiccamp@pacific.edu

www.pacific.edu/musiccamp (<http://www.pacific.edu/musiccamp>)

Accreditation

The University of the Pacific is a charter member of the National Association of Schools of Music and has been accredited by NASM since 1928. The music therapy programs are approved by the American Music Therapy Association. Music education programs are accredited by the National Council for the Accreditation of Teacher Education and the California Commission on Teacher Credentialing through the Gladys L. Benerd School of Education.

Pacific's Conservatory of Music and Eberhardt School of Business are designated as Affiliates of the International Music Products Association, otherwise known as NAMM. As a NAMM-Affiliated institution, Pacific students are eligible for a range of benefits that include admission to the twice-a-year NAMM Convention, and annual NAMM student scholarships. Pacific is the first school to be designated as a NAMBI Affiliate in the state of California.

Facilities and Equipment

The Conservatory of Music occupies a complex of five buildings. The landmark Conservatory Building, renovated in 1987, houses the 870-seat Faye Spanos Concert Hall, the faculty studios, student practice rooms, and the Conservatory of Music administration offices. The Recital Hall, constructed in 1986, seats 115 and is specifically designed for student recitals, master classes and workshops. The Rehearsal Center, dedicated in 1986, houses an instrumental rehearsal hall, a choral rehearsal hall, performance music library and performance ensemble offices. The Frank and Eva Buck Hall, completed in 1991, is the center for Conservatory classrooms and faculty teaching studios and offices, the Composition Studio, a conference room, student commons and study areas. Owen Hall

houses additional classrooms, teaching laboratories, chamber ensemble rehearsal studios, the Conservatory's Digital Recording Studio, which is based around a Pro Tools HD2 system with a C-24 control surface, the Music Technology Lab, and 30 student practice rooms.

The Conservatory Computer Studio for Music Composition features a digital environment for the composition of music that uses computers and new technology. It is centered around a digital audio workstation running Max/MSP/Jitter, Logic Pro, Final Cut Pro X, Pro Tools, and other software. This facilitates composition, sound design, detailed audio editing capabilities, and fully digital automated mixing, to support the creation of music for film and live performance technology with video. Recent additions include an Analog/Digital Hybrid studio built around an extensive Buchla modular system and interfaced to Ableton Live.

The Conservatory Music Technology Lab serves as both a teaching facility and a general purpose computer lab for Conservatory students and faculty. 19 iMacs are equipped with a large variety of professional software that include current versions of Sibelius, Logic Pro, Final Cut Pro X, Max/MSP/Jitter, Pro Tools, Photoshop, and commonly used word processing/presentation software.

The Instructional Media Library is integrated with the William Knox Holt Memorial Library adjacent to the Conservatory complex. It houses state-of-the-art audiovisual equipment for students, faculty and community use. Materials in the library include music books, scores, video tapes, DVD's and recordings.

Conservatory instruments include Steinway, Bosendorfer, Baldwin, Yamaha and Kawai pianos; a four manual concert pipe organ, a Wm. Dowd Harpsichord; and a collection of wind, percussion and orchestral string instruments for student use.

Baccalaureate Degrees

General Requirements

1. All baccalaureate degrees require a minimum of 124 units.
2. All music majors except those in the Bachelor of Arts program are required to satisfy a piano proficiency level for graduation. Conservatory departments or applied areas can elect to waive the examination requirement by substituting four semesters of applied music keyboard or completion of the Freshman Piano Examination.
3. Residency is defined as 8 semesters for a typical B.A., B.S. or B.M. degree in the conservatory, with certain exceptions (e.g. study abroad, student teaching, the honors track for the B.M. in Jazz Studies). Students who are completing two majors within the conservatory continue residency requirements until graduation or until completing 10 semesters (whichever is earlier), subject to the same exceptions. Students with a second major or degree outside the conservatory are subject to the standard, 8-semester definition of residency. Transfer students will typically have a residency of 6 semesters, although this will be determined by placement at matriculation. Excellence in Performance Scholarship recipients may have additional terms associated with their scholarships beyond those associated with residency or graduation requirements. Students who are enrolled full-time beyond the required number of semesters shall be permitted but not required to continue with courses defined as residency requirements. Students who have otherwise met the requirements for graduation in a period shorter than the typical residency for their program may petition to waive residency for the remaining semester(s) but must still meet the total required number of units for each requirement. Students who move to part-time status are no longer subject to residency requirements but must still meet the total required number of units for each requirement.

- Lessons in applied music (principal instrument or voice) must be taken each semester of full-time residency according to major field specifications. Literature and technical requirements for various levels of instruction are noted in the courses of study in the applied music handbook, on file in the Conservatory office and in the music library.
- All students are required to participate for credit in one major ensemble each semester of full-time residency according to major field specifications. In addition, instrumentalists are required to participate in a major choral ensemble for two semesters with the exception of the BA in Music Management degree.
- The Conservatory Academic Regulations Committee may approve any waiver, challenge, or substitute other deviation regarding any curricular requirements of Conservatory of Music degrees. Once a student has matriculated at the University, she or he may not take a core music history or theory course for credit at a junior college. (Core music theory courses are defined as MCOM 009-MCOM 044 inclusive. Core music history courses are defined as MHIS 011-MHIS 012 inclusive.) Independent studies in the music history and music theory core curriculum are not permitted.
- The number of times a student may take a music theory or music history core course is limited to two. Should a student fail to pass a core course after a second attempt, disqualification from the Conservatory will result.

- A maximum of three non-Conservatory courses may be taken by music majors on a pass/no credit basis.

Class Attendance

Students are expected to attend all classes, rehearsals, lessons and other specified assignments. At the beginning of each term, the instructor distributes a syllabus that explains attendance and grading policies and contains any other information pertinent to the class.

Bachelor of Science in Business Administration with a Concentration in Arts and Entertainment Management

In addition to and in cooperation with the Conservatory of Music, the Eberhardt School of Business offers options for students interested in careers in a management position in the arts and entertainment industry. Students who select one of these options study toward a Bachelor of Science degree in Business Administration with a concentration in Arts and Entertainment Management. Within this concentration, students focus their interests on entertainment management, visual arts management or theatre arts management. Curricula in these options include courses of study in general education, business administration, and arts and entertainment management.

The Conservatory of Music offers a Music Minor to University students with an interest and ability in music. Students who apply for admission to the Music Minor program are required to perform a placement audition in an instrument or voice. Students admitted to the Music Minor program are assigned a faculty advisor to direct their courses of study. Applications are available at the Office of Student Services, Room 300, Conservatory Building.

Minor in Music

Students must complete a minimum of 21 units and 10 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in music.

Minor Requirements:

MCOM 010	Music Theory and Aural Perception I	4
MHIS 005	Music Appreciation	4
Select one of the following:		3-4
MHIS 011	Survey of Music History I	
MHIS 012	Survey of Music History II	
MAPP 010	Applied Music *	2
MPER 050	Solo Class **	0
Two Semesters of Participation in any Ensemble		2
5-7 Units of Additional Courses Excluding MCOM 002 ***		5-7

* Students take a minimum of two semesters of private instruction.

** Students take a minimum of two semesters of enrollment in MPER 050.

*** A qualified student may pass out of MCOM 010 and then elect to take MCOM 012/MCOM 013 or one semester of MHIS 011 or MCOM 012.

Music History Minor for Music Majors

The Music History minor for music majors is designed for students who wish to pursue additional coursework in the field of music history. It is open to students with the appropriate prerequisites. The minor allows other conservatory majors to explore more research-oriented courses. The requirements include four upper-division music history courses, one semester of German, one additional course in the liberal arts (specified below), and a semester of individualized research.

Academic Structure

The Conservatory of Music is a professional school within the University of the Pacific. As well as providing instruction for professional preparation, the Conservatory of Music offers specific courses as part of the liberal learning component of the University's General Education Program. The Bachelor of Science in Business Administration with a concentration in Arts and Entertainment Management is awarded by the Eberhardt School of Business. A Music Education degree (MEd) is offered in conjunction with the Gladys L. Benerd School of Education.

Admission Requirements

In addition to the academic requirements for admission to the University, Conservatory applicants must perform an audition in their principal performing medium, except for students wishing to pursue the Bachelor of Science in Music Industry Studies. Composition applicants must submit two original compositions. Academic departments may ask prospective students to appear for an interview as part of the admissions process when such an interview appears appropriate and would assist in determining the applicant's qualifications for admission. Auditions are held throughout the academic year. Students unable to appear in person may substitute a recorded audition. Audition information and arrangements is requested from the Conservatory Office of Student Services.

Grade System in the Conservatory

The Conservatory adheres to the "letter" grading system as described elsewhere in this catalog with the following exceptions:

- Pass/No Credit (P/NC) is used only in , MMG T 010 and MMG T 187, and MTHR 187, MTHR 245, and MTHR 299.
- The pass/no credit system is not used in the Conservatory courses for Bachelor of Music degree students but is a grading option in Conservatory courses MCOM 002, MHIS 005, and MEDU 100, which are not available to Bachelor of Music or Bachelor of Arts in Music degree students.

Minor in Music History

Students must complete a minimum of 22 units and 7 courses with a Pacific minor grade point average of 2.3 in order to earn a minor in music history.

Minor Requirements:

Twelve units in MHIS (100-level, not including MHIS 197), 9 of which must be taken from the following: *

MHIS 152	Topics in Early Music	
MHIS 153	Topics in Eighteenth-Century Music	
MHIS 154	Topics in Nineteenth-Century Music	
MHIS 155	Topics in Music of the 20th-21st Century	
MHIS 160	American Music	
MHIS 193: Special Topics		
GERM 011A	First-Year German, First Semester (If waived upon exam, choose 8 units from below instead of 4)	4
Four units from the following:		4
Any other language course		
Any course in ARTH, HIST, ENGL, CLAS, or RELI		
ANTH 053	Cultural Anthropology	
ETHN 011	Introduction to Ethnic Studies	
GEND 011	Introduction to Gender Studies	
SOCI 051	Introduction to Sociology	
MHIS 197	Research in Music History	2

* Students may substitute special topics courses with the consent of the advisor.

Music Theory Minor for Music Majors

The minor in music theory is available only to music majors. The intent is to offer significant study in music theory as a secondary area for a student already involved in the study of music. It can be combined with any music area except composition, but is particularly useful for majors in performance who are interested in extending their knowledge of music theory to support their performance activities or in expanding their compositional interests. It consists of seven courses that include upper division study in music analysis, counterpoint, orchestration and computer music.

Minor in Music Theory

Students must complete a minimum of 22 units and 7 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in music theory.

Note: 1) Only music majors are eligible for the minor in music theory.

Minor Requirements:

MCOM 019	Music and Computer Technology	3
MCOM 108	Counterpoint	3
MCOM 109	Advanced Orchestration	3
MCOM 113	Advanced Analysis	3
MCOM 118	Music and Video Technology: Performance	3
PHYS 039	Physics of Music	4
One Upper Division Music History (MHIS) course		3

Note: 1) All the courses above must be taken at Pacific.

Music Management Minor

The Minor in Music Management is offered for students wishing to explore career options in the music and entertainment industries, while pursuing another major area of study. No audition or performance of music is required to fulfill the Minor, although students with an interest in performance are encouraged to explore joining an appropriate Conservatory of Music music ensemble. Students complete two foundational courses and an internship in the Minor and then, with the guidance of the Program Director, chose additional coursework within a range of music management courses that will best match their individual areas of interest.

Minor in Music Management

Students must complete a minimum of 20 units and 6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in music management.

MMGT 011	Music, Entertainment in U.S. Society	4
MMGT 111	Music Industry Analysis	4
MMGT 187	Music Management Internship	1-4
Select one of the following:		3
MHIS 005	Music Appreciation	
MHIS 006	Music of the World's People	
MHIS 012	Survey of Music History II (only for students majoring in Music)	
MUJZ 008	Introduction to Jazz	
Electives in Music Management		6
MMGT 050	Music Industry Forum	
MMGT 106	Sound Recording Fundamentals	
MMGT 107	Performing Arts Administration	
MMGT 108	Artist Management	
MMGT 120	Media Production	
MMGT 121	Media Promotion	
MMGT 153	Entertainment Law	
MMGT 140	Music Products Management	
MMGT 160	Recording Studio Production	
MMGT 193 Special Topics in Music Management or other MMGT courses offered		

Minor in Jazz Studies

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in jazz studies.

MUJZ 010	Jazz Piano I	1
MUJZ 011	Jazz Piano II	1
MUJZ 020	Jazz Theory and Aural Training	3
MUJZ 030	Jazz Improvisation I	2
MUJZ 031	Jazz Improvisation II	2
MUJZ 158	Advanced History of Jazz	3
or MUJZ 008 Introduction to Jazz		
MUJZ 171	Jazz Applied I	1-2
MUJZ 172	Jazz Applied II	1-2
MUJZ 173	Jazz Applied III	1-2
MUJZ 174	Jazz Applied IV	1-2

Select one of the following: 4

MPER 066	Jazz Ensemble
MPER 067	Jazz Combo

Minor in Creative Music Technology

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in creative music technology.

MCOM 002	Music Fundamentals	3
MCOM 029	The Analog-Digital Studio	3
MCOM 118	Music and Video Technology: Performance	3
MCOM 127	Music, Sound, and Film	2
MMGT 106	Sound Recording Fundamentals	3
Select one of the following:		6
MCOM 112	Composition- Computer Music *	
MMGT 160	Recording Studio Production	
& MCOM 112	and Composition- Computer Music **	

* Must be taken for three semesters.

** Must be taken for two semesters.

Bachelor of Arts

All candidates for the Bachelor of Arts degree with a major in music must complete a minimum of 46 units in music. The total number of music units that count toward the Bachelor of Arts may not exceed 60 units. Each semester, Bachelor of Arts students must complete 1 unit each of applied music and major ensemble for a total of 8 semesters.

Musicianship

1. The ability to hear, identify, and work conceptually with the elements of music such as rhythm, melody, harmony, structure, timbre, texture.
2. An understanding of and the ability to read and realize musical notation.
3. An understanding of compositional processes, aesthetic properties of style, and the ways these shape and are shaped by artistic and cultural forces.
4. An acquaintance with a wide selection of musical literature, the principal eras, genres, and cultural sources.
5. The ability to develop and defend musical judgments.

Performance and Music Electives

1. Ability in performing areas at levels consistent with the goals and objectives of the specific liberal arts degree program being followed.
2. Understanding of procedures for realizing a variety of musical styles.

Liberal Arts Studies

1. The ability to think, speak, and write clearly and effectively, and to communicate with precision, cogency, and rhetorical force.
2. An informed acquaintance with the mathematical and experimental methods of the physical and biological sciences; with the main forms of analysis and the historical and quantitative techniques needed for investigating the workings and developments of modern society
3. An ability to address culture and history from a variety of perspectives.
4. Understanding of, and experience in thinking about, moral and ethical problems.
5. The ability to respect, understand, and evaluate work in a variety of disciplines.
6. The capacity to explain and defend views effectively and rationally.

Bachelor of Arts Major in Music

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in music. Only 60 music units may count toward the degree.

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

IV. Breadth Requirement

Students must complete 64 units outside the Conservatory of Music. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

V. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3

MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 054	Dean's Seminar	1
Elective select one additional MCOM or MHIS course (100 level)		3
Elective select one MHIS Course (150 or higher)		3
Select six units from the following: *		6
MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
Music Electives		13
MAPP 010 Applied Music **		6
MUSC 197	Independent Research	3

* A Major Ensemble is required every semester for a total of 6 units.

** Students repeat MAPP 010 to have a total of 6 units from this one course.

Music Composition

Students must complete a minimum of 125 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in music composition.

Technical Knowledge

1. Developing and implementing basic concepts.
2. Controlling new compositional techniques.
3. Producing a new composition from concept to finished product.

Fluency

1. Organizing, conducting, and rehearsing of a new work.
2. Analytical skills.
3. New technologies related to the field.
4. Coherently expressing ideas and concepts in spoken and written languages.

Opportunities

1. To hear fully realized performances of student's original composition.
2. To go beyond the boundaries of Western music.
3. For experiential learning.

Ability

1. Produce new compositions.
2. Set artistic goals.
3. Solve compositional problems independently.
4. Demonstrate significant technical mastery.

Bachelor of Music Major in Music Composition

Students must complete a minimum of 125 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in music composition.

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

Two courses from the following:

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Foundation Courses

MAPP 001D	Class Piano *	2
MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
Eight units from the following courses:		8
MPER 066	Jazz Ensemble	

MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
MPER 054	Dean's Seminar	1
MAPP 010	Applied Music **	8
Major Requirements		
MCOM 014	Introduction to Orchestration	2
MCOM 024	Composition (Lower Division, 4 Semesters)	8
MCOM 026	New Resources in Pitch	1
MCOM 027	New Resources in Rhythm	1
MCOM 029	The Analog-Digital Studio	3
MCOM 034	Advanced Chromaticism and Analysis	3
MCOM 035	20/21 Century Music Theory	3
MCOM 109	Advanced Orchestration	3
MCOM 124	Composition, Upper-Division (2 Semesters)	4
MCOM 126	New Performance Techniques	1
MCOM 127	Music, Sound, and Film	2
MCOM 128	New Approaches to Form	1
MCOM 129	Non-Western Composing Techniques	1
MCOM 134	Composition: Senior Project	6
MCOM 194	Composition Senior Recital	0
MPER 151	Principles of Conducting	2
Select 20 units of the following: ***		20
MCOM 108/208	Counterpoint	
MCOM 112	Composition- Computer Music	
MCOM 113	Advanced Analysis	
MCOM 118	Music and Video Technology: Performance	
MUJZ 110	Jazz Arranging and Composition	
MUJZ 111	Jazz Composition for the Large Ensemble	

* This is not required for piano students.

** Students repeat MAPP 010 in order to have a total of 8 units from this one course.

*** Up to 12 units of free electives with consultation from advisor.

An end-of-the-year advisory portfolio review is required of all composition majors. Admission to the upper division is based on a review of the student's work at the end of the second year.

A senior composition project is required in the senior year.

Music Composition Courses

MCOM 002. Music Fundamentals. 3 Units.

This course is an introduction to the rudiments of music: Pitch, major and minor scales, rhythm, simple and compound meter, key signature, intervals, major, minor, diminished, and augmented chords. The class incorporates two components: theory and ear training. (GE2C)

MCOM 003. Musicianship Fundamentals. 1 Unit.

Students will gain or improve basic singing, listening and writing skills in the areas of melody, rhythm, intervals, and identification of pitches, scales, and chords, in various genres of music including but not limited to classical, jazz, and popular music.

MCOM 009. Introduction to Music Technology. 1 Unit.

A basic introductory course to the use of computer technology for musicians. The course is divided into modules that cover music notation, MIDI, digital audio workstation, and synthesizer/sampler plugins, multi-track recording and editing, and web design and construction. Discussion cover aspects of copyright, content ownership, and online resources for publishing and music distribution.

MCOM 010. Music Theory and Aural Perception I. 4 Units.

Students study primary concepts of music such as rhythm, meter, pitch, scale degree, triads, seventh chords and their inversions, tonal function, and diatonic chord progression through harmonic expansions that are accomplished through the development of aural and sight singing skills, and the completion of written exercises.

MCOM 012. Music Theory III: Chromaticism. 2 Units.

Students study chromatic harmony and its use through written and analytical exercises that encompass secondary dominants, modulation, borrowed chords, chords of the augmented 6th, the Neapolitan 6th, and extended chromaticism through enharmonic reinterpretation. Prerequisite: MCOM 011. Prerequisites may be taken concurrently: MCOM 013 and MCOM 014.

MCOM 013. Aural Perception III. 1 Unit.

This course trains students in musicianship skills that relate to the chromatic harmony studied in MCOM 012. Topics include the development of expertise through the dictation of 3 part exercises, harmonic progressions, and extended rhythmic lines. Prerequisite: MCOM 011. Prerequisites may be taken concurrently: MCOM 012 and MCOM 014.

MCOM 014. Introduction to Orchestration. 2 Units.

Students are introduced to the fundamentals of orchestration that include characteristics of instruments, transposition and score layout. Orchestral analysis with definition of material in terms of Foreground-Middleground-Background is also studied. Prerequisite: MCOM 011. Prerequisites may be taken concurrently: MCOM 012 and MCOM 014.

MCOM 016. Aural Perception IV. 1 Unit.

This course trains students in musicianship skills that relate to the further study of chromatic harmony. Topics include the development of expertise through the dictation of 4 part exercises, harmonic progression, and extended rhythmic exercises. Prerequisite: MCOM 012, 013 and 014. Prerequisites may be taken concurrently: MCOM 015 and MCOM 017.

MCOM 017. Form and Process in Music. 2 Units.

Students study how music moves through time. Students explore structural levels from motive to macro-rhythm, components of design, basic forms and concepts of analysis. Prerequisites: MCOM 012, 013 and 014. Prerequisites may be taken concurrently: MCOM 015 and MCOM 016.

MCOM 019. Music and Computer Technology. 3 Units.

This in-depth course of study examines the use of the digital audio workstation Logic Studio Pro as a tool for creative composition. Topics include basic sequencing and MIDI recording, the manipulation of MIDI using the Environment Window, use of digital audio in a MIDI environment, MIDI controller manipulation, sampling and digital synthesis, and plug-in effects and instruments. This project oriented study requires that students complete several compositions during the process of the course. Prerequisite: MCOM 009. (FILM)

MCOM 024. Composition. 2 Units.

Composition involves the writing of original works under the guidance of faculty composers. Non-music majors require permission of instructor.

MCOM 026. New Resources in Pitch. 1 Unit.

Students study the late 20th/early 21st Century pitch organization techniques of Polymodality, Synthetic scales and Clusters, as well as mathematical manipulations, and spectral techniques. Prerequisite: MCOM 034.

MCOM 027. New Resources in Rhythm. 1 Unit.

Students study the late 20th/early 21st Century rhythmic techniques of Rhythmic characters, Time Signature, Multi-layers, Polyrhythm, Metric Modulation and Complex ratio. Prerequisite: MCOM 033.

MCOM 029. The Analog-Digital Studio. 3 Units.

Using the Pacific Analog/Digital Hybrid Studio, this course will focus on the integration of analog modular and digital based music systems for the composition and performance of music technology based works. A Buchla 200/200e modular system will provide the core technology for analog synthesis, processing, and performance. Ableton LIVE will provide the core software for multi-track digital recording, processing, and performance.

MCOM 032. Diatonic Harmony. 3 Units.

This class will emphasize the study of diatonic harmony through a combination of written exercises and analysis of music from different genres, including but not limited to classical, jazz, and popular music. Prerequisite: MCOM 002.

MCOM 033. Chromatic Harmony. 3 Units.

This class will emphasize the study of chromatic harmony through a combination of written exercises and analysis of music from different genres, including but not limited to classical, jazz, and popular music. Prerequisite: MCOM 042.

MCOM 034. Advanced Chromaticism and Analysis. 3 Units.

A continuation of the study of music theory begun in MCOM 032, Diatonic Harmony, and followed by MCOM 033, Chromatic Harmony. This course will extend the discussion of chromatic progression further into the music of the 19th and 20th centuries while it also explores the larger structures of rondo and sonata allegro. Prerequisite: MCOM 033.

MCOM 035. 20/21 Century Music Theory. 3 Units.

This course will focus on a study of new approaches used by composers for organizing music in the twentieth and twenty-first centuries including new approaches to pitch, rhythm, and timbre; the rise of SOUND as musical material; the place of technology in music; the use of chance operations and probability; and non-western influences. Prerequisite: MCOM 033.

MCOM 042. Musicianship I. 1 Unit.

Students will gain or improve singing, listening and writing skills in the areas of melody, rhythm, intervals, chord progressions and identification of pitches, scales, chords, non-harmonic tones, cadences, and 7th chords, in various genres of music including but not limited to classical, jazz, and popular music. Prerequisite: Musicianship Fundamentals.

MCOM 043. Musicianship II. 1 Unit.

The purpose of this course is to increase students' singing, listening and writing skills in the areas of melody, rhythm, chord progressions including 7th chords, modes, and binary and ternary forms in various genres of music including but not limited to classical, jazz, and popular music. Prerequisite: MCOM 042.

MCOM 044. Musicianship III. 1 Unit.

The purpose of this course is to increase students' singing, listening and writing skills in the areas of modulating melody, rhythm, chromatic chord progressions including 7th chords, modes, and binary and ternary forms in various genres of music including but not limited to classical, jazz, and popular music. Prerequisite: MCOM 043.

MCOM 108. Counterpoint. 3 Units.

This course focuses on the study of counterpoint through the ages: the linear modal counterpoint from the Renaissance with an emphasis on Palestrina and Lassus' music and the vertical implications of tonal counterpoint with an emphasis on J.S. Bach's Two and Three parts Inventions. Prerequisite: MCOM 033.

MCOM 109. Advanced Orchestration. 3 Units.

This course focuses on orchestration techniques from the first half of the 20th Century, and new performance practices. This is accomplished through orchestra analysis and writing exercises that include a reading session with the orchestra. Prerequisites: MCOM 032, MCOM 033, MCOM 034, and MCOM 035.

MCOM 112. Composition- Computer Music. 2 Units.

Students study private composition in computer music within the Conservatory Computer Studio for Music Composition.

MCOM 113. Advanced Analysis. 3 Units.

Students explore advanced topics in music analysis that includes extensive study of Schenkerian analysis. Prerequisites: MCOM 032, MCOM 033, MCOM 034, and MCOM 035.

MCOM 118. Music and Video Technology: Performance. 3 Units.

This course will focus on the creation of video and interactive computer music environments for the live performance of technology based music and video. Max/MSP/Jitter serves as the primary software for the construction of performance environments. Prerequisite: MCOM 029 or equivalent music technology experience or permission of instructor.

MCOM 124. Composition, Upper-Division. 2 Units.

This course is guided composition for experienced students that leads to the creation of several compositions for instruments and voices. This course may be repeated for credit. The course is for music composition majors, and admission to this upper division course is based on review of students' work at the end of the second year. Prerequisite: MCOM 024 or permission of instructor.

MCOM 126. New Performance Techniques. 1 Unit.

This class focuses on the study of extended acoustical techniques for voice, keyboard, string, woodwinds, brass, and percussion instruments. Specific techniques and appropriate notation are discussed and compositions that utilize these techniques are studied. Prerequisite: MCOM 035.

MCOM 127. Music, Sound, and Film. 2 Units.

In any visual experience from real-life to commercial cinema to sound/image installation, sound plays a significant role in defining the expressive and relational content of the experience. This course explores the use of sound/music in film and experimental art with an emphasis on understanding the complex role sound plays in our experience. Through readings, film viewing, discussion, and analysis, students delve into the thinking of current sound designers, sound artists, and composers. Prerequisite: MCOM 029. (FILM)

MCOM 128. New Approaches to Form. 1 Unit.

In the 20th Century, composers have found it necessary to explore new formal structures that allow them to unify their compositions at all levels. These approaches vary greatly from technical to conceptual. This course pursues the study of formal approaches to compositional organization with an emphasis on the unique problems each one confronts musically. Prerequisite: MCOM 035.

MCOM 129. Non-Western Composing Techniques. 1 Unit.

This course examines the expansion of melodic, rhythmic, harmonic, and timbral composition techniques through the study of music from the Republic of Central Africa, Japan, India and Bali. Prerequisite: MCOM 035.

MCOM 134. Composition: Senior Project. 3 Units.

This course is private instruction/mentoring for the completion of a senior project in music composition. Prerequisite: MCOM 124.

MCOM 191. Independent Study. 1-2 Units.**MCOM 194. Composition Senior Recital. 0 Units.**

This is a half-recital (+30-45 minutes of music) required for degree completion, organized, managed, and promoted by a Senior composition student, featuring a selection from the works he/she composed during his/her/ tenure in the composition program. Prerequisites: MCOM 124 with a "D" or better. Senior standing.

Music Performance

Bachelor of Music Degree

The University of the Pacific confers the Bachelor of Music degree upon students who satisfactorily complete the core courses in music, courses within the major and the General Education program. All baccalaureate degrees require a minimum of 124 units. Major fields are performance (Brass, Percussion, Piano, Strings, Voice, Woodwinds), music composition, music education, music history, music management, music therapy and jazz studies.

Piano Performance Comprehensive

1. An ability to listen creatively and actively. To train a critical ear to understand pitch, rhythm and interpretive errors and nuance.
2. To become an independent adult, with practice habits befitting a mature musician.
3. Specifically: 1) To write in fingerings 2) To correct mistakes 3) To be independently responsible for editions and scores

Personal Expression

1. Display an understanding of the elements of expressive musicmaking and an ability to realize them in performance.
2. Be able to express verbally musical concepts with clarity. Listen with perception to oneself and others, and tactfully and cogently give musical criticism to others.

Collaborative Skills

Demonstrate the ability to collaborate effectively with other musicians as an accompanist and chamber player.

Independence

1. Demonstrate independence in the preparation of music for performance.
2. Be able to understand and realize what is written on the page and what is not.

Pedagogy

1. Be able to give appropriate technical and musical suggestions to elementary and intermediate students.
2. Have familiarity with materials for this level of student.

Performance

1. Demonstrate the ability to perform, with poise, works requiring significant technical advancement and musical maturity.
2. Show a wide familiarity with the piano literature and a breadth of styles both in performing experience and in intellectual knowledge.

String Performance**Artistic Skills**

1. Ability to realize the composer's instructions on the musical page.
2. Express musical ideas through the variation of dynamics, vibrato, articulations, tone colors, timing, blend, and intonation.

Technical Skills

1. Right hand technique: good sound production, bow strokes, and bow distribution.
2. Left hand technique: vibrato, precise and accurate intonation, clean shifting, facility, playing without tension.
3. Posture and efficient body usage.
4. Ear training to enable good intonation.
5. Temporal skills, including rhythm and tempo.

Problem Solving and Practice Techniques

1. Student will identify problems in their playing.
2. Learn specific practice techniques to fix problems in playing and apply techniques during practice sessions.
3. Ability to analyze music from a broad spectrum of styles, genres, and time periods.

Repertoire

1. Thorough knowledge of standard solo, chamber, and orchestral repertoire from the Baroque period to the 21st century.
2. Perform works from a wide spectrum of genres, time periods, styles, and cultures.

Career Development

1. Practical skills necessary to have a career in music, whether the career involves teaching, performing, freelancing, or a combination of these.
2. Learn skills such as audition preparation, concert preparation, promotion, and networking.

Effective Communication

1. Engage an audience, both through speaking and playing.
2. Collaborate with fellow musicians to learn and perform works.
3. Write about the music studied and performed.

Pedagogy

Apply problem solving skills and effective practice techniques to teaching others.

Vocal Performance

1. Technical skills requisite for artistic self-expression at a level appropriate to the individual's instrument.*
2. Knowledge and skills to work as a collaborative artist and understanding of matters of musical interpretation.
3. Exhibit growth in all of the aforementioned areas in a variety of solo and ensemble contexts.

* The specific objectives and outcomes for the courses of MAPP 012, and MAPP112 vastly differ from those of other instrumental applied areas. Unlike all other instruments, each human voice has pronounced and divergent variables such as physical maturity, physiological structure, and a highly individualized tone, timbre, and range. Therefore, a sound pedagogical approach requires that each student be assessed for a specific set of goals and outcomes that are in the best interests of the individual. This assessment is subject to the professional opinion of the individual's instructor.

Vocal Artistry

Authenticity of pronunciation, style, and expression of text in English, French, German, and Italian, while integrating and communicating the text's meaning.

Acting

1. Create and formulate character choices and translate these choices into a comprehensive dramatic performance.
2. Engage in aesthetic judgment and critical thinking in the assessment of both self-performance and peer-performance.

Vocal Pedagogy

1. Knowledge of the anatomy and physiology of the vocal instrument.
2. Integration of teaching techniques for instruction to a wide range of voice types and ages.

Repertoire

1. An overview and understanding of the classical voice repertoire.
2. Perform a cross-section of repertoire from the body of standard classical vocal literature appropriate to the individual's voice type.

Synthesis

The ability to combine all of the elements of language, textual meaning and context, pertinent theoretical and historical contexts, characterization, and vocal technique into performance practice in a wide variety of repertoire.

General Musicianship

1. Ability to sight-read demonstrating both general musicianship and skill with the voice.
2. Skills include but are not limited to rhythm, pitch, and pertinent analytical skills in repertoire related to the demands in the current classical singer environment.

Industry Awareness

1. Awareness of the current demands of the marketplace in classical singing, integrating technology to enhance and develop performance opportunities and career advancement.
2. Understanding the importance of professional networking with employment advancement.
3. Understanding the rubric of continued and advanced training in the vocal arts.

Woodwind, Brass, Percussion Performance

Artistic Skills

1. Ability to realize the composer's instructions on the musical page.
2. Express musical ideas through phrasing, the variation of dynamics, articulations, tone colors, timing, blend, intonation, and vibrato.

Technical Skills

1. Proper instrumental technique, including (as appropriate) embouchure, breathing techniques, use/support of air in sound production, use of the tongue.
2. Fingers: knowledge of fingerings, facility, playing without tension.
3. Posture and efficient body usage.
4. Ear training for good intonation.
5. Rhythm training.
6. Knowledge and experience playing the utility instruments associated with each wind, brass or percussion instrument.

Problem solving and practice techniques

1. Student will identify problems in their playing.
2. Learn specific practice techniques to fix problems in playing and apply techniques during practice sessions.
3. Ability to analyze music from a broad spectrum of styles, genres, and time periods.

Repertoire

1. Thorough knowledge of standard solo, chamber, and orchestra repertoire from the Baroque period to the 21st century.
2. Perform works from a wide spectrum of genres, time periods, styles, and cultures.

Professional Development

1. Practical skills necessary to having a career in music, whether the career involves teaching, performing, freelancing, or a combination of these.
2. Learn skills such as audition preparation, concert preparation and promotion, and networking.

Effective Communication

1. Engage an audience through playing, speaking and stage presence.
2. Collaborate with fellow musicians to learn and perform works.
3. Write about the music that students are studying and performing.

Pedagogy

1. Apply problem solving skills and effective practice techniques to teaching others.
2. Knowledge of the breadth of method and etude books.

Bachelor of Music Major in Performance

Woodwind, Brass, Percussion

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in performance (woodwinds, brass, or percussion).

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics

IIC. Visual and Performing Arts
Natural Sciences and Mathematics
IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Foundation Courses

MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3

Eight units from the following: 8

MPER 066	Jazz Ensemble	
MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	

MPER 054	Dean's Seminar	1
MAPP 001D	Class Piano	2
MAPP 012	Applied Instruction	8

Major Requirements

MCOM 014	Introduction to Orchestration	2
MCOM 034	Advanced Chromaticism and Analysis	3
MCOM 044	Musicianship III	1

One Course MHIS 150 or above to be determined with consultation with advisor 3

MPER 052	Performance Class	3
MAPP 001D	Class Piano	1
MPER 151	Principles of Conducting	2
MMGT 109	Beyond Talent: Managing Performance Career	2
MPER 060	Chamber Ensemble *	6

13 units of the following: ** 13

MAPP 012	Applied Music	
MAPP 112	Advanced Applied Music	

Select 24 units of the following: *** 24

MAPP 001D	Class Piano
MCOM 035	20/21 Century Music Theory
MCOM 108	Counterpoint
MCOM 109	Advanced Orchestration
MCOM 113	Advanced Analysis
MHIS 140	Symphonic Literature
MHIS 142	Chamber Music Literature
MPER 068	Orchestral Repertoire and Audition Techniques
MPER 060	Chamber Ensemble
MPER 153	Instrumental Conducting
MAPP 012	Applied Music
MAPP 112	Advanced Applied Music
MUJZ 030	Jazz Improvisation I

Note: Students are required to present a Junior and Senior Recital.

* Students take MPER 060 six semesters.

** Students repeat MAPP 012 and MAPP 112 in order to have a total of 13 units of applied instruction.

*** Selected courses in consultation with the Advisor. Students can select up to only two of the following: MCOM 108, MCOM 109, and MCOM 113. Up to two additional units of MPER 060 can be used. Up to three additional units of MAPP 012 and MAPP 112. Up to eight units of free electives with consultation with the advisor.

Bachelor of Music Major in Performance Voice

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in performance (voice).

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Foundation Courses

MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
Eight units from the following:		8
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 054	Dean's Seminar	1
MAPP 001D	Class Piano	2
MAPP 012	Applied Instruction	8

Major Requirements

FREN 011A	First-Year French, First Semester	4
GERM 011A	First-Year German, First Semester	4
FREN 011B	First-Year French, Second Semester	4
or GERM 011B	First-Year German, Second Semester	
One Course MHIS 150 or above to be determined with consultation with advisor		3
MAPP 001D	Class Piano	2
MPER 019	Singer's Phonetics	1
MPER 020	Introduction to Lyric Diction - Italian	2
MPER 021	Introduction to Lyric Diction - German and English	2
MPER 022	Introduction to Lyric Diction - French	2
MPER 151	Principles of Conducting	2
or MPER 152	Choral Conducting	
MMGT 109	Beyond Talent: Managing Performance Career	2
MPER 141	Pedagogy of Voice	2
MPER 069A	Opera Theatre Workshop - Fundamentals of Acting	1
MPER 069B	Opera Theatre Workshop - Acting	1
MPER 069C	Opera Theatre Workshop - Advanced Acting	1

MHIS 144	Vocal Literature	3
Eight units of the following: *		8
MAPP 012 Applied Instruction		
MAPP 112 Advanced Applied Instruction		
Select 20 units of the following: **		20
MAPP 005N	Applied Music: Piano	
MAPP 121	Vocal Coaching	
MAPP 112 Advanced Applied Instruction		
MPER 052	Performance Class	
FREN 011B	First-Year French, Second Semester	
or GERM 011B	First-Year German, Second Semester	
MPER 069	Opera Theatre Workshop	

Note: Students are required to present a Junior and Senior Recital.

* Students repeat MAPP 012 and MAPP 112 in order to have an additional 8 units of applied instruction.

** Selected courses in consultation with the Advisor. Up to eight units of free electives with consultation with the advisor.

Bachelor of Music Major in Performance Cello, Double Bass, Viola, Violin

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in performance (strings).

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Foundation Courses

MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 054	Dean's Seminar	1
MPER 070	University Symphony Orchestra	8
MAPP 001D	Class Piano	2
MAPP 012 Applied Instruction		8

Major Requirements

MCOM 014	Introduction to Orchestration	2
MCOM 034	Advanced Chromaticism and Analysis	3
MCOM 044	Musicianship III	1
One Course MHIS 150 or above to be determined with consultation with advisor		3
MPER 052	Performance Class	3
MAPP 001D	Class Piano	1
MPER 151	Principles of Conducting	2
MMGT 109	Beyond Talent: Managing Performance Career	2
MPER 060	Chamber Ensemble *	6
13 units of the following: **		13

MAPP 012 Applied Music

MAPP 112 Advanced Applied Music

Select 24 units of the following: *** 24

MAPP 001D Class Piano

MCOM 035 20/21 Century Music Theory

MCOM 108 Counterpoint

MCOM 109 Advanced Orchestration

MCOM 113 Advanced Analysis

MHIS 140 Symphonic Literature

MHIS 142 Chamber Music Literature

MPER 060 Chamber Ensemble

MPER 068 Orchestral Repertoire and Audition Techniques

MPER 153 Instrumental Conducting

MAPP 012 Applied Music

MAPP 112 Advanced Applied Music

MUJZ 030 Jazz Improvisation I

Note: Students are required to present a Junior and Senior Recital.

* Students take MPER 060 six semesters.

** Students repeat MAPP 012 and MAPP 112 in order to have a total of 13 units of applied instruction.

*** Selected courses in consultation with the Advisor. Students can select up to only two of the following: MCOM 108, MCOM 109, and MCOM 113. Up to two additional units of MPER 060 can be used. Up to three additional units of MAPP 012 and MAPP 112. Up to eight units of free electives with consultation with the advisor.

Bachelor of Music Major in Performance Piano

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in performance (piano).

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

Two courses from the following:

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Foundation Courses

MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3

Eight units from the following: 8

MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	

MPER 054 Dean's Seminar 1

MAPP 012 Applied Instruction 8

Major Requirements

MCOM 014	Introduction to Orchestration	2
MCOM 034	Advanced Chromaticism and Analysis	3
MCOM 044	Musicianship III	1
MHIS 143A	Keyboard Literature I	3
MHIS 143B	Keyboard Literature II	3
One Course MHIS 150 or above to be determined with consultation with advisor		3
MPER 052	Performance Class	3
MPER 130	Accompanying	4
MPER 140	Pedagogy of Piano	2
MPER 151	Principles of Conducting	2
MMGT 109	Beyond Talent: Managing Performance Career	2
MPER 060	Chamber Ensemble *	4

Eight units of the following: ** 8

MAPP 012 Applied Music		
MAPP 112 Advanced Applied Music		

Select 22 units of the following: *** 24

MCOM 035	20/21 Century Music Theory	
MHIS 141	Opera Literature	
MHIS 142	Chamber Music Literature	
MPER 060	Chamber Ensemble	
MPER 152	Choral Conducting	
MAPP 112 Advanced Applied Music		
MUJZ 030	Jazz Improvisation I	

Note: Students are required to present a Junior and Senior Recital.

* Students take MPER 060 four semesters.

** Students repeat MAPP 012 and MAPP 112 in order to have a total of 8 additional units of applied instruction.

*** Selected courses in consultation with the Advisor. Up to four additional units of MPER 060 can be used. Up to eight additional units of MAPP 112. Up to 12 units of free electives with consultation with the advisor.

Music Performance Courses

MPER 019. Singer's Phonetics. 1 Unit.

This course introduces fundamentals in the technique of lyric articulation and pronunciation. Students examine drills in acquiring maximum activity, fluency and flexibility of speech organs supported by the study of the International Phonetic Alphabet. This course provides the foundation for continued study of the rules for accurate pronunciation of English, Italian, German and French song texts.

MPER 020. Introduction to Lyric Diction - Italian. 2 Units.

This course introduces fundamentals in technique of articulation and pronunciation specific to the Italian song literature. Students examine drills in acquiring maximum activity, fluency and flexibility of speech organs that involve application to correct Italian pronunciation specifically as it relates to the standard classical vocal repertoire. Prerequisite: MPER 019.

MPER 021. Introduction to Lyric Diction - German and English. 2 Units.

This course introduces fundamentals in technique of articulation and pronunciation specific to the German and English song literature. Students examine drills in acquiring maximum activity, fluency and flexibility of speech organs that involve application to correct German and English pronunciation specifically as it relates to the standard classical vocal repertoire. Prerequisite: MPER 019.

MPER 022. Introduction to Lyric Diction - French. 2 Units.

This course explores fundamentals in technique of articulation and pronunciation specific to French song literature. Students will examine drills in acquiring maximum activity, fluency and flexibility of speech organs that involve application to correct French pronunciation specifically as it relates to the standard classical vocal repertoire. Prerequisite: MPER 019.

MPER 050. Solo Class. 0 Units.

MPER 050 offers weekly performance recitals for all music majors. Graded Pass/Fail.

MPER 052. Performance Class. 1 Unit.

By the end of this course, students will have gained experience performing in front of mixed-instrument audience members in a large concert hall. They will also have engaged actively as listeners, as demonstrated through written reflections. A vital component of being a successful performing musician in the 21st century is the ability to find performance opportunities and to cultivate new audiences.

MPER 054. Dean's Seminar. 1 Unit.

The Dean's seminar provides a forum for first year students in the Conservatory to explore topics to aid in transition to a college conservatory and university culture. Students will be engaged and directed to apply critical inquiry in a wide variety of subjects that they will likely encounter in a career that is informed by a music-based education.

MPER 060. Chamber Ensemble. 2 Units.

Permission of instructor.

MPER 060A. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060B. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060C. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060D. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060E. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060F. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060G. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060H. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060I. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060J. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060K. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060L. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060M. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060N. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060O. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060P. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060Q. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060R. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060S. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060T. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060U. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 060V. Chamber Ensemble. 1 Unit.

Permission of instructor.

MPER 066. Jazz Ensemble. 1 Unit.

Participation in the Jazz Ensemble gives students the opportunity to rehearse and perform both new and established works in the repertory of the genre. Students are also exposed to techniques of jazz improvisation, jazz style characteristics, and elements of jazz formal structure. This course is open by audition only. (GE2C)

MPER 067. Jazz Combo. 1 Unit.

Participation in Jazz Combo gives students the opportunity to rehearse and perform both new and established works in the repertory of the genre. Students are also exposed to techniques of jazz improvisation, jazz style characteristics, and elements of jazz formal structure. This course is open by audition only.

MPER 068. Orchestral Repertoire and Audition Techniques. 1 Unit.

The purpose of this course is to focus on the development of orchestral skills and to prepare students for orchestra auditions. Students perform in weekly sectionals with the instrumental course instructors and attend periodic seminars in audition techniques and other topics that relate to orchestral performance.

MPER 069. Opera Theatre Workshop. 1 Unit.

The purpose of this course is to explore acting techniques (Yakim, Chekhov) that address the demands unique to the performance preparation of the singing actor. By exercising the basic tools of acting - the body and the imagination - training for work on the stage begins.

MPER 069A. Opera Theatre Workshop - Fundamentals of Acting. 1 Unit.

The purpose of this course is to explore fundamental acting techniques that address the demands unique to the performance preparation of the singing actor. Classroom work will be rooted in the Michael Chekhov technique. By exercising the basic tools of acting (imagination and concentration), training for work on the operatic stage can begin.

MPER 069B. Opera Theatre Workshop - Acting. 1 Unit.

The purpose of this course is to explore elementary acting techniques that address the demands unique to the performance preparation of the singing actor. Classroom work will be grounded in the Michael Chekhov technique. By building on the fundamental tools of acting (imagination and concentration), training for work on the operatic stage can be enhanced. Prerequisite: MPER 069A.

MPER 069C. Opera Theatre Workshop - Advanced Acting. 1 Unit.

The purpose of this course is to explore advanced acting techniques that address the demands unique to the performance preparation of the singing actor. Classroom work will be grounded in the Michael Chekhov technique. By building on the fundamental tools of acting (imaginary body, quality of movement), training for work on the operatic stage can continue. Prerequisite: MPER 069B.

MPER 070. University Symphony Orchestra. 1 Unit.

Orchestra is meant to give you a practical knowledge of the symphonic repertoire, to improve your individual performing skills, to improve your sight reading, to enhance your awareness of musical styles and to foster good listening. Open to all students by audition. Major ensemble. (GE2C)

MPER 072. Symphonic Wind Ensemble. 1 Unit.

Symphonic Wind Ensemble is a select group of wind and percussion players chosen by audition. The Band performs literature from the classics of band repertoire, contemporary works, and chamber music in a series of concerts to serve its primary mission for individual growth, ensemble development, and the positive esprit de corps that is unique to a high-quality collegiate band. SWE also functions as ambassador for the University and Conservatory through off-campus tours, run-out concerts and appearances at music conventions and conferences. Major ensemble. Open to all students by audition. (GE2C)

MPER 073. Concert Band. 1 Unit.

Major ensemble. Open to all students by audition. (GE2C)

MPER 080. Opera Production. 1 Unit.

Opera production provides students with an opportunity to hone and assimilate various aspects of singer training (including, but not limited to, diction, language, acting, vocal technique, good musicianship, and professionalism) into a single synthesized performance. The rehearsal process and the final performance(s) are opportunities to enhance preparation for work in advanced study (i.e. apprenticeship, grad school, summer program) and the professional arena. Major ensemble. By audition only.

MPER 082. The Oriana Choir (Women's Chorus). 1 Unit.

Major ensemble. Students perform an average of two concerts per semester. Open to all students by audition. (GE2C)

MPER 083. University Chorus. 1 Unit.

Major choral ensemble. Average of three concerts per semester. Open to all students by audition. (GE2C)

MPER 084. Pacific Singers. 1 Unit.

Major choral ensemble. Students perform an average of three concerts per semester. Audition is required for enrollment. (GE2C)

MPER 093. Special Topics. 0.5-4 Units.**MPER 120. Lyric Diction. 2 Units.**

Students examine theory and practice of singing Italian, German, English, and French. The course includes translation and declamation of texts.

MPER 121. Lyric Diction. 2 Units.

Students examine theory and practice of singing Italian, German, English, and French. The course includes translation and declamation of texts.

Prerequisite: MPER 120.

MPER 130. Accompanying. 1 or 2 Unit.

MPER 130 offers practical training in vocal and instrumental piano accompaniments. (Two units are given with permission of instructor).

MPER 131. Studio and Recital Accompanying. 1 Unit.

This practicum in accompanying is open to piano performance majors only for major ensemble credit for a maximum of two years.

MPER 140. Pedagogy of Piano. 2 Units.

Students study teaching methods and materials for elementary, intermediate and advanced piano students. Permission of instructor is required.

MPER 141. Pedagogy of Voice. 2 Units.

This course is an overview of the anatomy and physiology of the singing voice, emphasizing respiration, phonation, resonance and articulation. Students also examine various methods of teaching of singing based on current scientific discoveries as well as important classical treatises. Permission of instructor is required.

MPER 151. Principles of Conducting. 2 Units.

The course covers basic techniques of the baton, score reading and interpretation. Prerequisites: MCOM 032 and MCOM 033.

MPER 152. Choral Conducting. 2 Units.

Students study principles of conducting that are applied to choral rehearsals and repertoire. Prerequisite: MPER 151.

MPER 153. Instrumental Conducting. 2 Units.

Students study principles of conducting that are applied to band and orchestra rehearsal and repertoire. Prerequisite: MPER 151.

MPER 169. Advanced Opera Workshop. 1 Unit.

This course affords singers the opportunity to practice performance techniques learned in Opera Workshop through practical rehearsal application. The first term is dedicated to repertoire and audition technique (Craig), while second term focuses on scene study (Meisner, Felsenstein).

MPER 191. Independent Study. 1-2 Units.

Music Education

The Conservatory of Music offers two degree plans for a major in Music Education, one with a concentration in instrumental music, the other with a choral concentration. The Bachelor of Music degree is normally awarded at the completion of a four-year program. Several directed teaching programs are offered at the University of the Pacific which leads to the California Single Subject Teaching Credential with a Major in Music:

1. A plan which requires one full-time semester of student teaching (generally during the fourth year).

2. A plan which requires one semester of part-time student teaching during the course of the fourth year plus a summer course of Video Microrehearsal and field teaching (six units).
3. A Video-Microrehearsal/Internship plan in which selected students participate in the summer Video-Microrehearsal/field teaching program and then teach under contract in neighboring school districts in the fifth year.

All music education majors must pass a minimum proficiency examination in piano and in functional guitar. They must also demonstrate basic vocal proficiency. One hundred hours of laboratory teaching/observation in elementary and secondary schools are required. Courses in Music Education and professional education that are part of the Music Education major must be passed with at least a C grade, and courses in music must receive an average of C within each music discipline.

1. Music Education majors must present a half recital, usually in their senior year.
2. Music Education majors with voice as a principal instrument are required to complete a senior examination during the final year.
3. Teaching Credential candidates must demonstrate an understanding of the U.S. Constitution through coursework or examination. They must demonstrate competency in reading, writing and math by passing the CBEST Examination. To enroll in the appropriate School of Education courses, music education majors must complete appropriate application and interview processes with the credential office as part of the advising process.
4. Students who take Video Microrehearsal Techniques as part of student teaching may substitute electives for the student teaching in the fourth year.
5. Major Ensembles must relate to the student's proposed teaching area as specified by advisors.
6. Residency requirements in Solo Class, Major Ensemble and Lab Ensemble may be waived when in conflict with student teaching.

Music Competencies

1. Sufficient superior musicianship on primary instrument and the ability to perform at a level that will inspire confidence in secondary level students.
2. Play/sing a variety of instruments, including piano, guitar and voice, to show capability in modeling instruction and the ability to use instruments/voice functionally.
3. Demonstrate knowledge of conducting principles and techniques suitable to instrumental settings.
4. Apply theoretical, historical, and cultural information so as to choose music and lesson content appropriate to contemporary settings for Pre-K through high school students.
5. Demonstrate the ability to improvise on primary or secondary instruments and to compose original or derivative works suitable to Pre-K to 12 students' study/performance.

Teaching Competencies

1. Students demonstrate knowledge of child/adolescent development and methodological approaches to general music, instrumental and choral music.
2. Demonstrate knowledge of repertoire and curriculum development for Pre-K, elementary, middle, and high school levels.
3. Utilize technologies appropriate to teaching music in Pre-K to 12 settings.
4. Demonstrate ability to gauge attitudes, previous learning and skills to plan appropriate educational programs.

- Demonstrate the ability to assess themselves and their students and to improve understanding and performance based on that assessment.
- Articulate and provide leadership regarding importance of music in education.

Experiential Learning

Lab, Fieldwork, and Student Teaching:

- Students demonstrate ability to effectively rehearse and conduct ensembles of various ages and ability levels.
- Ability to teach beginning and intermediate levels in general, instrumental, and choral music.
- Ability to provide in-depth musical experiences with instrumental populations.
- Ability to synthesize and integrate analytical aspects of music, pedagogical elements of teaching, planning, and assessment in Pre-K to 12 settings.
- Ability to motivate students and adjust to student and program needs.

Bachelor of Music Major in Music Education Concentration Instrumental

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in music education concentration instrumental.

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- Individual and Interpersonal Behavior
- U.S. Studies
- Global Studies

Arts and Humanities

Two courses from the following:

- Language and Literature
- Worldviews and Ethics
- Visual and Performing Arts

Natural Sciences and Mathematics

- Natural Sciences
- Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Foundation Courses

MAPP 001D	Class Piano	2
MAPP 011	Applied Music	8
MAPP 111	Applied Music *	8
MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 054	Dean's Seminar	1
Select 8 units from the following:		8
MPER 066	Jazz Ensemble	
MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	

Major Requirements - Music

MAPP 001B	Functional Guitar Class	1
MAPP 001D	Class Piano	1
MCOM 034	Advanced Chromaticism and Analysis	3
MCOM 044	Musicianship III	1
MEDU 101	Woodwind Instruments I	1
MEDU 102	Woodwind Instruments II	1
MEDU 103	Brass Instruments I	1
MEDU 105	Percussion Instruments	1
MEDU 107	String Instruments I	1
MEDU 108	String Instruments II	1
MEDU 113	Laboratory Ensemble	1.5
MEDU 114	Music in Elementary School	2
MEDU 115	Music Experiences, K-6	2
MEDU 116	Music in Secondary School	2
MEDU 117	Music Experiences, 7-12	2
MEDU 119	Fieldwork: Music Grades 4-12	1
MEDU 120	21st Century Approaches to Music Education	2
One Course MHIS 150 or above to be determined with consultation with advisor		3
MPER 151	Principles of Conducting	2
MPER 153	Instrumental Conducting	2

MUJZ Elective		1
Major Requirements - Education		
EDUC 140	Transformational Teaching and Learning	4
EDUC 156	Content and Disciplinary Literacy Development in Secondary Schools	3
EDUC 166	Teaching English Learners, Single Subject	3
EDUC 171	Professional Practice Music ***	10
EDUC 172	Professional Practice Seminar ****	2
SPED 125X	Teaching Exceptional Learners ****	2

- * Lessons and ensembles can be waived in the last semester to allow for Student Teaching.
- ** 0.5 units can be passed out of instrumental methods course if that course topic is the primary instrument of the student.
- *** EDUC 171 is taken for the degree and the credential.
- **** SPED 125X and EDUC 172 are taken for the credential.

Bachelor of Music Major in Music Education Concentration Choral

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in music education concentration choral.

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Foundation Courses

MAPP 001D	Class Piano	2
MAPP 011	Applied Music	8
MAPP 111	Applied Music *	*
MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 054	Dean's Seminar	1
Select 8 units from the following:		8
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	

Major Requirements - Music

MAPP 001B	Functional Guitar Class	1
MAPP 001D	Class Piano	1
MCOM 034	Advanced Chromaticism and Analysis	3
MCOM 044	Musicianship III	1
Select five of the following:		5
MEDU 101	Woodwind Instruments I	
MEDU 102	Woodwind Instruments II	
MEDU 103	Brass Instruments I	
MEDU 105	Percussion Instruments	
MEDU 107	String Instruments I	
MEDU 108	String Instruments II	
MEDU 113	Laboratory Ensemble	1.5
MEDU 114	Music in Elementary School	2
MEDU 115	Music Experiences, K-6	2
MEDU 116	Music in Secondary School	2
MEDU 117	Music Experiences, 7-12	2
MEDU 119	Fieldwork: Music Grades 4-12	1
MEDU 120	21st Century Approaches to Music Education	2
One Course MHIS 150 or above to be determined with consultation with advisor		3
MMGT 130	Popular Songwriting	3
MPER 019	Singer's Phonetics	1
MPER 021	Introduction to Lyric Diction - German and English	2
MPER 151	Principles of Conducting	2

MPER 152	Choral Conducting	2
MUJZ Elective		1
Major Requirements - Education		
EDUC 140	Transformational Teaching and Learning	4
EDUC 156	Content and Disciplinary Literacy Development in Secondary Schools	3
EDUC 166	Teaching English Learners, Single Subject	3
EDUC 171	Professional Practice Music **	10
EDUC 172	Professional Practice Seminar ***	2
SPED 125X	Teaching Exceptional Learners ***	2

* Lessons and ensembles can be waived in the last semester to allow for Student Teaching.

** EDUC 171 is taken for the degree and the credential.

*** SPED 125X and EDUC 172 are taken for the credential.

Music Education Courses

MEDU 100. Music for Children. 3 Units.

This course explores music fundamentals, resources, concepts and activities for the pre-adolescent child. This course is open to non-music majors only, and it is required for multiple subjects credential candidates.

MEDU 101. Woodwind Instruments I. 1 Unit.

Students study the principles of teaching and playing flute and clarinet.

MEDU 102. Woodwind Instruments II. 1 Unit.

Students study the principles of teaching and playing oboe, bassoon and saxophone.

MEDU 103. Brass Instruments I. 1 Unit.

Students study the principles of teaching and playing brass instruments.

MEDU 104. Brass Instruments II. 1 Unit.

Students study the advanced principles of brass instrument teaching.

MEDU 105. Percussion Instruments. 1 Unit.

Students study the principles of teaching and playing percussion instruments.

MEDU 107. String Instruments I. 1 Unit.

Students study the principles of teaching and playing violin and viola.

MEDU 108. String Instruments II. 1 Unit.

Students study the principles of teaching and playing string instruments which include the cello and bass.

MEDU 110. Band Development. 2 Units.

Students examine the teacher's role in instrumental music education which includes concert, marching, jazz band and orchestras in public schools.

MEDU 111. Choral Development. 2 Units.

Students examine the teacher's role in choral music education which includes concepts and techniques for choral ensembles.

MEDU 112. Orchestra Development. 2 Units.

Students examine the teacher's role in orchestras in public schools.

MEDU 113. Laboratory Ensemble. 0.5 Units.

This course offers laboratory experience of music education fieldwork that includes developmentally appropriate class and rehearsal skills, secondary instrument performance, vocal ensemble techniques, planning, and assessment.

MEDU 114. Music in Elementary School. 1 Unit.

Students investigate the role of music within the elementary school and its environment. The course includes 50 hours of laboratory observation/teaching in the elementary schools. Corequisite: MEDU 115.

MEDU 115. Music Experiences, K-6. 2 Units.

This course offers a music specialist approach to materials and techniques that develop music experiences for elementary school children. Corequisite: MEDU 114. Open to music majors only.

MEDU 116. Music in Secondary School. 1 Unit.

Students examine the role of school music in grades 6-12. The course includes 50 hours of laboratory observation/teaching. Corequisite: MEDU 117. Open to music majors only.

MEDU 117. Music Experiences, 7-12. 2 Units.

This course offers a music specialist approach to materials and techniques that develop music experiences in secondary school. Corequisite: MEDU 116. Open to music majors only.

MEDU 118. Advanced Teaching Practicum. 1-3 Units.

This course is supervised practical observation/teaching experiences in both public and private schools. Prerequisites: MEDU 114 and MEDU 116.

MEDU 119. Fieldwork: Music Grades 4-12. 1 Unit.

This course offers fieldwork to accompany 21st century approaches to music education for pre-teens and adolescents with an emphasis on school and community settings. Co-requisite: MEDU 120.

MEDU 120. 21st Century Approaches to Music Education. 2 Units.

This course offers a music specialist approach to contemporary materials and techniques that develop music experiences for pre-teens and adolescents, including performance skills and creative music-making in school and community settings. Co-requisite: MEDU 119.

MEDU 191. Independent Study. 1-4 Units.

Music History

The Bachelor of Music in Music History prepares students for the academic study of music, alone or in combination with practical studies or other academic disciplines. A breadth of upper-level electives, courses in other disciplines, and ensemble experiences are chosen to support the degree. A list of suggested courses is available from the program director.

Independent Study in Music History is limited to those who pursue research projects. These should be proposed the semester before the student hopes to begin study. Projects are required of Music History majors but may be permitted of other students.

Musical Contexts

Work intellectually with relationships between music and music literature within specific cultural/historical contexts, developing the ability to illustrate them.

Knowledge

Gain and demonstrate knowledge of a variety of cultures and various historical periods.

Scholarly Work

Develop the ability to produce and defend scholarly work and evaluate the work of others.

Musical Evolution

Examine evolving relationships among musical structure, music history, and performance practices, and the influence of such evolutions on musical and cultural change.

Applied Skills

Use effectively the tools of scholarship including keyboard skills, spoken/written language, research techniques, advanced musical analysis, and applicable technologies.

Foreign Language

Develop essential reading skills in foreign languages.

Liberal Arts

Gain preparation in the liberal arts that would allow students to identify basic concepts in other fields (e.g. literatures, etc. and understand their applicability to the field of music history.

Independent Research

Apply independent thought and research to a long-term project resulting in creative/scholarly work germane to the field.

Bachelor of Music Major in Music History

Students must complete a minimum of 124 units with a Pacific cumulative grade point average of 2.3 and program grade point average of 2.5 in order to earn the bachelor of music degree with a major in music history.

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Foundation Courses

MAPP 001D	Class Piano	2
MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 054	Dean's Seminar	1

Select 8 units from the following: 8

MPER 066	Jazz Ensemble	
MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	

MAPP 010 Applied Music * 8

Major Requirements

GERM 011A	First-Year German, First Semester **	4
GERM 011B	First-Year German, Second Semester **	4
MAPP 001D	Class Piano	1
MCOM 034	Advanced Chromaticism and Analysis	3
MCOM 035	20/21 Century Music Theory	3
	Upper Division Theory Course Above MCOM 100	3

Select 21 units from the following: *** 21

MHIS 140	Symphonic Literature	
MHIS 141	Opera Literature	
MHIS 142	Chamber Music Literature	
MHIS 143A	Keyboard Literature I	
MHIS 143B	Keyboard Literature II	
MHIS 144	Vocal Literature	
MHIS 152	Topics in Early Music	
MHIS 153	Topics in Eighteenth-Century Music	
MHIS 154	Topics in Nineteenth-Century Music	
MHIS 155	Topics in Music of the 20th-21st Century	
MHIS 158	Advanced History of Jazz	
MHIS 160	American Music	

MHIS 197	Research in Music History	3
MPER 151	Principles of Conducting	2

Select four units from the following: 4

MAPP 005N	Applied Music: Piano	
MCOM 014	Introduction to Orchestration	
MCOM 044	Musicianship III	
MMGT 011	Music, Entertainment in U.S. Society	
MMGT 021A	Follow the Money I	
MMGT 107	Performing Arts Administration	

MMGT 109	Beyond Talent: Managing Performance Career	
MPER 060	Chamber Ensemble	
MPER 152	Choral Conducting	
MPER 153	Instrumental Conducting	
MTHR 140	Psychology of Music	
Select 12 units from the following:		12
ANTH 053	Cultural Anthropology	
ETHN 011	Introduction to Ethnic Studies	
GEND 011	Introduction to Gender Studies	
GERM 023	Intermediate German, Third Semester	
GERM 025	Intermediate German, Fourth Semester	
PSYC 017	Abnormal and Clinical Psychology	
PSYC 031	Introduction to Psychology	
THEA 011	Introduction to the Theatre	
Any course in ARTH, ENGL, FREN, or HIST		
Four units of free electives		4

* Students repeat MAPP 010 in order to have a total of 8 units from this one course.

** GERM 011A and GERM 011B may be waived upon examination.

*** No more than six units from MHIS 140-149 and a minimum of 12 units from MHIS 150-160.

Music History Courses

MHIS 005. Music Appreciation. 4 Units.

Students study the basic elements of music, musical instruments, form and the important styles in music history. Open to non-music majors only. (GE2C)

MHIS 006. Music of the World's People. 3 Units.

Students examine folk, primitive, popular, and classical musical traditions of Asia, Africa, Europe and North and South America. Open to all students. (DVS, GE1C)

MHIS 007. Topics in American Popular Music. 3 Units.

Each semester will focus on a particular subject in American popular music. Semester topics can range from music of the 1960's to the Great American Songbook of the 1920's to 1950's to folk music throughout American history. Open to all students. No pre-requisites and no music reading required. (GE2C)

MHIS 011. Survey of Music History I. 3 Units.

Students study western music history. Topics include composers, styles, genres, and institutions from 1600 to 1800.

MHIS 012. Survey of Music History II. 3 Units.

Students study western music history. Topics include composers, styles, genres, and institutions from 1750 to the present.

MHIS 140. Symphonic Literature. 3 Units.

Students study the history of the symphony from Baroque antecedents to contemporary examples. Prerequisites: MCOM 033, MHIS 011, MHIS 012, or permission of instructor.

MHIS 141. Opera Literature. 3 Units.

Students study the development of opera from 1600 to the present day. Special emphasis is on major operatic works and the relationship of opera to world history. Prerequisites: MCOM 032, MHIS 011, MHIS 012, or permission of instructor.

MHIS 142. Chamber Music Literature. 3 Units.

Students examine the formal and stylistic study of chamber music literature and analyze specific works. Prerequisites: MCOM 032, MCOM 033, MHIS 011, MHIS 012 or permission of instructor.

MHIS 143A. Keyboard Literature I. 3 Units.

Students examine the historical, formal and stylistic study of keyboard literature from 1450 through 1825. Prerequisites: MCOM 032, MCOM 033, MHIS 011, MHIS 012, or permission of instructor.

MHIS 143B. Keyboard Literature II. 3 Units.

Students examine keyboard music from 1825 to present. Prerequisites: MCOM 032, MCOM 033, MHIS 011, MHIS 012, or permission of instructor.

MHIS 144. Vocal Literature. 3 Units.

Students study vocal compositions of major composers with emphasis on 19th and 20th century French and German repertoire. The relationship of poetry and music in the melodie and Lied is stressed in addition to recital programming. Prerequisites: MCOM 033, MHIS 011, MHIS 012 or permission of instructor.

MHIS 152. Topics in Early Music. 3 Units.

Students study early music topics from before 1700 (medieval, renaissance, or early baroque periods). Sample topics include Renaissance madrigal, medieval chant, 17th century opera, etc. See program director for specific topics in a given semester. This course meets once in four semesters. Prerequisite: MCOM 033, MHIS 011, MHIS 012 or permission of instructor.

MHIS 153. Topics in Eighteenth-Century Music. 3 Units.

Students study music topics from the eighteenth century (high baroque, pre-classical, classical, and pre-romantic styles). Sample topics include the Bach family, Haydn or Mozart, birth of the symphony, etc. See instructor for specific topics in a given semester. This course meets once in four semesters. Prerequisite: MCOM 033, MHIS 011, MHIS 012 or permission of instructor.

MHIS 154. Topics in Nineteenth-Century Music. 3 Units.

Students study music topics from the nineteenth century that cover a broad spectrum of repertory. Students examine common issues of the nineteenth century through the lens of particular repertoires, composers, and/or genres, e.g. Lied and Song Cycles, Nationalism, or fin-de-siecle Vienna. See instructor for specific topics in a given semester. This course meets once in four semesters. Prerequisites: MCOM 033; MHIS 011; MHIS 012 or permission of instructor. MCOM 034 is recommended.

MHIS 155. Topics in Music of the 20th-21st Century. 3 Units.

Students study music topics in music of the 20th and 21st centuries. Sample topics concentrate on specific sub-periods and repertoires such as Russian music, music after 1945, etc. This course meets once in four semesters. Prerequisites: MCOM 033; MHIS 011; MHIS 012 or permission of instructor. MCOM 034 is recommended.

MHIS 158. Advanced History of Jazz. 3 Units.

This course is a comprehensive study of jazz styles and performers through intelligent listening and historical research. Realizing jazz as an art form created by African-Americans, this course investigates issues that concern race, ethnicity, and social justice. Course content involves connections to slavery, Civil and World Wars, segregation, and the musical response of African-Americans. The course includes analysis of jazz compositions, live performance critiques, album reviews, artist papers, and a research project involving the Brubeck Collection. This course is designated for music students with junior or senior standing. Prerequisites: MCOM 032 and MHIS 012 or permission of instructor.

MHIS 160. American Music. 3 Units.

Students study the music in America from colonial times to the present. The focus is primarily Western music traditions by interacting with African-American and Native American musical traditions. Covers development of popular music traditions with respect to their effects on American musical composition and reception. Prerequisites: MCOM 033; MHIS 011; MHIS 012 or permission of the instructor.

MHIS 191. Independent Study. 1-3 Units.

MHIS 193. Special Topics. 3 Units.

MHIS 197. Research in Music History. 1-4 Units.

Permission of instructor. Senior standing.

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

Music Industry Studies

The Bachelor of Science in Music Industry Studies provides students with the opportunity to pursue a degree that prepares them for a range of fields in the music and entertainment industry. Coursework emphasizes real-world experiences working with Pacific's student managed music business, utilizing digital media to promote music events and artists and a self-designed senior project. Students who pursue the Music Industry Studies major also gain additional knowledge as they choose a number of elective courses to complement their required music industry studies in consultation with their advisor. Students may also choose to pursue a Minor in another discipline that aligns with their professional interests, such as Business, Communication, Computer Science, Film Studies or other areas.

Technology Skills

Demonstrate technology-based skills on platforms currently used in the music industry

Bachelor of Science Major in Music Industry Studies

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of science in music industry studies.

I. General Education Requirements

Minimum of 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) A complete list of the courses that satisfy the requirement above is found in the front Diversity Requirement section of this catalog and the online course search. 2) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 3) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

MPER 054	Dean's Seminar	1
BUSI 053	The Legal and Ethical Environment of Business	4
COMM 027	Public Speaking	3
COMP 025	Computers and Information Processing	4
MCOM 035	20/21 Century Music Theory	3
MHIS 005	Music Appreciation	4
MHIS 006	Music of the World's People	3
MMGT 005	Introduction to Music Industry Technology	1
MMGT 009	Musical Elements	3
MMGT 010	First-Year Seminar in Music Management	1
MMGT 011	Music, Entertainment in U.S. Society	4
MAPP 001 Group	Instrumental Instruction *	1
MMGT 021A	Follow the Money I	4
MMGT 050	Music Industry Forum **	1
MMGT 081A	How to Run and Independent Record Label I	3
MMGT 081B	How to Run and Independent Record Label II	3
MMGT 090	Portfolio Review I	0
MMGT 111	Music Industry Analysis	4
MMGT 180	Senior Project Proposal	1
MMGT 185	Senior Project	1
MMGT 187	Music Management Internship	1-4
MMGT 190A	Portfolio Review II	0
MMGT 190B	Portfolio Review III	0
MMGT 190C	Portfolio Presentation	1
MMGT 196	Music Industry Career Development	2
MMGT 199	Music Management Exit Examination	1
Select one of the following:		4
MMGT 120	Media Production	
MMGT 121	Media Promotion	
MMGT 153	Entertainment Law	
Select one of the following:		4
MEDX 011	Critical Media Making (Tools)	
COMM 131	Media Production	
COMM 134	Documentary Film Production	
Select one of the following:		4

ENGL 106	Content Engineering
ENGL 109	Professional Communications

* MAPP 001 must be taken twice. Students with prior guitar or piano experience may elect to take a proficiency exam to receive credit by examination if successful for one or both required semesters of applied music instruction.

** Seven semesters of MGMT 050 enrollment is required. Transfer students must enroll in each semester of residency.

Music Management Courses

MMGT 005. Introduction to Music Industry Technology. 1 Unit.

This course is an introduction to current technology used in the music industry for the creation, recording, distribution, marketing and promotion of music and music-related products and services. Students will meet weekly to be introduced to various tools and technologies, and then complete lab assignments each week to demonstrate proficiency.

MMGT 009. Musical Elements. 3 Units.

This course is an introductory course that will present the elements that comprise popular music such as melody, lyrics, rhythm, and harmony, in the context of live and recorded music performance, as appropriate for Music Industry Studies. Required for all students in the Music Industry Studies Emphasis. This course does not fulfill music theory or music history requirements for other music majors.

MMGT 010. First-Year Seminar in Music Management. 1 Unit.

This first-year seminar course is a general introduction to making a successful transition to college. Topics include understanding department and University procedures and regulations, developing a four-year academic plan, professional orientation and career planning, and beginning the student portfolio. This course is required of all new students pursuing a Bachelor's degree with Emphasis in Music Management or Music Industry Studies. Students pursuing the Arts and Entertainment concentration in the Eberhardt School of Business may elect to take this course.

MMGT 011. Music, Entertainment in U.S. Society. 4 Units.

This introductory course covers the business, financial, and legal parameters of the music industry. Special emphasis is given to understanding recording contracts, artist management, royalty earnings, copyright issues, and motion picture music. (GE1B)

MMGT 021A. Follow the Money I. 4 Units.

A detailed look at how artists, managers and music industry companies earn money in today's industry. This course will include analysis and review of contracts, budgets, deal making, monetization strategies in a global environment, copyright and intellectual property conventions, valuation of music products and learning the various roles and responsibilities of stakeholders in the industry. Prerequisites: MGMT 011, Fundamental Skills Math or permission from instructor.

MMGT 021B. Follow the Money II. 4 Units.

A detailed look at how artists, managers and music industry companies earn money in today's industry. Focus will largely be on the US and international music licensing industry. This course will include analysis and review of contracts, budgets, deal making, monetization strategies, copyright and intellectual property conventions, valuation of music products and learning the various roles and responsibilities of stakeholders in the industry. Prerequisite: MGMT 021A or permission of instructor.

MMGT 035. Digital Music Basics. 2 Units.

This course is a comprehensive look at the language, process and file structure used in the capture, creation, storage and transmission of MIDI and digital audio music products. It provides students with valuable MIDI and digital audio techniques that offer a foundational base of knowledge when working with digital sound designing engineers and technical music producers in the music industry.

MMGT 050. Music Industry Forum. 1 Unit.

This weekly forum will study and discuss the most recent developments in the music and entertainment industry as they relate to the production, dissemination and commoditization of music and music-related products and services. This course will include guest lecturer from the music industry.

MMGT 081A. How to Run and Independent Record Label I. 3 Units.

Operating an independent record label, staffing, record keeping, budgets and planning, managing and selling catalog titles, working with talent, licensing masters, and operations focused around an indie label's CD and/or digital music releases. Students pursuing the BS-MIS degree complete the two semester sequence MGMT 081A and MGMT 081B during their second year in the program. Open to all students outside the major with instructor permission. Prerequisite: MGMT 011.

MMGT 081B. How to Run and Independent Record Label II. 3 Units.

Operating an independent record label, staffing, record keeping, budgets and planning, managing and selling catalog titles, working with talent, licensing masters, and operations focused around an indie label's CD and/or digital music releases. Students pursuing the BS-MIS degree complete the two semester sequence MGMT 081A and MGMT 081B during their second year in the program. Open to all students outside the major with instructor permission. Prerequisite: MGMT 011.

MMGT 087. Fieldwork in Music Management. 1 or 2 Unit.

This course allows students to undertake a music management fieldwork experience to explore potential career options. These are generally at off campus firms, under the guidance of a faculty sponsor. Students are responsible for locating and securing a fieldwork site, developing an approved list of learning objectives, and completing all necessary academic work as prescribed in the course syllabus. Offered on a Pass-No Credit basis only. Prerequisite: MGMT 011 and permission of the instructor.

MMGT 090. Portfolio Review I. 0 Units.

Each Music Industry Studies major prepares an ePortfolio over the course of his/her study containing signature assignments from specified courses as well as capstone assignments and other work products relevant to measuring progress toward attaining program learning outcomes as well as knowledge in the students' area of focus. This course is the first in a series of three required portfolio reviews in which the student meets bi-monthly with a faculty advisor to determine appropriate quality and relevance of portfolio contents. Graded on a Pass/No Credit basis only. Prerequisites: Sophomore standing in the BS Music Industry Emphasis; minimum 45 units completed.

MMGT 106. Sound Recording Fundamentals. 3 Units.

This course introduces students to basic audio techniques applicable to recording sound. This course is a combination of lecture, lab sessions and independent studio projects which provides a basic understanding of how audio is captured, stored and manipulated in the recording industry. (FILM)

MMGT 107. Performing Arts Administration. 3 Units.

This course is a practical approach to management and business issues that affect arts organizations. Topics include program planning, budget development, fund-raising, community relationships and concert promotion and production.

MMGT 108. Artist Management. 3 Units.

This course introduces students to the roles and responsibilities of a personal manager for a recording artist. Through reading, discussion, project-based work and taking on a working artist to advise and "manage" during the term, students have the opportunity to learn first-hand about the nature of the work of the artist manager and how to plan and execute a project for an artist. Prerequisite: MMGT 011 or permission of the instructor.

MMGT 109. Beyond Talent: Managing Performance Career. 2 Units.

This course provides students intending a career as a performer or artist with the knowledge and skills to help manage their career and image. This course combines readings, workshops, activities, and interviewing successful artists while students develop a basic promotional kit and career plan. Prerequisite: Permission of instructor.

MMGT 111. Music Industry Analysis. 4 Units.

Using reading, research, and discussion, students investigate the evolution of the American popular music industry during the last century. Social, cultural, business and technological changes are considered. The course emphasizes critical thinking, forming and defending opinions, and clearly presenting written and oral arguments that support student-developed theses which relate to a variety of eras and themes. Coursework includes a substantial research project on a topic of the student's own choosing. Prerequisite: MMGT 011 or permission of instructor. Junior standing. (DVSY)

MMGT 120. Media Production. 4 Units.

A laboratory class in which student teams learn to capture, edit, and publish live events such as concerts, recitals, lectures, as well as community and regional music events. Students will become familiar with audio, video and streaming tools, as well as the protocol and processes of working with various stakeholders to accomplish the course learning objectives. Prerequisites: MMGT 009, MMGT 106, Junior Standing or instructor permission.

MMGT 121. Media Promotion. 4 Units.

This is a hands-on lab class which students learn to promote designated projects for clients, using various means including paid, owned, and earned digital media. Students will learn about relevant forms of social media to accomplish the course learning objectives which primarily focus on audience-building, data analytics, measurement and evaluation of the effectiveness of various tactics and strategy used in media promotion. Class may be audited. Prerequisites: Sophomore standing.

MMGT 130. Popular Songwriting. 3 Units.

Students will gain a fundamental understanding of how songs are written, co-written and produced. Genre-specific songwriting and production conventions will also be addressed. Study of popular song structure, lyrics, melodic and other musical elements are included. Prerequisite: MMGT 009 or permission of instructor.

MMGT 135. Digital Music Synthesis. 3 Units.

An in-depth look at the creative music potential of the Digital Audio Workstation. It offers students a comprehensive understanding of music synthesis when working in a DAW environment. Using Logic Pro X and Ableton Live applications, this hands-on project-based course will focus on MIDI sequencing and programming, sound and instrument plug-in design, effect plug-in processing and sound shaping, and audio sample warping and clip manipulation. Prerequisites: MMGT 035 or permission of instructor.

MMGT 140. Music Products Management. 3 Units.

This course introduces students to the inner workings of the operations, sales and financial aspects of the music products industry. Course work includes case studies, lab sessions at a music retailer, development of a retail store start-up plan and site visits to leading regional music products firms.

MMGT 153. Entertainment Law. 4 Units.

Students study all aspects of legal relationships and rights of problems in films, television, music and records. Prerequisites: BUSI 053 and MMGT 011 or permission of instructor. Junior standing. (PLAW)

MMGT 160. Recording Studio Production. 2 Units.

This course provides students an opportunity to work independently and as part of a group learning about acoustical sound recording and digital production techniques. Classes develop sound recording and aural acuity relevant to the production of high quality music recordings. Course may be taken a total of three times for credit. Prerequisites: MMGT 106 with a grade of 'B' or better or permission of instructor.

MMGT 170. Topical Seminars in Music Industry Studies. 1-3 Units.

Rotating series of seminars that study various segments of the music industry. Past seminars have included topics such as concert production/promotion, music licensing and supervision, and live sound engineering.

MMGT 180. Senior Project Proposal. 1 Unit.

Students will prepare a comprehensive project proposal addressing an industry-related topic, problem or issue of concern to the student, which directly relates to their intended career path. Proposal must meet with faculty approval prior to end of semester. Graded on a Pass/No Credit basis only. Prerequisite: Junior standing.

MMGT 181. Senior Music Project Proposal. 1 Unit.

Students will prepare a comprehensive project proposal, which will demonstrate their musical development and abilities through recorded media or live performance. Project proposal should directly relate to student's intended career path. Proposal must meet with faculty approval prior to end of semester. Prerequisite: Junior standing.

MMGT 185. Senior Project. 1 Unit.

Students will complete and present a senior project that is based on their approved proposal from MMGT 180. Students will deliver both written and oral presentations in a public forum. Students receive a letter grade based on their overall semester's work as well as the quality and clarity of their final project. Prerequisites: MMGT 180, Senior Standing.

MMGT 186. Senior Music Project. 1 Unit.

Students will complete and present a senior project that is based on their approved proposal from MMGT 181. Students will either perform a newly created musical work or present a newly created sound recording that they have been responsible for conceiving and completing in a public forum. Prerequisites: MMGT 181, Senior Standing.

MMGT 187. Music Management Internship. 1-4 Units.

This course is an opportunity for qualifying students to work in an area of the music industry that interests them. The course is coordinated with the Pacific Career Resource Center. Prerequisite: Successful completion of two courses in Music Management. Permission of faculty adviser. Graded Pass/No Credit.

MMGT 190A. Portfolio Review II. 0 Units.

Music Industry and Music Management majors prepare an ePortfolio over the course of his/her study containing signature assignments from specified courses as well as other work products relevant to measuring progress toward attaining program learning outcomes as well as knowledge in the students' area of focus. This course is a milestone review, which occur in each semester of junior year. Each student meets bi-monthly with a faculty advisor to determine appropriate quality and relevance of portfolio contents and to receive feedback on how to maximize its impact. This course is graded on a Pass/No Credit basis only. Prerequisite: MMGT 090, Junior standing.

MMGT 190B. Portfolio Review III. 0 Units.

Music Industry and Music Management majors prepare an ePortfolio over the course of his/her study containing signature assignments from specified courses as well as other work products relevant to measuring progress toward attaining program learning outcomes as well as knowledge in the students' area of focus. This course is a milestone review, which occur in each semester of the junior year. Each student meets bi-monthly with a faculty advisor to determine appropriate quality and relevance of portfolio contents and to receive feedback on how to maximize its impact. This course is graded on a Pass/No Credit basis only. Prerequisite: MMGT 190A, Junior standing.

MMGT 190C. Portfolio Presentation. 1 Unit.

Each Music Industry Studies major prepares an ePortfolio over the course of his/her study containing signature assignments from specified courses as well as capstone assignments and other work products relevant to measuring progress toward attaining program learning outcomes as well as knowledge in the students' area of focus. This course is the final portfolio, which also incorporates a student presentation that is videotaped and added to the students' portfolio. Each student meets bi-monthly with a faculty advisor to determine appropriate quality and relevance of portfolio contents and to finalize their presentation. This course is graded on a Pass/No Credit basis only. Prerequisite: MMGT 190B, Senior standing in BS in Music Industry.

MMGT 191. Independent Study. 1-2 Units.**MMGT 196. Music Industry Career Development. 2 Units.**

MMGT 196 is a launch pad for seniors about to enter the music industry. Students assess current career trends, meet with leading practitioners, perform research in their specific field of interest and fine-tune their professional portfolio. Professional skill development in interviewing and presenting one's self to employers. Senior standing in MMGT of School of Business Arts and Entertainment emphasis.

MMGT 197. Undergraduate Research. 1-4 Units.**MMGT 199. Music Management Exit Examination. 1 Unit.**

This class is a requirement for all students earning a Bachelor's Degree in Music Management or Music Industry Studies within the Conservatory. This summative oral examination is administered midway through the last semester of work prior to graduation. Students planning to graduate in the fall term must make arrangements with the Program Director to enroll in the prior spring semester. Graded on a Pass/No Credit basis only.

Music Management

The Bachelor of Music degree with Emphasis in Music Management provides a comprehensive professional music degree that combines intensive study of classical music with studies in music management, business fundamentals and general education classes. Each student will complete a self-designed Senior Music Project which demonstrates their proficiency in the major field. Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average

of 2.0 in order to earn the Bachelor of Music degree with a major in music management.

Musicianship

Maintain/develop musical and supporting skills as needed to interact with performance musicians.

1. In a recording studio or live performance setting, show facility with musical concepts and equipment.
2. Play primary instrument in ensemble and solo performance

Analytical, Problem-Solving and Communicative Skills

1. Access, analyze, evaluate, synthesize and present information using a variety of methods including computer-based media.
2. Make informed judgments and solve problems using evidence and reasoned analysis in the context of music industry topics.
3. Adapt message and media to the audience.

Fundamental Music Industry Theory and Practice

1. Use basic understanding of music industry business, legal, marketing and operational practices to articulate and recommend consideration of viable change to an existing business strategy.

Select and Use Technology

Stay abreast of and use technology to carry out music management tasks.

1. Select and use the current range of professional office management computer software to complete office-related tasks.
2. Identify, learn, and appropriately apply available emerging technologies in the music and entertainment-based industry, especially as they relate to the creation, promotion and distribution of intellectual property.

Entrepreneurship

Engage in entrepreneurial activities that apply critical knowledge of the music industry.

1. Demonstrate understanding of the overall functions and structures of the current music industry including copyright law, publishing, contracts, and licensing
2. Identify and analyze major trends and events in the history of the music industry
3. Identify general aspects of the various niches within the industry.
4. Distinguish/describe the structure and operations within the student's industry area of interest.
5. Use knowledge of the music industry niches, structures, and trends to articulate a clear and reasoned approach to pursuing one's own career and personal objectives
6. Proactively articulate and engage in networking opportunities

Ethical Sensitivity

Identify ethical conflicts and articulate how own values are connected to the application of professional standards of conduct.

1. Identify sources of ethical conflicts in case examples
2. Analyze and explain professional standards of ethical conduct in the music industry
3. Articulate sources of own values and connect to decision-making preferences

Collaborative Coordination

Demonstrate interpersonal skills critical for success in team or collaborative environments.

1. Articulate organizational structures typical to the music industry that shape decision-making
2. Identify when collaborative decisions and/or teamwork is needed
3. Draw out the perspectives of others critical to the task and decision-making
4. Seek and use input from others to develop joint and sustainable initiatives and problem solutions
5. Set-up meetings (or other coordination opportunities) and monitor and appropriately work with time constraints on team problem solving
6. As needed, facilitate consensus by summarizing different opinions and articulating a perspective on pro and cons and/or compromise

complete a designated course prior to graduation. 3) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Foundation Courses

MUJZ 010	Jazz Piano I	1
MUJZ 011	Jazz Piano II	1
MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 054	Dean's Seminar	1
Select 8 units from the following:		8
MPER 066	Jazz Ensemble	
MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
MAPP 010	Applied Music *	8

Major Requirements

MMGT 005	Introduction to Music Industry Technology	1
MMGT 010	First-Year Seminar in Music Management	1
MMGT 011	Music, Entertainment in U.S. Society	4
MMGT 021A	Follow the Money I	4
MMGT 050	Music Industry Forum	2
MMGT 090	Portfolio Review I	0
MMGT 106	Sound Recording Fundamentals	3
MMGT 111	Music Industry Analysis	4
MMGT 181	Senior Music Project Proposal	1
MMGT 186	Senior Music Project	1
MMGT 187	Music Management Internship	2
MMGT 190A	Portfolio Review II	0
MMGT 190B	Portfolio Review III	0
MMGT 190C	Portfolio Presentation	1
MMGT 196	Music Industry Career Development	2
MMGT 199	Music Management Exit Examination	1
Select 33 units of the following: **		33

MCOM 014	Introduction to Orchestration	
MHIS 007	Topics in American Popular Music	
MCOM 029	The Analog-Digital Studio	
MHIS 160	American Music	
MMGT 107	Performing Arts Administration	

Bachelor of Music Major in Music Management

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in music management.

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) A complete list of the courses that satisfy the requirement above is found in the front Diversity Requirement section of this catalog and the online course search. **2)** Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to

MMGT 108	Artist Management
MMGT 109	Beyond Talent: Managing Performance Career
MMGT 120	Media Production
MMGT 121	Media Promotion
MMGT 130	Popular Songwriting
MMGT 153	Entertainment Law
MMGT 160	Recording Studio Production
MMGT 170	Topical Seminars in Music Industry Studies
MPER 151	Principles of Conducting

* Students repeat MAPP 010 in order to have a total of 8 units.

** Up to 18 units of free electives with consultation with the advisor.

Music Management Courses

MMGT 005. Introduction to Music Industry Technology. 1 Unit.

This course is an introduction to current technology used in the music industry for the creation, recording, distribution, marketing and promotion of music and music-related products and services. Students will meet weekly to be introduced to various tools and technologies, and then complete lab assignments each week to demonstrate proficiency.

MMGT 009. Musical Elements. 3 Units.

This course is an introductory course that will present the elements that comprise popular music such as melody, lyrics, rhythm, and harmony, in the context of live and recorded music performance, as appropriate for Music Industry Studies. Required for all students in the Music Industry Studies Emphasis. This course does not fulfill music theory or music history requirements for other music majors.

MMGT 010. First-Year Seminar in Music Management. 1 Unit.

This first-year seminar course is a general introduction to making a successful transition to college. Topics include understanding department and University procedures and regulations, developing a four-year academic plan, professional orientation and career planning, and beginning the student portfolio. This course is required of all new students pursuing a Bachelor's degree with Emphasis in Music Management or Music Industry Studies. Students pursuing the Arts and Entertainment concentration in the Eberhardt School of Business may elect to take this course.

MMGT 011. Music, Entertainment in U.S. Society. 4 Units.

This introductory course covers the business, financial, and legal parameters of the music industry. Special emphasis is given to understanding recording contracts, artist management, royalty earnings, copyright issues, and motion picture music. (GE1B)

MMGT 021A. Follow the Money I. 4 Units.

A detailed look at how artists, managers and music industry companies earn money in today's industry. This course will include analysis and review of contracts, budgets, deal making, monetization strategies in a global environment, copyright and intellectual property conventions, valuation of music products and learning the various roles and responsibilities of stakeholders in the industry. Prerequisites: MMGT 011, Fundamental Skills Math or permission from instructor.

MMGT 021B. Follow the Money II. 4 Units.

A detailed look at how artists, managers and music industry companies earn money in today's industry. Focus will largely be on the US and international music licensing industry. This course will include analysis and review of contracts, budgets, deal making, monetization strategies, copyright and intellectual property conventions, valuation of music products and learning the various roles and responsibilities of stakeholders in the industry. Prerequisite: MMGT 021A or permission of instructor.

MMGT 035. Digital Music Basics. 2 Units.

This course is a comprehensive look at the language, process and file structure used in the capture, creation, storage and transmission of MIDI and digital audio music products. It provides students with valuable MIDI and digital audio techniques that offer a foundational base of knowledge when working with digital sound designing engineers and technical music producers in the music industry.

MMGT 050. Music Industry Forum. 1 Unit.

This weekly forum will study and discuss the most recent developments in the music and entertainment industry as they relate to the production, dissemination and commoditization of music and music-related products and services. This course will include guest lecturer from the music industry.

MMGT 081A. How to Run and Independent Record Label I. 3 Units.

Operating an independent record label, staffing, record keeping, budgets and planning, managing and selling catalog titles, working with talent, licensing masters, and operations focused around an indie label's CD and/or digital music releases. Students pursuing the BS-MIS degree complete the two semester sequence MMGT 081A and MMGT 081B during their second year in the program. Open to all students outside the major with instructor permission. Prerequisite: MMGT 011.

MMGT 081B. How to Run and Independent Record Label II. 3 Units.

Operating an independent record label, staffing, record keeping, budgets and planning, managing and selling catalog titles, working with talent, licensing masters, and operations focused around an indie label's CD and/or digital music releases. Students pursuing the BS-MIS degree complete the two semester sequence MMGT 081A and MMGT 081B during their second year in the program. Open to all students outside the major with instructor permission. Prerequisite: MMGT 011.

MMGT 087. Fieldwork in Music Management. 1 or 2 Unit.

This course allows students to undertake a music management fieldwork experience to explore potential career options. These are generally at off campus firms, under the guidance of a faculty sponsor. Students are responsible for locating and securing a fieldwork site, developing an approved list of learning objectives, and completing all necessary academic work as prescribed in the course syllabus. Offered on a Pass-No Credit basis only. Prerequisite: MMGT 011 and permission of the instructor.

MMGT 090. Portfolio Review I. 0 Units.

Each Music Industry Studies major prepares an ePortfolio over the course of his/her study containing signature assignments from specified courses as well as capstone assignments and other work products relevant to measuring progress toward attaining program learning outcomes as well as knowledge in the students' area of focus. This course is the first in a series of three required portfolio reviews in which the student meets bi-monthly with a faculty advisor to determine appropriate quality and relevance of portfolio contents. Graded on a Pass/No Credit basis only. Prerequisites: Sophomore standing in the BS Music Industry Emphasis; minimum 45 units completed.

MMGT 106. Sound Recording Fundamentals. 3 Units.

This course introduces students to basic audio techniques applicable to recording sound. This course is a combination of lecture, lab sessions and independent studio projects which provides a basic understanding of how audio is captured, stored and manipulated in the recording industry. (FILM)

MMGT 107. Performing Arts Administration. 3 Units.

This course is a practical approach to management and business issues that affect arts organizations. Topics include program planning, budget development, fund-raising, community relationships and concert promotion and production.

MMGT 108. Artist Management. 3 Units.

This course introduces students to the roles and responsibilities of a personal manager for a recording artist. Through reading, discussion, project-based work and taking on a working artist to advise and "manage" during the term, students have the opportunity to learn first-hand about the nature of the work of the artist manager and how to plan and execute a project for an artist. Prerequisite: MMGT 011 or permission of the instructor.

MMGT 109. Beyond Talent: Managing Performance Career. 2 Units.

This course provides students intending a career as a performer or artist with the knowledge and skills to help manage their career and image. This course combines readings, workshops, activities, and interviewing successful artists while students develop a basic promotional kit and career plan. Prerequisite: Permission of instructor.

MMGT 111. Music Industry Analysis. 4 Units.

Using reading, research, and discussion, students investigate the evolution of the American popular music industry during the last century. Social, cultural, business and technological changes are considered. The course emphasizes critical thinking, forming and defending opinions, and clearly presenting written and oral arguments that support student-developed theses which relate to a variety of eras and themes. Coursework includes a substantial research project on a topic of the student's own choosing. Prerequisite: MMGT 011 or permission of instructor. Junior standing. (DVSY)

MMGT 120. Media Production. 4 Units.

A laboratory class in which student teams learn to capture, edit, and publish live events such as concerts, recitals, lectures, as well as community and regional music events. Students will become familiar with audio, video and streaming tools, as well as the protocol and processes of working with various stakeholders to accomplish the course learning objectives. Prerequisites: MMGT 009, MMGT 106, Junior Standing or instructor permission.

MMGT 121. Media Promotion. 4 Units.

This is a hands-on lab class which students learn to promote designated projects for clients, using various means including paid, owned, and earned digital media. Students will learn about relevant forms of social media to accomplish the course learning objectives which primarily focus on audience-building, data analytics, measurement and evaluation of the effectiveness of various tactics and strategy used in media promotion. Class may be audited. Prerequisites: Sophomore standing.

MMGT 130. Popular Songwriting. 3 Units.

Students will gain a fundamental understanding of how songs are written, co-written and produced. Genre-specific songwriting and production conventions will also be addressed. Study of popular song structure, lyrics, melodic and other musical elements are included. Prerequisite: MMGT 009 or permission of instructor.

MMGT 135. Digital Music Synthesis. 3 Units.

An in-depth look at the creative music potential of the Digital Audio Workstation. It offers students a comprehensive understanding of music synthesis when working in a DAW environment. Using Logic Pro X and Ableton Live applications, this hands-on project-based course will focus on MIDI sequencing and programming, sound and instrument plug-in design, effect plug-in processing and sound shaping, and audio sample warping and clip manipulation. Prerequisites: MMGT 035 or permission of instructor.

MMGT 140. Music Products Management. 3 Units.

This course introduces students to the inner workings of the operations, sales and financial aspects of the music products industry. Course work includes case studies, lab sessions at a music retailer, development of a retail store start-up plan and site visits to leading regional music products firms.

MMGT 153. Entertainment Law. 4 Units.

Students study all aspects of legal relationships and rights of problems in films, television, music and records. Prerequisites: BUSI 053 and MMGT 011 or permission of instructor. Junior standing. (PLAW)

MMGT 160. Recording Studio Production. 2 Units.

This course provides students an opportunity to work independently and as part of a group learning about acoustical sound recording and digital production techniques. Classes develop sound recording and aural acuity relevant to the production of high quality music recordings. Course may be taken a total of three times for credit. Prerequisites: MMGT 106 with a grade of 'B' or better or permission of instructor.

MMGT 170. Topical Seminars in Music Industry Studies. 1-3 Units.

Rotating series of seminars that study various segments of the music industry. Past seminars have included topics such as concert production/promotion, music licensing and supervision, and live sound engineering.

MMGT 180. Senior Project Proposal. 1 Unit.

Students will prepare a comprehensive project proposal addressing an industry-related topic, problem or issue of concern to the student, which directly relates to their intended career path. Proposal must meet with faculty approval prior to end of semester. Graded on a Pass/No Credit basis only. Prerequisite: Junior standing.

MMGT 181. Senior Music Project Proposal. 1 Unit.

Students will prepare a comprehensive project proposal, which will demonstrate their musical development and abilities through recorded media or live performance. Project proposal should directly relate to student's intended career path. Proposal must meet with faculty approval prior to end of semester. Prerequisite: Junior standing.

MMGT 185. Senior Project. 1 Unit.

Students will complete and present a senior project that is based on their approved proposal from MMGT 180. Students will deliver both written and oral presentations in a public forum. Students receive a letter grade based on their overall semester's work as well as the quality and clarity of their final project. Prerequisites: MMGT 180, Senior Standing.

MMGT 186. Senior Music Project. 1 Unit.

Students will complete and present a senior project that is based on their approved proposal from MMGT 181. Students will either perform a newly created musical work or present a newly created sound recording that they have been responsible for conceiving and completing in a public forum. Prerequisites: MMGT 181, Senior Standing.

MMGT 187. Music Management Internship. 1-4 Units.

This course is an opportunity for qualifying students to work in an area of the music industry that interests them. The course is coordinated with the Pacific Career Resource Center. Prerequisite: Successful completion of two courses in Music Management. Permission of faculty adviser. Graded Pass/No Credit.

MMGT 190A. Portfolio Review II. 0 Units.

Music Industry and Music Management majors prepare an ePortfolio over the course of his/her study containing signature assignments from specified courses as well as other work products relevant to measuring progress toward attaining program learning outcomes as well as knowledge in the students' area of focus. This course is a milestone review, which occurs in each semester of junior year. Each student meets bi-monthly with a faculty advisor to determine appropriate quality and relevance of portfolio contents and to receive feedback on how to maximize its impact. This course is graded on a Pass/No Credit basis only. Prerequisite: MMGT 090, Junior standing.

MMGT 190B. Portfolio Review III. 0 Units.

Music Industry and Music Management majors prepare an ePortfolio over the course of his/her study containing signature assignments from specified courses as well as other work products relevant to measuring progress toward attaining program learning outcomes as well as knowledge in the students' area of focus. This course is a milestone review, which occurs in each semester of the junior year. Each student meets bi-monthly with a faculty advisor to determine appropriate quality and relevance of portfolio contents and to receive feedback on how to maximize its impact. This course is graded on a Pass/No Credit basis only. Prerequisite: MMGT 190A, Junior standing.

MMGT 190C. Portfolio Presentation. 1 Unit.

Each Music Industry Studies major prepares an ePortfolio over the course of his/her study containing signature assignments from specified courses as well as capstone assignments and other work products relevant to measuring progress toward attaining program learning outcomes as well as knowledge in the students' area of focus. This course is the final portfolio, which also incorporates a student presentation that is videotaped and added to the students' portfolio. Each student meets bi-monthly with a faculty advisor to determine appropriate quality and relevance of portfolio contents and to finalize their presentation. This course is graded on a Pass/No Credit basis only. Prerequisite: MMGT 190B, Senior standing in BS in Music Industry.

MMGT 191. Independent Study. 1-2 Units.**MMGT 196. Music Industry Career Development. 2 Units.**

MMGT 196 is a launch pad for seniors about to enter the music industry. Students assess current career trends, meet with leading practitioners, perform research in their specific field of interest and fine-tune their professional portfolio. Professional skill development in interviewing and presenting one's self to employers. Senior standing in MMGT of School of Business Arts and Entertainment emphasis.

MMGT 197. Undergraduate Research. 1-4 Units.**MMGT 199. Music Management Exit Examination. 1 Unit.**

This class is a requirement for all students earning a Bachelor's Degree in Music Management or Music Industry Studies within the Conservatory. This summative oral examination is administered midway through the last semester of work prior to graduation. Students planning to graduate in the fall term must make arrangements with the Program Director to enroll in the prior spring semester. Graded on a Pass/No Credit basis only.

Music Therapy

The Music Therapy program is approved by the American Music Therapy Association (AMTA). The Bachelor of Music degree in Music Therapy is earned at the completion of four years of coursework plus six months of clinical internship (MTHR 187). Students are eligible for the Board Certification Examination upon the completion of the internship at an approved clinical facility. Students must be enrolled for at least one unit of MTHR 187 during the semesters that cover the start and completion

dates of the internship. Final grade for all sections of MTHR 187 is given only upon receipt of the final internship evaluation.

In order to complete the Music Therapy degree, students must obtain a grade of B- or better in Music Therapy courses and demonstrate interpersonal and professional skills appropriate to the clinical profession as evaluated by the Music Therapy Faculty. A student who does not receive such a grade following the second attempt through a particular course is disqualified from the Music Therapy major.

A student who receives a grade of less than B- in either MTHR 011 or MTHR 018 may not enroll in upper-division Music Therapy core courses until a B- grade or better is obtained in each of these lower-division courses.

All Music Therapy majors are required to demonstrate functional proficiencies on piano, guitar, and voice before they enroll in the senior level capstone courses MTHR 141, MTHR 142, and MTHR 150 section 02. Voice competencies are assessed in the MAPP 001E voice class and during fieldwork. All students, regardless of major instrument, must complete the voice competencies, pass all parts of the piano functional examination, and both beginning and advanced level functional guitar examinations. These examinations are given within the functional courses, but may also be passed at the examination time offered at the end of each semester.

Clinical Musicianship

1. Accompany self and ensembles proficiently.
2. Play/sing a basic repertoire of traditional, folk, and popular songs in several keys.

Social Science Foundations

1. Demonstrate knowledge of the basic principles of normal human development, exceptionality, and psychopathology.
2. Articulate common/specific principles of therapy and the importance of the therapeutic relationship.

Music Therapy Foundations/Principles

1. Demonstrate knowledge about the historical, philosophical, psychological, physiological, and sociological bases for the use of music as therapy.
2. Explain the impact of contemporary issues in healthcare and education on music therapy practice.
3. Identify various models of traditional and contemporary music therapy practice.

Clinical Foundations

1. Demonstrate knowledge of various client populations.
2. Carry out clinical functions including: conducting assessments; planning treatment; implementing treatment; documenting progress (oral/written); and terminating treatment/planning discharge.

Ethics and Professionalism

1. Demonstrate knowledge of professional role and ethics.
2. Demonstrate knowledge of professional standards of clinical practice; interdisciplinary collaboration in designing and implementing treatment programs; supervision and administration.

Evidence-Based Practice

1. Interpret information in the professional research literature.
2. Demonstrate basic knowledge of historical, quantitative, and qualitative research.
3. Apply research findings to clinical practice in music therapy.

Professional Sustainability

1. Identify ways in which music therapists can minimize their impact on the environment or social ecology through practice modifications.
2. Describe innovative means of expanding service delivery while maintaining the integrity of the profession and employability of music therapists.

Bachelor of Music Major in Music Therapy

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in music therapy.

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Students must obtain a grade of B- or better in all Music Therapy courses.

Foundation Courses

MAPP 001D	Class Piano	2
MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 054	Dean's Seminar	1
Select 8 units of the following:		8

MPER 066	Jazz Ensemble	
MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
MAPP 010	Applied Music *	8

Major Requirements

MAPP 001B	Functional Guitar Class	2
MAPP 001E	Voice Class	1
MTHR 011	Music as Therapy: A Survey of Clinical Applications **	3
MTHR 018	Basic Skills for Music Therapists and Allied Professionals **	3
MTHR 020	Observation and Assessment in Music Therapy	2
MTHR 135	Music with Children in Inclusive Settings: Therapeutic and Educational Applications	3
MTHR 139	Research in Music	2
MTHR 140	Psychology of Music	2
MTHR 141	Music Therapy in Mental Health and Social Services	3
MTHR 142	Music Therapy in Medicine and Health Care	3
MTHR 150	Fieldwork in Music Therapy ***	4
MTHR 187	Internship in Music Therapy ****	2
PSYC 017	Abnormal and Clinical Psychology	4
SPED 123	The Exceptional Child	3
Select one of the following:		4
BIOL 011	Human Anatomy and Physiology	
BIOL 041	Introduction to Biology	
BIOL 051	Principles of Biology	
Select 11 units from PHYS, PSYC, SLPA, or others in this area with approval		11
Select 16 units of any music course (in consultation with their advisor) to satisfy the electives +		16

- * Students repeat MAPP 010 in order to have a total of 8 units.
- ** 1. Students must obtain a grade of B- or better in all Music Therapy courses.
2. Students must receive a grade of B- in MTHR 011 or MTHR 018 before they enroll in upper-division courses.
- *** Repeated for four semesters.
- **** Repeated for two semesters.
- + Students can take up to six units of free electives (outside of the Conservatory) with consultation with their advisor.

Music Therapy Courses

MTHR 011. Music as Therapy: A Survey of Clinical Applications. 3 Units.

This course introduces the uses of music as a creative arts therapy, and it includes an overview of the history, theory, and clinical practice of music therapy across a broad range of settings. Classroom experiences, reading, films, and field observations introduce the student to various uses of music in the treatment of children and adults that are a foundation for the sequence of music therapy courses which together support development of required AMTA competencies for the professional music therapist. This course also offers an introduction to music therapy for interested persons in other health and pre-professional programs. This course is open to non-majors.

MTHR 018. Basic Skills for Music Therapists and Allied Professionals. 3 Units.

MTHR 018 focuses on the development of applied/basic music skills necessary for implementing therapeutic music interventions with children and adults. Students increase performance competencies in the areas of singing and accompanying, and explore improvising/ composing/ arranging with instruments such as autoharp, Orff and other rhythmic/ ethnic instruments. The course includes development of song repertoire commonly used across various therapeutic settings. This course is open to non-Major. Prerequisite: MCOM 002.

MTHR 020. Observation and Assessment in Music Therapy. 2 Units.

This course focuses on developing observation skills and assessment competencies. Students will practice implementation of standardized and therapist-constructed assessments (through simulation) to appropriately measure and monitor progress and evaluate effectiveness of music therapy interventions for children and adults. For graduate students only who need to fulfill coursework for board-eligibility through the Certification Board for Music Therapists.

MTHR 135. Music with Children in Inclusive Settings: Therapeutic and Educational Applications. 3 Units.

This course presents specific music therapy techniques and skills for development of programs for children's successful integration within home/school/community environments. Students will identify and create therapeutic music strategies to effect changes in children's academic, social, motor, and leisure skills development. This course also acquaints students with relevant music therapy/education research and current legislation regarding children within inclusive settings. Open to non-majors. Prerequisites: SPED 123 and either MTHR 018 or MCOM 002; or with instructor permission.

MTHR 139. Research in Music. 2 Units.

The application of scientific methods to investigate music therapy and related disciplines (e.g., music education and music psychology) are reviewed, including: qualitative and quantitative methods and related designs, review and evaluation of research literature, and writing a research proposal. Statistical analyses and evidence-based practice are introduced. Prerequisite: MCOM 002 or Instructor Permission.

MTHR 140. Psychology of Music. 2 Units.

This course introduces the psychological foundations of music, including the study of acoustics, perception of sound, music and neuroscience, and physical and psychosocial responses to music. Prerequisite: MTHR 139 or MTHR 239 or permission of the instructor.

MTHR 141. Music Therapy in Mental Health and Social Services. 3 Units.

This course examines theory, research, and clinical skills related to music therapy for adults, children, and adolescents in various mental health and social service treatment settings. It also includes an introduction to current DSM criteria for mental disorders commonly encountered by music therapists, and an overview of major theories of psychotherapy as they relate to music therapy. The course introduces music therapy techniques for group treatment which includes music improvisation, songwriting, and basic relaxation methods. This course is for music therapy majors only and it must be taken concurrently with Fieldwork in Music Therapy. Prerequisites: MTHR 011, MTHR 018, MTHR 135, and MTHR 140, PSYC 017 and completion of Voice, Guitar, and Piano competencies.

MTHR 142. Music Therapy in Medicine and Health Care. 3 Units.

This course provides an overview of music therapy with children, adults, and older adults in medical settings. Students survey theories, methods, and empirically supported treatments in settings such as acute care, physical rehabilitation, gerontology, palliative care, preventative medicine, and health maintenance. It also includes the study of physical and psychosocial processes natural to aging and end of life, and assists students in developing skills in improvised music for relaxation and palliative care. The course is for music therapy majors only. Prerequisites: MTHR 141, BIOL 011 and completion of Voice, Guitar, and Piano competencies.

MTHR 143. Supervisory Techniques. 1 or 2 Unit.

This course offers techniques in the supervision of music therapy fieldwork. The course is only open to music therapy majors by permission of the instructor. Prerequisites: MTHR 020, MTHR 140 and MTHR 150.

MTHR 150. Fieldwork in Music Therapy. 1-2 Units.

Fieldwork provides students with structured clinical experiences in music therapy under the supervision of a music therapist in varying community settings. This course repeated for credit and taken concurrently each semester students are enrolled in MTHR 135, MTHR 140, MTHR 141 and MTHR 142. Prerequisites: MTHR 011 and MTHR 018. This course is open only to music therapy majors, and a minimum of 4 units of Fieldwork (MTHR 150) is required for completion of the music therapy degree program.

MTHR 187. Internship in Music Therapy. 1 Unit.

This course consists of clinical training experience at an internship site approved by the AMTA. Successful completion of required hours and competencies allows students to sit for the Music Therapy Board Certification Examination. Prerequisites: Successful completion of all coursework and functional music skills, competency evaluation and individualized internship training plan. Students are required to enroll in MTHR 150 within the period of one year prior to the start of internship.

MTHR 191. Independent Study. 1-2 Units.

MTHR 197D. Undergraduate Research. 1-4 Units.

Jazz Studies

The Bachelor of Music with a major in Jazz Studies provides students a foundation in both traditional and innovative approaches to development as a jazz artist or composer. Courses in jazz history, theory, improvisation, and composition are combined with solo performance, small ensemble and large ensemble experiences. The curriculum culminates in a four-semester sequence of research-based seminars that investigate

the performance techniques and historical development of jazz. In consultation with the program director, students select additional coursework from a broad range of disciplines in the arts and sciences.

Facility

Recognize, identify, and demonstrate analytical and performance facility in major jazz idioms.

Improvisation

Integrate theoretical understanding of harmony, melody, form, structure, and chord/scale relationships with performance and fluency in the jazz language.

Composition/Arranging

Create original compositions and develop experience arranging original and standard literature for small groups and big bands.

Knowledge

Knowledge of Jazz history and literature—Incorporate knowledge of jazz history and literature, as well as the cultural sources and influences of jazz into analysis, composition/arranging, and performance.

Bachelor of Music Major in Jazz Studies

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in jazz studies.

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Music Courses (Non-jazz)

MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MCOM 042	Musicianship I	1
MCOM 043	Musicianship II	1
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MMGT 011	Music, Entertainment in U.S. Society	4
MMGT 081A	How to Run and Independent Record Label I	3
MMGT 106	Sound Recording Fundamentals	3
MPER 054	Dean's Seminar	1

Jazz Courses

MUJZ 010	Jazz Piano I	1
MUJZ 011	Jazz Piano II	1
MUJZ 020	Jazz Theory and Aural Training	3
MUJZ 025	Jazz Harmony	3
MUJZ 030	Jazz Improvisation I	2
MUJZ 031	Jazz Improvisation II	2
MUJZ 110	Jazz Arranging and Composition	3
MUJZ 111	Jazz Composition for the Large Ensemble	3
MUJZ 140	Jazz Pedagogy	2
MUJZ 158	Advanced History of Jazz	3
	Junior Jazz Recital	0
	Senior Jazz Recital	0

Jazz Performance Emphasis

8 units of the following:	8	
MPER 066	Jazz Ensemble	
MPER 067	Jazz Combo	
MUJZ 130	Advanced Improvisation	2
MUJZ 131	Advanced Improvisation II	2
16 units of Jazz Applied Instruction	16	

MUJZ 171	Jazz Applied I	
MUJZ 172	Jazz Applied II	
MUJZ 173	Jazz Applied III	
MUJZ 174	Jazz Applied IV	

Jazz Composition Emphasis

MCOM 014	Introduction to Orchestration	2
MCOM 034	Advanced Chromaticism and Analysis	3
MCOM 044	Musicianship III	1

8 units of the following:	8	
MPER 066	Jazz Ensemble	
MPER 067	Jazz Combo	

MUJZ 180	Applied Jazz Composition	8
8 units of Jazz Applied Instruction		8
MUJZ 171	Jazz Applied I	
MUJZ 172	Jazz Applied II	
MUJZ 173	Jazz Applied III	
MUJZ 174	Jazz Applied IV	
Free Electives in Consultation with Advisor		8-15

* Students must enroll in either MPER 066 or MPER 067 each semester of residence.

Jazz Studies majors participate in a third year research lecture demonstration linked to the research component of Jazz Seminar and Perspectives I or II. This open forum demonstration is completed in the Fall or Spring semester of the third year of study and is completed while enrolled in either course.

In the junior year, a half recital is required. In the fourth year, each student completes a full jazz recital.

Jazz Studies Courses

MUJZ 008. Introduction to Jazz. 3 Units.

This is an introduction to jazz studies and performers through intelligent listening and historical research. This course teaches jazz as an art form created by African-Americans and it investigates issues concerning race, ethnicity, and social justice. Topics include connections to slavery, Civil and World Wars, segregation, and the musical response of African-Americans. Students write a live performance critique, album reviews, artist papers, and a research paper. No previous study of music is required. (ETHC, GE2C)

MUJZ 010. Jazz Piano I. 1 Unit.

This jazz piano instruction course is geared toward the non-pianist. This course provides a foundation of skills that build in the second semester. Students acquire the ability to perform standard jazz compositions with minimal right-hand improvisation and sight-read chord changes.

MUJZ 011. Jazz Piano II. 1 Unit.

This jazz piano instruction course is geared toward the non-pianist. This course provides more advanced study of jazz progressions and skills acquired from the first semester. Students acquire the ability to perform standard jazz compositions that utilize rootless and quartal voicings, contemporary harmonies, and sight-read advanced chord changes. Prerequisite: MUJZ 010 or permission of instructor.

MUJZ 020. Jazz Theory and Aural Training. 3 Units.

Students explore technical aspects of jazz improvisation that include harmonic substitutions, chord/scale relationships, analysis of harmonic progressions and solos, forms, and ear training. Class examples and exercises are written for piano and the emphasis is placed on students studying the materials at the piano and their individual instruments. Prerequisites: MCOM 032 and MCOM 033 or permission of instructor.

MUJZ 021. Jazz Style and Analysis. 3 Units.

This course explores jazz style through the analysis of historically significant transcribed solos of jazz masters. The course focuses on the development of harmonic and melodic vocabulary, and involves student transcriptions. Prerequisites: MCOM 032, MCOM 033, MUJZ 020 or permission of instructor.

MUJZ 025. Jazz Harmony. 3 Units.

This course is designed to introduce students to the language of jazz through practical application of jazz harmony via in-depth analysis, practical application of jazz techniques, transcription exercises, in-class listening and performance of works from the jazz repertory, and critical feedback from the instructor and peers. Prerequisite: MUJZ 020 or permission from instructor.

MUJZ 030. Jazz Improvisation I. 2 Units.

Students study the essential elements utilized in jazz performance. Students participate on their individual instruments in the playing of patterns, scales, and compositions that aid in the development of improvisational skills. The course includes both written and performance exams. Prerequisites: MCOM 032 and MCOM 033 or permission of instructor.

MUJZ 031. Jazz Improvisation II. 2 Units.

Students study the essential elements utilized in jazz performance. Students participate on their individual instruments in the application of advanced patterns and scales. Additional components involve jazz improvisation instruction for contemporary compositions, ballad performance, and free form vehicles. The course includes both written and performance exams. Prerequisites: MCOM 032, MCOM 033, MUJZ 030 or permission of instructor.

MUJZ 110. Jazz Arranging and Composition. 3 Units.

This course focuses on familiarizing students with jazz composition and arranging techniques for the small jazz ensemble. Two and three part writing techniques associated with the jazz tradition are the focus. Prerequisites: MUJZ 011 and MUJZ 031 or permission of the instructor.

MUJZ 111. Jazz Composition for the Large Ensemble. 3 Units.

This course focuses on the development of writing skills aimed primarily for the large ensemble. This course will include a focus on big band writing plus the incorporation of strings or other non-traditional jazz instrumentation. Prerequisite: MUJZ 110 or permission from the instructor.

MUJZ 130. Advanced Improvisation. 2 Units.

Students study advanced techniques and practices of jazz improvisation. Topics include tune analysis and develops a more definitive concepts of chord/scale relationships. Students examine contemporary performance practices that include the use of synthetic scales and free improvisation. Prerequisites: MCOM 032, MCOM 033, MUJZ 030, MUJZ 031 or permission of instructor.

MUJZ 131. Advanced Improvisation II. 2 Units.

This course is a continuation of Advanced Improvisation. Students will explore advanced techniques of jazz performance and improvisation. Students will also explore the process of integrating new materials and improvisation methods into their playing. Prerequisite: MUJZ 130 or permission from the instructor.

MUJZ 140. Jazz Pedagogy. 2 Units.

Students study jazz education materials and performance techniques designed for the student who may teach jazz ensembles or design curriculum. Prerequisites: MCOM 032 and MCOM 033; MUJZ 030 and MUJZ 031 or permission of instructor.

MUJZ 150. Honors Jazz Seminar. 3 Units.

A stylistic study of jazz styles and performers involving transcription, ensemble performance and composition study of selected works and artists. Prerequisite: Acceptance in the Honors Jazz Degree.

MUJZ 158. Advanced History of Jazz. 3 Units.

This course is a comprehensive study of jazz styles and performers through intelligent listening and historical research. Realizing jazz as an art form created by African-Americans, this course investigates issues concerning race, ethnicity, and social justice. The course content involves connections to slavery, Civil and World Wars, segregation, and the musical response of African-Americans. It also includes an analysis of jazz compositions, live performance critiques, album reviews, artist papers, and a research project that involves the Brubeck Collection. This course is designated for music students with junior or senior standing. Prerequisite: MCOM 033.

MUJZ 161. Jazz Seminar and Perspectives I. 3 Units.

Jazz Seminar and Perspectives I is comprised of two major components that involve Undergraduate Research and Performance Perspectives. Research topic involves the various cultural, economic, historical, and social aspects of jazz. Performance Perspectives Component involves jazz performance issues, stylistic comparisons of artists, works of major composers, and jazz historical perspectives. Topics are variable. Students are involved with in-class performances, research papers, and music transcriptions. An assembly of a portfolio serves as a key component of this course. Prerequisites: MUJZ 008, MUJZ 010, MUJZ 011, MUJZ 020, MUJZ 021, MUJZ 030, MUJZ 031 or permission of instructor.

MUJZ 162. Jazz Seminar and Perspectives II. 3 Units.

Jazz Seminar and Perspectives II is comprised of two major components that involve Undergraduate Research and Performance Perspectives. Research topic involves the various cultural, economic, historical, and social aspects of jazz. Performance Perspectives Component involves jazz performance issues, stylistic comparisons of artists, works of major composers, and jazz historical perspectives. Topics are variable. Students are involved with in-class performances, research papers, and music transcriptions. An assembly of a portfolio serves as a key component of this course. Prerequisites: MUJZ 008, 010, 011, 020, 021, 030, 031, 161 or permission of the instructor.

MUJZ 163. Jazz Seminar and Perspectives III. 3 Units.

Jazz Seminar and Perspectives III is comprised of two major components that involve Undergraduate Research and Performance Perspectives. Research topic involves the various cultural, economic, historical, and social aspects of jazz. Performance Perspectives Component involves jazz performance issues, stylistic comparisons of artists, works of major composers, and jazz historical perspectives. Topics are variable. Students are involved with in-class performances, research papers, and music transcriptions. An assembly of a portfolio serves as a key component of this course. Prerequisites: MUJZ 008, MUJZ 010, MUJZ 011, MUJZ 020, MUJZ 021, MUJZ 030, MUJZ 031, MUJZ 161, MUJZ 162 or permission of instructor.

MUJZ 164. Jazz Seminar and Perspectives IV. 3 Units.

Jazz Seminar and Perspectives IV is comprised of two major components involving Undergraduate Research and Performance Perspectives. Research topic involves the various cultural, economic, historical, and social aspects of jazz. Performance Perspectives Component involves jazz performance issues, stylistic comparisons of artists, works of major composers, and jazz historical perspectives. Topics are variable. Students are involved with in-class performances, research papers, and music transcriptions. An assembly of a portfolio serves as a key component of this course. Prerequisites: MUJZ 008, MUJZ 010, MUJZ 011, MUJZ 020, MUJZ 021, MUJZ 030, MUJZ 031, MUJZ 161, MUJZ 162, MUJZ 163 or permission of instructor.

MUJZ 171. Jazz Applied I. 1-2 Units.

This course is for upper division Jazz Studies majors who have passed the sophomore applied major examination in their principle instrument or voice. It is required for Jazz Studies majors. Enrollment in applied music requires an applied music fee per unit.

MUJZ 172. Jazz Applied II. 1-2 Units.

This course is for upper division Jazz Studies majors who have passed the sophomore applied major examination in their principal instrument or voice. It is required for Jazz Studies majors. Enrollment in applied music requires an applied music fee per unit.

MUJZ 173. Jazz Applied III. 1-2 Units.

This course is for upper division Jazz Studies majors who have passed the sophomore applied major examination in their principal instrument or voice. It is required for Jazz Studies majors. Enrollment in applied music requires an applied music fee per unit.

MUJZ 174. Jazz Applied IV. 1-2 Units.

This course is for upper division Jazz Studies majors who have passed the sophomore applied major examination in their principal instrument or voice. It is required for Jazz Studies majors. Enrollment in applied music requires an applied music fee per unit.

MUJZ 180. Applied Jazz Composition. 2 Units.

Each student registered for Applied Jazz Composition will receive a 1-hour private lesson once a week. The subject matter will involve problems and solutions in the composition of original jazz works and traditional models from noted jazz composers. Students will learn various compositional techniques, and explore notation, instrumentation, orchestration, and performance issues. Prerequisite: MUJZ 031 or permission from the instructor.

MUJZ 191. Independent Study. 1-4 Units.

Jazz Studies (Honors)

The Bachelor of Arts in Jazz Studies, Honors degree, is a highly selective program that allows a small number of exceptional students to prepare for a career in jazz performance while pursuing a university degree. Students in this program continue to expand their advanced performance and improvisational skills, while following courses in jazz, general music studies, and general education.

Admission Requirements

Students selected for the Honors jazz program will be chosen through a juried performance panel and provided written examinations to assess advanced placement in one or more music fields.

Learning Outcomes

1. Recognize, identify, and demonstrate analytical and performance facility in major jazz idioms.
2. Integrate theoretical understanding harmony, melody, form, structure, and chord/scale relationships with performance and fluency in the jazz language.
3. Create original compositions and develop experience arranging original and standard literature for small groups and big bands.
4. Incorporate knowledge of jazz history and literature, as well as the cultural sources and influences of jazz into analysis, composition/arranging, and performance.

Bachelor of Music in Jazz Studies Honors

Students must complete a minimum of 124 units with a Pacific cumulative and program grade point average of 2.0 in order to earn the bachelor of music degree with a major in jazz studies (honors).

I. General Education Requirements

Minimum 30 units and 9 courses, including:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from categories I and II not chosen below in place of taking PACS 001 and PACS 002. PACS 003 is required for transfer students.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two courses from the following:

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 032	Diatonic Harmony	3
MCOM 033	Chromatic Harmony	3
MHIS 006	Music of the World's People	3
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 054	Dean's Seminar	1
Elective select one MHIS Course (150 or above)		3
MUJZ 011	Jazz Piano II	1
MUJZ 030	Jazz Improvisation I	2
MUJZ 031	Jazz Improvisation II	2
MUJZ 110	Jazz Arranging and Composition	3

MUJZ 130	Advanced Improvisation	2
MUJZ 140	Jazz Pedagogy	2
MUJZ 158	Advanced History of Jazz	3
MUJZ 171	Jazz Applied I	1-2
MUJZ 172	Jazz Applied II	1-2
MUJZ 173	Jazz Applied III	1-2
MUJZ 174	Jazz Applied IV	1-2
Select one of the following: *		8
MPER 066	Jazz Ensemble	
MPER 067	Jazz Combo	
MUBI 150	Brubeck Fellows Seminar (every semester)	18
or MUJZ 150	Honors Jazz Seminar	

* Students must enroll in either MPER 066 or MPER 067 each semester of residence.

Jazz Studies majors participate in a third year research lecture demonstration linked to the research component of Jazz Seminar and Perspectives I or II. This open forum demonstration is completed in the Fall or Spring semester of the third year of study and is completed while enrolled in either course.

Students are required to complete a half junior recital and a full senior recital.

Jazz Studies Courses

MUJZ 008. Introduction to Jazz. 3 Units.

This is an introduction to jazz studies and performers through intelligent listening and historical research. This course teaches jazz as an art form created by African-Americans and it investigates issues concerning race, ethnicity, and social justice. Topics include connections to slavery, Civil and World Wars, segregation, and the musical response of African-Americans. Students write a live performance critique, album reviews, artist papers, and a research paper. No previous study of music is required. (ETHC, GE2C)

MUJZ 010. Jazz Piano I. 1 Unit.

This jazz piano instruction course is geared toward the non-pianist. This course provides a foundation of skills that build in the second semester. Students acquire the ability to perform standard jazz compositions with minimal right-hand improvisation and sight-read chord changes.

MUJZ 011. Jazz Piano II. 1 Unit.

This jazz piano instruction course is geared toward the non-pianist. This course provides more advanced study of jazz progressions and skills acquired from the first semester. Students acquire the ability to perform standard jazz compositions that utilize rootless and quartal voicings, contemporary harmonies, and sight-read advanced chord changes. Prerequisite: MUJZ 010 or permission of instructor.

MUJZ 020. Jazz Theory and Aural Training. 3 Units.

Students explore technical aspects of jazz improvisation that include harmonic substitutions, chord/scale relationships, analysis of harmonic progressions and solos, forms, and ear training. Class examples and exercises are written for piano and the emphasis is placed on students studying the materials at the piano and their individual instruments. Prerequisites: MCOM 032 and MCOM 033 or permission of instructor.

MUJZ 021. Jazz Style and Analysis. 3 Units.

This course explores jazz style through the analysis of historically significant transcribed solos of jazz masters. The course focuses on the development of harmonic and melodic vocabulary, and involves student transcriptions. Prerequisites: MCOM 032, MCOM 033, MUJZ 020 or permission of instructor.

MUJZ 025. Jazz Harmony. 3 Units.

This course is designed to introduce students to the language of jazz through practical application of jazz harmony via in-depth analysis, practical application of jazz techniques, transcription exercises, in-class listening and performance of works from the jazz repertory, and critical feedback from the instructor and peers. Prerequisite: MUJZ 020 or permission from instructor.

MUJZ 030. Jazz Improvisation I. 2 Units.

Students study the essential elements utilized in jazz performance. Students participate on their individual instruments in the playing of patterns, scales, and compositions that aid in the development of improvisational skills. The course includes both written and performance exams. Prerequisites: MCOM 032 and MCOM 033 or permission of instructor.

MUJZ 031. Jazz Improvisation II. 2 Units.

Students study the essential elements utilized in jazz performance. Students participate on their individual instruments in the application of advanced patterns and scales. Additional components involve jazz improvisation instruction for contemporary compositions, ballad performance, and free form vehicles. The course includes both written and performance exams. Prerequisites: MCOM 032, MCOM 033, MUJZ 030 or permission of instructor.

MUJZ 110. Jazz Arranging and Composition. 3 Units.

This course focuses on familiarizing students with jazz composition and arranging techniques for the small jazz ensemble. Two and three part writing techniques associated with the jazz tradition are the focus. Prerequisites: MUJZ 011 and MUJZ 031 or permission of the instructor.

MUJZ 111. Jazz Composition for the Large Ensemble. 3 Units.

This course focuses on the development of writing skills aimed primarily for the large ensemble. This course will include a focus on big band writing plus the incorporation of strings or other non-traditional jazz instrumentation. Prerequisite: MUJZ 110 or permission from the instructor.

MUJZ 130. Advanced Improvisation. 2 Units.

Students study advanced techniques and practices of jazz improvisation. Topics include tune analysis and develops a more definitive concepts of chord/scale relationships. Students examine contemporary performance practices that include the use of synthetic scales and free improvisation. Prerequisites: MCOM 032, MCOM 033, MUJZ 030, MUJZ 031 or permission of instructor.

MUJZ 131. Advanced Improvisation II. 2 Units.

This course is a continuation of Advanced Improvisation. Students will explore advanced techniques of jazz performance and improvisation. Students will also explore the process of integrating new materials and improvisation methods into their playing. Prerequisite: MUJZ 130 or permission from the instructor.

MUJZ 140. Jazz Pedagogy. 2 Units.

Students study jazz education materials and performance techniques designed for the student who may teach jazz ensembles or design curriculum. Prerequisites: MCOM 032 and MCOM 033; MUJZ 030 and MUJZ 031 or permission of instructor.

MUJZ 150. Honors Jazz Seminar. 3 Units.

A stylistic study of jazz styles and performers involving transcription, ensemble performance and composition study of selected works and artists. Prerequisite: Acceptance in the Honors Jazz Degree.

MUJZ 158. Advanced History of Jazz. 3 Units.

This course is a comprehensive study of jazz styles and performers through intelligent listening and historical research. Realizing jazz as an art form created by African-Americans, this course investigates issues concerning race, ethnicity, and social justice. The course content involves connections to slavery, Civil and World Wars, segregation, and the musical response of African-Americans. It also includes an analysis of jazz compositions, live performance critiques, album reviews, artist papers, and a research project that involves the Brubeck Collection. This course is designated for music students with junior or senior standing. Prerequisite: MCOM 033.

MUJZ 161. Jazz Seminar and Perspectives I. 3 Units.

Jazz Seminar and Perspectives I is comprised of two major components that involve Undergraduate Research and Performance Perspectives. Research topic involves the various cultural, economic, historical, and social aspects of jazz. Performance Perspectives Component involves jazz performance issues, stylistic comparisons of artists, works of major composers, and jazz historical perspectives. Topics are variable. Students are involved with in-class performances, research papers, and music transcriptions. An assembly of a portfolio serves as a key component of this course. Prerequisites: MUJZ 008, MUJZ 010, MUJZ 011, MUJZ 020, MUJZ 021, MUJZ 030, MUJZ 031 or permission of instructor.

MUJZ 162. Jazz Seminar and Perspectives II. 3 Units.

Jazz Seminar and Perspectives II is comprised of two major components that involve Undergraduate Research and Performance Perspectives. Research topic involves the various cultural, economic, historical, and social aspects of jazz. Performance Perspectives Component involves jazz performance issues, stylistic comparisons of artists, works of major composers, and jazz historical perspectives. Topics are variable. Students are involved with in-class performances, research papers, and music transcriptions. An assembly of a portfolio serves as a key component of this course. Prerequisites: MUJZ 008, 010, 011, 020, 021, 030, 031, 161 or permission of the instructor.

MUJZ 163. Jazz Seminar and Perspectives III. 3 Units.

Jazz Seminar and Perspectives III is comprised of two major components that involve Undergraduate Research and Performance Perspectives. Research topic involves the various cultural, economic, historical, and social aspects of jazz. Performance Perspectives Component involves jazz performance issues, stylistic comparisons of artists, works of major composers, and jazz historical perspectives. Topics are variable. Students are involved with in-class performances, research papers, and music transcriptions. An assembly of a portfolio serves as a key component of this course. Prerequisites: MUJZ 008, MUJZ 010, MUJZ 011, MUJZ 020, MUJZ 021, MUJZ 030, MUJZ 031, MUJZ 161, MUJZ 162 or permission of instructor.

MUJZ 164. Jazz Seminar and Perspectives IV. 3 Units.

Jazz Seminar and Perspectives IV is comprised of two major components involving Undergraduate Research and Performance Perspectives. Research topic involves the various cultural, economic, historical, and social aspects of jazz. Performance Perspectives Component involves jazz performance issues, stylistic comparisons of artists, works of major composers, and jazz historical perspectives. Topics are variable. Students are involved with in-class performances, research papers, and music transcriptions. An assembly of a portfolio serves as a key component of this course. Prerequisites: MUJZ 008, MUJZ 010, MUJZ 011, MUJZ 020, MUJZ 021, MUJZ 030, MUJZ 031, MUJZ 161, MUJZ 162, MUJZ 163 or permission of instructor.

MUJZ 171. Jazz Applied I. 1-2 Units.

This course is for upper division Jazz Studies majors who have passed the sophomore applied major examination in their principle instrument or voice. It is required for Jazz Studies majors. Enrollment in applied music requires an applied music fee per unit.

MUJZ 172. Jazz Applied II. 1-2 Units.

This course is for upper division Jazz Studies majors who have passed the sophomore applied major examination in their principal instrument or voice. It is required for Jazz Studies majors. Enrollment in applied music requires an applied music fee per unit.

MUJZ 173. Jazz Applied III. 1-2 Units.

This course is for upper division Jazz Studies majors who have passed the sophomore applied major examination in their principal instrument or voice. It is required for Jazz Studies majors. Enrollment in applied music requires an applied music fee per unit.

MUJZ 174. Jazz Applied IV. 1-2 Units.

This course is for upper division Jazz Studies majors who have passed the sophomore applied major examination in their principal instrument or voice. It is required for Jazz Studies majors. Enrollment in applied music requires an applied music fee per unit.

MUJZ 180. Applied Jazz Composition. 2 Units.

Each student registered for Applied Jazz Composition will receive a 1-hour private lesson once a week. The subject matter will involve problems and solutions in the composition of original jazz works and traditional models from noted jazz composers. Students will learn various compositional techniques, and explore notation, instrumentation, orchestration, and performance issues. Prerequisite: MUJZ 031 or permission from the instructor.

MUJZ 191. Independent Study. 1-4 Units.

Applied Music

Applied Music Courses

MAPP 001A. Beginning Guitar Class. 1 Unit.

Enrollment in applied music classes requires an applied music fee per unit. Students will learn proper position, properly holding the guitars, tuning, open chords, strumming progressions, chord progressions and songs, tablature, RH classical technique, reading treble clef notation in 1st position, LH technical exercises, RH flamenco exercises, power chords and riffs, 12 Bar Blues, 5 positions of the pentatonic scale, barre chords.

MAPP 001B. Functional Guitar Class. 1 Unit.

Enrollment in applied music classes requires an applied music fee per unit. Students will learn proper sitting position, properly holding the guitars, tuning, open chords, strumming progressions, chord progressions and songs, tablature, RH classical technique, reading treble clef notation in 1st position, LH technical exercises, RH flamenco exercises, power chords and riffs, 12 Bar Blues, 5 positions of the pentatonic scale, barre chords. For Music Therapy and Music Education Majors only.

MAPP 001C. Harp Class. 1 Unit.

Enrollment in applied music classes requires an applied music fee per unit.

MAPP 001D. Class Piano. 1 Unit.

Enrollment in applied music classes requires an applied music fee per unit. Music Majors Semester 1 The purpose of group piano is for music majors to gain piano skills in the areas of technique, reading, harmonization, transposition, and improvisation. Music Majors Semester 2 The purpose of this course is for music majors to gain and improve piano skills in the areas of technique, reading, harmonization, transposition, and improvisation. Music Majors Semester 3 and 4 The purpose of this course is for music majors to improve piano skills in the area of technique, reading, harmonization, transposition, improvisation, and score reading. Non-Music Majors Semester 1 The purpose of this course is for non-music majors to learn the basics of playing the piano. Non-Music Majors Semester 2 The purpose of this course is for non-music majors to continue learning how to play the piano.

MAPP 001E. Voice Class. 0.5-1 Units.

This course introduces basic vocal techniques and vocal health. Group classroom instruction emphasized functional vocal development, repertoire, and song-leading skills specific to the professional activities of music therapists and music educators. This course is for Music Therapy and Music Education majors. Open to other majors with instructor permission. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 005A. Applied Music: Euphonium. 1-2 Units.

This course in applied music for non-music majors or for music majors in a non-principal applied medium. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 005B. Applied Music: Bassoon. 1-2 Units.

This course in applied music for non-music majors or for music majors in a non-principal applied medium. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 005C. Applied Music: Cello. 1-2 Units.

This course in applied music for non-music majors or for music majors in a non-principal applied medium. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 005D. Applied Music: Clarinet. 1-2 Units.

This course in applied music for non-music majors or for music majors in a non-principal applied medium. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 005E. Applied Music: Flute. 1-2 Units.

This course in applied music for non-music majors or for music majors in a non-principal applied medium. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 005F. Applied Music: French Horn. 1-2 Units.

This course in applied music for non-music majors or for music majors in a non-principal applied medium. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 005G. Applied Music: Guitar. 1-2 Units.

This course in applied music for non-music majors or for music majors in a non-principal applied medium. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 005H. Applied Music: Harp. 1-2 Units.

This course in applied music for non-music majors or for music majors in a non-principal applied medium. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 005J. Applied Music: Harpsichord. 1-2 Units.

Applied music for non-music majors or for music majors in a non-principal applied medium. Enrollment in applied music classes requires an applied music fee per unit.

MAPP 012U. Applied Music: Performance (Viola). 1-2 Units.

For performance majors. Voice, piano, harp, organ, harpsichord, violin, viola, cello, double bass, flute, oboe, clarinet, bassoon, French horn, trumpet, trombone, baritone horn, saxophone, tuba, percussion and guitar. Enrollment in applied music requires an applied music fee per unit.

MAPP 012V. Applied Music: Performance (Violin). 1-4 Units.

For performance majors. Voice, piano, harp, organ, harpsichord, violin, viola, cello, double bass, flute, oboe, clarinet, bassoon, French horn, trumpet, trombone, baritone horn, saxophone, tuba, percussion and guitar. Enrollment in applied music requires an applied music fee per unit.

MAPP 012W. Applied Music: Performance (Voice). 1-3 Units.

For performance majors. Voice, piano, harp, organ, harpsichord, violin, viola, cello, double bass, flute, oboe, clarinet, bassoon, French horn, trumpet, trombone, baritone horn, saxophone, tuba, percussion and guitar. Enrollment in applied music requires an applied music fee per unit.

MAPP 012X. Applied Music: Performance (Saxophone). 1-2 Units.

For performance majors. Voice, piano, harp, organ, harpsichord, violin, viola, cello, double bass, flute, oboe, clarinet, bassoon, French horn, trumpet, trombone, baritone horn, saxophone, tuba, percussion and guitar. Enrollment in applied music requires an applied music fee per unit.

MAPP 093. Special Topics. 1 Unit.**MAPP 111A. Advanced Applied Music: Music Education (Euphonium). 1-2 Units.**

This course is for upper division music majors who have passed the sophomore concentration examination in their principal instrument or voice. It is required for music education majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 111B. Advanced Applied Music: Music Education (Bassoon). 1-2 Units.

This course is for upper division music majors who have passed the sophomore concentration examination in their principal instrument or voice. It is required for music education majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 111C. Advanced Applied Music: Music Education (Cello). 1-2 Units.

This course is for upper division music majors who have passed the sophomore concentration examination in their principal instrument or voice. It is required for music education majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 111D. Advanced Applied Music: Music Education (Clarinet). 1-2 Units.

This course is for upper division music majors who have passed the sophomore concentration examination in their principal instrument or voice. It is required for music education majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 111E. Advanced Applied Music: Music Education (Flute). 1-2 Units.

This course is for upper division music majors who have passed the sophomore concentration examination in their principal instrument or voice. It is required for music education majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 111F. Advanced Applied Music: Music Education (Horn). 1-2 Units.

This course is for upper division music majors who have passed the sophomore concentration examination in their principal instrument or voice. It is required for music education majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 111G. Advanced Applied Music: Music Education (Guitar). 1-2 Units.

This course is for upper division music majors who have passed the sophomore concentration examination in their principal instrument or voice. It is required for music education majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 111H. Advanced Applied Music: Music Education (Harp). 1-2 Units.

This course is for upper division music majors who have passed the sophomore concentration examination in their principal instrument or voice. It is required for music education majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 111J. Advanced Applied Music: Music Education (Harpsichord). 1-2 Units.

For upper division music majors who have passed sophomore concentration examination in their principal instrument or voice. Required for music education majors. Enrollment in applied music requires an applied music fee for unit.

MAPP 111K. Advanced Applied Music: Music Education (Oboe). 1-2 Units.

For upper division music majors who have passed sophomore concentration examination in their principal instrument or voice. Required for music education majors. Enrollment in applied music requires an applied music fee for unit.

MAPP 111L. Advanced Applied Music: Music Education (Organ). 1-2 Units.

For upper division music majors who have passed sophomore concentration examination in their principal instrument or voice. Required for music education majors. Enrollment in applied music requires an applied music fee for unit.

MAPP 111M. Advanced Applied Music: Music Education (Percussion). 1-2 Units.

For upper division music majors who have passed sophomore concentration examination in their principal instrument or voice. Required for music education majors. Enrollment in applied music requires an applied music fee for unit.

MAPP 111N. Advanced Applied Music: Music Education (Piano). 1-2 Units.

For upper division music majors who have passed sophomore concentration examination in their principal instrument or voice. Required for music education majors. Enrollment in applied music requires an applied music fee for unit.

MAPP 111P. Advanced Applied Music: Music Education (Saxophone). 1-2 Units.

For upper division music majors who have passed sophomore concentration examination in their principal instrument or voice. Required for music education majors. Enrollment in applied music requires an applied music fee for unit.

MAPP 111Q. Advanced Applied Music: Music Education (Bass). 1-2 Units.

For upper division music majors who have passed sophomore concentration examination in their principal instrument or voice. Required for music education majors. Enrollment in applied music requires an applied music fee for unit.

MAPP 111R. Advanced Applied Music: Music Education (Trombone). 1-2 Units.

For upper division music majors who have passed sophomore concentration examination in their principal instrument or voice. Required for music education majors. Enrollment in applied music requires an applied music fee for unit.

MAPP 112R. Advanced Applied Music: Performance (Trombone). 1-4 Units.

For upper division music majors who have passed the sophomore applied major examination in their principal instrument or voice. Required for performance majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 112S. Advanced Applied Music: Performance (Trumpet). 1-4 Units.

For upper division music majors who have passed the sophomore applied major examination in their principal instrument or voice. Required for performance majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 112T. Advanced Applied Music: Performance (Tuba). 1-4 Units.

For upper division music majors who have passed the sophomore applied major examination in their principal instrument or voice. Required for performance majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 112U. Advanced Applied Music: Performance (Viola). 1-4 Units.

For upper division music majors who have passed the sophomore applied major examination in their principal instrument or voice. Required for performance majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 112V. Advanced Applied Music: Performance (Violin). 1-4 Units.

For upper division music majors who have passed the sophomore applied major examination in their principal instrument or voice. Required for performance majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 112W. Advanced Applied Music: Performance (Voice). 1-4 Units.

For upper division music majors who have passed the sophomore applied major examination in their principal instrument or voice. Required for performance majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 112X. Advanced Applied Music: Performance (Saxophone). 1-4 Units.

For upper division music majors who have passed the sophomore applied major examination in their principal instrument or voice. Required for performance majors. Enrollment in applied music requires an applied music fee per unit.

MAPP 121. Vocal Coaching. 1 Unit.

This course helps students prepare songs and arias for public performance. Emphasis is on musical and dramatic style and interpretation and the course includes private and group lessons. There is an applied music fee. Permission of instructor.

MAPP 191. Independent Study. 1-2 Units.

EBERHARDT SCHOOL OF BUSINESS

<http://www.business.pacific.edu>
Phone: (209) 946-2476
Location: Weber Hall
Tim Carroll, Dean
Cynthia Firey Eakin, Associate Dean

Undergraduate Degree Programs Offered

Bachelor of Science in Business Administration

- Accounting
- Arts & Entertainment Management
- Business Law
- Economics
- Entrepreneurial Management
- Finance
- International Business
- Management and Human Resources
- Management Information Systems
- Marketing

Bachelor of Science in Accounting

Bachelor of Science in Accounting/Master of Accounting Blended Program

Minors Offered

Business Administration
Management
Management Information Systems

Graduate Degree Programs Offered

(see Graduate Catalog for information)

Master of Accounting (MAcc)

Bachelor of Science in Accounting/Master of Accounting Blended Program

A professional school offering graduate and undergraduate programs providing the educational breadth and depth for tomorrow's leaders of business, government, and not-for-profit organizations.

Mission

The Eberhardt School of Business develops knowledgeable, innovative business leaders in a personalized, experience-based learning environment and produces scholarship that contributes to disciplinary knowledge, informs teaching, and advances the practice of business. We share a set of underlying principles that govern our behaviors and our ability to achieve our mission. These include:

- Maintaining a student-centered learning environment
- Educating the whole person
- Stimulating intellectual growth
- Maintaining a mutually supportive community of faculty, staff and students
- Engaging external stakeholders
- Promoting excellence
- Being socially responsible

- Behaving ethically and with integrity
- Providing service to the university, community and profession

Degree programs offered by the Eberhardt School of Business are designed to fulfill this mission and to provide the educational breadth and depth tomorrow's leaders will need.

The Eberhardt School of Business was established in 1977 to fulfill the need for small, high quality management programs that could nurture the personal, professional and overall intellectual growth and development of talented men and women. The school currently has 25 full-time faculty and an enrollment of over 600 graduate and undergraduate students.

Small classes and excellent instructional facilities reinforce a highly personalized learning environment that encourages one-on-one interactions between students and faculty. Faculty and administrators are committed to making teaching the most important activity in the School. Outside the classroom, students choose from a wide variety of activities, including internships, student clubs and student government to further develop their leadership skills. The success of this approach to business and management education is reflected in the excellent job placement record of graduates.

For most business students, a major objective of their college education is to prepare for a successful career. Surveys of successful executives suggest that in order to meet the challenges and opportunities of the future, tomorrow's managers need a broad-based education that combines the acquisition of business skills in such areas as accounting, marketing, finance, and management, with a solid foundation in mathematics, language and the arts and sciences. In particular, business leaders emphasize the importance of acquiring interpersonal skills, especially the ability to communicate effectively. The academic programs of the Eberhardt School of Business have been designed to address these objectives.

Accreditation

The Eberhardt School of Business is accredited in business by AACSB International - The Association to Advance Collegiate Schools of Business.

General Academic Regulations for BS in Business Administration

Graduation Requirements

1. Students must fulfill the ESB minimum residency requirement of at least 32 units taken in the School.
2. There is a limit on extension course credits for courses offered through the Center for Professional and Continuing Education. The total ceiling on such units is six, with a limit of 3 in any one semester.
3. All prerequisites must be met before students enroll in any course.
4. Except for BUSI 107, students who take any course numbered above BUSI 100 must have junior class standing (56 units).
5. A student must receive a grade of "C" or better in any core course which is a prerequisite before taking a related concentration course.

Grading Policies

All courses required of all business administration majors must be taken for letter grade. ESB courses taken beyond those noted above may be taken on a P/NC basis, subject to the instructor's approval. The freshman

level Deans' Seminar and junior level Career Development Seminar is offered P/NC only.

Students who receive a "P" in required courses that are taken before becoming a major in the ESB must petition to the Academic Standards Committee for these courses to be applied toward graduation requirements.

Scholastic Actions - Probation and Disqualification

1. If a student has a balance point deficiency up to -8 in the major or -10 in the University GPA, he or she is on probation.
2. If a student has a balance point deficiency larger than -8 in the major and/or -10 in the University GPA, he or she is subject to disqualification. Disqualification decisions are usually made at the end of the Spring semester, but a student who begins the Fall semester already on probation with a balance point deficiency of -8 or -10 or more may be disqualified at the end of the Fall semester if still at -8 or -10 or more at the end of that semester.
3. Any student who is on probation for three consecutive semesters is subject to disqualification.

Deficiency points are a measure of how many credit points a student with a GPA below 2.0 needs to earn to raise his or her GPA to a 2.0. Deficiency points are removed by earning more points than the minimum needed to achieve a term GPA of 2.00. Grades of "C" earn 2.00 points, thus, to reduce or remove deficiency points, students must earn grades higher than a "C." Further clarification of these (or other) policies may be obtained from the Eberhardt School of Business Student Services Office.

Transfer Students

Transfer courses must have a credit value of at least three semester units if they are to be applied to general education or major requirements. Courses from institutions on the quarter system must have a credit value of at least four quarter-units to be applied to the above categories.

Junior or community college students who plan to complete upper-division work in business at University of the Pacific should complete one year of introductory economics, one year of introductory accounting, a semester each of calculus and statistics, and a semester of business law. Students also should complete courses in expository writing, computer science, public speaking and the humanities. Not all community college courses are transferable, and each community college offers different courses. Please contact the Eberhardt School of Business office of Student Services for answers to questions regarding the transferability of specific courses.

Admissions Information

Additional information and specific admissions requirements is found in the section of this catalog entitled Admission Requirements or by contacting the Associate Dean.

Learning Outcomes

The specific outcomes for the Bachelor of Science in Business Administration degree are that each student will be able to:

1. Demonstrate functional knowledge of each business discipline.
1. For each business discipline, demonstrate knowledge of business principles, concepts, theories, and perspectives.
2. For each business discipline, demonstrate skills in the use of business procedures, methods, strategies, and approaches.

3. The business disciplines include accounting, finance, management, marketing, operations management, management information systems, and the legal and ethical environment of business.

2. Demonstrate critical thinking skills.

1. Identify problems and make recommendations based on an analysis of the information provided.
2. Recognize the ethical dimensions of business decisions.
3. Recognize cross-cultural components of business decisions.
4. Demonstrate an understanding of the interrelationships among business disciplines.
 3. Work effectively with others as a member of a team.
 4. Communicate effectively.

1. Each student can communicate orally in formats appropriate to the situation and audience.
2. Each student can communicate in writing in formats appropriate to the situation and audience.

The specific outcomes for the Bachelor of Science in Accounting degree are the same as for the Bachelor of Business Administration with the additional outcome stated below:

5. Each student demonstrates technical proficiency in the areas of financial accounting, managerial accounting, financial statement auditing, and federal income taxation.

The specific outcomes for the Bachelor of Science in Accounting/Master of Accounting Dual Degree Program are:

1. Technical competency and professional knowledge.

Each student demonstrates technical proficiency and professional knowledge in the areas of financial accounting, managerial accounting, financial statement auditing, taxation, and financial statement analysis.

2. Critical thinking

Each student demonstrates the quantitative reasoning and critical thinking skills necessary to gather and analyze the information necessary to resolve complex business issues, with particular emphasis on issues facing financial statement preparers and users.

3. Ethics

1. Each student recognizes ethical weaknesses in accounting situations and can propose effective solutions to those weaknesses.
2. Each student understands how corporate governance, risk management, and internal controls impact ethical behavior.

4. Interaction and communication

1. Each student can work effectively as part of a team either as a leader or participant, and can effectively collaborate and negotiate within the team.
2. Each student can communicate effectively in formats appropriate to the situation and audience.

Bachelor of Science in Business Administration

Students must complete a minimum of 128 units with a Pacific cumulative and school/program grade point average of 2.0 in order to earn the bachelor of science in business administration degree.

I. General Education Requirements (for students starting as Freshmen):

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from IC and IIIC.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior (ECON 053)
- IB. U.S. Studies (ECON 055)
- IC. Global Studies (Transfers only)

Arts and Humanities

- IIA. Language and Literature (ENGL 025 or COMM 027)
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic (MATH 045 or MATH 051)
- IIIC. Science, Technology and Society (Transfers only) or a second IIIA Natural Sciences course (Transfers only)

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Pre-professional Skills Requirements

Advanced Writing

Select one of the following: 4

- BUSI 023 Business Communications
- ENGL 025 English 25 *

Public Speaking

COMM 027 Public Speaking * 3

Mathematics ¹

MATH 037	Introduction to Statistics and Probability	4
MATH 045	Introduction to Finite Mathematics and Calculus *	4
Computer Literacy		
COMP 025	Computers and Information Processing *	4
Economics		
ECON 053	Introductory Microeconomics *	4
ECON 055	Introductory Macroeconomics: Theory and Policy *	4

* These courses are also part of the Pacific General Education Program, and can be counted toward the University General Education requirements.

¹ Students must complete MATH 037 and MATH 045 with a C or better.

V. Major Core Courses

BUSI 010	Dean's Seminar	1
BUSI 031	Principles of Financial Accounting	4
BUSI 033	Principles of Managerial Accounting	4
BUSI 053	The Legal and Ethical Environment of Business	4
BUSI 100	Management Information Systems	4
BUSI 104	Operations Management	4
BUSI 105	Financial Management	4
BUSI 107	Marketing Management	4
BUSI 108	Introduction to Business Analytics	4
BUSI 109	Management and Organizational Behavior	4
BUSI 110	Career and Development Seminar	1
BUSI 181	Strategic Management and Policy	4

VI. Concentrations

Complete one of the following concentrations:

Note: 1) A student is required to take at least four concentration courses, one of which must be an international concentration course. 2) A number of concentrations require more than four courses.

Core Area Concentrations

Accounting

BUSI 113A	Intermediate Accounting I	4
BUSI 113B	Intermediate Accounting II	4

Select one of the following: 4

- BUSI 163 International Financial Management
- BUSI 178 International Commercial Law

Select two of the following: 8

- BUSI 113C Advanced Accounting
- BUSI 115 Tax Accounting
- BUSI 117 Cost Accounting
- BUSI 119 Auditing

Economics

ECON 101	Intermediate Microeconomic Analysis	4
ECON 190	Econometrics	4

Select two ECON Electives (courses above 100) 8

Select one of the following: 4

- ECON 121 International Trade
- ECON 123 International Finance
- ECON 125 Economic Development

Finance

BUSI 121	Financial Markets	4
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BUSI 123	Investment Analysis	4
BUSI 125	Intermediate Financial Management	4
BUSI 163	International Financial Management	4
International Business *		*
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 151	Cross-Cultural Training I	2
INTL 161	Cross-Cultural Training II	2
Select one of the following groups:		9-12
Group A		
BUSI 163	International Financial Management	
Plus two upper division finance concentration courses		
Group B		
BUSI 165	International Marketing	
Plus two upper division marketing concentration courses		
Group C		
BUSI 169	International Management	
Plus two upper division management concentration courses		
Group D		
BUSI 178	International Commercial Law	
Plus two upper division law concentration courses		
One additional international BUSI course		4
Marketing		
BUSI 141	Marketing Research	4
BUSI 165	International Marketing	4
Select two of the following:		8
BUSI 142	Personal Selling and Sales Management	
BUSI 143	Product Innovation	
BUSI 147	Consumer Behavior	
BUSI 148	Promotions Management	
BUSI 149	Strategic Marketing	
Management Information Systems **		
BUSI 137	Database Management Systems	4
BUSI 138	Networking and Telecommunications Management	4
BUSI 139	Electronic Commerce Project	4
COMP 051	Introduction to Computer Science	4
Select one of the following:		4
BUSI 163	International Financial Management	
BUSI 165	International Marketing	
BUSI 169	International Management	
BUSI 178	International Commercial Law	
Management and Human Resources		
BUSI 169	International Management	4
BUSI 170	Human Resources Management	4
Select two of the following:		8
BUSI 134	Conflict Management	
BUSI 159	Employment Law	
BUSI 174	Creating Effective Work Teams	
BUSI 175	Leadership and Change	

* Each student who concentrates in international business is required to complete one year of a foreign language or to show competency as determined by the Modern Languages department. Each student also is required to study abroad for one semester. The study abroad term can be during the fall, spring, or summer semesters. International students may choose to go abroad but are not required to go abroad. International students may not spend their study abroad term in their home country.

** MIS students are strongly encouraged to purchase an up-to-date laptop computer for use in MIS classes.

Specialty Area Concentrations

Students may also develop concentrations in a number of specialty areas, each of which focus on a particular industry or very focused career track. The following is a listing of the requirements for concentrations in several specialty areas.

Specialty concentrations are subject to the availability of the courses listed. Some of these courses may not be offered every year. Additional specializations not listed below are also possible and can be self-designed by a student with the approval of his or her faculty advisor and the Associate Dean's Office.

Entrepreneurial Management

BUSI 090	Introduction to Entrepreneurship	4
BUSI 173	Entrepreneurial Management Practicum	4
Select two of the following:		8

BUSI 124	Entrepreneurial Finance	
BUSI 134	Conflict Management	
or BUSI 170 Human Resources Management		
or BUSI 175 Leadership and Change		
BUSI 141	Marketing Research	
BUSI 143	Product Innovation	
ENGR 150	Engineering and Science-Based Entrepreneurship	

Select one of the following: 4

BUSI 163	International Financial Management	
BUSI 165	International Marketing	
BUSI 169	International Management	
BUSI 178	International Commercial Law	

Business Law

BUSI 157	Commercial Law	4
BUSI 178	International Commercial Law	4
Select two of the following:		8

BUSI 115	Tax Accounting	
BUSI 127	Legal Aspects of Real Estate	
BUSI 153	Entertainment Law	
BUSI 159	Employment Law	

Arts and Entertainment Management

MMGT 011	Music, Entertainment in U.S. Society	4
MMGT 111	Music Industry Analysis	4
MMGT 153	Entertainment Law (cross listed as BUSI 153)	4

Three Business concentration courses, one of which must be: 12

BUSI 163	International Financial Management	
BUSI 165	International Marketing	
BUSI 169	International Management	
BUSI 178	International Commercial Law	

Select one of the following: 4

MHIS 005	Music Appreciation *
MHIS 006	Music of the World's People *
MUJZ 008	Introduction to Jazz *

* These courses count toward general education requirements.

Bachelor of Science in Accounting

Students must complete a minimum of 128 units with a Pacific cumulative and school/program grade point average of 2.0 in order to earn the bachelor of science in accounting degree.

I. General Education Requirements (for students starting as Freshmen):

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from IC and IIIC.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior (ECON 053)
- IB. U.S. Studies (ECON 055)
- IC. Global Studies (Transfers only)

Arts and Humanities

- IIA. Language and Literature (ENGL 025 or COMM 027)
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic (MATH 045 or MATH 051)
- IIIC. Science, Technology and Society (Transfers only) or a second IIIA Natural Sciences course (Transfers only)

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

IV. Pre-professional Skills Requirements

Advanced Writing

- Select one of the following: 4
- BUSI 023 Business Communications
 - ENGL 025 English 25 *

Public Speaking

- COMM 027 Public Speaking * 3

Mathematics ¹

MATH 037	Introduction to Statistics and Probability	4
MATH 045	Introduction to Finite Mathematics and Calculus *	4
Computer Literacy		
COMP 025	Computers and Information Processing *	4
Economics		
ECON 053	Introductory Microeconomics *	4
ECON 055	Introductory Macroeconomics: Theory and Policy *	4

¹ Students must complete MATH 037 and MATH 045 with a C or better.

V. Major Core Courses

BUSI 010	Dean's Seminar	1
BUSI 031	Principles of Financial Accounting	4
BUSI 033	Principles of Managerial Accounting	4
BUSI 053	The Legal and Ethical Environment of Business	4
BUSI 100	Management Information Systems	4
BUSI 104	Operations Management	4
BUSI 105	Financial Management	4
BUSI 107	Marketing Management	4
BUSI 108	Introduction to Business Analytics	4
BUSI 109	Management and Organizational Behavior	4
BUSI 110	Career and Development Seminar	1
BUSI 181	Strategic Management and Policy	4

VI. Accounting Requirements

BUSI 111	Accounting Information Systems	4
BUSI 113A	Intermediate Accounting I	4
BUSI 113B	Intermediate Accounting II	4
BUSI 113C	Advanced Accounting	4
BUSI 115	Tax Accounting	4
BUSI 117	Cost Accounting	4
BUSI 119	Auditing	4
BUSI 157	Commercial Law	4
BUSI 125	Intermediate Financial Management	4

Bachelor of Science in Accounting/Master of Accounting Blended Program

Students must complete a minimum of 150 units with a Pacific cumulative and school/program grade point average of 2.0 in order to earn the bachelor of science in accounting degree and a 3.0 in the master of accounting degree.

I. General Education Requirements (for students starting as Freshmen):

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from IC and IIIC.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior (ECON 053)
- IB. U.S. Studies (ECON 055)
- IC. Global Studies (Transfers only)

Arts and Humanities

- IIA. Language and Literature (ENGL 025 or COMM 027)

IIB. Worldviews and Ethics
IIC. Visual and Performing Arts
Natural Sciences and Mathematics
IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic (MATH 045 or MATH 051)
IIIC. Science, Technology and Society (Transfers only) or a second IIIA Natural Sciences course (Transfers only)

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Pre-professional Skills Requirements

Advanced Writing

Select one of the following: 4

BUSI 023 Business Communications

ENGL 025 English 25 *

Public Speaking

COMM 027 Public Speaking * 3

Mathematics ¹

MATH 037 Introduction to Statistics and Probability 4

MATH 045 Introduction to Finite Mathematics and Calculus * 4

Computer Literacy

COMP 025 Computers and Information Processing * 4

Economics

ECON 053 Introductory Microeconomics * 4

ECON 055 Introductory Macroeconomics: Theory and Policy * 4

* These courses are also part of the Pacific General Education Program, and can be counted toward the University General Education requirements.

¹ Students must complete MATH 037 and MATH 045 with a C or better.

V. Core Requirements

BUSI 010	Dean's Seminar	1
BUSI 031	Principles of Financial Accounting	4
BUSI 033	Principles of Managerial Accounting	4
BUSI 053	The Legal and Ethical Environment of Business	4
BUSI 100	Management Information Systems	4
BUSI 105	Financial Management	4
BUSI 107	Marketing Management	4
BUSI 108	Introduction to Business Analytics	4

BUSI 109	Management and Organizational Behavior	4
BUSI 110	Career and Development Seminar	1

Note: 1) BUSI 274 below is substituted for BUSI 104. **2)** BUSI 281 below is substituted for BUSI 181. **3)** BUSI 218 below is substituted for BUSI 113C.

VI. Accounting Requirements

BUSI 111	Accounting Information Systems	4
BUSI 113A	Intermediate Accounting I	4
BUSI 113B	Intermediate Accounting II	4
BUSI 115	Tax Accounting	4
BUSI 117	Cost Accounting	4
BUSI 119	Auditing	4
BUSI 125	Intermediate Financial Management	4
BUSI 157	Commercial Law	4

VII. Master of Accounting Requirements

A minimum of 30 graduate units with a Pacific grade point average of 3.0 is required. All courses must be completed with a C (2.0) or higher.

BUSI 213	Ethics and Corporate Social Responsibility	3
BUSI 214	Negotiation	2
BUSI 215	Taxation of Business Entities	3
BUSI 216	Professional Accounting Research	2
BUSI 217	Ethics for Professional Accountants	3
BUSI 218	Advanced Financial Accounting Graduate Level	3
BUSI 226	Financial Statement Analysis	3
BUSI 279	Leadership	2
BUSI 281	Strategic Management	3
Select one of the following:		3
BUSI 219	Graduate Auditing Seminar	
BUSI 227	Forensic Accounting and Fraud Investigation	
Select one of the following:		3
BUSI 228	Supply Chain Financial Management	
BUSI 274	Managing Quality/Productivity	

Minor in Management

The minor in management provides an exposure to general management principles and some functional area technical skills for students majoring in disciplines outside of the Eberhardt School of Business. The minor is not intended as a substitute for the broad in-depth coverage found in the business degree.

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in management. All courses in minor must be taken at Pacific.

Minor Requirements

BUSI 031	Principles of Financial Accounting	4
BUSI 109	Management and Organizational Behavior	4
Three BUSI Electives Courses Offered by the School of Business (excluding BUSI 010, BUSI 023, BUSI 110, and most BUSI 191 and BUSI 193)		12

Minor in Business Administration

The minor in business administration covers a wide range of the basic principles used in business administration and is intended for non-business majors. The minor is not a substitute for the broad in-depth coverage found in the business degree.

Students must complete a minimum of 24 units with a Pacific minor grade point average of 2.0 in order to earn a minor in business administration. All courses in minor must be taken at Pacific.

Minor Requirements

BUSI 031	Principles of Financial Accounting	4
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Select four of the following:

BUSI 033	Principles of Managerial Accounting	
BUSI 053	The Legal and Ethical Environment of Business	
BUSI 105	Financial Management	
BUSI 107	Marketing Management	
BUSI 109	Management and Organizational Behavior	

One BUSI Electives Course Offered by the School of Business (excluding BUSI 010, BUSI 023, BUSI 110 and most BUSI 191 and BUSI 193)	4
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Minor in Business Information Systems

The minor in business information systems provides a basic knowledge in business information systems and is intended for non-business majors. The minor is not a substitute for the broad in-depth coverage found in the business degree.

Students must complete a minimum of 24 units with a Pacific minor grade point average of 2.0 in order to earn a minor in business information systems. All courses in minor must be taken at Pacific.

Minor Requirements

COMP 025	Computers and Information Processing	4
COMP 051	Introduction to Computer Science	4
BUSI 100	Management Information Systems	4

Three of the following courses: 12

BUSI 137	Database Management Systems	
BUSI 138	Networking and Telecommunications Management	
BUSI 139	Electronic Commerce Project	
BUSI 140	Business Systems Analysis	

Note: 1) All courses are taken for a letter grade at the Eberhardt School of Business. 2) Students who minor must fulfill all prerequisites and junior class standing requirements for ESB courses. 3) Students must exercise caution to not violate the University's restriction which allows only 30 units of BUSI courses that can be credited toward the degree requirements of non-business majors.

Business Administration Courses

BUSI 010. Dean's Seminar. 1 Unit.

This course is a general survey of the programs and methodologies of the Eberhardt School of Business that include, but not limited to educational requirements, professional orientation, career opportunities and School and University regulations. It is required of all ESB freshmen. (Grading is P/NC only).

BUSI 023. Business Communications. 4 Units.

This course develops the written and oral communication skills necessary to succeed in a business environment. Using a suitable writing style, students prepare the types of documents commonplace in business organizations, such as business letters, reports, interoffice memoranda, sales proposals, and business plans. Students apply their understanding of word processing, spreadsheet, and presentation software to communicate business data and information. Prerequisite: COMP 025.

BUSI 031. Principles of Financial Accounting. 4 Units.

Students analyze the recording and reporting of business transactions, use of financial statements, and the use of accounting information in management decision-making. (PLAW)

BUSI 033. Principles of Managerial Accounting. 4 Units.

Students use and analyze accounting information management decision-making in planning, production, evaluation and control decisions. Prerequisite: BUSI 031.

BUSI 053. The Legal and Ethical Environment of Business. 4 Units.

This course is designed to acclimate students to the American legal system and regulatory law. The student will be exposed to a variety of statutory and regulatory law areas as well as torts, contracts, product liability, ethics and international law. The course is intended to broaden the student's awareness of legal issues. The emphasis of the course will be on solving issues utilizing legal reasoning. (GETB, PLAW)

BUSI 090. Introduction to Entrepreneurship. 4 Units.

This course provides students with an introduction to entrepreneurship and the contexts in which it applies. First, it introduces students to the nature of entrepreneurship and its role and effects on markets and societies. Next, it offers an overview of the entrepreneurial process, from the initial stages of opportunity recognition and assessment to growth and exits. Finally, it explores the many organizational contexts in which entrepreneurship is applicable, including startups, large corporations, social ventures, cultural and academic institutions, and the public sector. Prerequisites: BUSI 010. Sophomore standing.

BUSI 100. Management Information Systems. 4 Units.

This course is an introduction to the concepts and skills needed to utilize information systems resources. The course focuses on the role of information systems in management function with an emphasis on end-user computing, that includes the role of users in information system planning and design. Topics include information systems technology, applications and development. Students gain experience with spreadsheet, data base and network applications. Prerequisite: COMP 025 or COMP 051.

BUSI 104. Operations Management. 4 Units.

Students analyze the production and operations systems in the organization and application of quantitative methods in solution of production and operations problems. A major emphasis is on managerial and economic implications. Prerequisites: MATH 037 and MATH 045, both with a "C" or better, BUSI 031, BUSI 033, ECON 053, and ECON 055, and an acceptable computer course. Junior standing.

BUSI 105. Financial Management. 4 Units.

This course introduces financial instruments and institutions from the perspective of the financial management of the firm. Tools of financial analysis and planning as well as principles of short-term and long-term financing are developed as they relate to profit-ability and liquidity. Prerequisites: MATH 037 and MATH 045 both with a "C" or better, BUSI 031, ECON 053, and ECON 055. Junior standing.

BUSI 107. Marketing Management. 4 Units.

BUSI 107 is an introduction to the institutions, techniques, policies and procedures utilized in the planning and performance of the activities which direct the flow of goods and services from producers to consumers. An emphasis is placed on the managerial process of decision-making in the setting of marketing strategy. Prerequisite: ECON 053. Sophomore standing.

BUSI 108. Introduction to Business Analytics. 4 Units.

This course is designed as an introduction to the field of business data analytics. Analytics involves the extensive use of computer applications, data (both "big" and "small"), and quantitative methods to help drive business decisions. Students will learn essential theories, concepts, methodologies, and use leading computer tools to preform analysis on real world data. Prerequisites: MATH 045 and MATH 037 both with a grade of "C" or better, BUSI 100, Junior standing.

BUSI 109. Management and Organizational Behavior. 4 Units.

This course provides students with 1) a broad understanding of the factors that affect human behavior in organizations and 2) a set of tools managers can use to influence the attitudes and behaviors of employees at the individual, group, and organizational levels. Junior standing required.

BUSI 110. Career and Development Seminar. 1 Unit.

This course is designed to enable business students to clearly define their career objectives and available opportunities. Through the course business students understand the connection between internships and full-time careers, are trained in the methods of conducting a successful job search and prepare for on-going career development. Topics include career assessment, resumes and related correspondence, interviewing, career planning, and job search resources. The course also discusses opportunities available in graduate studies. Junior standing.

BUSI 111. Accounting Information Systems. 4 Units.

The course emphasizes the use of accounting software and the interaction of accountants with information systems. It also covers assessment of internal and computer controls in order to identify key risks within accounting cycles, and it reviews the latest computer architectures used in ERP. Prerequisites: BUSI 033 and BUSI 100. Junior standing.

BUSI 113A. Intermediate Accounting I. 4 Units.

Students study the income measurement and asset valuation under generally accepted accounting principles. The course emphasizes current procedures, form and content of financial statements and critical evaluation of alternative accounting practices. Prerequisite: BUSI 031 with a "C" or better. Junior standing.

BUSI 113B. Intermediate Accounting II. 4 Units.

Students continue to study generally accepted accounting principles. Topics include owners' equity, dilutive securities, pensions, leases, income taxes, statement of cash flows and inflation accounting. Prerequisite: BUSI 113A with a "C" or better. Junior standing.

BUSI 113C. Advanced Accounting. 4 Units.

Students study advanced accounting theory and practice that includes accounting for inter-corporate investments, partnerships, foreign currency transactions, government and nonprofit organizations and current topics. Prerequisite: BUSI 113B with a "C" or better. Junior standing.

BUSI 115. Tax Accounting. 4 Units.

This course emphasizes federal tax laws, regulations and legal doctrines that significantly affect businesses, property transactions, and individuals. Tax planning techniques and tax research skills are emphasized. Prerequisites: BUSI 031 and BUSI 033 both with a "C" or better. Junior standing.

BUSI 117. Cost Accounting. 4 Units.

This course emphasizes skills used by management accountants or other decision makers within an organization for planning and control. Topics include analysis of cost structures, profit planning, product cost systems, cost estimation, budgeting, and the behavioral implications of management accounting systems. Prerequisites: BUSI 031, BUSI 033, and MATH 037 with a "C" or better. Junior standing.

BUSI 119. Auditing. 4 Units.

This capstone course in accounting studies the integration of financial and management accounting systems. Topics include the attest function and ethics, generally accepted auditing standards, systems of internal control, evidence and audit reports. Prerequisite: BUSI 113A with a "C" or better. Junior standing.

BUSI 121. Financial Markets. 4 Units.

Students examine the monetary transmission mechanism with emphasis on its implications for financial management of the individual firm. Topics include the institutions of money and credit creation, the flow-of-funds accounts and financial market subsection interconnection. Prerequisite: BUSI 105 with a "C" or better. Junior standing.

BUSI 122. Student Investment Fund (SIF). 4 Units.

Operated entirely by students, this course allows students to gain hands-on, real world experience in managing an investment fund with substantial market value. Students perform sector analyses as well as financial analyses of a wide array of securities. As a group they determine the fund's sector allocation and stock/bond/cash allocation. SIF, while maintaining a well-diversified profile, strives to outperform the market (S&P 500). Prerequisites: BUSI 105 with a "C" or better and permission of instructor. Junior standing. May be taken twice for credit.

BUSI 123. Investment Analysis. 4 Units.

Students examine the nature of securities markets and the characteristics of various types of securities for institutional and personal investment. Sources of investment information, security valuation and investment planning are introduced. Prerequisite: BUSI 105 with a "C" or better. Junior standing.

BUSI 124. Entrepreneurial Finance. 4 Units.

Entrepreneurial Finance discusses the financial issues facing a business start-up and those of a growing enterprise. Specific attention is paid to the acquisition of financing for new ventures, financial management of new and growing businesses, and the harvest of the entrepreneurial venture. Prerequisite: BUSI 105 with a "C" or better. Junior standing.

BUSI 125. Intermediate Financial Management. 4 Units.

This is a second course in business finance with emphasis on problem solving. Selected problems in the management of long-term and short-term assets are examined in depth and techniques for optimizing the goals of the firm are developed. Prerequisite: BUSI 105 with a "C" or better. Junior standing.

BUSI 126. Topics in Finance. 4 Units.

This course is an in-depth examination of special topics of current interest in the field of finance. Students and faculty together explore empirical and theoretical issues in such areas of finance as investment analysis, financial management, financial markets and other related areas. Prerequisites: BUSI 105 with a "C" or better and BUSI 121. Junior standing.

BUSI 127. Legal Aspects of Real Estate. 4 Units.

Students study the legal aspects that concern real estate and real estate transactions. Topics include deeds, listing agreements, title insurance, real estate contracts, closing, property taxation, land use regulations and landlord-tenant relationships. Prerequisite: BUSI 053. Junior standing.

(PLAW)

BUSI 134. Conflict Management. 4 Units.

Conflict is inevitable in organizational, inter-organizational and international settings. This course deals with conflict in concept and in practice and is designed to provide insights into its causes and its productive and destructive consequences. It also focuses on providing tools for managing conflict productively, and particularly emphasizes negotiation. Prerequisite: BUSI 109 with a "C" or better. Junior standing.

BUSI 137. Database Management Systems. 4 Units.

Students learn to develop database management systems to design and build business applications. The course teaches database design (normalization), queries (SQL), development of business applications that use forms and reports, and an introduction to database administration. Prerequisite: BUSI 100 with a "C" or better. Junior standing.

BUSI 138. Networking and Telecommunications Management. 4 Units.

Students examine design, implementation, and management of local area networks. Studies include design issues in wide area networks and telecommunications with emphasis on Internet connectivity in addition to network server setup and administration that includes Web site administration. Prerequisite: BUSI 100 with a "C" or better. Junior standing.

BUSI 139. Electronic Commerce Project. 4 Units.

Students design and build applications for electronic commerce. Students use databases and programming to build interactive Web sites. Prerequisite: BUSI 100 with a "C" or better. Junior standing.

BUSI 140. Business Systems Analysis. 4 Units.

Students study systems development life cycle, methods and tools for systems analysis and design, human factors, user interface, and systems integration issues. Prerequisite: BUSI 136. Junior standing.

BUSI 141. Marketing Research. 4 Units.

Students study the concepts and techniques useful in the solution of marketing problems and in the identification of marketing opportunities. This course emphasizes the design of information acquisition and the evaluation and interpretation of research findings. Prerequisites: BUSI 107 and MATH 037 with a "C" or better. Junior standing.

BUSI 142. Personal Selling and Sales Management. 4 Units.

Personal Selling and Sales Management examines the sales function from strategic competitive importance to the firm to required direct sales skills of individual salesperson. Major subject areas covered are: the sales process, recruitment and training, organization and focus, "territories", evaluation and compensation. Prerequisite: BUSI 107 with a "C" or better.

BUSI 143. Product Innovation. 4 Units.

Maintaining competitiveness in the contemporary marketplace requires that companies focus increasingly on the management of product and service innovation. This course addresses the innovation process-technology-based and otherwise-from the identification of new ideas through the development of innovations and eventual introduction of novel products to consumers. Topics include sources of innovation, identification and screening of product innovations, business planning for new products, technological forecasting, integrating innovation with business objectives and organizational models for fostering innovation. Prerequisites: BUSI 107 and BUSI 141 with a "C" or better. Junior standing.

BUSI 147. Consumer Behavior. 4 Units.

Students study the bases for consumer behavior, which include relevant information from social psychology, sociology, and cultural anthropology. Topics include the application of analysis of consumers' behavior and attitudes to marketing management decisions. Management decision areas that are discussed include advertising, product development, marketing research and pricing. Prerequisite: BUSI 107 with a "C" or better. Junior standing.

BUSI 148. Promotions Management. 4 Units.

Students study the theory and practices used in the promotions component of the marketing mix. Students are exposed to a number of techniques employed by marketing departments, advertising firms and public relations professionals to advertise and promote products and or services. Prerequisite: BUSI 107 with a "C" or better. Junior standing.

BUSI 149. Strategic Marketing. 4 Units.

Students are introduced to the strategic marketing process, that includes the analysis of marketing situations, identification of problems, determination of solutions, implementation of corrective action, and planning strategy. Prerequisites: BUSI 105 and BUSI 141 both with a "C" or better. Junior standing.

BUSI 153. Entertainment Law. 4 Units.

This course explores legal relationships between entertainment entities and individuals involved in music management, film production, publishing, distribution, and the internet business. The course will expand the students' understanding through leading judicial decisions that have had an impact on the entertainment industry. The subject matter includes; copyright, trademark, contracts, torts, first amendment, anti-trust, state statutory law, agency and international law. Prerequisite: BUSI 053 with a "C" or better. Junior standing.

BUSI 157. Commercial Law. 4 Units.

This course is an in-depth study of commercial transactions between entities and individuals in the business environment. The topics that are covered include contracts, commercial paper, sales, secured transactions, bankruptcy, personal property, securities regulation and other related topics over the semester. Case materials and problems are used extensively in the course. Prerequisite: BUSI 053 with a "C" or better. Junior standing. (PLAW)

BUSI 159. Employment Law. 4 Units.

This course examines major labor-management relations legislation and its interpretation and treatment by administrative agencies and the courts. Primary emphasis is on the National Labor Relations Act as amended, but attention is also given to law concerning public sector labor relations, employment discrimination and other related law. Prerequisite: BUSI 053 with a "C" or better. Junior standing. (PLAW)

BUSI 163. International Financial Management. 4 Units.

This course is an analysis of management problems that arise in an international financial environment. Specific consideration is given to financial risk (s), management and international financial markets. Prerequisite: BUSI 105 with a "C" or better. Junior standing.

BUSI 165. International Marketing. 4 Units.

Students examine the environment for marketing across borders. The course covers marketing practice, policies and strategies in the multinational setting. Students complete a global screening of countries and draw up a marketing plan and strategy for a given product. Prerequisite: BUSI 107 with a "C" or better. Junior standing. (ETHC)

BUSI 169. International Management. 4 Units.

Develops cross-cultural awareness through understanding of social, political, economical, and historical influences on managerial practice. Methods include lectures, readings, videos, role-plays, and reports (written and oral). Prerequisite: BUSI 109 with a "C" or better. Junior standing.

BUSI 170. Human Resources Management. 4 Units.

This course introduces the P/HR management area with its core of activities that include job analysis, performance evaluation, employee acquisition, employee and management development, and compensation and benefits. The influences of the equal employment and civil rights laws, wage, and hour laws, labor law and labor unions in organizational operations are studied. Prerequisite, may be taken concurrently: BUSI 109 with a "C" or better. Junior standing. (DVSY)

BUSI 173. Entrepreneurial Management Practicum. 4 Units.

This course serves as the capstone in the Entrepreneurial Management concentration. Students will integrate what they've learned in the program and apply it to a major project under the guidance of the instructor. Project can include business plan development for the student's own idea or experiential consulting project for a company, nonprofit, or agency that involves some aspect of new business development. Prerequisites: BUSI 031, BUSI 090. Junior standing.

BUSI 174. Creating Effective Work Teams. 4 Units.

The purpose of the course is to provide students with an understanding of work team dynamics that enable them to develop skills to participate in and lead teams in the workplace. Because the focus is on teams, the course takes a "learning by doing" approach and involves numerous group activities designed to reinforce the material. Prerequisite: BUSI 109 with a "C" or better. Junior standing.

BUSI 175. Leadership and Change. 4 Units.

Students examine the processes of deliberate organizational change as adaptations to both internal and external developments. The course covers criteria for effective change programs, strategic variables that affect change (e.g., power, communication, conflict), and technologies that produce change (e.g., consulting, training, research). Prerequisite: BUSI 109 with a "C" or better. Junior standing.

BUSI 178. International Commercial Law. 4 Units.

This course provides students with the opportunity to study the law that governs international contracts. The course reviews the legal environment of international business, international sales and commercial transactions, trade laws, and the regulation of the international market place. Ethical considerations in international contracting, commercial dispute resolutions, and import and export transactions are also examined. The emphasis of the course is on the recognition of legal problems and the discovery and application of appropriate principles of international and domestic law that may assist in resolving these problems. Prerequisite: BUSI 053 with a "C" or better. Junior standing.

BUSI 181. Strategic Management and Policy. 4 Units.

This course is an integrated analysis of the major functional areas of an enterprise, viewed primarily from the upper levels of management. The strategic management process provides the framework that formulates and implements objectives, policies and programs through which a company gains sustainable competencies and competitive advantage in the marketplace. Students participate in computer simulations, case analysis, and experimental exercises in order to develop skills in executive teamwork, to solve strategic problems and to present and defend recommendations. Prerequisites: BUSI 031, BUSI 033, BUSI 053, BUSI 100, BUSI 104, BUSI 105, BUSI 107, BUSI 108, BUSI 109.

BUSI 183. Administrative Internship. 1-8 Units.

The internship affords students the opportunity to combine administrative practice and classroom theory. Interns are placed with private, public or third sector agencies for a period of at least 40 hours per earned credit hour. In addition, the supervising instructor assigns academic work to complement the hands-on portion of the internship. Interested students contact the ESB Career Services Office or the office of the Associate Dean located in Weber Hall.

BUSI 186. Firm, Markets, and Environment: Theory and Application. 3 Units.

This course provides in-depth exposure to both the theory of the firm and a set of quantitative techniques that managers need to utilize in order to facilitate decision making and problem solving. The topics include demand theory and estimation, forecasting with econometric and time-series techniques, production and cost theory, theory of markets, capital budgeting, fiscal and monetary policy, and the global economic and financial environment. Prerequisites: ECON 053, ECON 055, and permission of the MBA Program Director. Senior standing.

BUSI 188. Data and Decisions. 3 Units.

This course introduces the fundamental concepts and techniques that analyze risk and formulate sound decisions in uncertain environments. The course examines statistical methods which interpret and analyze data that include sampling concepts, regression analysis, and hypothesis testing. Applications include investor management, portfolio analysis, quality control and inventory management, portfolio analysis, quality control and inventory management. This course emphasizes analytical techniques that are broadly applicable to business problems. Prerequisites: MATH 037, MATH 045 and permission of the MBA Program Director. Senior standing.

BUSI 191. Independent Study. 1-4 Units.

This course is primarily for advanced majors in business administration. An independent study proposal is submitted to and is approved by the student's faculty adviser, the instructor and the ESB Academic Standards Committee. Independent study is self-directed study by the student.

GLADYS L. BENERD SCHOOL OF EDUCATION

<http://www.pacific.edu/education/>

Phone: (209)946-2556

Location: Gladys L. Benerd School of Education

Linda Webster, Ph.D., Interim Dean

Degree Offered

Bachelor of Arts in Liberal Studies

Majors Offered

Diversified

Pedagogy

Minors Offered

Teaching Professions

A Diversified Major leads to a preliminary credential for elementary teaching in California. A Pedagogy Major is designed for undergraduate students from other countries who wish to teach in their home countries.

Contents

Diversified Major (Liberal Studies)

Pedagogy Major

Multiple Subject Credentials

Single Subject Credentials

Special Education/Education Specialist Credentials

Single Subject Credentials are offered in conjunction with other University academic units.

For more information on graduate programs see Graduate Catalog.

This is a professional school of University of the Pacific that offers programs for Bachelor of Arts, Master's, Educational Specialist, Doctor of Education, and Doctor of Philosophy degrees.

Mission

The mission of the Gladys L. Benerd School of Education is to prepare thoughtful, reflective, creative, caring and collaborative professionals for service to diverse populations through personalized and transformational learning experiences.

Core Values of the School of Education

- **Personalized and Transformational Learning:** We provide personalized, transformational experiences for students from all backgrounds and experiences who are passionate about making a difference in the lives of individuals and communities.
- **Strength-based Community Focus:** We build upon the strengths of our region by working within our diverse communities to be a true partner in helping Northern California realize its full potential.
- **Innovation and Learning:** In everything we do, we explicitly focus on fostering hubs of innovation and learning throughout Northern California, which will serve as living models for how educators can partner with their communities to influence real change.

The History of the School of Education

The School of Education was organized at University of the Pacific in 1923 and officially recognized by the California State Department of Education on January 10, 1924. Its goals are to prepare competent personnel for service in public and private pre-elementary, elementary, secondary, and post-secondary schools; to provide programs for the in service growth of experienced school personnel, so that they may update and upgrade their understanding, knowledge, and skills in a rapidly changing educational enterprise; to provide educational leadership in cooperation with all those agencies engaged in and interested in schools; and to engage in and promote research leading to better public education.

Accreditation

The University of the Pacific was the first university in California whose professional education programs were fully approved by both the California Commission on Teacher Credentialing (CCTC) and the National Council for Accreditation of Teacher Education (NCATE) from bachelor's through doctoral levels, thus permitting its professional education program graduates to be licensed upon request in 38 other states. Although teacher education is considered to be an all-University responsibility, all professional education degree and credential programs at University of the Pacific are offered and coordinated through the Gladys L. Benerd School of Education. Continuing accreditation by the CCTC has been conferred through the year 2020 on all eligible programs in the Benerd School of Education.

Programs in the School of Education

At the undergraduate level, programs are offered to prepare classroom teachers and special educators. At the graduate level, programs are offered to prepare instructional specialists, school psychologists, supervisors, principals, superintendents, central office personnel, and leaders in higher education, non-profit, and other organizations. Undergraduate and graduate programs through the doctorate are offered by the School. Detailed requirements for a Master of Arts in Education (MA), Educational Specialist (EdS), and Doctor of Education (EdD) can be found in the Graduate School Catalog.

Student Organizations

Student organizations in the School of Education include the School of Education Student Association (SESA); a student chapter of the Association for Supervision and Curriculum Development; a student chapter of the Council for Exceptional Children (CEC); the Math, Science, and Critical Thinking Club; the Music Education Student Association (MESA); and the Pacific School Psychology Association (PSPA).

Membership in these student organizations is open to all undergraduate students who are enrolled in the School of Education and all graduate students who are working toward a credential or an advanced degree offered through the School of Education and who have paid the ASUOP student body fees.

Facilities and Support Services

The School of Education has a state-of-the-art flexible learning classroom, and the University Library contains other comprehensive resources for students in education in its collections of books, professional periodicals, pamphlets, microfilms, and other reference materials.

The Testing Office in the School of Education is an officially designated national testing center for the subject test of the Graduate Record Examination. In addition, the Office maintains a collection of restricted psychological assessments for use by faculty and approved advanced students in the school psychology program. The Testing Office is available for proctoring services for individuals who seek to take an exam of any subject. Proctoring services are open to Pacific students, students who attend other institutions, and the general public, whether offered through another college, university, and/or private/public business. Individuals who are interested in proctoring services may call (209) 946-2559. The Testing Office is located at the Gladys L. Benerd School of Education, Room 101.

The Speech, Hearing and Language Center in the School of Pharmacy and Health Sciences provides a program for children and adults who need individual or group therapy for such challenges as stuttering, cleft palate, aphasia, cerebral palsy, articulation, and delayed speech, and it provides speech reading for the hard of hearing. Comprehensive audiological assessment is also available for children and adults.

Earning a Credential to Teach

The School of Education provides programs whereby any student in any unit of the Stockton campus can prepare for a teaching career. The School is committed to a philosophy of combining professional theory with practical fieldwork and utilizes the unique diversity of Stockton area schools as laboratories for teacher preparation. The School insists that students meet qualitative criteria. They must be strong academically, respect and relate well to children and other students, be of fine character, and be recommended by persons who know of their capabilities. In particular, they must demonstrate that they are fully committed to achieving excellence in teaching.

So that students can assess themselves, their relationships with children, and their willingness to commit to excellence in teacher preparation, any freshman or higher level student may enroll in the sequence of prerequisite courses prior to the professional course sequence and directed teaching.

Completion of More Than One Credential

It is possible to earn more than one teaching credential while enrolled as a student at the University of the Pacific. For information about specific requirements and to plan an appropriate study that supports the earning of more than one credential, please see an advisor in the program.

Services for Out-of-State Teachers

Teachers who have been prepared in other states may apply directly to the Commission on Teacher Credentialing, 1900 Capitol Avenue, Sacramento, CA 95814-4213. Such teachers may enter Pacific for the purposes of earning a credential or satisfying selected requirements. A credential file should be opened, with the credential analyst being given copies of credential documents. Admission to Pacific's Graduate School is also necessary. The School of Education recommends the appropriate credential when California requirements are met if the necessary study is completed at this institution. A fee of \$30 is required to open a credential file.

Services for Prospective Transfer Students

Students who contemplate transferring to qualify for a teaching credential may write to the School of Education or phone (209) 946-2558 or 946-2685 to confer about course selection. They may also contact the

University's Office of Admissions for transfer admission requirements, (209) 946-2211. Graduating University seniors contact the Graduate School for information and application and confer with the School of Education. If the GPA for junior/senior years is above 3.0, they can inquire about the Master of Education degree which includes credential preparation.

Programs in English as a Second Language: Pedagogy Major for International Students

The School of Education offers an undergraduate program for International students who wish to become teachers of ESL (English as a Second Language) or EFL (English as a Foreign Language). At the undergraduate level, international students may choose the Pedagogy Major with a specialization in either Language and Culture or Second Language Pedagogy. (See description under Degrees in the School of Education for specific courses required for the Pedagogy Major.)

Programs to Earn Multiple Subject Credential

The courses and experiential learning opportunities for students seeking a multiple subject credential are included as a part of the Bachelor of Arts with Liberal Studies with credential program discussed below under "Undergraduate Degrees." As noted, students also have the option of earning a credential through post-baccalaureate programs of study (credential only or MA) These are discussed in the Graduate Catalog.

Programs to Earn Credentials to Teach Special Education

The courses and experiential learning opportunities for students who seek to become special education teachers (Educational Specialist-mild/moderate or moderate/severe Levels I/Preliminary and II/Clear) are discussed below under "Undergraduate Degrees." As noted, students also have the option of earning a credential through post-baccalaureate programs of study (credential only or MA) These are discussed in the Graduate Catalog.

Programs To Earn Single Subject Credential

Undergraduate students who seek to earn a single subject credential in one of the following areas: English, Art, Social Sciences, Sciences, Mathematics, Spanish, Music, and Physical Education consult with a faculty advisor in the appropriate academic department. Undergraduates can plan to earn a single subject credential concurrent with the bachelor's degree in selected content fields. The option of earning a credential through post-baccalaureate programs of study (credential only or MA) is available as well. Students should consult with a School of Education advisor for appropriate education courses.

The School offers a Preliminary Single Subject Credential Program that consists of the following:

I. Prerequisite courses:

EDUC 140	Transformational Teaching and Learning	4
EDUC 141	Transformational Teaching and Learning Practicum *	2
EDUC 130	Technology Enhanced Learning Environments	2

* EDUC 141 is not taken by Music Education students.

II. Professional Teacher Education Courses for the Single Subject Credential

EDUC 155	Teaching in the Content Areas I	3
EDUC 156	Content and Disciplinary Literacy Development in Secondary Schools	3
EDUC 160	Productive Learning Environments for Diverse Classrooms	2
EDUC 163 or EDUC 166	Teaching English Learners Teaching English Learners, Single Subject	3-4
EDUC 165	Teaching in the Content Areas II	2

The Single Subject Program in Music Education and Physical Education take methods courses in their content fields.

III. Directed Teaching: Normally 10-12 units

EDUC 170	Professional Practice	2-10
EDUC 172	Professional Practice Seminar	2-10

Normally, EDUC 170 and EDUC 172 total 10 to 12 units.

Completion of the following course:

SPED 125X	Teaching Exceptional Learners	2
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In addition to meeting degree requirements and completion the program outlines above, a student who seeks a Single Subject Preliminary Requirement must also:

- Complete CBEST or Commission of Teacher Credentialing approved alternative assessment prior to Student Teaching or Internship
- Pass the California Subject Exam For Teachers (CSET) for the specific subject matter field (see advisor for information regarding the required exams and the timeline for completion of this exam.) Music has the option of an approved subject matter program
- Complete the United States Constitution requirement
- Pass all program requirements which includes maintaining a 2.5 GPA, advancing to Credential Candidacy, and meeting standards on all embedded signature assignments (implemented in the electronic portfolio on TaskStream)
- Demonstrate his/her competence in relationship to thirteen Teaching Performance Expectations and through the completion of all requirements in edTPA, an approved Teaching Performance Assessment
- Demonstrate his/her competence in professional practice (student teaching/ internship) as assessed by University Supervisor and their cooperating teacher(s) in their student teaching and/or internship placement(s)
- Complete an application for the SB 2042 Single Subject Preliminary Credential at the Office of the Credential Analyst
- Complete CPR Certification Infant, Child and Adult level

Under SB 2042 legislation, the holder of a Single Subject Preliminary Credential must complete requirements for a Clear Credential through a CTC-approved Induction Program provided by a school district or some California colleges or universities.

Advising materials for the Single Subject are available in Room 102, School of Education Building. Students are required to meet with a program advisor for registration.

The credentials or licenses for teaching in California schools offered by the University include the Multiple Subject Credential, the Single Subject Credential, and the Educational Specialist Credentials, Mild/Moderate Disabilities or Moderate/Severe Disabilities, Preliminary- Level One and Clear- Level Two.

The Single Subject Credential authorizes its holder to teach that subject at any level between kindergarten and grade 12, though it is used typically in grades 7-12. The Multiple Subject Credential authorizes its holder to teach in any classroom in which the students remain with the teacher. The Multiple Subject Credential is required for teaching grades K through 6. Some districts require a Single Subject Credential for teaching one subject field in middle school or junior high school. The Multiple Subject Credential may be used for teaching upper grades in which students remain with the teacher in a self-contained classroom and for adult education.

Students who have earned a baccalaureate degree and who meet admissions criteria have the option to pursue their teaching credentials through a post-baccalaureate credential, MA, or internship programs. Details regarding these options are available at the School. Details regarding the MA program are also available in the Graduate Catalog.

Students who seek to earn a credential must complete an approved program of study and take and pass required state examinations. Specific information about the requirements for each program is available at the School.

Diversity

1. Students will be able to identify systemic barriers to equality and inclusiveness in the classroom, including their own biases and assumptions. Understand the role of privilege in the classroom environment and be able to engage in educational practices to cultivate academic success in all students.

Visual and Performing Arts

1. Students will be able to have firsthand experiences with the artistic process in a variety of art forms. Artistic Perception, Creative Expression, arts heritage and aesthetic valuing will be explored.

Physical Education

1. Students will be able to plan a unit of physical education instruction to choice elementary-age audience.

Written Language

1. Students will be able to compose a variety of texts in which they demonstrate their ability to explain complex ideas clearly as well as coherently communicate important information.

Quantitative Analysis

1. Students will be able to choose the appropriate tools to analyze and use quantitative data to define needs, set goals, plan interventions, and evaluate progress. Substantiate decisions by making appropriate and effective graphs to communicate and visualize quantitative information.

History

1. Students will create a diagnostic assessment using backward design.
2. Students will create a performance assessment for fourth grade California history.
3. Students will create a direct instruction lesson plan based on digital media archives on the Delta and complete the Elementary History Task related to edTPA.

Science

1. Students will be able to plan and enact appropriate science instruction that reflects the contributions of Vygotsky, Piaget and other cognitive and developmental psychologists. Accurately judge the appropriateness of particular science content for students and assist in modifying such content for those students. Modify lesson plans to more accurately and explicitly address the nature of science.

Bachelor of Arts in Liberal Studies Major Diversified Liberal Studies

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts in liberal studies degree with a major in diversified. (Please note – to concurrently earn a Multiple Subject and/or Education Specialist: Mild/Moderate and/or Moderate/Severe Disabilities Preliminary credential, the student should earn a 2.5 GPA in all courses that lead to a teaching credential.)

The program of study includes the following:

I. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

II. Fundamental Skills

Students must demonstrate competence in:

Writing
Quantitative analysis

III. Language, Literature, Communication

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
ENGL 025	English 25 (Literature Analysis)	4
EDUC 100	Introduction to Language	4
EDUC 131	First and Second Language Acquisition/Linguistic Foundations	4
Select one of the following:		4
ANTH 053	Cultural Anthropology	
COMM 043	Introduction to Interpersonal Communication	
COMM 143	Intercultural Communication	

IV. History (World, United States, California)

HIST 130	History of California	4
Select two of the following:		8
HIST 020	United States History I	
HIST 021	United States History II	
POLS 041	U.S. Government and Politics *	
Select one of the following:		4
HIST 010	Western Civilization I	
HIST 050	World History I	

* Students can only count POLS 041 once if completing the History/Social Sciences concentration.

V. Mathematics (Two Courses)

MATH 161	Elementary Concepts of Mathematics I	4
Select one of the following:		
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability *	

* MATH 037 is for students with advanced mathematics abilities.

VI. Sciences

GESC 057	Earth Systems Science	4
Select one of the following:		4
BIOL 011	Human Anatomy and Physiology	
BIOL 041	Introduction to Biology	
Select one of the following:		4
CHEM 023	Elements of Chemistry	
PHYS 017	Concepts of Physics	
PHYS 041	Astronomy	

VII. Visual and Performing Arts

EDUC 142	Visual Arts in Education	3
MEDU 100	Music for Children	3
Select one of the following:		3-4
THEA 011	Introduction to the Theatre	
THEA 071	Beginning Acting	

VIII. Physical Education and Child Development

PSYC 029	Developmental Psychology	4
HESP 151	Elementary Physical Education	3

IX. Senior Capstone Courses

PACS 003	What is an Ethical Life?	3
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X. Concentration "Depth of Study" Courses

Three to four courses in one of the following recommended concentrations: 12 units

- Teaching English to Speakers of Other Languages
- Mathematics
- Sciences
- Special Education
- Evening Program Concentration for EdPro2 students
- Other areas: History and Social Sciences, Visual/Performing Arts, Physical Education; English Language and Literature; Spanish: or a Specially Designed concentration are available in consultation with an advisor in the Diversified Major.

Note: 1) These concentrations are described in advisement materials found in the Teacher Education Program/Unit, Room 102 of the School of Education building. **2)** Students must complete successfully Pacific Seminar 3. **3)** Courses in the major and in credentialing must be taken for a letter grade. **4)** No more than eight units of extension coursework from Pacific may count towards the degree. **5)** Limitations on ACTY courses also apply.

Note: Evening Degree (EdPro2) students are subject to complete a specialized concentration designed for their cohort group.

XI. Prerequisite Teacher Education Courses (Required for the Degree in the Traditional Degree Program)*

EDUC 130	Technology Enhanced Learning Environments	2
EDUC 140	Transformational Teaching and Learning	4
EDUC 141	Transformational Teaching and Learning Practicum	2

* Students in the Evening Degree BALS (ED Pro2) do not complete this section of requirements.

XII. Professional Teacher Preparation Courses – Multiple Subject (Required for a Preliminary Multiple Subject Credential)*

EDUC 150	Teaching and Assessment	4
EDUC 153	Teaching Science, Technology, Engineering, and Mathematics	4
EDUC 160	Productive Learning Environments for Diverse Classrooms	2-3
or SPED 195E	Positive Behavioral Support in the Classroom	
EDUC 161	Literacy Development (Multiple Subject)	4
EDUC 163	Teaching English Learners	4

* Students do not need to complete all teaching credential courses or requirements for the Multiple Subject and/or Education Specialist: Mild/Moderate and/or Moderate/Severe Disabilities Preliminary credential to earn the BA in Liberal Studies.

XIII. Directed Teaching:

EDUC 170	Professional Practice	2-10
EDUC 172	Professional Practice Seminar	2-10
SPED 125X	Teaching Exceptional Learners	2

Note: Consult with Program Advisor for enrollment assistance regarding student teaching as an undergraduate student.

In addition to meeting the above degree requirements, a student who seeks a Multiple Subject Preliminary Requirement must also:

- Pass CBEST examination
- Pass the California Subject Exam For Teachers (CSET-MS) prior to Student Teaching or Internship
- Pass the Reading Instruction Competency Assessment (RICA) prior to applying for the credential
- Pass all program requirements which includes maintaining a **2.5** GPA, credential candidacy, and meeting standards on all embedded signature assignments (implementation in the electronic portfolio on TaskStream)
- Demonstrate his/her competence in relationship to thirteen Teaching Performance Expectations and through the completion of all requirements in edTPA, an approved Teacher Performance Assessment
- Demonstrate his/her competence in professional practice (student teaching/ internship) as assessed by University Supervisor and their cooperating teacher(s) in their student teaching and/or internship placement(s),
- Completion of the United States Constitution requirement.
- Completion of CPR Certification Infant, Child and Adult level.
- Complete an application for the SB 2042 Multiple Subject Preliminary Credential at the Office of the Credential Analyst.

Under SB 2042 legislation, the holder of a Multiple Subject Preliminary Credential must complete requirements for a Multiple Subject Clear Credential through a CTC-approved Induction Program provided by a school district or some California colleges or universities.

Advising materials for the Diversified Major are available in the Teacher Education Program/Unit, Room 102 of the School of Education Building. Students are required to meet with a program advisor for registration each semester as they progress through the degree program.

Course Requirements for the Pedagogy Major (for international students)

1. University general education requirements with emphasis on selecting courses for intercultural understanding (30 units) must be completed. Only three general education courses may be taken on a pass/no credit basis, and not more than one course in each of the three main categories may be taken on a pass/no credit basis. Students must complete Pacific Seminars 1, 2 and 3 and two courses in each of the three main categories in general education. If a Pacific Seminar 1 or 2 course is waived, or not passed, a course from an appropriate category for general education is required.
2. Development of proficiency in the English language through intensive English programs, as needed, to pass proficiency examinations (24 units or equivalent) is required.
3. Professional education – A minimum of 24 units is required. The student's advisor assists him/her to determine appropriate courses.
4. Electives (3 units minimum) are completed from a list of courses available in the Teacher Education Program/Unit.
5. Concentration Area: Students complete a Concentration Area in one of the following options: (24 units)
 - a. Second Language Pedagogy (for international students who are preparing to teach English as a foreign language): courses in language structure, language development and second language acquisition.
 - b. Language and Culture Pedagogy (for international students who are preparing to teach the language and culture of the United States): courses in literature of the English language, expository writing, reading and English instructional techniques, and courses providing special understanding of American culture.
 - c. Technical Pedagogy (for international students who are preparing to teach classes in technical subjects): courses selected from science, mathematics, computer subjects, engineering, health and physical education, educational technology and instructional methods.
 - d. Special Education Pedagogy (for international students who are preparing to teach in a specialized learning field): teaching the physically and psychologically handicapped.
6. Elective courses are completed to meet degree requirements of 124 units.
7. A grade point average of 2.0 is maintained in all professional education and concentration area courses. None of the courses in these two areas is taken on a pass/no credit basis.

Undergraduate Preparation for a Bachelor of Arts in Liberal Studies and a Level One Education Specialist Credential

Students in the Bachelor of Arts in Liberal Studies program in the Benerd School of Education may pursue an Education Specialist Credential, Mild/

Moderate or Moderate/Severe Disabilities, Preliminary and the Diversified-Liberal Studies Major. Students complete:

- the Diversified-Liberal Studies Major described previously,
- prerequisite courses in Teacher Education Program described above (these are listed later in this section),
- the following courses in the Preliminary Education Specialist Credential:

I. Prerequisite Courses:

EDUC 130	Technology Enhanced Learning Environments	2
EDUC 140	Transformational Teaching and Learning	4
EDUC 141	Transformational Teaching and Learning Practicum	2

II. Courses in the Diversified-Liberal Studies Major's Concentration in Special Education:

SPED 123	The Exceptional Child	3
SPED 166	Building Family-Professional Partnerships	3

Select two of the following:

SPED 124	Assessment of Special Education Students	
SPED 128M	Advanced Programming for Students with Mild/Moderate Disabilities	
SPED 128S	Advanced Programming for Students with Moderate/Severe Disabilities	
SPED 142M	Curriculum and Instruction for Students with Mild/Moderate Disabilities	
SPED 142S	Curriculum and Instruction for Students with Moderate/Severe Disabilities	

III. Professional Methods Courses:

SPED 124	Assessment of Special Education Students (already completed in the concentration) *	3
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Select one of the following: 3

SPED 128M	Advanced Programming for Students with Mild/Moderate Disabilities	
SPED 128S	Advanced Programming for Students with Moderate/Severe Disabilities	

Select one of the following: 3

SPED 142M	Curriculum and Instruction for Students with Mild/Moderate Disabilities (already completed in the concentration) *	
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SPED 142S	Curriculum and Instruction for Students with Moderate/Severe Disabilities	
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SPED 131	Evidence Based Practices in Autism Spectrum Disorder	3
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SPED 195E	Positive Behavioral Support in the Classroom	3
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EDUC 150	Teaching and Assessment	4
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EDUC 161	Literacy Development (Multiple Subject)	4
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EDUC 163	Teaching English Learners	3-4
or EDUC 166	Teaching English Learners, Single Subject	

* Units taken in the concentration also fulfill credential course requirements. Units count only once.

IV. Directed Teaching

SPED 198M or SPED 198S Directed Teaching: M or S Mild/Moderate Or Moderate/Severe

In addition to meeting the above degree requirements, a student who seeks an Educational Specialist Preliminary credential must also:

- Pass the Reading Instruction Competency Assessment (RICA) (see advisor for the timeline for completion of this exam.)
- Pass other mandated exams: CBEST and CSET (see advisor for details and the timeline.)
- Completion of the United States Constitution requirement
- Pass all program requirements which includes maintaining a 2.5 GPA, credential candidacy, meeting standards on all embedded signature assignments (implementation in the electronic portfolio on TaskStream)
- Demonstrate his/her competence in relationship to Education Specialist competencies and completion of a portfolio and all requirements in edTPA, when implemented for the Education Specialist credential(s)
- Demonstrate his/her competence in professional practice (student teaching/ internship) as assessed by University Supervisor and their cooperating teacher(s) in their student teaching and/or internship placement(s)
- Completion of CPR Certification Infant, Child and Adult level
- Complete an application for the Education Specialist Level I/ Preliminary Credential at the Office of the Credential Analyst.

The holder of a Preliminary Education Specialist Credential must complete requirements for a Clear Credential through a CTC-approved Clear Program provided by California colleges or universities or district programs.

Advising materials for the Educational Specialist Credential programs are available in the Teacher Education Program/Unit, Room 102 of the School of Education building. Students must meet with a program advisor for registration each semester.

Prerequisite courses in Special Education:

SPED 123	The Exceptional Child	3
SPED 166	Building Family-Professional Partnerships	3

Teacher Education Prerequisite Courses:

EDUC 130	Technology Enhanced Learning Environments	2
EDUC 140	Transformational Teaching and Learning	4
EDUC 141	Transformational Teaching and Learning Practicum	2

Professional Methods Courses:

Students must complete Advancement to Teacher Education (Credential Candidacy) steps as described in the Multiple Subject description in this Catalog to enroll in the following courses:

EDUC 150/250	Teaching and Assessment	4
EDUC 161/261	Literacy Development (Multiple Subject)	4
EDUC 163/263	Teaching English Learners	3-4
or EDUC 166	Teaching English Learners, Single Subject	
SPED 124/224	Assessment of Special Education Students	3

Select one of the following: 3

SPED 128M/228M	Advanced Programming for Students with Mild/Moderate Disabilities	
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SPED 128S/228S	Advanced Programming for Students with Moderate/Severe Disabilities	
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Select one of the following: 3

SPED 142M/242M	Curriculum and Instruction for Students with Mild/Moderate Disabilities	
SPED 142S/242S	Curriculum and Instruction for Students with Moderate/Severe Disabilities	
SPED 131/231	Evidence Based Practices in Autism Spectrum Disorder	3
SPED 195E/295E	Positive Behavioral Support in the Classroom	3

Subject matter competence (CSET) may be met with successful completion of the Diversified major or a Single Subject subject matter program or the state-approved examination(s) for the Multiple or Single Subject-subject matter content areas. State requirements for subject matter competence are subject to change. Federal, state, and school district requirements may designate subject matter examinations for level of teaching placement.

Approval for Special Education Directed Teaching:

Prior to admission to Directed Teaching, students must attend a meeting that the Educator Preparation Program Lead Special Education and the Director of Field Experiences hold to inform students about application procedures for student teaching or internship placements (STAR review). GPA requirements and minimum grade requirements in teacher preparation courses are reviewed and must be completed. The CBEST examination must be passed and subject matter requirements for the credential must be completed. CPR for infant, child, and adult certification is required for a credential. Students will not be allowed to register for Directed Teaching if the CBEST and successful passage of the CSET examination(s) for the Multiple Subject credential, are not met. A subject matter program or passage of examinations for a Single Subject content area is allowed for the Education Specialist Credential. Students must also complete the United States Constitution requirement (See the Multiple Subject section in the Catalog.) Most school districts may require passage of the CSET-Multiple Subjects examination for employment. Single Subject examinations may also be required for employment.

Directed Teaching

SPED 198M	Directed Teaching: Mild/Moderate	1-10
SPED 198S	Directed Teaching: Moderate/Severe	1-10

Internship is an option for Directed Teaching for the Education Specialist Credentials. A student must have a bachelor's degree and meet all program requirements for an Internship. See the Internship section in the Catalog for requirements for Internship.

Students must complete competencies for the Education Specialist Program, pass the RICA examination, complete a professional portfolio and program and state assessments, and satisfy all program requirements for a recommendation for the Preliminary Education Specialist Credential. CPR Certification for infant, child, and adult level is required.

Minor in Teaching Professions

The Teaching Professions Minor offers undergraduates interested in pursuing a career in education a cohesive set of courses that provides them with the foundation for teaching in a variety of settings and/or pursuing related careers while continuing to build strong subject matter knowledge in their majors. The minor lays the groundwork for graduation with either a bachelor's degree with a single subject (secondary) preliminary teaching credential or preparation for a post baccalaureate credential. Students consider how humans learn as well as

the social, psychological, economic, historical, political, cultural factors that influence teaching and learning in public schools.

Students must complete a minimum of 22 units with a Pacific minor grade point average of 2.0 in order to earn the minor in teaching professions.

Minor Requirements

EDUC 130	Technology Enhanced Learning Environments	2
EDUC 140	Transformational Teaching and Learning	4
EDUC 141	Transformational Teaching and Learning Practicum	2
EDUC 155	Teaching in the Content Areas I	3
EDUC 156	Content and Disciplinary Literacy Development in Secondary Schools	3
EDUC 160	Productive Learning Environments for Diverse Classrooms	2
EDUC 163 or EDUC 166	Teaching English Learners Teaching English Learners, Single Subject	4
EDUC 167	Adolescent Development	3

Education Courses

EDUC 010. Dean's Seminar. 1 Unit.

A basic introduction to the career of teaching and the programs and methodologies of the School of Education including educational requirements, professional orientation, career opportunities and school and university regulations.

EDUC 011. Children's Literature. 3 Units.

Students examine various genres of quality literature for children from preschool through eighth grade. Emphasis is on how books affect the growing child and on ways to develop children's appreciation and comprehension of stories as well as to extend their subject matter knowledge.

EDUC 100. Introduction to Language. 4 Units.

This course is an introduction to the central role of language in cultures and societies. Emphasis is on social and regional language variation, language and prejudice, gender and social class differences in conversation styles, the history and evolution of languages, and societal attitudes toward language and socio-political-economic influences on language use. Students gain more precision in their academic language development as they explore English grammatical structures and develop an appreciation of the work sociolinguists do through conversational analysis. As part of the University of the Pacific's general education program (1-A), this is a library intensive course. This means that students do library research, using online and other sources to meet some of the course requirements. (GE1A)

EDUC 129. Seminar: Cultural Basis of Conflict in Education. 3 Units.

Analysis of cultural diversity in American classrooms. Not open to doctoral students. (ETHC)

EDUC 130. Technology Enhanced Learning Environments. 2 Units.

This course focuses on basic skills and software for creating multimedia projects, completing assignments in all education courses, and meeting the state's technology standards for teachers. All assignments in this course relate to building the structure and first section of a candidate's teacher education electronic portfolio. Thereafter, candidates add sections to the portfolio during other courses and activities in their programs of study, which includes evidence that they have met the state's technology standards. Upon graduation, the portfolios are archived in the BSE, and candidates can create a DVD of their entire portfolio or of parts they wish to use. This course is a prerequisite to Admission to Teacher Education.

EDUC 131. First and Second Language Acquisition/Linguistic Foundations. 4 Units.

This course is an introduction to first and second language development, using a compare and contrast framework. It covers theoretical perspectives in first and second language acquisition and explores the relationship between theories and practice in language learning and teaching. This course addresses pedagogical implications of various theories of second language acquisition and discusses socio-cultural factors that influence second language learning. In addition, there is particular attention given to language structure (phonology, morphology, semantics, and syntax) as it relates to the language development of native speakers of English as well as English language learners. This course includes a fieldwork component for which students work with young elementary students off campus once a week during the semester. Prerequisite: EDUC 100.

EDUC 140. Transformational Teaching and Learning. 4 Units.

This is an introductory course that explores the complex relationships within and among local, state, and national levels of public instruction. The course introduces historical, legal, and social issues that affect diverse educational settings. Topics include key movements and legal cases of prominence in American education; demographic information about learners and schools in California; home, family and school partnerships; and professional stages in teaching careers (e.g., subject matter preparation, teacher education, initial licensure, induction programs, and professional development). The course also includes an introduction to "reflective practice"; an overview of stages in human development; prominent learning and motivation theories; the characteristics of learners with exceptional needs; and individual differences among learners, which include English language learners. This course is taken by students interested in Multiple Subject, Single Subject and/or Educational Specialist credentials. It is a prerequisite to Admission to Teacher Education, but it is open to all students at the University. Fieldwork requires fingerprint review and clearance at local districts and TB clearance. There are fees for these services.

EDUC 141. Transformational Teaching and Learning Practicum. 2 Units.

This supervised practicum is taken concurrently with EDUC 140: Transformational Teaching and Learning. Students examine the community, school, and classroom contexts and how they influence the teaching and learning process. Translation of current learning theories into practice are analyzed and applied. Students interact with K – 12 students and teachers in public school settings.

EDUC 142. Visual Arts in Education. 3 Units.

This course assists students in developing an understanding of the visual arts and how they interface with children's development through age 18. The course acquaints students with Visual Arts curriculum in the K-12 classroom. A philosophical emphasis is placed upon the interface of visual arts with children's development. The course explores such concepts and processes as aesthetic perception, creative expression, visual arts heritage and aesthetic valuing, and media and materials, suitable for children through age 18. Prerequisite: Sophomore standing. (GE2C)

EDUC 150. Teaching and Assessment. 4 Units.

This course supports reflective teaching and learner-centered principles and practices in the K-12 schools. The course focuses on state-adopted curriculum standards and frameworks in seven content fields, particularly on the content area of History/Social Science; approaches to classroom management; selection of curriculum materials at the state level; and evaluation. Topics include implementing appropriate teaching strategies for meeting the needs of students with special needs and culturally diverse learners; and using developmentally appropriate diagnostic, formative, and summative assessments to plan instruction. Technology is used to enhance curriculum design and student interaction with content knowledge. This course is taken concurrently with EDUC 153, Teaching STEM, for Multiple Subject candidates. EDUC 150 is taken by Education Specialist candidates. (EDUC 153 is not taken by Special Education candidates, unless they are planning to earn a Multiple Subject Credential.) Prerequisite: EDUC 140. Fingerprint and TB test clearance is required.

EDUC 153. Teaching Science, Technology, Engineering, and Mathematics. 4 Units.

Methods and curriculum presented for teaching science, technology, engineering and mathematics in self-contained classrooms. Topics include state-adopted content standards and curriculum framework; essential mathematics, technology, engineering, life, physical, and earth science themes, concepts, and skills; instructional planning and diverse and appropriate teaching strategies for meeting the needs of diverse learners, including mainstreamed and culturally diverse learners; needs of diverse learners, including mainstreamed and culturally diverse learners; principles and practices of evaluation of students' learning. Fieldwork is required. Prerequisite: EDUC 140.

EDUC 154. Productive Learning Environments for Diverse Secondary Classrooms. 2 Units.

Core course concepts and activities include using culturally responsive techniques that contribute to productive learning environments and equitable student outcomes. Preservice teachers in this course survey current discipline and management models and practice research-based strategies designed to promote positive classroom behavior. Establishing and maintaining relationships with families, students, and colleagues are explored as well as practices that contribute to teacher well-being and self-care. Prerequisites: Instructor approval or C & I department permission; minimum 2.5 GPA, fingerprint and TB test clearance.

EDUC 155. Teaching in the Content Areas I. 3 Units.

This is the first of a three-part course for Single Subject credential candidates to develop professional, reflective practices and abilities for teaching in single subject classrooms, especially in secondary schools. Candidates learn and apply current learning theories to planning, instruction, and assessment, focusing on the general knowledge, skills, and dispositions associated with managing contemporary, culturally diverse secondary classroom environments. Candidates begin to learn about specific subject matter content and pedagogy and a variety of instructional and assessment strategies to benefit all learners. The needs of all secondary school students, including English Learners, and characteristics of the school environment are emphasized for fostering effective teaching and learning.

EDUC 156. Content and Disciplinary Literacy Development in Secondary Schools. 3 Units.

This course provides an introduction to research-based content literacy instruction. The course focuses on preparing candidates to teach content-based reading and writing skills to a full range of students which includes struggling readers, students with special needs, and English Learners. A variety of content-based literacy strategies (reading, writing, listening, and speaking) is presented to facilitate learning in the content areas. The course meets credential requirements. Prerequisites: EDUC 140, admission to Credential Candidacy, Instructor/Curriculum and Instruction department permission, fingerprint and TB test clearance.

EDUC 157. TESOL Theory and Practice. 4 Units.

This course provides a link between theory and practice in the teaching of ESL. Aspects of language learning is discussed, and concomitant instruction and curriculum is analyzed while developing a working model for the development of curriculum that is appropriate for the teaching situation.

EDUC 160. Productive Learning Environments for Diverse Classrooms. 2 Units.

Core course concepts and activities include using culturally responsive techniques that contribute to productive learning environments and equitable student outcomes. Preservice teachers in this course survey current discipline and management models and practice research-based strategies designed to promote positive classroom behavior. Establishing and maintaining relationships with families, students, and colleagues are explored as well as practices that contribute to teacher well-being and self-care. Senior standing or permission of instructor.

EDUC 161. Literacy Development (Multiple Subject). 4 Units.

This course introduces methods and curriculum for teaching reading and language arts with integration of humanities and social science for students from kindergarten to eighth grade classrooms. The course focuses on theory-based effective instruction of reading, writing, listening and speaking across the curriculum. Students learn to analyze and evaluate effective literacy skills and strategies in teaching reading, writing, listening and speaking to K-8 students, and to apply and practice these skills and strategies in various instructional settings in various content areas. Emphasis is placed on the integration of reading and language arts throughout the curriculum. Twenty-four hours of fieldwork is required. This course is taken prior to Directed Teaching (Professional Practice). Prerequisite: admission to Teacher Education program with fingerprint and TB test clearance.

EDUC 162. Literacy Assessment (Multiple Subject). 2 Units.

This course investigates the uses of ongoing instructional diagnostic strategies in reading and language arts that guide teaching and assessment. Topics include early intervention techniques appropriate for a classroom setting and guided practice of these techniques. Fieldwork is required and shared with EDUC 161. This course is taken prior to Directed Teaching and may be taken with EDUC 161 concurrently. Prerequisite: admission to Teacher Education with fingerprint and TB test clearance.

EDUC 163. Teaching English Learners. 4 Units.

This course is designed to equip mainstream classroom teachers with the theory, principles, knowledge, and skills to effectively understand and teach English Language Learners at a variety of levels of English proficiency in K-8 classrooms. Teachers will develop appropriate strategies and approaches for developing language proficiency and link their practice to both the California English Language Development Standards and the new Common Core State Standards. Students observe and implement these strategies during their field experiences in order to see, practice, and reflect on effective ways to meet the needs of English learners. Objectives include appropriate assessment, planning, and implementation of sheltered content instruction. Fieldwork hours (160 series fieldwork) specific to this class are required. A grade of C or higher is required for passing this course. Prerequisites: EDUC 100, 140, and 150, or instructor/C & I department permission; minimum GPA of 2.5; Fingerprint and TB test clearance. (ETHC)

EDUC 164. Introduction to Bilingual Education. 4 Units.

This course provides an overview of bilingual education and is designed to meet the needs of both undergraduate and graduate students who are interested in understanding the role of bilingual, bicultural education in schools. Students explore the related implications of second language acquisition research, sociopolitical theory, and historical as well as contemporary experiences in the contexts of program design, instructional practice, and school/community relations toward a conceptualization of bilingual education as a source of pedagogical enrichment strategies for all learners in all settings. Prerequisites: EDUC 100 and EDUC 131. (ETHC)

EDUC 165. Teaching in the Content Areas II. 2 Units.

This is the second of a multi-course series for Single Subject credential candidates to develop professional, reflective practices and abilities for teaching in single subject classrooms, especially in secondary schools. The emphasis in this course is on content-specific practices. Candidates join their respective professional organizations and participate in those organizations' professional development experiences. In addition to whole class meetings, candidates meet in content-specific seminars with practitioners in their content areas on a regular basis.

EDUC 166. Teaching English Learners, Single Subject. 3 Units.

This course is designed to equip mainstream classroom teachers with the theory, principles, knowledge, and skills to effectively understand and teach English Language Learners at a variety of levels of English proficiency in K-12 classrooms. Teachers develop appropriate strategies and approaches for developing language proficiency and link their practice to the California English Language Development Standards and the new Common Core State Standards. Students observe and implement these strategies during their field experiences in order to see, practice, and reflect on effective ways to meet the needs of English learners. Objectives include appropriate assessment, planning, and implementation of sheltered content instruction. Fieldwork hours (160 series fieldwork) specific to this class are required. A grade of C or higher is required for passing this course. Prerequisites: EDUC 140 or instructor/C & I department permission; minimum 2.5 GPA; Fingerprint and TB test clearance. (ETHC)

EDUC 167. Adolescent Development. 3 Units.

This course is designed for secondary preservice teachers to consider the principles of adolescent development in context. Biological, cognitive, psychological, social, and moral development are examined to determine how these developmental pathways affect student achievement, motivation, and well being. The influence of family, peers, school, and the broader community on development are explored as well. Implications of current understandings of adolescent development on teaching, learning, and assessment are emphasized. In addition to class meetings, students participate in a practicum in order to apply learning in school settings.

EDUC 168. Microcomputers in Education. 3 Units.

This course introduces the student to the major concepts and applications related to the use of microcomputers in education. Students learn basic operations, terminology and capabilities of microcomputers within an educational context. Key issues related to the use of instructional technology are discussed. Application and evaluation of software for classroom instruction and management is investigated.

EDUC 169. Microcomputers and Curriculum Design. 3 Units.

Issues related to the educational application of instructional technology and its impact on education is investigated. Students do in-depth analyses of software applications and their validity in relation to learning models and the current curriculum. Students evaluate how new technologies may effect change in curriculum. Various projects that relate to evaluation of software, teaching strategies and research in new technologies are required. Prerequisite: EDUC 168 or permission of instructor.

EDUC 170. Professional Practice. 2-10 Units.

Professional practice is a full-day of Student Teaching in public schools. Candidates for a Single Subject and Multiple Subject Preliminary teaching credential are placed in local public schools for intensive application of their knowledge, skills, and dispositions for professional practice in California schools. Student Teaching is full-day teaching for a semester, and undergraduates are approved for Student Teaching. Prerequisites: EDUC 130, EDUC 140, EDUC 141, EDUC 150, EDUC 151, EDUC 152, EDUC 161, EDUC 162, EDUC 163, EDUC 172 (concurrently); SPED 125X (concurrently) with grades of "C" or higher; a minimum GPA of 2.5.; admission to Teacher Education/Credential Candidacy; a passing score on the CBEST with subject matter completed (CSET examination or approved subject matter/waiver program) and approved; approval of a Certificate of Clearance with TB test clearance and program assessments completed prior to Directed Teaching; Directed Teaching approval process must be completed with clearance by the Director of Field Experiences; The United States Constitution requirement must be completed to apply for a teaching credential. No other coursework is permitted other than SPED 125X and weekend and vacation workshops. A candidate must petition for permission to take an additional course in advance with the Curriculum and Instruction Department's Director of Field Experiences.

EDUC 171. Professional Practice Music. 2-10 Units.

This course is a full-day of Student Teaching in public schools. Candidates for a Single Subject Music Preliminary teaching credential are placed in local public schools for intensive application of their knowledge, skills, and dispositions for professional practice in California schools. Student Teaching is full-day teaching for a semester, and undergraduates may be approved for Student Teaching. Prerequisites are EDUC 130, EDUC 140, EDUC 141, EDUC 150, EDUC 151, EDUC 152, EDUC 161, EDUC 162, EDUC 163, EDUC 171 (concurrently); SPED 125X (concurrently) with grades of "C" or higher; a minimum GPA of 2.5; admission to Teacher Education/Credential Candidacy; a passing score on the CBEST with subject matter completed (CSET examination or approved subject matter/waiver program) and approved; approval of a Certificate of Clearance with TB test clearance program assessments completed prior to Directed Teaching; completed Directed Teaching approval process with clearance by the Director of Field Experiences; The United States Constitution requirement must be completed to apply for a teaching credential. No other coursework is permitted other than EDUC 172 and SPED 125X and weekend and vacation workshops. A candidate must petition for permission to take an additional course in advance with the Curriculum and Instruction Department's Director of Field Experiences.

EDUC 172. Professional Practice Seminar. 2-10 Units.

Students reflect upon and integrate the Directed Teaching experience in large and small group settings for the SB 2042 Credential. Topics include multicultural education, child abuse, school law, interpreting standardized test scores, professional associations and negotiations, discipline plans, lesson planning and conferencing skills. This course may be taken concurrently with EDUC 170/EDUC 270.

EDUC 175. Teaching in the Content Areas III. 2 Units.

This course is the culminating part of a three-part course for Single Subject credential candidates that develops professional, reflective practices and abilities for teaching in single subject classrooms schools. It is taken concurrently with the professional practice practicum (student teaching). Emphasis in the first two parts of the course is placed on acquiring and practicing general and content-specific knowledge, skills, and ethical values associated with managing contemporary, culturally diverse secondary classroom environments. The course is co-taught by University faculty and K-12 Content Area Specialists. In the third and final portion of the course, candidates integrate and synthesize prior learning and independently teach grades 7 – 12 students in their professional practice placements. University and Grades 7 – 12 Content Area Specialists supervise and support candidates and continue to lead seminar sessions. The capstone assessment that leads to the Level I teaching credential, the Performance Assessment for California Teachers (PACT) Teaching Event (TE) is completed as part of this course.

EDUC 180. Workshop Learning: Issues Group Leadership. 1 Unit.

This course is designed to support the learning and leadership model, Peer-Led Team Learning (PLTL). The course topics include practical information (understanding motivation, managing time, dealing with dominating students, learning styles, group dynamics, study skills, helping students improve critical thinking, develop logical reasoning, and prepare for tests), a foundation in learning theory, and guidance about the specific components of the workshop lessons.

EDUC 181. ECE: Social Justice/Diversity. 3 Units.

This course is conducted as an undergraduate level seminar that is designed to examine key normative issues in the area of social justice, diversity and multiculturalism with an emphasis in early childhood education. The relation of social diversity (race, ethnicity, gender, language, societal attitudes and class) to equality in education and education reform movements is viewed from multiple contexts. Topics explored are diversity, sociopolitical aspects of history and the impact on education, and specifically, early childhood education and multiculturalism. A practicum is required in this course. (DVSU, ETHC)

EDUC 182. ECE: Curriculum and Inquiry. 3 Units.

This course is an upper division course that examines the theoretical understandings of curriculum and inquiry in the early childhood development classroom. Students refine their knowledge, skills, and dispositions related to early childhood methodology and application to young children in diverse populations.

EDUC 183. ECE: Social Contexts/Cognitive Development. 3 Units.

This course is conducted as an undergraduate level seminar that is designed to clarify the cognitive, philosophical, historical, psychological, cultural, social and ethical foundations of early childhood education. The nature of theory and practice are important to teachers of young children and this course provides a broad synthesis of knowledge of child development principles to better understand how children think, act, and how to be effective with them in the classroom.

EDUC 188. Literacy in Early Childhood Education. 3 Units.

This course will intellectually engage participants in the exploration of integrating theory, research and practice in the dimensions of literacy for young children zero to five years of age. Participants will be expected to advance their own knowledge base as they develop their ability to research, analyze, evaluate and synthesize developmental, sociocultural, linguistic, cognitive and other sign systems associated with literacy events. Prerequisite: Junior standing.

EDUC 189. Practicum. 2-4 Units.**EDUC 191. Independent Study. 1-4 Units.****EDUC 192. Preliminary Fieldwork. 1-3 Units.**

Consent of department chair.

EDUC 192A. Elementary Education Fieldwork. 1-3 Units.

Consent of department chair.

EDUC 192B. Secondary Education Fieldwork. 1-3 Units.

Consent of department chair.

EDUC 192D. Early Childhood Education Fieldwork. 1-3 Units.

Permission of department chair.

EDUC 192E. Reading Fieldwork. 1-3 Units.

Permission of department chair.

EDUC 192F. Bilingual Education Fieldwork. 1-3 Units.

Permission of department chair.

EDUC 192G. Cross-cultural Education Fieldwork. 1-3 Units.

Permission of department chair.

EDUC 195A. Pedagogical Seminar. 3 Units.

Investigation of the role that subject matter knowledge and its representations play in teaching. Emphasis on self-assessment of subject matter knowledge. Focus on moral and ethical dimensions of teaching and learning. Prerequisite: completion of a minimum of 8 units in a concentration for the diversified major or multiple subjects wavier program. Senior status or second semester junior status required. Permission of department chair.

EDUC 197. Research in Education. 1-4 Units.**EDUC 197D. Research in Education. 1-4 Units.****Educational Psychology Courses****EPSY 121X. Learner-Centered Concerns. 3 Units.**

This course is a general overview of stages in human development from birth to young adulthood. Topics include prominent learning and motivation theories, learner-centered principles of teaching and assessment, the characteristics of learners with exceptional needs, and individual differences among learners including English language learners. Students who are interested in Multiple Subject, Single Subject and/or Educational Specialist credentials take this course. Twenty hours of fieldwork in K-12 public schools is required. Open to all students. Prerequisite: admission to Teacher Education; fingerprint review and clearance at local districts; TB test clearance (there is a fee for these services).

EPSY 191. Independent Study. 1-3 Units.

Permission of department chair is required.

Special Education Courses**SPED 123. The Exceptional Child. 3 Units.**

Description of the characteristics and needs of children and youth with disabilities. Exploration of the etiology, treatment, educational strategies, social and vocational opportunities for individuals with disabilities. Ten hours of field experience will be required as part of the course content. This course satisfies the requirements for clearing a preliminary multiple and single subject credential as specified by the California Commission on Teacher Credentialing. (CTCC).

SPED 124. Assessment of Special Education Students. 3 Units.

The role of assessment in teaching students with disabilities will be explored. In addition, teacher made testx, curriculum based assessment, portfolio assessment, and commonly used standardized tests will be examined. This course will comply with the California Commission on Teacher Credentialing (CCTC) requirements for The Preliminary Level One Credential for Education Specialist: Mild/Moderate/Severe Disabilities. Prerequisites: SPED 123 and SPED 166. Admission to Teacher Education/Credential Candidacy or permission of Special Education Coordinator or Department Chair of Curriculum and Instruction.

SPED 125X. Teaching Exceptional Learners. 2 Units.

This method-based course is for candidates who will be teaching students with disabilities in the general education classroom, and it includes techniques and strategies for individualizing specific student needs. The course content reviews special education law and the inclusive schools movement. Taken concurrently with Directed Teaching. Prerequisite: admission to Teacher Education (Credential Candidacy). Fingerprint and TB test clearance.

SPED 128M. Advanced Programming for Students with Mild/Moderate Disabilities. 3 Units.

Theoretical and applied information that pertains to the characteristics and educational needs of students with mild to moderate disabilities is presented. The course complies with the California Commission on Teacher Credentialing (CCTC) requirements for the Preliminary Level One Credential for Educational Specialist: Mild/Moderate Disabilities. Prerequisites: SPED 123 and SPED 166 with admission to Teacher Education/Credential Candidacy or permission of Special Education Coordinator or Department Chair of Curriculum and Instruction.

SPED 128S. Advanced Programming for Students with Moderate/Severe Disabilities. 3 Units.

This course presents theoretical and applied information that pertains to specialized health care and sensory needs as well as educational characteristics for students with moderate/severe disabilities. This course complies with the California Commission on Teacher Credentialing (CCTC) requirements for the Preliminary Level One Credential for Educational specialist: Moderate/Severe Disabilities. Prerequisites: SPED 123 and SPED 166 with admission to Teacher Education/Credential Candidacy or permission of Special Education Coordinator or Department Chair of Curriculum and Instruction.

SPED 131. Evidence Based Practices in Autism Spectrum Disorder. 3 Units.

Focused study on the autistic spectrum disorder through examination of research studies and applied information on effective program development. Students will demonstrate knowledge of the characteristics and educational needs of children and adults who are diagnosed on the autism spectrum. Further, students will demonstrate knowledge of evidenced based behavioral, educational and social strategies, and family impact and dynamics. Students will also demonstrate the ability to synthesize information and communicate effectively with parents, teachers, administrators, and care-givers. The course is designed for new or current professionals in education, school psychology, administration, and related helping professions. This course is a required course for all candidates for the Education Specialist credential in mild/moderate and moderate/severe disabilities.

SPED 132. Juvenile Bipolar Disorder. 3 Units.

The course will examine the diagnostic process, including the challenges of juvenile on-set bipolar disorder where presentation of the disorder is frequently confused with other conditions. Cutting edge treatment/management approaches will be examined in an integrated manner, including family dynamics, medication, and psycho-social methods. A particular emphasis will be placed on psycho-educational assessment, the role of each member of the educational team, melding appropriate educational and behavioral program development, and tools for working successfully with school programs.

SPED 142M. Curriculum and Instruction for Students with Mild/Moderate Disabilities. 3 Units.

This course presents theoretical and applied information that pertains to methods of curriculum and instruction for students with mild to moderate disabilities. This course complies with the California Commission on Teacher Credentialing (CCTC) requirements for The Preliminary Level One Credential for Educational Specialist: Mild/Moderate Disabilities. Prerequisites: SPED 123 and SPED 166 with admission to Teacher Education/Credential Candidacy or permission of Special Education Coordinator or Department Chair of Curriculum and Instruction.

SPED 142S. Curriculum and Instruction for Students with Moderate/Severe Disabilities. 3 Units.

This course presents theoretical and applied information that pertains to methods of curriculum and instruction for students with moderate to severe disabilities. This course complies with the California Commission on Teacher Credentialing (CCTC) requirements for the Preliminary Level One Credential for Educational Specialist: Moderate/Severe Disabilities. Prerequisites: SPED 123 and SPED 166 with admission to Teacher Education/Credential Candidacy or permission of Special Education Coordinator or Department Chair of Curriculum and Instruction.

SPED 166. Building Family-Professional Partnerships. 3 Units.

This course provides practical strategies for professional educators to effectively communicate and collaborate with families in order to enhance the capacity of families to support an advocate for children with special needs in the home, school, and community. The emotional and social needs of children with disabilities and their families, education laws and policies regarding parental/family rights, historical and current trends in family advocacy, and professional ethics are also examined. Ten hours of field experience is required as part of the course content.

SPED 191. Independent Study. 1-4 Units.

Permission of department chair is required.

SPED 195E. Positive Behavioral Support in the Classroom. 3 Units.

Theoretical and applied information that pertains to methods of providing positive behavioral support to students with and without disabilities in educational settings are examined. This course complies with the requirements for the California Commission on Teacher Credentialing (CCTC) Preliminary Level One Credential for Educational Specialist: Mild/Moderate/Severe Disabilities. Prerequisites: SPED 123 and SPED 166 with admission to Teacher Education/Credential Candidacy or permission of Special Education Coordinator or Department Chair of Curriculum and Instruction.

SPED 198M. Directed Teaching: Mild/Moderate. 1-10 Units.

This student teaching experience provides an opportunity for candidates in the mild/moderate credential program to apply theoretical knowledge and acquired skills to the classroom in a student teaching experience. Prerequisites: the completion of all prerequisite and required courses needed to enroll in Directed Teaching and permission of the Director of Special Education or designate.

SPED 198S. Directed Teaching: Moderate/Severe. 1-10 Units.

This student teaching experience provides an opportunity for candidates in the moderate/severe credential program to apply theoretical knowledge and acquired skills to the classroom in a student teaching experience. Prerequisites are the completion of all prerequisite and required courses needed to enroll in Directed Teaching and permission of the Director of Special Education or designate.

SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

<http://www.pacific.edu/eng>

Phone: (209) 946-2151

Location: John T. Chambers Technology Center

Steven Howell, Dean

Degrees Offered

Bachelor of Science in Bioengineering

Bachelor of Science in Civil Engineering

Bachelor of Science in Computer Engineering

Bachelor of Science in Computer Science

Bachelor of Science in Electrical Engineering

Bachelor of Science in Engineering Management

Bachelor of Science in Engineering Physics

Bachelor of Science in Mechanical Engineering

Master of Science in Engineering Science

Master of Science in Data Science

Minors

Computer Science

Engineering Management

Environmental Engineering

Project Management (for non-engineering majors)

Structural Engineering

Sustainability

Technology (for non-engineering majors)

Technological Innovation and Entrepreneurship

Mission

The mission of the School of Engineering and Computer Science is to provide a superior, student-centered learning environment which emphasizes close faculty-student interaction, experiential education, and distinctive research opportunities. Graduates will be prepared to excel as professionals, pursue advanced degrees, and possess the technical knowledge, critical thinking skills, creativity, and ethical values needed to lead the development and application of technology for bettering society and sustaining the world environment.

Engineering

No single definition of engineering is adequate; however, engineering is well described as the application link between science and society. Engineers must have the ability to apply theoretical knowledge to practical situations. They are agents through whom science influences our society.

At the School of Engineering and Computer Science, engineers must develop dual competencies - technical and social. They must understand the principles of science as well as the nature of human needs and behavior and the impact of technology on society. The modern engineer deals with socially relevant matters that include pollution, energy resources, sustainability, health care and public transportation systems. Engineers are experts in manufacturing processes, communications systems, medical electronics, the space program and numerous other endeavors that provide citizens of the world with a safer, more enjoyable life.

The Engineering Program at University of the Pacific consists of three well-integrated parts:

1. Mathematics, natural sciences and a broad range of courses in the humanities and social sciences;
2. Engineering courses, which provide the specialized training for professional competence in engineering;
3. On-the-job experience in the Cooperative Education (Co-op) Program described below.

Through this threefold program, theory and practice are brought together; human problems and engineering come into sharp focus; and students find increased meaning in their studies.

By studying at a private university with a strong liberal arts heritage, Pacific engineering students interact with students whose objectives, attitudes and approaches to human problems are different from their own. They experience meaningful associations with students from a variety of social, political and cultural backgrounds.

Computer Science

The Computer Science Department provides an education in computer science which features current and emerging technologies and experiential learning. This program offers a strong background in the theory and practice of computer science. Students select a concentration based on their post-graduation plans. Selection of an area of concentration guides students in the selection of elective courses. Students trained in computer science are among the change agents responsible for forging new computing breakthroughs and new interactions with other disciplines.

The computer science program includes a general education component, a math and science component, a computer science core component and upper division electives. The electives may be chosen based on a selected area of concentration or may be determined by the student in consultation with their academic advisor.

Degrees in Engineering and Computer Science

The School of Engineering and Computer Science offers eight Bachelor of Science (BS) degree programs: Bioengineering, Civil Engineering, Computer Engineering, Computer Science, Electrical Engineering, Engineering Management, Engineering Physics, and Mechanical Engineering. The curricula are divided into lower-division and upper-division segments.

The lower-division engineering curriculum stresses fundamentals in science, mathematics and engineering. The first two years are similar for all engineering majors. The upper-division curricula combine courses for the degree major with work experience through the Co-op Program.

The Computer Science Department offers a BS degree in Computer Science. A minor program is also available. The curriculum for the Computer Science program includes a core of courses that give students a solid understanding of fundamental computing knowledge and skills. The major has a variety of concentrations that offer a course of study around a theme. The concentrations offer a flexible range of courses that promote a student's specific interests and post-graduate plans. They also guide the selection of elective courses. The available concentrations are Networking and Computer Security, Graphics and Simulation, and Software Development. Students may also choose to select a custom

set of electives in consultation with their academic advisor, for a degree without a specific concentration.

The School of Engineering and Computer Science offers two Master of Science (MS) programs: the MS in Data Science and the MS in Engineering Science. The Masters of Science in Engineering Science (MSES) degree has four concentration options in:

1. Civil Engineering
2. Computer Engineering, Electrical Engineering, Computer Science
3. Engineering Management
4. Mechanical Engineering

The MSES degree is designed to strengthen students' technical, analytical, and professional breadth and depth. Students are introduced to techniques and best practices of professional research and learn the foundations for assessing the merits of published technical findings.

Accelerated Blended Program

The accelerated Blended Program provides an excellent opportunity for students to begin their graduate work while completing their undergraduate degree requirements. Students can pursue the accelerated Blended Program which allows them to complete their bachelors and masters degree in as little as five years. This five year period includes some summer sessions, depending upon whether advanced placement units were earned prior to starting at Pacific.

Students begin by enrolling in an undergraduate program in the Pacific SOECS. Following acceptance into the Blended Program, students may begin taking graduate level courses at any time after they reach senior status which allows the bachelors and masters degrees to blend together. The two degrees are awarded on the same date.

Accreditation

Bioengineering, Civil Engineering, Computer Engineering, Electrical Engineering, Engineering Management, Engineering Physics, and Mechanical Engineering are accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

The Computer Science program leading to a Bachelor Degree in Computer Science is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>.

Student Organizations

All students are encouraged to actively participate in a professional society appropriate to their major.

National Honor Societies

Tau Beta Pi (Engineering Honor Society - all engineering majors)
Eta Kappa Nu (Honor Society for Electrical, Computer Engineering, Engineering Physics majors)

Student Affiliates of Professional Organizations

American Society of Civil Engineers (ASCE)
American Society of Mechanical Engineers (ASME)
Association for Computing Machinery (ACM)
Institute of Electrical and Electronic Engineers (IEEE)
National Society of Black Engineers (NSBE)
Society of Hispanic Professional Engineers (SHPE)
Society of Women Engineers (SWE)

Society of Automotive Engineers (SAE)
Associated Engineering Students (AES)
Associated Students of Engineering Management (ASEM)
Biomedical Engineering Society (BMES)
Theta Tau (Professional Engineering Fraternity)

Pacific MESA Center

The Pacific Mathematics, Engineering and Science Achievement (MESA) Center is the home of two programs: The MESA Schools Program (MSP) and the MESA Engineering Program (MEP).

Both MSP and MEP programs serve educationally disadvantaged students who have traditionally not considered entering into math or science based professions. MSP goals are to create an academic community that increases the number of students who graduate from high school and attend college, majoring in math-based fields. MSP provides hands-on math and science activities as well as academic enrichment to 1,900 students in the 6-12th grades. By providing a rigorous, all-sided learning environment that includes academic advising, peer group learning, career exploration, parent involvement, and other services, students' confidence, expectations, and successes have soared. Specific MEP goals are to increase matriculation, retention, and graduation rates of the students enrolled in the School of Engineering and Computer Science. MEP seeks to fulfill the above goals through collaborations and partnerships with an Industrial Advisory Board, three student chapters of related professional organizations, the National Consortium for Minority Engineering Students Pursuing a Graduate Degree (GEM), the National Association for Minority Engineering Program Administrators (NAMEPA), and the National Action Council for Minorities in Engineering (NACME).

Pacific MESA Center activities and support features include: pre-college outreach, financial aid (scholarships), career fairs, awards banquets, hands-on math and science workshops, enhanced advising and counseling, tutoring, motivational seminars, Saturday and summer programs, and a student study center.

General Education Requirements for Engineering and Computer Science Programs

The general education requirements for engineering and computer science students are as follows: all entering freshmen must take PACS 001, and PACS 002. As seniors they must take PACS 003. All students must take ENGR 030, Engineering Ethics and Society which is in Category IIB of the general education program. In addition, they must take a total of three courses: two from Category I-The Individual and Society and one from Category II-Human Heritage. Only one class can come from each subdivision (A, B or C) within each category. These courses must be selected to allow the student to gain the broad education necessary to understand the societal impact of engineering and technology. The student's advisor will assist in the selection of courses.

Pacific accepts a 4 or higher for Advanced Placement and a 5 or higher for Higher Level International Baccalaureate and a maximum of 28 units total from Advanced Placement, International Baccalaureate DANTES and/or CLEP test results may be applied toward a Pacific degree including General Education and major requirements.

Transfer General Education

SOECS transfer students are normally required to have six General Education courses in Categories I and II, one course in each of the six

category/subdivision combinations. (i.e., IA, IB, IC, IIA, IIB, IIC). All SOECS students are required to take ENGR 030, which satisfies the IIB area. Under certain circumstances, the School allows one substitution of a course taken prior to transferring to Pacific to meet requirements in a different subdivision within the same category. All transfer students MUST take courses in at least five different subdivisions.

The School of Engineering and Computer Science accepts the transfer of a general education program (IGETC - the transfer core curriculum which fulfills the lower division general education requirements) from any community college.

Transfer students who have completed 28 or more units of transferable, classroom college work that appears on a transcript are exempt from taking PACS 001 and PACS 002, but must complete PACS 003 during their senior year.

General Academic Policies

Engineering and Computer Science Prerequisite Requirement

All engineering and computer science course prerequisites must be passed with a C- or higher grade.

Courses Taken Pass/No Credit

A student may request to register for one (1) general education course per semester on a Pass/No Credit basis in either Category I or II of the general education program by filing the completed Pass/No Credit form in the Office of the Registrar before the deadline established by the Office of the Registrar (approximately the end of the second week of classes). This petition must include the approval of the professor teaching the course and the student's advisor. A maximum of 16 Pass/No Credit units may be applied to meet the GE degree requirements. All other classes, including Technical Writing, Independent Studies and the basic science or mathematics elective classes, must be taken for a letter grade.

Independent Studies and Undergraduate Research

Students who have an interest in a subject not offered as a regular course and who, by their overall performance at Pacific, have proven their ability to do independent work, may enroll in an independent study. The qualified student initiates discussions with his/her advisor and with a professor who is knowledgeable in the subject. If both parties are in agreement, the student must complete the Independent Study Form and submit it to the instructor before the end of the third week of classes. If the independent study is to be used to meet a general education requirement, it must also have the approval of the Department's General Education Coordinator. Students on academic probation are not permitted to enroll in independent study courses in any department of the University. The following School of Engineering and Computer Science policies apply:

1. The course(s) may not be substituted for a regularly scheduled course unless approved by the department.
2. If the course is to be used as an elective, approval by the student's advisor and the department chairperson is required.
3. All courses must be taken for a letter grade; the pass/no credit option is not allowed for independent study courses.
4. Only one independent study course may be taken per term.
5. Each course may be taken for one (1), two (2), three (3), or four (4) units. The unit value for the course is established between the student and the professor responsible for the course. The student's advisor is informed of this decision.

6. A maximum of eight (8) units of independent study and undergraduate research may be used to satisfy graduation requirements.

Course Substitutions

The substitution of course(s) from the printed major program is discouraged. When extenuating circumstances warrant consideration, the student meets with his/her advisor, and the final decision must have the approval of the department chair. Consideration is given to the source of the problem (school, student, etc.), severity of the hardship case, and what the department considers best for the individual.

If a course substitution is allowed, ABET guidelines must be followed.

Students who enter an engineering or computer science program with 28 or more units are exempt from ENGR 010.

Fundamental Skills Requirement

Students are required to satisfy all the University Fundamental Skills Requirements (i.e., Writing and Mathematics) prior to enrolling in any upper-division engineering or computer science courses.

Internal Transfer Requirements

Students at University of the Pacific wishing to transfer into the School of Engineering and Computer Science:

1. Must have satisfied all Pacific Fundamental Skills requirements
2. Must have completed Math 41 (or equivalent).
3. Must have a cumulative GPA of 2.5
4. International students must demonstrate English proficiency through either: TOEFL - 80/213/550 or IELTS 6.0.

Graduation Requirements (Engineering Degree Programs)

It is important that each student carefully monitor his or her academic program. Each student is expected to consult regularly with his or her faculty advisor. Meeting the graduation requirements is each student's responsibility. If a student deviates from the printed curriculum, careful academic scheduling is required and a plan must be developed that indicates all courses needed for graduation, and when the classes will be taken. After the plan of classes is completed, the schedule must be approved by the student's faculty advisor and the Director of Cooperative Education.

In order to graduate, students must meet the following requirements:

1. Successful completion of at least 120 units.
2. Successful completion of all courses required in the student's major.
3. Successful completion of a minimum of 32 Cooperative Education credits and the Professional Practice Seminar.
4. A GPA of at least 2.0 on all letter-graded work completed at Pacific.
5. A GPA of at least 2.0 for all engineering and computer science courses completed at Pacific.
6. Engineering Management students must have at least a 2.0 GPA in their business/management classes.
7. Submission of application for graduation to the Office of the Registrar. Refer to the Academic Regulations section of the catalog.

Graduation Requirements (Computer Science Degree Program)

1. Successful completion of at least 120 units.
2. Successful completion of all courses required in the student's major.

- A GPA of at least 2.0 on all letter-graded work completed at Pacific.
- A GPA of at least 2.0 for all engineering and computer science courses completed at Pacific.
- Submission of application for graduation to the Office of the Registrar. Refer to the Academic Regulations section of the catalog.

Limitation on Obtaining Two Degrees

The SOECS, in conjunction with the Office of the Registrar, approves the student who receives a second bachelor of science degree subject to the following conditions:

- The student must meet all requirements for each degree and must file a study plan, approved by his/her advisor, with the Office of the Registrar.
- The pursuit of a double degree is not a valid reason for waiving any SOECS or University requirements.

Computer Science Minor

Computing technology is an integral part of many fields of study. The Computer Science minor provides students with an introduction to application development. Students must take three core courses and three elective courses that are tailored to a specific interest. It is recommended that students begin the minor program early in their college career (21-24 units).

Minor in Computer Science Requirements

Students must complete a minimum of 21 units and 6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in computer science.

COMP 051	Introduction to Computer Science	4
COMP 053	Data Structures	4
One COMP course numbered 025 or higher		3-4
One COMP course numbered 047 or higher		3-4
Two upper division COMP courses		6-8

Minor in Engineering Management

Industry and the engineering societies encourage engineering students to have management skills because the average engineering graduate is in some aspect of management within three to five years of graduation.

The minor in Engineering Management is for students majoring in engineering who desire an understanding of management concepts and basic engineering management skills.

Minor in Engineering Management Requirements

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in engineering management.

BUSI 031	Principles of Financial Accounting	4
EMGT 170	Project Decision Making	4
EMGT 174	Engineering Project Management	3
Select one of the following:		4
EMGT 176	Systems Engineering Management	
BUSI 104	Operations Management	
Select one of the following:		4
BUSI 033	Principles of Managerial Accounting	
BUSI 100	Management Information Systems	

BUSI 105	Financial Management
BUSI 107	Marketing Management

Note: 1) At least four of the courses in the 20 unit requirement must be taken at Pacific. 2) All courses must be taken for a letter grade. 3) ENGR 025 may be used to provide 1 additional unit.

Minor in Project Management (for Non-Engineering Students Only)

Non-engineering major students may seek a Minor in Project Management in order to gain understanding of the specific issues and approaches to management in an engineering or high technology context. This minor requires a tightly knit suite of at least six engineering, computer science and business courses, providing complementary insights into technology and the challenges of project management within an engineering or technical organization. Though some courses are open to engineering and computer science majors, the nature of the material is such that non-engineering students are able to understand the material and successfully complete course requirements.

The Minor in Project Management is particularly useful to those students anticipating a career in organizations having a:

- Significant number of engineers
- Project orientation
- Reliance on technology, or
- Emphasis on manufacturing

Minor in Project Management Requirements

Students must complete a minimum of 21 units and 6 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in project management.

EMGT 170	Project Decision Making	4
EMGT 174	Engineering Project Management	3
EMGT 176	Systems Engineering Management	4
Select three of the following:		10-12
BUSI 031	Principles of Financial Accounting	
BUSI 109	Management and Organizational Behavior	
COMP 025	Computers and Information Processing	
COMP 051	Introduction to Computer Science	
Select one of the following:		3
CIVL 015	Civil Engineering Graphics	
MECH 015	Mechanical Engineering Graphics	

Note: 1) Students must not be majoring in engineering. 2) All courses that count toward the minor must be taken for a letter grade.

Minor in Sustainability

Sustainability requires that short and long-term social, economic, and environmental impacts of products and processes be considered. With globalization of the world's economies, continuing challenges with depletion of resources and increased global pollution, the well-being of society requires application of the principles of sustainability. The Minor in Sustainability is suggested for students who desire an understanding of sustainability or those who anticipate working for trans-national or development organizations. The interdisciplinary Minor in Sustainability is open to students of all majors.

Objectives:

- Students are able to identify and explain concepts and application of sustainability principles at the global, national, and local levels.
- Students are able to apply an interdisciplinary and systems approach to solving a problem or meeting a need.

Minor in Sustainability Requirements

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in sustainability.

Note: Prerequisites of each course must be met.

Select at least one of the following technology courses: 3-4

CIVL 171	Water and Environmental Policy
CIVL 173	Sustainable Engineering
EMGT 176	Systems Engineering Management
MECH 155	Solar Energy Engineering

Select at least one of the following economics and society courses: * 4

ECON 071	Global Economic Issues
ECON 157	Environmental and Natural Resource Economics
GESC 103	Global Change
INTL 077	Contemporary World Issues
INTL 174	Global Environmental Policy

Select at least one of the following environment and ethics courses: 4

BIOL 035	Environment: Concepts and Issues
BUSI 053	The Legal and Ethical Environment of Business
ENGL 126	Environment and Literature
GESC 043	Environmental Science for Informed Citizens
HIST 136	American Environmental History
GESC 045	Soil, Water, and War
PHIL 035	Environmental Ethics
SOCI 111	Environment and Society

Sustainability Research and Practice (optional) ** 1-4

* The same course may not be used to satisfy course requirements.

** Engineering Synthesis, Senior Project/Thesis, Senior Design, undergraduate research, internship, or independent study related to sustainability may be used to provide up to four additional units.

Technological Innovation and Entrepreneurship Minor

Students must take two core courses and 12 units of elective courses.

Minor in Technological Innovation and Entrepreneurship Requirements

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in technological innovation and entrepreneurship.

EMGT 142	Design and Innovation	3
ENGR 150	Engineering and Science-Based Entrepreneurship	4

Select 12 units of the following: 12

BENG 108	Engineering Physiology
BENG 195	Senior Project
CIVL 015	Civil Engineering Graphics
CIVL 173	Sustainable Engineering
CIVL 180	Engineering Synthesis

COMP 127	Web Applications
COMP 129	Software Engineering
COMP 135	Human-Computer Interface Design
COMP 155	Computer Simulation
COMP 159	Computer Game Technologies
COMP 195	CS Senior Project
ECPE 172	Microcontrollers
ECPE 174	Advanced Digital Design
ECPE 195	Senior Project I
ECPE 196	Senior Project II
EMGT 170	Project Decision Making
EMGT 174	Engineering Project Management
EMGT 195	Engineering Management Synthesis
MECH 015	Mechanical Engineering Graphics
MECH 100	Manufacturing Processes
MECH 140	Engineering Design/Senior Project I
MECH 141	Engineering Design/Senior Project II

Minor in Technology (For Non-Engineering Students Only)

Engineering and technology are integral parts of many careers and fields of study. As “technology” has become so prevalent in our lives and careers, more and more companies are demanding that their employees have a working knowledge in such areas as design, graphics, communications, hardware and software advances, etc. Consequently, college students majoring in non-technical disciplines are well advised to consider taking advantage of technology-related courses to bolster their skills, knowledge, and awareness in any of these areas. In order to provide a structure and formal recognition towards this end, the School of Engineering and Computer Science offers a Minor in Technology.

Minor in Technology Requirements

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in technology.

1. Students must not major in engineering.
2. Students must complete a program that consists of a minimum of twenty units with a minimum of five courses from the list of approved courses. A minimum of twelve units must be taken at Pacific.
3. Courses towards a minor cannot be taken on a “pass/no credit” basis.
4. Students must maintain a minimum GPA of 2.0 in a minor program.

Course requirements include:

Students must complete a minimum of three courses from the School of Engineering & Computer Science (i.e., CIVL, ECPE, EMGT, ENGR, or MECH department prefixes) which add up to a minimum of eight units. (It is strongly recommended that students take ENGR 010 as one of these three classes. This course is intended for the freshman year.)

Students must take at least one, and no more than two of the “Computing Classes”.

Technology Minor Application: The student submits a Change of Program Form which is available on the registrar’s website.

Approved Courses for the Technology Minor

Engineering Classes

CIVL 015	Civil Engineering Graphics	3
CIVL 022	Geomatics	3
CIVL 132	Introduction to Environmental Engineering	4
CIVL 171	Water and Environmental Policy	3
COMP 041	Great Ideas in Computing	4
ECPE 041	Circuits	3
ECPE 041L	Circuits Laboratory	1
ECPE 071	Digital Design	3
ECPE 071L	Digital Design Lab	1
EMGT 170	Project Decision Making	4
EMGT 172	Engineering Economy	3
EMGT 174	Engineering Project Management	3
ENGR 010	Dean's Seminar	1
ENGR 020	Engineering Mechanics I (Statics)	3
ENGR 025	Professional Practice Seminar	1
ENGR 181	Professional Practice	1-16
ENGR 182	Professional Practice	1-18
ENGR 183	Professional Practice	1-18
ENGR 184	Professional Practice	1-18
MECH 015	Mechanical Engineering Graphics	3
MECH 100	Manufacturing Processes	4

General Technology Classes

BIOL 035	Environment: Concepts and Issues	4
COMP 041	Great Ideas in Computing	4
PHIL 035	Environmental Ethics	4
RELI 146	Technology, Ethics, and Religion	4

Computing Classes

Select at least one and no more than two of the following: 3-8

BUSI 100	Management Information Systems
COMP 025	Computers and Information Processing
COMP 051	Introduction to Computer Science
ENGR 019	Computer Applications in Engineering
MCOM 019	Music and Computer Technology

Basic Math and Science Classes

Select no more than two of the following: * 4-10

CHEM 024	Fundamentals of Chem
CHEM 025	General Chemistry
MATH 041	Pre-calculus
MATH 045	Introduction to Finite Mathematics and Calculus
MATH 051	Calculus I
MATH 053	Calculus II
MATH 055	Calculus III
PHYS 053	Principles of Physics I

* These courses serve as prerequisites for some of the above courses.

Courses are numbered in accordance with the general University system.

Courses labeled "ENGR" are intended for all engineering students, while courses labeled "BENG," "CIVL," "ECPE," "EMGT" or "MECH" are primarily intended for majors in the Bioengineering, Civil (CE), Electrical and Computer (ECE), Engineering Management (EMGT), and Mechanical

(ME) departments. Courses labeled "COMP" are taught in the Computer Science Department.

All engineering and computer science course prerequisites must be passed with a C- or higher grade.

* *Fundamental skills are a prerequisite to all upper-division engineering and computer science courses.*

* *Note: Transfer courses must be graded C or better.*

Minor in Structural Engineering

The minor in Structural Engineering is intended for students in engineering who desire additional knowledge in the structural or geotechnical engineering areas and whose current major is complementary to these topics.

The minor in Structural Engineering is not open to students pursuing the Civil Engineering degree.

Minor in Structural Engineering Requirements

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in structural engineering. At least 10 units must be taken at Pacific.

CIVL 100	Introduction to Structural Engineering	4
ENGR 121	Mechanics of Materials	4

Select one of the following: * 4

CIVL 164	Structural Timber Design
CIVL 165	Structural Steel Design
CIVL 166	Reinforced Concrete Design

Select at least two of the following: 8

CIVL 140	Introduction to Geotechnical Engineering
CIVL 141	Earth Structure Design
CIVL 145	Engineering Geology
CIVL 151	Heavy Construction Methods
CIVL 160	Structural Analysis
CIVL 163	Introduction to Earthquake Engineering
CIVL 164	Structural Timber Design
CIVL 165	Structural Steel Design
CIVL 166	Reinforced Concrete Design
CIVL 173	Sustainable Engineering
ENGR 110	Instrumentation and Experimental Methods
MECH 129	Vibrations

* Up to three units related independent study, undergraduate research, or senior project may be used to meet requirements of the minor.

Minor in Environmental Engineering

The minor in Environmental Engineering is intended for students in engineering who desire additional knowledge in the environmental or water resources engineering areas and whose current major is complementary to these topics.

The minor in Environmental Engineering is not open to students pursuing the Civil Engineering degree.

Minor in Environmental Engineering Requirements

Students must complete a minimum of 20 units and 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in environmental engineering. At least 10 units must be taken at Pacific.

CIVL 060	Water Quality	4
CIVL 130	Fluid Mechanics I	3
CIVL 130L	Fluid Mechanics I Lab	1
CIVL 132	Introduction to Environmental Engineering	4
Select at least two of the following: *		8
BENG 130	Biotransport	
CIVL 133	Water Resources Engineering	
CIVL 134	Groundwater	
CIVL 136	Design of Water Quality Control Facilities	
CIVL 138	Solid Waste Systems Design and Management	
CIVL 171	Water and Environmental Policy	
CIVL 173	Sustainable Engineering	
MECH 155	Solar Energy Engineering	

* Up to three units related independent study, undergraduate research, or senior project may be used to meet requirements of the minor.

Bioengineering Courses

BENG 005. Introduction to Bioengineering. 2 Units.

This course introduces students to the various sub-disciplines (medical, chemical, electrical, and mechanical) of bioengineering. Prerequisite may be taken concurrently: ENGR 010 with a "C-" or better.

BENG 053. General Biology with Applications for Engineers I. 3 Units.

This is the first of a two semester general biology course for engineering students. This course focuses primarily on evolution, plant and animal diversity and ecology. Laboratory activities are integrated into the lecture and are used to reinforce course content with experiential activities and the application of biological principles to an engineering context.

BENG 063. General Biology with Applications for Engineers II. 4 Units.

This is the second of a two semester general biology course for engineering students. This course focuses primarily on metabolism, genetics, and organ systems physiology. A separate laboratory section is used to reinforce course content with experiential activities and the application of engineering techniques used for analysis or control of biological systems.

BENG 103. Biomaterials. 4 Units.

This course discusses biomaterials and lays the ground work for topics such as mechanical chemical, and thermal properties of replacement materials and tissues. Implantation of materials in the body are studies studied from the biological point of view. Prerequisites: Completion of all Fundamental Skills; MATH 053; CHEM 025 or CHEM 027; BIOL 061 or BENG 063 with a "C-" or better.

BENG 104. Biomedical Imaging. 4 Units.

This course discusses major medical imaging modalities in radiology, including X-ray, CT, nuclear medicine, ultrasound, and MRI. Specific contents include physical principle of each imaging modality; instrumentation and data acquisition/image reconstruction strategy, clinical applications and imaging techniques. Prerequisites: MATH 055, PHYS 055, COMP 051 or ENGR 019.

BENG 108. Engineering Physiology. 4 Units.

This course is a lecture and lab-based study of the major organ systems in the human body. Lectures cover basic anatomy, function and regulation of the nervous, endocrine, sensory, muscular, cardiovascular, respiratory, and excretory systems, with the underlying theme of maintaining homeostasis while responding to physiological disturbances. Lectures also compare each system to abiotic models, and utilize basic principles of physics, math, and chemistry. Lab exercises demonstrate basic physiological processes and emphasize techniques of instrument-based data acquisition and data presentation. Students also create virtual instruments (VIs) that use the program LabVIEW and apply the VIs in a final independent lab project. Prerequisites: Completion of all Fundamental Skills; BIOL 051 or BENG 053; BIOL 061 or BENG 063; CHEM 025 all with a "C-" or better or permission of instructor.

BENG 124. Biomechanics. 4 Units.

This course discusses concepts of engineering mechanics including stress, strain, deformation, and analysis of structures with application to biomechanical phenomena over a range of biological length scales. Engineering mechanics concepts are used to evaluate forces and moments acting on human joints, forces in musculoskeletal tissue, material properties of biological tissues, and disease state conditions. Prerequisites: Completion of all Fundamental Skills; ENGR 020 with a "C-" or better. Prerequisite may be taken concurrently: MATH 057 with a "C-" or better.

BENG 130. Biotransport. 4 Units.

This course focuses on momentum transport (viscous flow) and mass transport (diffusion and convection) in living systems. The fundamental principles of momentum and mass transfer are explored and laws of conservation applied to develop mathematical descriptions of physiological and engineering systems across a range of length scales. Students develop technical writing skills and learn to use computation fluid dynamics simulation tools. Prerequisites: Completion of all Fundamental Skills; MATH 057; PHYS 053 with a "C-" or better.

BENG 140. Introduction to Tissue Engineering. 4 Units.

Tissue engineering is a multidisciplinary and collaborative field that applies the principles of engineering and biology toward the development of biological substitutes that restore, maintain, and improve tissue function. In this course, there will be an overview of tissue engineering, including discussion of cell sources, cell-material interactions, and assessment of engineering outcome through destructive and nondestructive means with case studies of specific types of tissue engineering including skin, bone, cartilage, bladder, and liver. Finally, ethical standards for different techniques in tissue engineering will be discussed. Prerequisites: Completion of all Fundamental Skills; BIOL 061; BENG 103 all with a "C-" or better or permission of instructor.

BENG 154. Introduction to Magnetic Resonance Imaging. 4 Units.

Introduction to the physics, techniques, and applications of magnetic resonance imaging (MRI) in basic sciences and the clinic. Basics of nuclear magnetic resonance physics, and Fourier transform, MRI hardware, and MR imaging principles including signal generation, detection, and spatial localization techniques. Applications of MRI including tissue relaxometry measurement and diffusion weighted imaging of biological tissues, imagining of anatomy, and function. Prerequisites: Completion of all Fundamental Skills; BENG 104 with a "C-" or better or permission of instructor.

BENG 171. Bioelectricity. 4 Units.

This course provides the student with an understanding of the origins, function, and measurement of electrical potentials and currents within biological tissues, such as nerve, muscle, and heart. Topics include: the bioelectrical properties of ion channels, neurons, the synapse and neuromuscular junction, adaptation and learning in small networks of neurons, the functional organization of bioelectrical systems, and bioelectrical measurement and stimulation of tissues such as the heart and brain. Prerequisites: Completion of all Fundamental Skills; BIOL 061 or BENG 063; ECPE 041/ECPE 041L; MATH 055 all with a "C-" or better or permission of instructor.

BENG 191. Independent Study. 1-4 Units.

Special individual projects are undertaken under the direction of one or more faculty members who are knowledgeable in the particular field of study. Permission of department chairperson and faculty members involved.

BENG 194. Bioengineering Project Proposal. 3 Units.

This course provides an introduction to the engineering design process. Students apply basic sciences, mathematics, and engineering topics to meet a stated objective. Students will write a proposal for a comprehensive design project, in which they establish design objectives and criteria, analyze solution alternatives, and synthesize a problem. Consideration for engineering standards, realistic constraints, ethics, and safety is included. Prerequisite: Completion of all Fundamental Skills, Junior or Senior standing, BENG 124 and BENG 103, may be taken concurrently, with a "C-" or better or permission of instructor.

BENG 195. Senior Project. 3 Units.

In this course, students will complete the engineering design process. Students will design and evaluate an engineering solution to an existing problem. Students apply basic sciences, mathematics and engineering topics to implement a solution that meets stated design objectives and criteria. Students will also test prototypes to evaluate design performance. Design documentation and demonstration are required. Includes both written and oral reports and presentations. Prerequisite may be taken concurrently: BENG 194 with a "C-" or better or permission of instructor.

BENG 197. Undergraduate Research. 1-4 Units.

This course is applied or basic research in bioengineering under faculty supervision. Permission of faculty supervisor and department chair. Students must be in good academic standing.

BENG 197D. Undergraduate Research. 1-4 Units.**Civil Engineering Courses****CIVL 015. Civil Engineering Graphics. 3 Units.**

Coverage of the principles and applications of graphics in engineering design. Pictorial and isometric sketching and orthographic projection and use of auxiliary views and sections are used. Drafting standards and conventions, dimensioning and tolerances. Layout and assembly drawings, detail drawings and production drawings using AutoCAD software. Laboratory work is included. Prerequisite may be taken concurrently: ENGR 010 with a "C-" or better.

CIVL 022. Geomatics. 3 Units.

This course is an introduction to geomatics engineering which includes in depth coverage of plane surveying and an introduction to Global Navigation Satellite Systems (GNSS), geodetics and geospatial sciences. Fundamental surveying methods and equipment will be presented in both a lecture and a hands-on laboratory section. Topics include: error theory, leveling, traverse computations, topography, coordinate systems, construction surveying, geometric design, Global Navigation Satellite Systems (GNSS), photogrammetry and the presentation of other emerging and relevant technologies. Prerequisite: MATH 041 with a "C-" or better or a passing score on the University's trigonometry placement test.

CIVL 060. Water Quality. 4 Units.

Students examine chemical reactions and processes in aquatic systems with engineering applications. Topics include chemical equilibrium and kinetics associated with acid-base, dissolution-precipitation, complexation, and reduction-oxidation reactions in natural and engineered environments. Laboratory work is included. Prerequisites: CHEM 024 or CHEM 025 or CHEM 027; and MATH 051 with a "C-" or better. (ENST)

CIVL 100. Introduction to Structural Engineering. 4 Units.

Introduction to the theory and applications of structural analysis and design. Topic include: determination of loads, analysis of beams, trusses and frames, influence line and indeterminate structures. Prerequisites: Completion of all Fundamental Skills, CIVL 015, ENGR 019, ENGR 121 with a "C-" or better (Spring).

CIVL 130. Fluid Mechanics I. 3 Units.

Students study the physical properties of fluids, statics and dynamics of incompressible fluids that include hydrostatics, conservation of mass, energy and momentum principles, laminar and turbulent flow with emphasis on pipe flow. Prerequisite: Completion of all Fundamental Skills and ENGR 120 with a "C-" or better. Corequisite: CIVL 130L.

CIVL 130L. Fluid Mechanics I Lab. 1 Unit.

Experimental analysis of concepts are discussed in CIVL 130. Prerequisite: Completion of all Fundamental Skills and ENGR 120 with a "C-" or better. Corequisite: CIVL 130.

CIVL 132. Introduction to Environmental Engineering. 4 Units.

Students are introduced to the physical, chemical, and biological processes associated with water quality in natural environments and engineering systems. Topics include operation and design of water and wastewater treatment facilities as well as the occurrence, behavior and control of indoor and regional air pollution. Laboratory is included. Prerequisites: Completion of all Fundamental Skills, CIVL 015, CIVL 060 with a "C-" or better.

CIVL 133. Water Resources Engineering. 4 Units.

Students examine hydraulic analysis and design that include pipe flow and open channel flow. Topics include elements of the hydrological cycle, deterministic and probabilistic analysis of rainfall-runoff data for estimation and design, and the application of computers in hydrologic and hydraulic design. Laboratory is included. Prerequisites: Completion of all Fundamental Skills, CIVL 015, CIVL 130 with a "C-" or better.

CIVL 134. Groundwater. 4 Units.

Aquifer properties, groundwater hydraulics in confined and unconfined aquifers under steady and unsteady flow conditions. Well hydraulics under ideal and non-ideal conditions. Constituent transport and fate in groundwater. Prerequisites: Completion of all Fundamental Skills; CIVL 130; MATH 057 with a "C-" or better.

CIVL 136. Design of Water Quality Control Facilities. 4 Units.

This advanced course covers the physical, chemical, and biological processes that are involved in the design of water and wastewater treatment plant facilities as well as applicable design standards and regulations. Prerequisites: Completion of all Fundamental Skills, CIVL 130, CIVL 132 with a "C-" or better.

CIVL 138. Solid Waste Systems Design and Management. 3 Units.

This is an introductory course to solid waste systems, that analyzes of problems associated with storage, collection, transport, processing, and disposal of solid wastes. Students review of current and expected regulatory requirements and the planning and design of solid waste management components that include systems and processes for solid waste prevention, recycling/composting, incineration, and landfilling. Prerequisite: Completion of all Fundamental Skills and CIVL 132 with a "C-" or better.

CIVL 140. Introduction to Geotechnical Engineering. 4 Units.

This introductory course covers the fundamentals of geotechnical engineering, that includes the characterization of soils and their behavior as an engineering material. Topics, include classification of soils, compaction, permeability, and consolidation. Also covered is design applications that include settlement predictions, strength characterization, soil exploration programs, and an overview of shallow and deep foundations. The course includes laboratory work. Prerequisites: Completion of all Fundamental Skills, CIVL 015, ENGR 121 with a "C-" or better.

CIVL 141. Earth Structure Design. 4 Units.

Evaluation of drained and undrained field conditions and the relationship between temporary and permanent design conditions over time. In-situ tests, including SPT and CPT. Analysis of lateral stresses in soil masses. Design of slopes, cantilever retaining walls, sheet piles, anchored bulkheads, and mechanically-stabilized earth walls. Design includes analysis of effects of water and seismic conditions, including liquefaction. Prerequisite: CIVL 140.

CIVL 145. Engineering Geology. 4 Units.

This introductory course to is the study of geology in which geologic principles, data and techniques are applied to civil engineering problems. Also listed as GEOS 145. Prerequisites: Completion of all Fundamental Skills; GEOS 051 or GEOS 061 or CIVL 140 with a "C-" or better.

CIVL 150. Transportation Engineering. 4 Units.

Students study the considerations and procedures in the planning, design, and operation of various transportation systems with primary emphasis on highways. Prerequisites: Completion of all Fundamental Skills. Junior or Senior standing.

CIVL 151. Heavy Construction Methods. 4 Units.

An introduction to the areas of construction engineering and construction management. Construction engineering topics include construction processes and construction econometrics. Construction management topics include contracting, estimating, planning, bidding, and scheduling. Prerequisite: Completion of all Fundamental Skills. Junior or Senior standing.

CIVL 160. Structural Analysis. 3 Units.

Students analyze the behavior of trusses and framed structures under gravity and lateral loads. Other topics include analysis of shear walls, the use of structural analysis software, and the buckling of frames. Prerequisites: Completion of all Fundamental Skills; CIVL 100 and MATH 057 with a "C-" or better.

CIVL 163. Introduction to Earthquake Engineering. 3 Units.

Determination of loads on structures due to earthquakes. Overview of seismology. Methods of estimating equivalent static lateral forces; response spectrum and time history analysis. Concepts of mass, damping and stiffness for typical structures. Design for inelastic behavior. Numerical solutions and code requirements. Prerequisites: Completion of all Fundamental Skills, ENGR 019, ENGR 121 with a "C-" or better.

CIVL 164. Structural Timber Design. 4 Units.

Students will study the design of timber structural members, specifically tension, compression, flexural, and beam-column elements and connections to satisfy design code requirements. Prerequisite, may be taken concurrently: CIVL 100.

CIVL 165. Structural Steel Design. 4 Units.

Students study the design of steel structural members, specifically tension, compression, flexural, and beam-column elements and connections to satisfy design code requirements. Prerequisite: Completion of all Fundamental Skills. Prerequisite may be taken concurrently: CIVL 100 with a "C-" or better.

CIVL 166. Reinforced Concrete Design. 4 Units.

Students study the design and proportioning of structural members, specifically beams, columns, one-way slabs, footings, and walls to satisfy design criteria for reinforced concrete systems. Prerequisite: Completion of all Fundamental Skills. Prerequisite may be taken concurrently: CIVL 100 with a "C-" or better.

CIVL 171. Water and Environmental Policy. 3 Units.

This course introduces students to Federal and State of California environmental regulations pertaining to air, water, hazardous wastes, and toxic substances. Topics include an overview of water rights and environmental impact assessment, relevant case studies, and examples of monitoring and enforcement issues. Prerequisite: Completion of all Fundamental Skills. Junior or Senior standing. (ENST)

CIVL 173. Sustainable Engineering. 3 Units.

This interdisciplinary course provides an introduction to principles and practice of sustainable engineering. Topics include the analysis of economic, social, and environmental factors, life cycle assessment, resource use and waste generation in engineering products and processes. The course also examines case studies, readings, and class discussion emphasizes analysis and development of sustainable solutions. Prerequisite: Completion of all Fundamental Skills. Junior or Senior standing.

CIVL 180. Engineering Synthesis. 4 Units.

This course is a culminating experience wherein a group of students synthesize their previous class work into one project. Both technical and non-technical concerns are addressed. One or more faculty members and/or professional engineers are involved depending upon the fields covered in the project. Prerequisites: Completion of all Fundamental Skills; EMGT 170 and 2 of the following: CIVL 100, CIVL 132, CIVL 133, CIVL 140 with a "C-" or better. Senior standing.

CIVL 191. Independent Study. 1-4 Units.

Students undertake special individual projects under the direction of one or more faculty members. Permission of department chairperson and faculty member involved.

CIVL 193. Special Topics. 4 Units.

Upper division elective subject area based on expertise of faculty members.

CIVL 197. Undergraduate Research. 1-4 Units.

This course is applied or basic research in civil engineering under faculty supervision. Permission of faculty supervisor and department chair. Student must be in good academic standing.

Computer Science Courses**COMP 025. Computers and Information Processing. 4 Units.**

This introductory information technology course focuses on computer architecture, networking, internet technologies and the integration of productivity software. Lectures, readings, hands-on projects and lab assignments give a variety of learning experiences. Specific topics include computer architecture, digital data, networking, file management, spreadsheets, database systems and presentation applications. Students are exposed to JavaScript and Visual Basic scripting. Particular emphasis is placed on HTML programming and creating an interactive student website for homework and lab linking throughout the semester. Prerequisite: Fundamental Math Skills requirement. (GE3B)

COMP 041. Great Ideas in Computing. 4 Units.

This course is a broad introduction to the field of computing. The concepts that are the foundation of computing are presented and placed in historical context. Discussion topics include the ways of thinking and working that make computing effective, and the future of the field. Example topics include number representation, architecture of computing systems, intelligent computing systems, and the use of computing in art and games. Prerequisite: Fundamental Math Skills requirement. (GE3C)

COMP 047. Discrete Math for Computer Science. 4 Units.

This course is designed to develop skills in deductive reasoning and to apply concepts of discrete mathematics to computer science. Topics include logic, deductive reasoning, mathematical induction, set theory, functions, recurrence relations, combinatorics and probability, graphs, trees, and Boolean Algebra. Prerequisite: Fundamental Math Skills requirement. (Spring, every year). (GE3B)

COMP 051. Introduction to Computer Science. 4 Units.

The course emphasizes program design and problem solving techniques that use a high-level programming language. The course introduces basic concepts such as assignment, control flow, iteration, and basic data structures in addition to a supervised lab. Credit for this course is not given if a student has credit for COMP 061. Prerequisite: Fundamental Math Skills requirement. (GE3B)

COMP 053. Data Structures. 4 Units.

The course continues the development of program design and problem solving techniques. Topics include development of fundamental data structures and their associated algorithms as well as array-based algorithms, recursion, lists, generics, dynamic memory, binary trees, and associative structures. Prerequisite: COMP 051 or COMP 061 with a "C-" or better.

COMP 055. Application Development. 4 Units.

This course develops the skills and techniques required for the creation of contemporary software applications. Contemporary software applications are complex systems that involve the interaction of multiple subsystems that require teams of developers working together for extended periods of time. Topics include teamwork and communication skills, current development methodologies, analysis and design documentation and the use of libraries. This course is intended to prepare students to transition to upper division courses. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. (Fall, every year).

COMP 061. Introduction to Programming for Data Science. 4 Units.

This course introduces programming concepts and program design using topics in data science as examples. Basic concepts such as assignment, control flow, iteration, and simple as well as object-oriented data types and structures are developed. The course includes a supervised lab. Credit for this course is not given if student has credit for COMP 051. Prerequisite: Fundamental Math Skills requirement. (GE3B)

COMP 093. Special Topics. 3 or 4 Units.**COMP 127. Web Applications. 4 Units.**

The World-Wide Web consists of client-server applications operating over the Internet. This course introduces the skills and techniques for designing and developing web applications. Topics include: client-server architectures, web servers and web browsers, server-side programming, client-side programming, form processing, state management and multimedia. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better or permission of instructor. (Fall, even years).

COMP 129. Software Engineering. 4 Units.

Students gain practical experience in dealing with medium to large scale software systems. Students learn how current analysis and design methodologies are used to develop the abstractions necessary to understand large systems. Students also learn how such methodologies and abstractions are used to communicate with coworkers and clients about the analysis and design. Because communication is an essential skill in large system development, students are expected to produce documents and presentations of professional quality and depth. Prerequisites: Completion of all Fundamental Skills and COMP 055 with a "C-" or better. (Spring, odd years).

COMP 135. Human-Computer Interface Design. 3 Units.

Human-Computer Interface (HCI) Design focuses on the relationship between humans and computers or other physical devices. This course helps students develop an understanding of the common problems in designing these interfaces and presents a set of design techniques to ensure that designs are both useful and useable. Prerequisite: Completion of all Fundamental Skills. Junior standing. (Spring, odd years).

COMP 137. Parallel Computing. 3 Units.

Parallel computing is a science which solves a large problem by giving small parts of the problem to many computers to solve and then combining the solutions for the parts into a solution for the problem. This course introduces architectures and implementation techniques to support parallel computation. Students are expected to design and implement an original parallel application as a term project. Prerequisite: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. Corequisite: ECPE 170. (Spring, even years).

COMP 141. Programming Languages. 4 Units.

Topics in evaluation, design, and development of programming languages. Topics include type systems, variables and scope, functions, parameter passing, data hiding and abstractions, recursion, memory allocation, grammars and parsing, compiler architecture, programming paradigms, and comparison of programming languages and environments. Prerequisites: Completion of Fundamental Skills and COMP 053 with a "C-" or better. (Spring, every year).

COMP 147. Computing Theory. 4 Units.

Students study automata, formal languages and computability. Topics include finite state automata, regular languages, pushdown automata, context-free languages, Turing machines; decidability, reducibility, and time complexity that includes NP-completeness and intractability. Prerequisites: Completion of all Fundamental Skills; COMP 047 or ECPE 071 or MATH 074 with a "C-" or better. (Fall, every year).

COMP 151. Artificial Intelligence. 3 Units.

Students study fundamental concepts, techniques and tools used in Artificial Intelligence. Topics include knowledge representation, search techniques, machine learning and problem solving strategies. Also listed as ECPE 151. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. (Fall, odd years).

COMP 153. Computer Graphics. 3 Units.

An introduction to two and three dimensional computer graphics. Basic representations and mathematical concepts, object modeling, viewing, lighting and shading. Programming using OpenGL and other computer graphics applications. Also listed as ECPE 153. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. (Fall, every year).

COMP 155. Computer Simulation. 4 Units.

This course explores digital simulation, in which a model of a system is executed on a computer. The course focuses on modeling methodologies, mathematical techniques for implementing models, and statistical techniques for analyzing the results of simulations. Students develop simulations using both simulation development toolkits and general-purpose programming languages. Also listed as EMGT 155. Prerequisites: Completion of all Fundamental Skills; MATH 037 or MATH 039; MATH 045 or MATH 051, COMP 051 or ENGR 019 with a "C-" or better. (Fall, even years).

COMP 157. Design and Analysis of Algorithms. 4 Units.

Topics for this course include complexity analysis, algorithms for searching, sorting, pattern matching, combinatorial problems, optimization problems, backtracking, algorithms related to number theory, graph algorithms, and the limitations of algorithm power. Prerequisites: Completion of all Fundamental Skills; COMP 047 or MATH 074; COMP 053; MATH 045 or MATH 051 with a "C-" or better. (Fall, every year).

COMP 159. Computer Game Technologies. 4 Units.

This course surveys the technologies and processes used for modern video game development. Course topics include software engineering, media creation and management, hardware interfaces, user interaction, 3D mathematics and common algorithms and data structures to support graphics, physics and artificial intelligence. Prerequisite: Completion of all Fundamental Skills and COMP 055 with a "C-" or better. (Fall, odd years).

COMP 162. Data Analytics Programming. 4 Units.

This course develops programming skills for computational data analysis. The course emphasizes programming for statistical analysis, machine learning and predictive modeling. Other topics include programming packages for handling, preparation, and manipulation of data, as well as visualization tools for exploration and presentation of data and results. The course emphasizes hands-on data and analysis using a variety of real-world data sets and analytical objectives. Prerequisites: Completion of all Fundamental Skills; COMP 051 or COMP 061.

COMP 163. Database Management Systems. 4 Units.

A database management system (DBMS) is a computer application designed for the efficient and effective storage, access and update of large volumes of data. This course looks at such systems from two perspectives. The user-center perspective focuses on how a DBMS is used to build support for a data intensive application. This perspective includes examination of common data models, query languages and design techniques. The system implementation perspective focuses on the policies, algorithms and data structures used to design and implement a DBMS. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. Corequisite: COMP 047 or MATH 074. (Spring, even years).

COMP 173. Operating Systems. 4 Units.

Students are introduced to the fundamental concepts of modern operating systems. Topics include an overview of the computer hardware that supports the operating system, process management, threads, and CPU scheduling. Students also study process synchronization that uses primitive and high-level languages, virtual memory management, file systems, system protection, and distributed systems. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 170 with a "C-" or better or permission of instructor. (Fall, every year).

COMP 175. System Administration and Security. 3 Units.

Students are introduced to an operating system from an administrator's standpoint. Topics include installation with the proper allocation of disk resources, maintaining the operating system and various subsystems, security issues that include server hardening, host firewalls and network security issues. Students also study account administration in a networked environment, change management and intrusion detection. Prerequisites: Completion of all fundamental skills and familiarity with console-based operating systems commands. Junior standing. (Fall, every year).

COMP 177. Computer Networking. 4 Units.

Topics examined in this course include computer networks and the internet, LAN and WAN architectures, and packet switched networks and routing. Students learn about the 7-layer OSI model and internet protocol stack, socket programming and client/server systems, wireless and security. The course includes a laboratory. Also listed as ECPE 177. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 170 with a "C-" or better. Junior or Senior standing. (Fall, every year).

COMP 178. Computer Network Security. 3 Units.

This course is an examination of the pervasive security threats related to the Internet, data communications and networking. Topics include TCP/IP protocols, authentication, encryption, malware, cybercrime, and social engineering. Emphasis is on computer and network attack methods, their detection, prevention and analysis, and the integration of the tools and techniques employed in this effort. Includes lab. Prerequisites: Completion of all Fundamental Skills and ECPE 170 or COMP 175 with a "C-" or better. (Spring, every year).

COMP 187. Internship in Computer Science. 1-4 Units.

This internship course offers cooperative employment in a professional computer science environment. The internship requires satisfactory completion of the work assignment and written reports. Prerequisites: Completion of all Fundamental Skills; COMP 055 and ENGR 025 with a "C-" or better. Grading is Pass/No Credit only.

COMP 191. Independent Study. 1-4 Units.

Students create student-initiated projects that cover topics not available in regularly scheduled courses. A written proposal that outlines the project and norms for evaluation must be approved by the department chairperson.

COMP 195. CS Senior Project. 4 Units.

In this course, students synthesize their cumulative computer science knowledge through the development of a computer application. Students will establish design objectives and criteria, analyze solution alternatives and evaluate design performance. Students will then implement, test and evaluate the system. Results will include analysis and design documents, the implemented system, test reports and a presentation and demonstration of the project. Prerequisites: Completion of all Fundamental Skills, Senior Standing, COMP 055 with a "C-" or better.

COMP 197. Undergraduate Research. 1-4 Units.

Students conduct supervised research that contributes to current active topics in Computer Science. Topics may be selected by the student, related to faculty research, or provided by industrial sponsors. Permission of Undergraduate Research Coordinator.

Electrical Computer Engr Courses**ECPE 005. Introduction to Electrical and Computer Engineering. 1 Unit.**

This course introduces students to various sub-disciplines of Electrical and Computer Engineering and to the tools, both hardware and software, that are used in Electrical & Computer Engineering. Prerequisite: ENGR 010 with a "C-" or better.

ECPE 041. Circuits. 3 Units.

Students study concepts of voltage, current, power, energy. Topics include ideal circuit elements and their I/V characteristics, Kirchhoff's laws, circuit analysis using node voltage and mesh current methods, Thevenin's and Norton's theorems, maximum power transfer, and operational amplifier circuits. The course examines step response of 1st order (RC, RL) and 2nd order (RLC) circuits, phasor analysis, impedance calculations, sinusoidal steady state response, instantaneous, average, and reactive power, frequency response, bandwidth of first order, and lowpass and highpass filters. Prerequisite: PHYS 055; MATH 055; COMP 051 or ENGR 019 with a "C-" or better. Corequisite: ECPE 041L.

ECPE 041L. Circuits Laboratory. 1 Unit.

Students study the use of standard test equipment to make DC and AC measurements and characterize electric circuits. Circuit simulation is taught with software tools, and data analysis is emphasized. Corequisite: ECPE 041.

ECPE 071. Digital Design. 3 Units.

Students study number systems, binary arithmetic, and Boolean logic. Topics include the analysis and synthesis of combinational and sequential circuits and the use of MSI, LSI, FPGA and CPLD devices. Prerequisite: Fundamental Math Skills requirement; COMP 051 or ENGR 019 with a "C-" or better. Recommended: ECPE 071L.

ECPE 071L. Digital Design Lab. 1 Unit.

This course involves laboratory treatment of the concepts discussed in ECPE 071. Prerequisites: Fundamental Math Skills requirement; COMP 051 or ENGR 019 with a "C-" or better. Corequisite: ECPE 071.

ECPE 121. Digital Signal Processing. 4 Units.

Students analyze discrete-time signals and systems using z transforms and Fourier transforms, the fast Fourier transform and its applications, digital filters and their applications and implementation of DSP algorithms using Matlab and Simulink. Prerequisites: ECPE 041 and MATH 057 with a "C-" or better.

ECPE 124. Digital Image Processing. 4 Units.

This course is the analysis and design of algorithms in digital image processing. Topics include: image formation, file format, pixel-based processing, object recognition, filtering and edge detection, image transforms, segmentation, stereo-vision, and motion tracking. Prerequisites: COMP 053, ECPE 121 with a "C-" or better.

ECPE 127. Random Signals. 3 Units.

This course is an introduction to probability and statistics in engineering applications. Students will become familiar with discrete and continuous random variables and their probability models. Topics include counting methods, reliability problems, probability mass functions (PMF), probability density functions (PDF), cumulative distribution functions (CDF), conditional PDF's, expected value and variance, joint and marginal PDF's and CDF's, functions of two random variables. Prerequisites: Completion of all Fundamental Skills, MATH 055 with a "C-" or better.

ECPE 131. Electronics. 3 Units.

This course introduces students to semiconductor physics. Topics include modeling, analysis, and simulation of analog and digital circuits containing diodes, bipolar junction transistors, and MOSFETs. Other topics include analysis and design of single stage amplifiers, frequency response of amplifiers, gain, bandwidth, DC biasing, and small signal analysis of amplifiers. Prerequisites: Completion of all Fundamental Skills; ECPE 041, ECPE 041L, ECPE 071, ECPE 071L; MATH 055, PHYS 055, completion of CHEM 024 or CHEM 025 or CHEM 027 or BIOL 051 or BIOL 061 or BENG 053 or BENG 063 with a "C-" or better. Prerequisite that may be taken concurrently: ECPE 071, ECPE 071L. Corequisite: ECPE 131L.

ECPE 131L. Electronics Lab. 1 Unit.

Students examine the use of standard electronic test equipment and simulation tools to analyze, design, and test electronic circuits. Emphasis on analog circuits. Prerequisites: Completion of all Fundamental Skills. Corequisite: ECPE 131.

ECPE 133. Solid State Devices. 4 Units.

This course introduces concepts related to the crystal structure of semiconductors and electronic, optical, and magnetic properties of semiconductors. Dynamics of carriers under equilibrium and non-equilibrium conditions are presented as a frame work for understanding the behavior of a number of devices including Metal-Oxide-Semiconductor (MOS) and Hetero-junction Bipolar (HBT) devices. On such a background, the course builds an understanding of the latest advances in the field. This course is cross listed with EPHY 133 and PHYS 170. Prerequisite: MATH 057, PHYS 055 with a "C-" or better.

ECPE 135. Power Electronics. 4 Units.

Switch-Mode DC-DC converters, Feedback control of converters, Rectifiers and power factor correction circuits, switch mode DC power supplies, applications to motor control and renewable energy integration to the grid. Includes laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 131 and ECPE 131L with a "C-" or better. Prerequisite may be taken concurrently: ECPE 121 with a "C-" or better.

ECPE 136. VLSI Design. 4 Units.

Students examine issues in VLSI design. Topics include logic families, sizing, timing models, fabrication, layout, high speed and low power design tradeoffs, circuit simulation and device modeling. Prerequisites: Completion of all Fundamental Skills; ECPE 071, ECPE 071L, ECPE 131, ECPE 131L with a "C-" or better. (Spring odd years).

ECPE 141. Advanced Circuits. 4 Units.

Analysis and design of circuits in the continuous time domain. Topics include: frequency response, Laplace transforms, Fourier transforms, stability and feedback. Applications include high-order filter design and controls. Prerequisites: ECPE 041, ECPE 041L, and MATH 057 with a "C-" or better.

ECPE 144. Applied Electromagnetics. 4 Units.

The purpose of this course is for students to gain an understanding of transmission lines and field theory as it applies to communication circuits and systems. Electromagnetic wave propagation, reflection, and transmission through common materials are examined. This course is cross listed with EPHY 144. Prerequisites: Completion of all Fundamental Skills; PHYS 055, MATH 057, ECPE 041 with a "C-" or better.

ECPE 155. Autonomous Robotics. 4 Units.

This course is an overview of the design of autonomous robotics. Students study architectures for robot organization and control, configurations of fixed and mobile robots, sensors and actuators. Students also study the design of algorithms and knowledge representations. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 172 with a "C-" or better or permission of instructor.

ECPE 161. Automatic Control Systems. 4 Units.

Students study component and system transfer functions, open and closed loop response; stability criteria; applications to engineering systems. this course include a laboratory. Prerequisites: Completion of all Fundamental Skills and ECPE 121 with a "C-" or better.

ECPE 162. Communication Systems. 4 Units.

Students examine signal characterization in time and frequency domains. Topics include baseband communication, pulse code modulation, multiplexing, complex envelope representation of bandpass signals. AM, FM, and digital modulations. Students also examine applications to radio, television, telephone, and cellular phone systems. A laboratory is included. Prerequisites: Completion of all Fundamental Skills and ECPE 121 with a "C-" or better. (Spring).

ECPE 163. Energy Conversion. 4 Units.

Students study three phase power systems. Topics include magnetic circuits, transformers, rotating machines: DC, induction, and synchronous machines as well as equivalent circuits and characteristic curves of transformers and rotating machines, renewable energy sources and technologies. the course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 041 and ECPE 041L; PHYS 055 with a "C-" or better.

ECPE 165. Power System Analysis. 3 Units.

Students study electrical power generation and transmission, Three-phase systems, power system component models, per-unit system and single line diagrams, power flow analysis. Prerequisites: Completion of all Fundamental Skills and ECPE 041 with a "C-" or better. Junior standing.

ECPE 170. Computer Systems and Networks. 4 Units.

This course is a comprehensive and holistic examination of the modern computing environment. Students gain an understanding of the various hardware and software components that enable computers and networks to process information and execute applications. Students learn to apply this knowledge in the development of efficient and robust software applications. Prerequisites: Completion of all Fundamental Skills; ECPE 071, COMP 053 with a "C-" or better.

ECPE 172. Microcontrollers. 4 Units.

Students study the design and implementation of digital monitoring and control systems that use micro-controllers. Topics include hardware and software development, interfacing input and output devices, assembly and C programming as well as representative applications. The course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 071 and ECPE 071L with a "C-" or better.

ECPE 173. Computer Organization and Arch. 3 Units.

The objective of this course is to give students an understanding of how a complete modern computer system operates. Students learn about design of control, datapath and arithmetic-logic units. Other topics include pipelining, memory hierarchy and assembly language programming. Prerequisites: Completion of all Fundamental Skills; ECPE 170; ECPE 172 or ECPE 174 with a "C-" or better.

ECPE 174. Advanced Digital Design. 4 Units.

Students learn how to analysis, design, and implement synchronous state machines using programmable logic devices. Topics include CAD-based simulation and development that use schematic capture and hardware description languages, and representative applications. The course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 071 and ECPE 071L with a "C-" or better.

ECPE 177. Computer Networking. 4 Units.

Students study computer networks and the Internet. Topics include LAN and WAN architectures, packet switched networks and routing, the 7-layer OSI model and Internet protocol stack, socket programming and client/server systems as well as wireless security. The course includes a laboratory. Also listed as COMP 177. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 170 with a "C-" or better. Junior or Senior standing.

ECPE 178. Computer Network Security. 3 Units.

This course is an examination of the pervasive security threats related to the Internet, data communications and networking. Topics include TCP/IP protocols, authentication, encryption, malware, cybercrime, and social engineering. Emphasis is on computer and network attack methods, their detection, prevention and analysis, and the integration of the tools and techniques employed in this effort. Includes lab. Prerequisites: Completion of all Fundamental Skills and ECPE 170 or COMP 175 with a "C-" or better.

ECPE 191. Independent Study. 1-4 Units.

Special individual projects are undertaken under the direction of one or more faculty members knowledgeable in the particular field of study. Permission of department chairperson and faculty members involved.

ECPE 195. Senior Project I. 2 Units.

This first semester capstone design course instructs students in the application of design processes and interdisciplinary teamwork. Student teams select a project and develop requirements, test, and design documents. Projects incorporate consideration of engineering standards and realistic constraints such as economics, the environment, sustainability, manufacturability, or safety. Components are evaluated and selected. Feasibility is analyzed through prototyping or simulation and results are presented via oral and written reports. This course is cross listed with EPHY 195. Prerequisites: Completion of all Fundamental Skills; ECPE 131 and ECPE 131L; ECPE 121, ECPE 141, ECPE 172 or ECPE 174 with a "C-" or better.

ECPE 196. Senior Project II. 2 Units.

This second-semester capstone design course, interdisciplinary teams complete the design of their projects. Full implementation is completed, including iteration, optimization, and refinement; justifications for design decisions are analyzed. Testing is performed and results are evaluated to demonstrate satisfaction of specifications. Final oral and written reports, complete documentation, and a project demonstration are required. This course is cross listed with EPHY 196. Prerequisites: Completion of all Fundamental Skills; ECPE 195 with a "C-" or better.

ECPE 197. Undergraduate Research. 1-4 Units.

This course offers applied or basic research in electrical and/or computer engineering under faculty supervision. Permission of faculty supervisor and department chair. The student must be in good academic standing.

Engineering Management Courses

EMGT 115. Building Information Modeling. 4 Units.

This course provides the basics of design, modeling, scheduling, resource allocation, time/cost tradeoffs, task coordination, team-building, progress monitoring, and post project assessment while using the latest BIM technologies. Students study the lean construction and how to integrate BIM into the project delivery processes. Prerequisite: Completion of all fundamental skills.

EMGT 142. Design and Innovation. 3 Units.

This course brings buyers, sellers and end-users of design, prototyping and testing together in an educational and real problem environment. Students will learn how to identify innovation, and develop, design and market new product or service. Students will also learn the nature and importance of technological innovation in commercial organizations with particular reference to bringing a new product or service off the drawing board, through virtual development, and into a modern pre-sales promotional environment in weekly project deliverables. Prerequisite: Upper division standing in engineering.

EMGT 142L. Design and Innovation Lab. 1 Unit.

The laboratory component of EMGT 142, course provides the basics of Industrial Design techniques including drawing, graphical, presentation and design communication skills. Students learn how to design functional objects, sculpture and use a variety of 2D and 3D applications to produce those models as physical objects. A variety of rapid prototyping methods include: 3D Printing, Vacuum Forming, and Laser Cutting is used in weekly project deliverables. Prerequisite: Upper division. Corequisite: EMGT 142.

EMGT 155. Computer Simulation. 4 Units.

This course explores digital simulation in which a model of a system is implemented and executed on a computer. The course focuses on modeling methodologies, mathematical techniques for implementing models, and statistical techniques for analyzing the results of simulations. Students develop simulations that use both simulation development toolkits and general-purpose programming languages. Also listed as COMP 155. Prerequisites: Completion of all Fundamental Skills; MATH 037 or MATH 039; MATH 045 or MATH 051, COMP 051 or COMP 061 or ENGR 019 with a "C-" or better.

EMGT 162. Introduction to Data Analytics for Engineers and Computer Scientists. 3 Units.

This course introduces students to state-of-the-art topics involving large collection of data. Particular emphasis is made on data collection, data storage and processing, extracting structured data from unstructured data, analytics, visualization, and a number of specific applications. Students explore large amounts of complex, digital data and learn about the tools and skills they need to solve knowledge from voluminous data sets. Prerequisites: ENGR 019 or COMP 051; upper division standing.

EMGT 170. Project Decision Making. 4 Units.

Project decision-making based upon engineering economy studies. This area covers techniques for economic evaluation of alternatives including time value of money, risk costs, effects of inflation, compound interest calculation, minimum attractive rate of return, capital budgeting, break-even analysis, sensitivity analysis, and risk analysis. A second facet of the course covers the fundamental aspects of project management within an engineering context. This area covers the project procurement process, project management and project scheduling. (Summer, Fall).

EMGT 172. Engineering Economy. 3 Units.

This course examines decision-making based upon engineering economy studies. This course covers techniques for economic evaluation of alternatives that includes time, value of money, risk cost, effects of taxation, monetary inflation, compound interest calculations, minimum attractive rate of return, capital budgeting, break-even analysis, sensitivity analysis and risk analysis. Prerequisite: Completion of all Fundamental Skills.

EMGT 174. Engineering Project Management. 3 Units.

Students study the fundamentals of project management that are used in estimating, planning, coordinating and controlling engineering projects. Topics include fundamentals of specifications and contracts, and the scheduling of projects. Prerequisites: Completion of all Fundamental Skills.

EMGT 176. Systems Engineering Management. 4 Units.

This course provides an introduction to the concepts and process of systems engineering. It uses interactive lectures, participatory class exercises and case studies to illustrate the framing and solution of problems through a systems engineering approach. The course stresses an understanding of the interdisciplinary aspects of systems development, operations and support. Prerequisites: Completion of all Fundamental Skills; MATH 055 with a "C-" or better, or permission of instructor.

EMGT 191. Independent Study. 1-4 Units.

Special individual projects are undertaken under the direction of one or more faculty members knowledgeable in the particular field of study. Permission of faculty member involved. The student must be in good academic standing.

EMGT 195. Engineering Management Synthesis. 4 Units.

The capstone course is for Engineering Management majors. Emphasis on integration and application of management concepts. including project proposal and design, with periodic reviews and written and oral reports. Prerequisites: Completion of all Fundamental Skills.

EMGT 197. Undergraduate Research. 1-4 Units.

This course offers applied or basic research in focused topics within Engineering Management under faculty supervision. Permission of faculty supervisor and department chair.

General Engineering Courses

ENGR 010. Dean's Seminar. 1 Unit.

This course is a survey of the profession and practice of engineering and computer science. It is an overview of the programs and methodologies of the School of Engineering and Computer Science that includes educational requirements, professional and career opportunities, introduction to the history of engineering and computing, and entrepreneurship. Hands-on activities and guest lecturers are included to complement the discussion sessions. The course provides basic skills, tools, and techniques applied to problem solving, teamwork and communication necessary for academic and professional success. Students are required to complete a design project, write a basic technical report and present their results.

ENGR 019. Computer Applications in Engineering. 3 Units.

This course introduces students to binary arithmetic; numerical methods applicable to engineering problems and their solution that use a programming language and computation tools. Topics include root finding, solving systems of equations, curve fitting and interpolation, numerical integration and differentiation, and numerical solution of ordinary differential equations. Students develop programming skills in a high level language and learn to use mathematical computation tools including spreadsheets. Prerequisite may be taken concurrently: MATH 053 with a "C-" or better.

ENGR 020. Engineering Mechanics I (Statics). 3 Units.

Students study the fundamental principles of static equilibrium that results from the application of forces on particles and bodies. Prerequisites: MATH 053 and PHYS 053 with a "C-" or better.

ENGR 025. Professional Practice Seminar. 1 Unit.

This course is designed to prepare students for the Cooperative Education experience. Presentations are from representatives of industry, government, education and former Co-op students. Topics include engineering ethics, professionalism, time management and mock interviewing.

ENGR 030. Engineering and Computing Ethics in Society. 3 Units.

Major engineering achievements are explored with an emphasis on ethical principles and the global impact these achievements have on society and the environment. Topics include societal needs, personal rights, whistle blowing, conflicts of interest, professional autonomy, risk assessment, sustainable development and the application of engineering codes of ethics. Contemporary technological controversies are examined along with future developments that require engineers to stay current in their field. Student participation is expected in classroom discussions, oral presentations, and written analyses. Prerequisite: Fundamental Writing Skills requirement. (DVSY, GE2B)

ENGR 045. Materials Engineering. 4 Units.

Students examine the dependency of physical, chemical and mechanical properties on microscopic and macroscopic structure of materials. Laboratory experiments involve properties of materials such as metals, polymers, composites and ceramics. Prerequisites: CHEM 024 or CHEM 025 or CHEM 027; MATH 053 with a "C-" or better.

ENGR 110. Instrumentation and Experimental Methods. 3 Units.

Students study experimental techniques in the measurement of quantities such as biopotentials, force, pressure, sound, flow, temperature, strain and motion. Topics include statistical analysis and errors in measurement,; data analysis and transmission. Students also use of instruments in the laboratory, and prepare a measurement project. Prerequisites: Completion of all Fundamental Skills; MATH 057; BENG 124 or ENGR 121 with a "C-" or better or permission of instructor.

ENGR 120. Engineering Mechanics II (Dynamics). 3 Units.

Students examine the fundamental principles of particles and bodies in motion under the action of external forces. Prerequisites: Completion of all Fundamental Skills and ENGR 020 with a "C-" or better.

ENGR 121. Mechanics of Materials. 4 Units.

Students study concepts of stress, strain and deformation, and the analysis and design of simple elements of structures and machines. The course introduces the failure theory and energy methods. Prerequisites: Completion of all Fundamental Skills and ENGR 020 with a "C-" or better. Prerequisite, may be taken concurrently: MATH 057 with a "C-" or better.

ENGR 122. Thermodynamics I. 3 Units.

Students examine the first and second laws of thermodynamics for open and closed systems. Topics include properties of gases and liquids, including entropy and availability. Students are also introduced to the Carnot and ideal Rankine cycles. Prerequisites: Completion of all Fundamental Skills; CHEM 024 or CHEM 025 or CHEM 027; PHYS 053 with a "C-" or better.

ENGR 150. Engineering and Science-Based Entrepreneurship. 4 Units.

Entrepreneurial businesses are increasingly based on new products, processes and services derived from the realms of engineering and/or science. In this hands-on course a multidisciplinary team of students will develop a business plan around a prototype for an original product or service created by students and/or faculty in engineering or the sciences. The plan will focus on the market, technical, operational, financial and organization/administrative dimensions of the business. Prerequisite: Senior standing.

ENGR 181. Professional Practice. 1-16 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 182. Professional Practice. 1-16 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 183. Professional Practice. 1-16 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 184. Professional Practice. 1-18 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 185. Professional Practice. 1-18 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 191. Independent Study. 1-4 Units.

Engineering Physics Courses

EPHY 133. Solid State Devices. 4 Units.

This course introduces concepts related to the crystal structure of semiconductors and electronic, optical, and magnetic properties of semiconductors. Dynamics of carriers under equilibrium and non-equilibrium conditions are presented as a frame work for understanding the behavior of a number of devices including Metal-Oxide-Semiconductor (MOS) and Hetero-junction Bipolar (HBT) devices. On such a background, the course builds an understanding of the latest advances in the field including quantum and nano devices. This course is cross listed with ECPE 133 and PHYS 170. Pre-requisites: MATH 057 and PHYS 055 with a "C-" or better.

EPHY 144. Applied Electromagnetics. 4 Units.

The purpose of this course is for students to gain an understanding of transmission lines and field theory as it applies to communication circuits and systems. Electromagnetic wave propagation, reflection, and transmission through common materials are examined. This course is cross listed with ECPE 144. Prerequisites: ECPE 041; MATH 057; PHYS 055 with a "C-" or better.

EPHY 195. Senior Project I. 2 Units.

This course instructs students in the application of design processes and teamwork. Topics include multiple interdisciplinary team design experiences of increasing complexity. Projects incorporate consideration of engineering standards and realistic constraints such as economics, the environment, sustainability, manufacturability, and safety. Students are given instruction and practice in documentation and as well as oral and written communication skills. This course is cross listed with ECPE 195. Prerequisites: ECPE 131; ECPE 131L; ECPE 121, ECPE 141, ECPE 144, ECPE 170, ECPE 172, ENGR 122, EPHY 144, or PHYS 161, with a "C-" or better.

EPHY 196. Senior Project II. 2 Units.

This capstone design course integrates earlier studies, including EPHY 195, to perform interdisciplinary team design projects. Student design teams define a requirements document, a test document, and a design document for a prescribed product, then design, build and test a prototype. Complete documentation is expected. Final oral and written reports and project demonstrations are required. This course is cross listed with ECPE 196. Prerequisites: EPHY 195 or ECPE 195 with a "C-" or better.

Mechanical Engineering Courses**MECH 015. Mechanical Engineering Graphics. 3 Units.**

This course covers the principles and applications of graphics in engineering design. Topics include pictorial and isometric sketching and orthographic projection, the use of auxiliary views and sections, drafting standards and conventions, dimensioning and tolerances, in addition to layout and assembly drawings, detail drawings and production drawings with SolidWorks and AutoCAD software. A laboratory is included. Prerequisite, may be taken concurrently: ENGR 010 with a "C-" or better.

MECH 100. Manufacturing Processes. 4 Units.

This course is a study of traditional manufacturing processes such as formatting, cutting, joining, casting, and heat treating as well as advanced processing methods; manufacturing with polymers, composites, and ceramics in addition to metals, tribology, nondestructive evaluation, and quality control. Laboratory projects involve manufacturing skills, reverse engineering, automated machines, geometric dimensioning and tolerancing, and statistical process control. Prerequisites: Completion of all Fundamental Skills; MECH 015 and ENGR 045 with a "C-" or better.

MECH 104. Introduction to Mechatronics. 3 Units.

Students examine a broad understanding of the main components of mechatronic systems and understanding of the general principles involved in computer-controlled machinery. Topics include sensing, actuation and control, practical knowledge of the development of simple embedded computer programs, understanding of the practical application of mechatronic systems in applications such as manufacturing, automobile systems and robotics. Prerequisites: Completion of all Fundamental Skills; ECPE 041, ENGR 120, ENGR 110 with a "C-" or better.

MECH 120. Machine Design and Analysis I. 3 Units.

This course builds on fundamental principles learned in statistics, dynamics, and mechanics of materials, and applies them to the design and analysis of machines. Methods for performing load and stress analysis are learned along with analytical methods for solving deflection and stability problems. Static, impact, and fatigue failure theories for machines are also studied. Statistical methods for solving machine design problems are presented, and engineering design practices are integrated throughout the course. Prerequisites: Completion of all Fundamental Skills; ENGR 045, ENGR 120, ENGR 121; MECH 015 with a "C-" or better. (Fall).

MECH 123. Kinematics and Dynamics of Machinery. 3 Units.

Students learn how to design, analyze and prepare a simulation of complex mechanisms with emphasis on high speed and precision applications. Topics include kinematics and dynamics of planar and three dimensional mechanisms; gyroscopic forces in machines and balancing, and applications to robotics. Prerequisites: Completion of all Fundamental Skills; ENGR 120 and ENGR 121 with a "C-" or better.

MECH 125. Machine Design and Analysis II. 3 Units.

Students learn how to design, analyze, and incorporate a variety of standard parts and devices into machines. These parts and devices include fasteners, gear systems, belt drives, chain drives, shafts, couplings, bearings, springs, clutches, and brakes. Principles of tribology (friction, wear, and lubrication) are introduced and applied to the design of machines. Engineering design practices are integrated throughout the course. Prerequisites: Completion of all Fundamental Skills and MECH 120 with a "C-" or better.

MECH 129. Vibrations. 3 Units.

Students study models of physical systems with lumped and distributed parameters. The studies include free and forced vibrations of machines and structures as well as excitation and response of single degree of freedom systems. The course introduces multiple degrees of freedom systems, finite element formulations and mode superposition techniques. Prerequisites: Completion of all Fundamental Skills; MATH 057, ENGR 019, ENGR 120 with a "C-" or better.

MECH 140. Engineering Design/Senior Project I. 3 Units.

This course discusses methods of initiating, planning, conceptualizing, and configuring engineering designs. The student uses these methods to develop an engineering design for a product or process that involves mechanical engineering. Product realization methods, project management, materials selection, manufacturing for designers, guided iteration, communication skills, economics, ethics, liability, and safety issues are put into practice through class activities. Prerequisites: Completion of all Fundamental Skills; ENGR 121 and ENGR 122 with a "C-" or better. Prerequisite, may be taken concurrently: ENGR 110; MECH 120 or MECH 150 with a "C-" or better.

MECH 141. Engineering Design/Senior Project II. 3 Units.

The student completes the design phase of their project. Parametric design techniques such as guided iteration, optimization, and Taguchi's methods are used to complete the detailed design of a product or process that involves mechanical engineering. Manufacturing necessary to complete the product or process is a requirement. Weekly oral and written progress reports are required along with final comprehensive oral and written reports. Prerequisites: Completion of all Fundamental Skills; MECH 100 and MECH 140 with a "C-" or better.

MECH 150. Heat Transfer. 3 Units.

Students study heat transfer by conduction in one, two and three dimensions in transient and steady state and heat transfer in extended surfaces. Topics include solutions by numerical methods, convection in external and internal flow, free convection, and radiation. Prerequisites: Completion of all Fundamental Skills; ENGR 122 and MATH 057 with a "C-" or better.

MECH 151. Applied Heat Transfer. 3 Units.

Applications and extensions of the topics in MECH 150. Multimode heat transfer; heat exchangers. Heat transfer with phase change. Prerequisites: Completion of all Fundamental Skills and MECH 150 with a "C-" or better.

MECH 155. Solar Energy Engineering. 3 Units.

This course introduces students to solar energy, sun-earth geometry, radiation measurement, insulation on surfaces, principles of solar collectors, applications such as space heating and solar ovens, and photovoltaics. Laboratory experiments are included. Prerequisites: Completion of all Fundamental Skills and ENGR 122 with a "C-" or better.

MECH 157. Thermodynamics II. 3 Units.

Students examine the thermodynamics of cycles for power and refrigeration. Other topics include the thermodynamics of gas mixture, chemical reactions, combustion, fuels, and processes involving air and water mixtures relating to heating, cooling, and ventilating for human comfort. The course includes experimental activities and written laboratory reports. Prerequisites: Completion of all Fundamental Skills and ENGR 122 with a "C-" or better.

MECH 158. Air Conditioning. 3 Units.

Students are introduced to air conditioning purpose, terminology and typical systems. Students study the analysis and design of air conditioning as applied to residential and small commercial buildings, and they learn the codes and standards applicable to this field. Prerequisites: Completion of all Fundamental Skills; ENGR 122 with a "C-" or better.

MECH 160. Fluid Dynamics. 3 Units.

Students study equations of continuity, energy, and momentum as applied to fluid flow. Topics include one dimensional compressible flow, and the introduction to more advanced topics, such as turbomachinery, viscous flow and potential flow. Prerequisites: Completion of all Fundamental Skills; CIVL 130 and ENGR 122 with a "C-" or better.

MECH 175. Systems Analysis and Control. 4 Units.

Students study dynamic analysis and control of systems composed of mechanical, electrical, hydraulic and thermal components. Students use of system modeling and simulation techniques to predict transient and steady state response, lumped parameter approximations and linearization. Students also use feedback to enhance system performance and stability and they study design of linear control systems in the time and frequency domains. Prerequisites: Completion of all Fundamental Skills; ECPE 041, ECPE 041L, ENGR 110, MECH 129 with a "C-" or better.

MECH 178. Finite Element Methods. 3 Units.

This course introduces the finite element method for engineering problems. Topics include matrix formulation of finite element models for problems in solid mechanics, heat transfer and fluid flow as well as solution of finite element equilibrium equations. Students study the development of computer algorithms and applications that use commercial finite element computer programs. Some familiarity with matrix methods is desirable. Prerequisites: Completion of all Fundamental Skills; ENGR 121 and ENGR 122 with a "C-" or better. Prerequisite, may be taken concurrently: CIVL 130 with a "C-" or better.

MECH 191. Independent Study. 1-4 Units.

Special individual projects are undertaken under the direction of one or more faculty members knowledgeable in the particular field of study. Permission of department chairperson and faculty members involved.

MECH 197. Undergraduate Research. 2-4 Units.

This course includes applied or basic research in mechanical engineering under faculty supervision. Projects may be experimental, mathematical or computational in nature. Permission of faculty supervisor and department chairperson. Student must be in good academic standing.

Bioengineering

<http://www.pacific.edu/Academics/Schools-and-Colleges/School-of-Engineering-and-Computer-Science/Academics-/Majors/Bioengineering-.html>

Phone: (209) 946-2575

Location: Anderson Hall

Shelly Gulati, Department Chair

Degrees Offered

Bachelor of Science in Bioengineering

The Bachelor of Science degree in Bioengineering is offered by the University of the Pacific School of Engineering and Computer Science. Within a few years of graduation, graduates of the Bioengineering program are expected to be able to:

- Apply engineering solutions to biomedical, human health, or biological problems
- Engage in life-long learning and pursue advanced level studies
- Demonstrate leadership, collaboration, and communication skills in their profession

Bioengineering is an extremely exciting field. By integrating information, methods and tools of engineering with knowledge found in the sciences and mathematics, it promises challenging careers in a broad range of fields, including medical research and the design of medical instruments, to name just a few.

Student Outcomes

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Bachelor of Science in Bioengineering

Students must complete a minimum of 120 units of academic work in order to earn the bachelor of science in bioengineering. Students must also adhere to the University's graduation requirements for bachelor degrees. Traditional Career Path requires a minimum of 32 units of Cooperative Education. Cooperative Education for the Biomedical Career Path is optional.

I. General Education Requirements

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

IA. Individual and Interpersonal Behavior (ECON 053 or PSYC 031 recommended)

IB. U.S. Studies (BUSI 053 or ECON 055 recommended)

IC. Global Studies

Arts and Humanities

IIB. ENGR 030

One course from the following categories:

IIA. Language and Literature (COMM 027 recommended)

IIC. Visual and Performing Arts

Note: 1) Only one course can come from each subcategory (A, B, or C) within each category. **2)** No more than 2 courses from a single department may be applied to meet the breadth program requirements, with the exception of certain 1-unit GE IIC courses.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

ENGR 030 Engineering and Computing Ethics in Society 3

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

Note: 1) Fundamental skills must be satisfied prior to enrolling in upper division courses.

IV. Major Requirements

Mathematics

MATH 051 Calculus I 4
MATH 053 Calculus II 4
MATH 055 Calculus III 4
MATH 057 Applied Differential Equations I: ODEs 4

Select one of the following: 4

MATH 037 Introduction to Statistics and Probability

MATH 039 Probability with Applications to Statistics

Basic Science

BIOL 051 Principles of Biology 5
BIOL 061 Principles of Biology 5
CHEM 025 General Chemistry 5
CHEM 027 General Chemistry 5
PHYS 053 Principles of Physics I 5
PHYS 055 Principles of Physics II 5

General Engineering

ENGR 010 Dean's Seminar 1
ENGR 020 Engineering Mechanics I (Statics) 3
ENGR 025 Professional Practice Seminar 1
ENGR 110 Instrumentation and Experimental Methods 3
MECH 015 Mechanical Engineering Graphics 3

Select one of the following: 3-4

COMP 051 Introduction to Computer Science

COMP 061 Introduction to Programming for Data Science

ENGR 019 Computer Applications in Engineering

Bioengineering Core

BENG 005 Introduction to Bioengineering 2
BENG 103 Biomaterials 4
BENG 104 Biomedical Imaging 4
BENG 108 Engineering Physiology 4
BENG 124 Biomechanics 4
BENG 130 Biotransport 4
BENG 194 Bioengineering Project Proposal 3
BENG 195 Senior Project 3
ECPE 041 Circuits 3
ECPE 041L Circuits Laboratory 1

Career Path Electives

Select one career path below: 6-10

Biomedical Career Path *

CHEM 121 Organic Chemistry

CHEM 123 Organic Chemistry

Select one of the following:

BENG 140 Introduction to Tissue Engineering

BENG 154 Introduction to Magnetic Resonance Imaging

Traditional Career Path

Select three of the following: **

BIOL 101 Genetics

BIOL 145 Microbiology

BIOL 153 Cell Biology

BIOL 146 Industrial Microbiology

BENG 140 Introduction to Tissue Engineering

BENG 154 Introduction to Magnetic Resonance Imaging

CHEM 121 Organic Chemistry

CHEM 123 Organic Chemistry

CHEM 141 Analytical Chemistry

CHEM 159 Biophysical Chemistry

COMP 129 Software Engineering

COMP 135 Human-Computer Interface Design

COMP 151 Artificial Intelligence

COMP 153 Computer Graphics

COMP 155 Computer Simulation

COMP 157 Design and Analysis of Algorithms

COMP 162 Data Analytics Programming

COMP 163 Database Management Systems

ECPE 071 Digital Design

ECPE 071L Digital Design Lab

ECPE 121 Digital Signal Processing

ECPE 131 Electronics

ECPE 131L Electronics Lab

ECPE 141 Advanced Circuits

ENGR 120 Engineering Mechanics II (Dynamics)

ENGR 121 Mechanics of Materials

ENGR 122 Thermodynamics I

MECH 104 Introduction to Mechatronics

MECH 150 Heat Transfer

Cooperative Education

ENGR 181	Professional Practice	1-16
ENGR 182	Professional Practice	1-16
ENGR 183	Professional Practice	1-16

* Bioengineering students interested in applying to professional schools, e.g. medical school, should seek the advice of the pre-medical advisor. MCAT preparation requires additional courses outside the degree program requirements, such as: BIOL 101, BIOL 153, PSYC 031 and SOCI 051. Cooperative Education is optional for biomedical career path.

** At least one course must be a BENG course. Cooperative Education is required for the traditional career path.

Bioengineering Courses

BENG 005. Introduction to Bioengineering. 2 Units.

This course introduces students to the various sub-disciplines (medical, chemical, electrical, and mechanical) of bioengineering. Prerequisite may be taken concurrently: ENGR 010 with a "C-" or better.

BENG 053. General Biology with Applications for Engineers I. 3 Units.

This is the first of a two semester general biology course for engineering students. This course focuses primarily on evolution, plant and animal diversity and ecology. Laboratory activities are integrated into the lecture and are used to reinforce course content with experiential activities and the application of biological principles to an engineering context.

BENG 063. General Biology with Applications for Engineers II. 4 Units.

This is the second of a two semester general biology course for engineering students. This course focuses primarily on metabolism, genetics, and organ systems physiology. A separate laboratory section is used to reinforce course content with experiential activities and the application of engineering techniques used for analysis or control of biological systems.

BENG 103. Biomaterials. 4 Units.

This course discusses biomaterials and lays the ground work for topics such as mechanical chemical, and thermal properties of replacement materials and tissues. Implantation of materials in the body are studies studied from the biological point of view. Prerequisites: Completion of all Fundamental Skills; MATH 053; CHEM 025 or CHEM 027; BIOL 061 or BENG 063 with a "C-" or better.

BENG 104. Biomedical Imaging. 4 Units.

This course discusses major medical imaging modalities in radiology, including X-ray, CT, nuclear medicine, ultrasound, and MRI. Specific contents include physical principle of each imaging modality; instrumentation and data acquisition/image reconstruction strategy, clinical applications and imaging techniques. Prerequisites: MATH 055, PHYS 055, COMP 051 or ENGR 019.

BENG 108. Engineering Physiology. 4 Units.

This course is a lecture and lab-based study of the major organ systems in the human body. Lectures cover basic anatomy, function and regulation of the nervous, endocrine, sensory, muscular, cardiovascular, respiratory, and excretory systems, with the underlying theme of maintaining homeostasis while responding to physiological disturbances. Lectures also compare each system to abiotic models, and utilize basic principles of physics, math, and chemistry. Lab exercises demonstrate basic physiological processes and emphasize techniques of instrument-based data acquisition and data presentation. Students also create virtual instruments (VIs) that use the program LabVIEW and apply the VIs in a final independent lab project. Prerequisites: Completion of all Fundamental Skills; BIOL 051 or BENG 053; BIOL 061 or BENG 063; CHEM 025 all with a "C-" or better or permission of instructor.

BENG 124. Biomechanics. 4 Units.

This course discusses concepts of engineering mechanics including stress, strain, deformation, and analysis of structures with application to biomechanical phenomena over a range of biological length scales. Engineering mechanics concepts are used to evaluate forces and moments acting on human joints, forces in musculoskeletal tissue, material properties of biological tissues, and disease state conditions. Prerequisites: Completion of all Fundamental Skills; ENGR 020 with a "C-" or better. Prerequisite may be taken concurrently: MATH 057 with a "C-" or better.

BENG 130. Biotransport. 4 Units.

This course focuses on momentum transport (viscous flow) and mass transport (diffusion and convection) in living systems. The fundamental principles of momentum and mass transfer are explored and laws of conservation applied to develop mathematical descriptions of physiological and engineering systems across a range of length scales. Students develop technical writing skills and learn to use computation fluid dynamics simulation tools. Prerequisites: Completion of all Fundamental Skills; MATH 057; PHYS 053 with a "C-" or better.

BENG 140. Introduction to Tissue Engineering. 4 Units.

Tissue engineering is a multidisciplinary and collaborative field that applies the principles of engineering and biology toward the development of biological substitutes that restore, maintain, and improve tissue function. In this course, there will be an overview of tissue engineering, including discussion of cell sources, cell-material interactions, and assessment of engineering outcome through destructive and nondestructive means with case studies of specific types of tissue engineering including skin, bone, cartilage, bladder, and liver. Finally, ethical standards for different techniques in tissue engineering will be discussed. Prerequisites: Completion of all Fundamental Skills; BIOL 061; BENG 103 all with a "C-" or better or permission of instructor.

BENG 154. Introduction to Magnetic Resonance Imaging. 4 Units.

Introduction to the physics, techniques, and applications of magnetic resonance imaging (MRI) in basic sciences and the clinic. Basics of nuclear magnetic resonance physics, and Fourier transform, MRI hardware, and MR imaging principles including signal generation, detection, and spatial localization techniques. Applications of MRI including tissue relaxometry measurement and diffusion weighted imaging of biological tissues, imagining of anatomy, and function. Prerequisites: Completion of all Fundamental Skills; BENG 104 with a "C-" or better or permission of instructor.

BENG 171. Bioelectricity. 4 Units.

This course provides the student with an understanding of the origins, function, and measurement of electrical potentials and currents within biological tissues, such as nerve, muscle, and heart. Topics include: the bioelectrical properties of ion channels, neurons, the synapse and neuromuscular junction, adaptation and learning in small networks of neurons, the functional organization of bioelectrical systems, and bioelectrical measurement and stimulation of tissues such as the heart and brain. Prerequisites: Completion of all Fundamental Skills; BIOL 061 or BENG 063; ECPE 041/ECPE 041L; MATH 055 all with a "C-" or better or permission of instructor.

BENG 191. Independent Study. 1-4 Units.

Special individual projects are undertaken under the direction of one or more faculty members who are knowledgeable in the particular field of study. Permission of department chairperson and faculty members involved.

BENG 194. Bioengineering Project Proposal. 3 Units.

This course provides an introduction to the engineering design process. Students apply basic sciences, mathematics, and engineering topics to meet a stated objective. Students will write a proposal for a comprehensive design project, in which they establish design objectives and criteria, analyze solution alternatives, and synthesize a problem. Consideration for engineering standards, realistic constraints, ethics, and safety is included. Prerequisite: Completion of all Fundamental Skills, Junior or Senior standing, BENG 124 and BENG 103, may be taken concurrently, with a "C-" or better or permission of instructor.

BENG 195. Senior Project. 3 Units.

In this course, students will complete the engineering design process. Students will design and evaluate an engineering solution to an existing problem. Students apply basic sciences, mathematics and engineering topics to implement a solution that meets stated design objectives and criteria. Students will also test prototypes to evaluate design performance. Design documentation and demonstration are required. Includes both written and oral reports and presentations. Prerequisite may be taken concurrently: BENG 194 with a "C-" or better or permission of instructor.

BENG 197. Undergraduate Research. 1-4 Units.

This course is applied or basic research in bioengineering under faculty supervision. Permission of faculty supervisor and department chair. Students must be in good academic standing.

BENG 197D. Undergraduate Research. 1-4 Units.

Civil Engineering

<http://www.pacific.edu/Academics/Schools-and-Colleges/School-of-Engineering-and-Computer-Science/Academics-/Majors/Civil-Engineering-.html>

Phone: (209) 932-2805

Location: John T. Chambers Technology Center

Degrees Offered

Bachelor of Science in Civil Engineering

Program Educational Objectives

Within a few years of graduation, graduates of the Civil Engineering program are expected to:

- Plan, design, evaluate, construct, operate, maintain, analyze, advance, and manage civil engineering systems
- Pursue professional licensure and certifications
- Engage in life-long learning and pursue advanced level studies
- Demonstrate leadership skills through career advancement and active participation in the civil engineering profession and in the community

Students who complete the BS degree in Civil Engineering will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must

consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Bachelor of Science in Civil Engineering

Student must complete a minimum of 120 units of academic work and a minimum of 32 units of Cooperative Education in order to earn the bachelor of science degree in civil engineering.

I. General Education Requirements

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses in the categories listed below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

IIB. ENGR 030

One course from the following categories:

- IIA. Language and Literature
- IIC. Visual and Performing Arts

Note: 1) Only one course can come from each subcategory (A, B, or C) within each category. 2) No more than 2 courses from a single department may be applied to meet the breadth program requirements, with the exception of certain 1-unit GE IIC courses.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

ENGR 030	Engineering and Computing Ethics in Society	3
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Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

Note: 1) Fundamental skills must be satisfied prior to enrolling in upper division courses.

IV. Major Requirements

Mathematics and Science (minimum 30 units)

MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4
PHYS 053	Principles of Physics I	5
Select one of the following:		4-5
CHEM 024	Fundamentals of Chem	
CHEM 025	General Chemistry	
CHEM 027	General Chemistry	

Math or Science Elective		3-4
Geological or Biological Science Elective		3-4

Engineering Science:

ENGR 010	Dean's Seminar	1
ENGR 019	Computer Applications in Engineering	3
ENGR 020	Engineering Mechanics I (Statics)	3
ENGR 025	Professional Practice Seminar	1
ENGR 045	Materials Engineering	4
ENGR 120	Engineering Mechanics II (Dynamics)	3
ENGR 121	Mechanics of Materials	4

Select one of the following: 3-4

ECPE 041	Circuits	
& 041L	and Circuits Laboratory	

One 3 or 4 unit 100-Level BENG, CIVL, ECPE, EMGT, ENGR, or MECH

Professional Practice (minimum 32 units)

ENGR 181	Professional Practice	1-16
ENGR 182	Professional Practice	1-16
ENGR 183	Professional Practice	1-16

Civil Engineering Core:

CIVL 015	Civil Engineering Graphics	3
CIVL 060	Water Quality	4
CIVL 100	Introduction to Structural Engineering	4
CIVL 130	Fluid Mechanics I	3
CIVL 130L	Fluid Mechanics I Lab	1
CIVL 132	Introduction to Environmental Engineering	4
CIVL 133	Water Resources Engineering	4
CIVL 140	Introduction to Geotechnical Engineering	4
CIVL 180	Engineering Synthesis	4
EMGT 170	Project Decision Making	4

Select four of the following from a and b: 12

a. Civil Engineering Analysis Electives

CIVL 022	Geomatics	
CIVL 134	Groundwater	
CIVL 145	Engineering Geology	
CIVL 160	Structural Analysis	
CIVL 171	Water and Environmental Policy	
CIVL 173	Sustainable Engineering	
CIVL 191	Independent Study	
CIVL 193	Special Topics	
CIVL 197	Undergraduate Research	

EMGT 174	Engineering Project Management	
b. Civil Engineering Design Electives:		
CIVL 136	Design of Water Quality Control Facilities	
CIVL 138	Solid Waste Systems Design and Management	
CIVL 141	Earth Structure Design	
CIVL 150	Transportation Engineering	
CIVL 151	Heavy Construction Methods	
CIVL 164	Structural Timber Design	
CIVL 165	Structural Steel Design	
CIVL 166	Reinforced Concrete Design	
CIVL 193	Special Topics	

Note: A minimum of 2 design electives (6 units) must be taken, of which 1 course will include a 3 or 4 unit structural design elective and 1 course must be a 3 or 4 unit non-structural design elective

Civil Engineering Courses

CIVL 015. Civil Engineering Graphics. 3 Units.

Coverage of the principles and applications of graphics in engineering design. Pictorial and isometric sketching and orthographic projection and use of auxiliary views and sections are used. Drafting standards and conventions, dimensioning and tolerances. Layout and assembly drawings, detail drawings and production drawings using AutoCAD software. Laboratory work is included. Prerequisite may be taken concurrently: ENGR 010 with a "C-" or better.

CIVL 022. Geomatics. 3 Units.

This course is an introduction to geomatics engineering which includes in depth coverage of plane surveying and an introduction to Global Navigation Satellite Systems (GNSS), geodetics and geospatial sciences. Fundamental surveying methods and equipment will be presented in both a lecture and a hands-on laboratory section. Topics include: error theory, leveling, traverse computations, topography, coordinate systems, construction surveying, geometric design, Global Navigation Satellite Systems (GNSS), photogrammetry and the presentation of other emerging and relevant technologies. Prerequisite: MATH 041 with a "C-" or better or a passing score on the University's trigonometry placement test.

CIVL 060. Water Quality. 4 Units.

Students examine chemical reactions and processes in aquatic systems with engineering applications. Topics include chemical equilibrium and kinetics associated with acid-base, dissolution-precipitation, complexation, and reduction-oxidation reactions in natural and engineered environments. Laboratory work is included. Prerequisites: CHEM 024 or CHEM 025 or CHEM 027; and MATH 051 with a "C-" or better. (ENST)

CIVL 100. Introduction to Structural Engineering. 4 Units.

Introduction to the theory and applications of structural analysis and design. Topic include: determination of loads, analysis of beams, trusses and frames, influence line and indeterminate structures. Prerequisites: Completion of all Fundamental Skills, CIVL 015, ENGR 019, ENGR 121 with a "C-" or better (Spring).

CIVL 130. Fluid Mechanics I. 3 Units.

Students study the physical properties of fluids, statics and dynamics of incompressible fluids that include hydrostatics, conservation of mass, energy and momentum principles, laminar and turbulent flow with emphasis on pipe flow. Prerequisite: Completion of all Fundamental Skills and ENGR 120 with a "C-" or better. Corequisite: CIVL 130L.

CIVL 130L. Fluid Mechanics I Lab. 1 Unit.

Experimental analysis of concepts are discussed in CIVL 130.
Prerequisite: Completion of all Fundamental Skills and ENGR 120 with a "C-" or better. Corequisite: CIVL 130.

CIVL 132. Introduction to Environmental Engineering. 4 Units.

Students are introduced to the physical, chemical, and biological processes associated with water quality in natural environments and engineering systems. Topics include operation and design of water and wastewater treatment facilities as well as the occurrence, behavior and control of indoor and regional air pollution. Laboratory is included. Prerequisites: Completion of all Fundamental Skills, CIVL 015, CIVL 060 with a "C-" or better.

CIVL 133. Water Resources Engineering. 4 Units.

Students examine hydraulic analysis and design that include pipe flow and open channel flow. Topics include elements of the hydrological cycle, deterministic and probabilistic analysis of rainfall-runoff data for estimation and design, and the application of computers in hydrologic and hydraulic design. Laboratory is included. Prerequisites: Completion of all Fundamental Skills, CIVL 015, CIVL 130 with a "C-" or better.

CIVL 134. Groundwater. 4 Units.

Aquifer properties, groundwater hydraulics in confined and unconfined aquifers under steady and unsteady flow conditions. Well hydraulics under ideal and non-ideal conditions. Constituent transport and fate in groundwater. Prerequisites: Completion of all Fundamental Skills; CIVL 130; MATH 057 with a "C-" or better.

CIVL 136. Design of Water Quality Control Facilities. 4 Units.

This advanced course covers the physical, chemical, and biological processes that are involved in the design of water and wastewater treatment plant facilities as well as applicable design standards and regulations. Prerequisites: Completion of all Fundamental Skills, CIVL 130, CIVL 132 with a "C-" or better.

CIVL 138. Solid Waste Systems Design and Management. 3 Units.

This is an introductory course to solid waste systems, that analyzes of problems associated with storage, collection, transport, processing, and disposal of solid wastes. Students review of current and expected regulatory requirements and the planning and design of solid waste management components that include systems and processes for solid waste prevention, recycling/composting, incineration, and landfilling. Prerequisite: Completion of all Fundamental Skills and CIVL 132 with a "C-" or better.

CIVL 140. Introduction to Geotechnical Engineering. 4 Units.

This introductory course covers the fundamentals of geotechnical engineering, that includes the characterization of soils and their behavior as an engineering material. Topics, include classification of soils, compaction, permeability, and consolidation. Also covered is design applications that include settlement predictions, strength characterization, soil exploration programs, and an overview of shallow and deep foundations. The course includes laboratory work. Prerequisites: Completion of all Fundamental Skills, CIVL 015, ENGR 121 with a "C-" or better.

CIVL 141. Earth Structure Design. 4 Units.

Evaluation of drained and undrained field conditions and the relationship between temporary and permanent design conditions over time. In-situ tests, including SPT and CPT. Analysis of lateral stresses in soil masses. Design of slopes, cantilever retaining walls, sheet piles, anchored bulkheads, and mechanically-stabilized earth walls. Design includes analysis of effects of water and seismic conditions, including liquefaction. Prerequisite: CIVL 140.

CIVL 145. Engineering Geology. 4 Units.

This introductory course to is the study of geology in which geologic principles, data and techniques are applied to civil engineering problems. Also listed as GEOS 145. Prerequisites: Completion of all Fundamental Skills; GEOS 051 or GEOS 061 or CIVL 140 with a "C-" or better.

CIVL 150. Transportation Engineering. 4 Units.

Students study the considerations and procedures in the planning, design, and operation of various transportation systems with primary emphasis on highways. Prerequisites: Completion of all Fundamental Skills. Junior or Senior standing.

CIVL 151. Heavy Construction Methods. 4 Units.

An introduction to the areas of construction engineering and construction management. Construction engineering topics include construction processes and construction econometrics. Construction management topics include contracting, estimating, planning, bidding, and scheduling. Prerequisite: Completion of all Fundamental Skills. Junior or Senior standing.

CIVL 160. Structural Analysis. 3 Units.

Students analyze the behavior of trusses and framed structures under gravity and lateral loads. Other topics include analysis of shear walls, the use of structural analysis software, and the buckling of frames. Prerequisites: Completion of all Fundamental Skills; CIVL 100 and MATH 057 with a "C-" or better.

CIVL 163. Introduction to Earthquake Engineering. 3 Units.

Determination of loads on structures due to earthquakes. Overview of seismology. Methods of estimating equivalent static lateral forces; response spectrum and time history analysis. Concepts of mass, damping and stiffness for typical structures. Design for inelastic behavior. Numerical solutions and code requirements. Prerequisites: Completion of all Fundamental Skills, ENGR 019, ENGR 121 with a "C-" or better.

CIVL 164. Structural Timber Design. 4 Units.

Students will study the design of timber structural members, specifically tension, compression, flexural, and beam-column elements and connections to satisfy design code requirements. Prerequisite, may be taken concurrently: CIVL 100.

CIVL 165. Structural Steel Design. 4 Units.

Students study the design of steel structural members, specifically tension, compression, flexural, and beam-column elements and connections to satisfy design code requirements. Prerequisite: Completion of all Fundamental Skills. Prerequisite may be taken concurrently: CIVL 100 with a "C-" or better.

CIVL 166. Reinforced Concrete Design. 4 Units.

Students study the design and proportioning of structural members, specifically beams, columns, one-way slabs, footings, and walls to satisfy design criteria for reinforced concrete systems. Prerequisite: Completion of all Fundamental Skills. Prerequisite may be taken concurrently: CIVL 100 with a "C-" or better.

CIVL 171. Water and Environmental Policy. 3 Units.

This course introduces students to Federal and State of California environmental regulations pertaining to air, water, hazardous wastes, and toxic substances. Topics include an overview of water rights and environmental impact assessment, relevant case studies, and examples of monitoring and enforcement issues. Prerequisite: Completion of all Fundamental Skills. Junior or Senior standing. **(ENST)**

CIVL 173. Sustainable Engineering. 3 Units.

This interdisciplinary course provides an introduction to principles and practice of sustainable engineering. Topics include the analysis of economic, social, and environmental factors, life cycle assessment, resource use and waste generation in engineering products and processes. The course also examines case studies, readings, and class discussion emphasizes analysis and development of sustainable solutions. Prerequisite: Completion of all Fundamental Skills. Junior or Senior standing.

CIVL 180. Engineering Synthesis. 4 Units.

This course is a culminating experience wherein a group of students synthesize their previous class work into one project. Both technical and non-technical concerns are addressed. One or more faculty members and/or professional engineers are involved depending upon the fields covered in the project. Prerequisites: Completion of all Fundamental Skills; EMGT 170 and 2 of the following: CIVL 100, CIVL 132, CIVL 133, CIVL 140 with a "C-" or better. Senior standing.

CIVL 191. Independent Study. 1-4 Units.

Students undertake special individual projects under the direction of one or more faculty members. Permission of department chairperson and faculty member involved.

CIVL 193. Special Topics. 4 Units.

Upper division elective subject area based on expertise of faculty members.

CIVL 197. Undergraduate Research. 1-4 Units.

This course is applied or basic research in civil engineering under faculty supervision. Permission of faculty supervisor and department chair. Student must be in good academic standing.

Computer Engineering

Phone: (209) 946-2153

Location: Anderson Hall

Website: Computer Engineering (<http://www.pacific.edu/Academics/Schools-and-Colleges/School-of-Engineering-and-Computer-Science/Academics-/Majors/Computer-Engineering-.html>)

Degrees Offered

Bachelor of Science in Computer Engineering

Computer Engineering Program Educational Objectives

Through their careers in computer engineering or related profession, Pacific graduates are expected to demonstrate the following within a few years of earning their Bachelor's degree in Computer Engineering:

- Competency in the computer engineering profession via promotion to positions of increasing responsibility, publications, and/or conference presentations
- Adaptability to new developments in science and technology by successfully completing or pursuing graduate education in engineering or related fields, participating in professional development and/or industrial training courses, or pursuing professional licensure

Students Graduating with a BS in Computer Engineering will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety,

and welfare, as well as global, cultural, social, environmental, and economic factors

3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Bachelor of Science in Computer Engineering

Students must complete a minimum of 120 units of academic work and a minimum of 32 units of Cooperative Education in order to earn the bachelor of science in computer engineering.

I. General Education Requirements

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

IIB. ENGR 030

One course from the following categories:

- IIA. Language and Literature
- IIC. Visual and Performing Arts

Note: 1) Only one course can come from each subcategory (A, B, or C) within each category. 2) No more than 2 courses from a single department may be applied to meet the breadth program requirements, with the exception of certain 1-unit GE IIC courses.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

ENGR 030	Engineering and Computing Ethics in Society	3
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Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated

diversity course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

Note: Fundamental skills must be satisfied before enrolling in upper division courses.

IV. Major Requirements

Mathematics and Science (minimum of 30 units)

MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4
PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5
Select one of the following Science electives:		3-5

BENG 053 General Biology with Applications for Engineers I

BENG 063 General Biology with Applications for Engineers II

BIOL 051 Principles of Biology

BIOL 061 Principles of Biology

CHEM 024 Fundamentals of Chem

CHEM 025 General Chemistry

CHEM 027 General Chemistry

Select one of the following Discrete Math electives: 4

COMP 047 Discrete Math for Computer Science

MATH 074 Discrete and Combinatorial Mathematics

MATH 174 Graph Theory

Engineering Science

ENGR 010	Dean's Seminar	1
ECPE 005	Introduction to Electrical and Computer Engineering *	1
ECPE 041	Circuits	3
ECPE 041L	Circuits Laboratory	1
ECPE 071	Digital Design	3
ECPE 071L	Digital Design Lab	1

Computer Engineering Core

COMP 051	Introduction to Computer Science	4
COMP 053	Data Structures	4
ECPE 121	Digital Signal Processing	4
ECPE 127	Random Signals	3
ECPE 131	Electronics	3
ECPE 131L	Electronics Lab	1
ECPE 170	Computer Systems and Networks	4
ECPE 172	Microcontrollers	4
ECPE 173	Computer Organization and Arch	3
ECPE 174	Advanced Digital Design	4
ECPE 195	Senior Project I	2
ECPE 196	Senior Project II	2
ENGR 025	Professional Practice Seminar	1

Technical Electives

Electives: Select four courses from technical elective options 12

COMP Elective

Select one of the following:		3-4
COMP 127	Web Applications	
COMP 129	Software Engineering	
COMP 135	Human-Computer Interface Design	
COMP 137	Parallel Computing	
COMP 141	Programming Languages	
COMP 147	Computing Theory	
COMP 151	Artificial Intelligence	
COMP 153	Computer Graphics	
COMP 155	Computer Simulation	
COMP 157	Design and Analysis of Algorithms	
COMP 159	Computer Game Technologies	
COMP 163	Database Management Systems	
COMP 173	Operating Systems	
COMP 175	System Administration and Security	
COMP 191	Independent Study	
COMP 197	Undergraduate Research	

ECPE Elective

Select two of the following:		3-4
ECPE 124	Digital Image Processing	
ECPE 133	Solid State Devices	
ECPE 135	Power Electronics	
ECPE 136	VLSI Design	
ECPE 141	Advanced Circuits	
ECPE 144	Applied Electromagnetics	
ECPE 155	Autonomous Robotics	
ECPE 161	Automatic Control Systems	
ECPE 162	Communication Systems	
ECPE 163	Energy Conversion	
ECPE 165	Power System Analysis	
ECPE 177	Computer Networking	
ECPE 178	Computer Network Security	
ECPE 191	Independent Study	
ECPE 197	Undergraduate Research	

ECPE or COMP Elective

Select one course from ECPE or COMP electives listed above 3-4

SOECS Elective

Select one course from BENG, CIVL, COMP, ECPE, ENGR, EMGT, EPHY, 3-4 or MECH **

Cooperative Education (Minimum 32 units to include)

ENGR 181	Professional Practice	1-16
ENGR 182	Professional Practice	1-16
ENGR 183	Professional Practice	1-16

* Students who transfer in with 28 or more units are exempt from taking ECPE 005

** ECPE, EPHY, or COMP courses must be at 100 level. Excluding ENGR 010, ENGR 019, ENGR 025, ENGR 030, ENGR 181, ENGR 182, and ENGR 183.

Electrical Computer Engr Courses

ECPE 005. Introduction to Electrical and Computer Engineering. 1 Unit.

This course introduces students to various sub-disciplines of Electrical and Computer Engineering and to the tools, both hardware and software, that are used in Electrical & Computer Engineering. Prerequisite: ENGR 010 with a "C-" or better.

ECPE 041. Circuits. 3 Units.

Students study concepts of voltage, current, power, energy. Topics include ideal circuit elements and their I/V characteristics, Kirchhoff's laws, circuit analysis using node voltage and mesh current methods, Thevenin's and Norton's theorems, maximum power transfer, and operational amplifier circuits. The course examines step response of 1st order (RC, RL) and 2nd order (RLC) circuits, phasor analysis, impedance calculations, sinusoidal steady state response, instantaneous, average, and reactive power, frequency response, bandwidth of first order, and lowpass and highpass filters. Prerequisite: PHYS 055; MATH 055; COMP 051 or ENGR 019 with a "C-" or better. Corequisite: ECPE 041L.

ECPE 041L. Circuits Laboratory. 1 Unit.

Students study the use of standard test equipment to make DC and AC measurements and characterize electric circuits. Circuit simulation is taught with software tools, and data analysis is emphasized. Corequisite: ECPE 041.

ECPE 071. Digital Design. 3 Units.

Students study number systems, binary arithmetic, and Boolean logic. Topics include the analysis and synthesis of combinational and sequential circuits and the use of MSI, LSI, FPGA and CPLD devices. Prerequisite: Fundamental Math Skills requirement; COMP 051 or ENGR 019 with a "C-" or better. Recommended: ECPE 071L.

ECPE 071L. Digital Design Lab. 1 Unit.

This course involves laboratory treatment of the concepts discussed in ECPE 071. Prerequisites: Fundamental Math Skills requirement; COMP 051 or ENGR 019 with a "C-" or better. Corequisite: ECPE 071.

ECPE 121. Digital Signal Processing. 4 Units.

Students analyze discrete-time signals and systems using z transforms and Fourier transforms, the fast Fourier transform and its applications, digital filters and their applications and implementation of DSP algorithms using Matlab and Simulink. Prerequisites: ECPE 041 and MATH 057 with a "C-" or better.

ECPE 124. Digital Image Processing. 4 Units.

This course is the analysis and design of algorithms in digital image processing. Topics include: image formation, file format, pixel-based processing, object recognition, filtering and edge detection, image transforms, segmentation, stereo-vision, and motion tracking. Prerequisites: COMP 053, ECPE 121 with a "C-" or better.

ECPE 127. Random Signals. 3 Units.

This course is an introduction to probability and statistics in engineering applications. Students will become familiar with discrete and continuous random variables and their probability models. Topics include counting methods, reliability problems, probability mass functions (PMF), probability density functions (PDF), cumulative distribution functions (CDF), conditional PDF's, expected value and variance, joint and marginal PDF's and CDF's, functions of two random variables. Prerequisites: Completion of all Fundamental Skills, MATH 055 with a "C-" or better.

ECPE 131. Electronics. 3 Units.

This course introduces students to semiconductor physics. Topics include modeling, analysis, and simulation of analog and digital circuits containing diodes, bipolar junction transistors, and MOSFETs. Other topics include analysis and design of single stage amplifiers, frequency response of amplifiers, gain, bandwidth, DC biasing, and small signal analysis of amplifiers. Prerequisites: Completion of all Fundamental Skills; ECPE 041, ECPE 041L, ECPE 071, ECPE 071L; MATH 055, PHYS 055, completion of CHEM 024 or CHEM 025 or CHEM 027 or BIOL 051 or BIOL 061 or BENG 053 or BENG 063 with a "C-" or better. Prerequisite that may be taken concurrently: ECPE 071, ECPE 071L. Corequisite: ECPE 131L.

ECPE 131L. Electronics Lab. 1 Unit.

Students examine the use of standard electronic test equipment and simulation tools to analyze, design, and test electronic circuits. Emphasis on analog circuits. Prerequisites: Completion of all Fundamental Skills. Corequisite: ECPE 131.

ECPE 133. Solid State Devices. 4 Units.

This course introduces concepts related to the crystal structure of semiconductors and electronic, optical, and magnetic properties of semiconductors. Dynamics of carriers under equilibrium and non-equilibrium conditions are presented as a frame work for understanding the behavior of a number of devices including Metal-Oxide-Semiconductor (MOS) and Hetero-junction Bipolar (HBT) devices. On such a background, the course builds an understanding of the latest advances in the field. This course is cross listed with EPHY 133 and PHYS 170. Prerequisite: MATH 057, PHYS 055 with a "C-" or better.

ECPE 135. Power Electronics. 4 Units.

Switch-Mode DC-DC converters, Feedback control of converters, Rectifiers and power factor correction circuits, switch mode DC power supplies, applications to motor control and renewable energy integration to the grid. Includes laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 131 and ECPE 131L with a "C-" or better. Prerequisite may be taken concurrently: ECPE 121 with a "C-" or better.

ECPE 136. VLSI Design. 4 Units.

Students examine issues in VLSI design. Topics include logic families, sizing, timing models, fabrication, layout, high speed and low power design tradeoffs, circuit simulation and device modeling. Prerequisites: Completion of all Fundamental Skills; ECPE 071, ECPE 071L, ECPE 131, ECPE 131L with a "C-" or better. (Spring odd years).

ECPE 141. Advanced Circuits. 4 Units.

Analysis and design of circuits in the continuous time domain. Topics include: frequency response, Laplace transforms, Fourier transforms, stability and feedback. Applications include high-order filter design and controls. Prerequisites: ECPE 041, ECPE 041L, and MATH 057 with a "C-" or better.

ECPE 144. Applied Electromagnetics. 4 Units.

The purpose of this course is for students to gain an understanding of transmission lines and field theory as it applies to communication circuits and systems. Electromagnetic wave propagation, reflection, and transmission through common materials are examined. This course is cross listed with EPHY 144. Prerequisites: Completion of all Fundamental Skills; PHYS 055, MATH 057, ECPE 041 with a "C-" or better.

ECPE 155. Autonomous Robotics. 4 Units.

This course is an overview of the design of autonomous robotics. Students study architectures for robot organization and control, configurations of fixed and mobile robots, sensors and actuators. Students also study the design of algorithms and knowledge representations. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 172 with a "C-" or better or permission of instructor.

ECPE 161. Automatic Control Systems. 4 Units.

Students study component and system transfer functions, open and closed loop response; stability criteria; applications to engineering systems. this course include a laboratory. Prerequisites: Completion of all Fundamental Skills and ECPE 121 with a "C-" or better.

ECPE 162. Communication Systems. 4 Units.

Students examine signal characterization in time and frequency domains. Topics include baseband communication, pulse code modulation, multiplexing, complex envelope representation of bandpass signals. AM, FM, and digital modulations. Students also examine applications to radio, television, telephone, and cellular phone systems. A laboratory is included. Prerequisites: Completion of all Fundamental Skills and ECPE 121 with a "C-" or better. (Spring).

ECPE 163. Energy Conversion. 4 Units.

Students study three phase power systems. Topics include magnetic circuits, transformers, rotating machines: DC, induction, and synchronous machines as well as equivalent circuits and characteristic curves of transformers and rotating machines, renewable energy sources and technologies. the course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 041 and ECPE 041L; PHYS 055 with a "C-" or better.

ECPE 165. Power System Analysis. 3 Units.

Students study electrical power generation and transmission, Three-phase systems, power system component models, per-unit system and single line diagrams, power flow analysis. Prerequisites: Completion of all Fundamental Skills and ECPE 041 with a "C-" or better. Junior standing.

ECPE 170. Computer Systems and Networks. 4 Units.

This course is a comprehensive and holistic examination of the modern computing environment. Students gain an understanding of the various hardware and software components that enable computers and networks to process information and execute applications. Students learn to apply this knowledge in the development of efficient and robust software applications. Prerequisites: Completion of all Fundamental Skills; ECPE 071, COMP 053 with a "C-" or better.

ECPE 172. Microcontrollers. 4 Units.

Students study the design and implementation of digital monitoring and control systems that use micro-controllers. Topics include hardware and software development, interfacing input and output devices, assembly and C programming as well as representative applications. The course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 071 and ECPE 071L with a "C-" or better.

ECPE 173. Computer Organization and Arch. 3 Units.

The objective of this course is to give students an understanding of how a complete modern computer system operates. Students learn about design of control, datapath and arithmetic-logic units. Other topics include pipelining, memory hierarchy and assembly language programming. Prerequisites: Completion of all Fundamental Skills; ECPE 170; ECPE 172 or ECPE 174 with a "C-" or better.

ECPE 174. Advanced Digital Design. 4 Units.

Students learn how to analysis, design, and implement synchronous state machines using programmable logic devices. Topics include CAD-based simulation and development that use schematic capture and hardware description languages, and representative applications. The course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 071 and ECPE 071L with a "C-" or better.

ECPE 177. Computer Networking. 4 Units.

Students study computer networks and the Internet. Topics include LAN and WAN architectures, packet switched networks and routing, the 7-layer OSI model and Internet protocol stack, socket programming and client/server systems as well as wireless security. The course includes a laboratory. Also listed as COMP 177. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 170 with a "C-" or better. Junior or Senior standing.

ECPE 178. Computer Network Security. 3 Units.

This course is an examination of the pervasive security threats related to the Internet, data communications and networking. Topics include TCP/IP protocols, authentication, encryption, malware, cybercrime, and social engineering. Emphasis is on computer and network attack methods, their detection, prevention and analysis, and the integration of the tools and techniques employed in this effort. Includes lab. Prerequisites: Completion of all Fundamental Skills and ECPE 170 or COMP 175 with a "C-" or better.

ECPE 191. Independent Study. 1-4 Units.

Special individual projects are undertaken under the direction of one or more faculty members knowledgeable in the particular field of study. Permission of department chairperson and faculty members involved.

ECPE 195. Senior Project I. 2 Units.

This first semester capstone design course instructs students in the application of design processes and interdisciplinary teamwork. Student teams select a project and develop requirements, test, and design documents. Projects incorporate consideration of engineering standards and realistic constraints such as economics, the environment, sustainability, manufacturability, or safety. Components are evaluated and selected. Feasibility is analyzed through prototyping or simulation and results are presented via oral and written reports. This course is cross listed with EPHY 195. Prerequisites: Completion of all Fundamental Skills; ECPE 131 and ECPE 131L; ECPE 121, ECPE 141, ECPE 172 or ECPE 174 with a "C-" or better.

ECPE 196. Senior Project II. 2 Units.

This second-semester capstone design course, interdisciplinary teams complete the design of their projects. Full implementation is completed, including iteration, optimization, and refinement; justifications for design decisions are analyzed. Testing is performed and results are evaluated to demonstrate satisfaction of specifications. Final oral and written reports, complete documentation, and a project demonstration are required. This course is cross listed with EPHY 196. Prerequisites: Completion of all Fundamental Skills; ECPE 195 with a "C-" or better.

ECPE 197. Undergraduate Research. 1-4 Units.

This course offers applied or basic research in electrical and/or computer engineering under faculty supervision. Permission of faculty supervisor and department chair. The student must be in good academic standing.

Computer Science

<http://www.pacific.edu/Academics/Schools-and-Colleges/School-of-Engineering-and-Computer-Science/Academics-/Majors/Computer-Science.html>

Phone: (209) 946-2355

Location: John T. Chambers Technology Center

Degrees Offered

Bachelor of Science in Computer Science

Concentrations Offered

Software Development

Networking and Computer Security

Computer Science Program Educational Objectives

Through their careers in computing or a related profession, Pacific graduates are expected to demonstrate the following within a few years of earning their Bachelor of Science in Computer Science:

- Graduates employ design skills and technical knowledge that contributes to building or utilizing computing systems in a variety of professional careers.
- Graduates work effectively in team environments, utilize communication skills, and grow and adapt to a world of evolving technology.

Transfer Students

Community college students can transfer to the School of Engineering and Computer Science at any point in their academic program. It is important that each student contact the appropriate Department at Pacific as early as possible and arrange for faculty assistance in planning his or her transfer.

The School of Engineering and Computer Science makes every effort to accommodate the needs of transfer students. Faculty offer advice on programs of study prior to coming to the University and then match student backgrounds with program requirements. Students are encouraged to complete introductory math and science courses prior to entering the program. An introductory object-oriented programming course (C++ or Java) is beneficial for students planning to major in computer science. Check with your program in advance.

Co-op/Internship

No more than four units of Professional Practice (ENGR 181) or Internship (COMP 187) may be applied towards the Bachelor of Science in Computer Science.

Students who complete the Bachelor of Science in Computer Science will have acquired the ability to:

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

Bachelor of Science in Computer Science

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the Bachelor of Science in Computer Science.

I. General Education Requirements

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIB. ENGR 030

One course from the following categories:

IIA. Language and Literature

IIC. Visual and Performing Arts

Note: 1) Only one course can come from each subcategory (A, B, or C) within each category. 2) No more than 2 courses from a single department may be applied to meet the breadth program requirements, with the exception of certain 1-unit GE IIC courses.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

ENGR 030	Engineering and Computing Ethics in Society	3
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Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. 2) Diversity course may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

Note: 1) Fundamental skills must be satisfied prior to enrolling in upper division courses.

IV. Major Requirements

Mathematics and Science

15 units in mathematics and 8 units in laboratory science.

COMP 047, COMP 147 and ECPE 127 count as mathematics units.

COMP 147	Computing Theory	4
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Select one of the following: 4

COMP 047 Discrete Math for Computer Science

MATH 074 Discrete and Combinatorial Mathematics

Select one of the following: 3-4

ECPE 127 Random Signals

MATH 037 Introduction to Statistics and Probability

MATH 039	Probability with Applications to Statistics	
Select one of the following:		4
MATH 045	Introduction to Finite Mathematics and Calculus	
MATH 051	Calculus I	
Two laboratory science courses which can be any General Education Category IIIA course.		8

Computer Science Core

COMP 051	Introduction to Computer Science	4
COMP 053	Data Structures	4
COMP 055	Application Development	4
COMP 141	Programming Languages	4
COMP 157	Design and Analysis of Algorithms	4
COMP 173	Operating Systems	4
COMP 195	CS Senior Project	4
ECPE 071	Digital Design	3
ECPE 170	Computer Systems and Networks	4
ENGR 010	Dean's Seminar	1
ENGR 025	Professional Practice Seminar	1

V. Computer Science Electives and Areas of Concentration

17 units

Students complete their degree with 17 additional units of upper division computer science courses, beyond the core courses, which students select in consultation with their academic advisor. Areas of concentration may be selected by students to allow them to specialize in an area appropriate for their post-graduation plans. If students elect to pursue an area of concentration then they must complete the four courses required for that concentration, plus three additional units selected in consultation with their academic advisor. Up to four units of ENGR 181 or COMP 187 may be substituted for one upper division computer science elective.

Networking and Computer Security Concentration

Career options: Systems administrator, security specialist, network administrator, network appliance developer

COMP 127	Web Applications	4
COMP 175	System Administration and Security	3
COMP 177	Computer Networking	4
COMP 178	Computer Network Security	3
Electives selected with advisor		3

Software Development Concentration

Career options: Application developer, software engineer, software architect, quality assurance

COMP 129	Software Engineering	4
COMP 135	Human-Computer Interface Design	3
COMP 137	Parallel Computing	3
COMP 163	Database Management Systems	4
Electives selected with advisor		3

Graphics and Simulation Concentration

Career options: Game engine developer, simulation developer, training system developer, scientific application developer, games/animation tools developer, graphics/multimedia application developer

COMP 151	Artificial Intelligence	3
COMP 153	Computer Graphics	3
COMP 155	Computer Simulation	4
COMP 159	Computer Game Technologies	4
Electives selected with advisor		3

Computer Science Courses

COMP 025. Computers and Information Processing. 4 Units.

This introductory information technology course focuses on computer architecture, networking, internet technologies and the integration of productivity software. Lectures, readings, hands-on projects and lab assignments give a variety of learning experiences. Specific topics include computer architecture, digital data, networking, file management, spreadsheets, database systems and presentation applications. Students are exposed to JavaScript and Visual Basic scripting. Particular emphasis is placed on HTML programming and creating an interactive student website for homework and lab linking throughout the semester. Prerequisite: Fundamental Math Skills requirement. (GE3B)

COMP 041. Great Ideas in Computing. 4 Units.

This course is a broad introduction to the field of computing. The concepts that are the foundation of computing are presented and placed in historical context. Discussion topics include the ways of thinking and working that make computing effective, and the future of the field. Example topics include number representation, architecture of computing systems, intelligent computing systems, and the use of computing in art and games. Prerequisite: Fundamental Math Skills requirement. (GE3C)

COMP 047. Discrete Math for Computer Science. 4 Units.

This course is designed to develop skills in deductive reasoning and to apply concepts of discrete mathematics to computer science. Topics include logic, deductive reasoning, mathematical induction, set theory, functions, recurrence relations, combinatorics and probability, graphs, trees, and Boolean Algebra. Prerequisite: Fundamental Math Skills requirement. (Spring, every year). (GE3B)

COMP 051. Introduction to Computer Science. 4 Units.

The course emphasizes program design and problem solving techniques that use a high-level programming language. The course introduces basic concepts such as assignment, control flow, iteration, and basic data structures in addition to a supervised lab. Credit for this course is not given if a student has credit for COMP 061. Prerequisite: Fundamental Math Skills requirement. (GE3B)

COMP 053. Data Structures. 4 Units.

The course continues the development of program design and problem solving techniques. Topics include development of fundamental data structures and their associated algorithms as well as array-based algorithms, recursion, lists, generics, dynamic memory, binary trees, and associative structures. Prerequisite: COMP 051 or COMP 061 with a "C-" or better.

COMP 055. Application Development. 4 Units.

This course develops the skills and techniques required for the creation of contemporary software applications. Contemporary software applications are complex systems that involve the interaction of multiple subsystems that require teams of developers working together for extended periods of time. Topics include teamwork and communication skills, current development methodologies, analysis and design documentation and the use of libraries. This course is intended to prepare students to transition to upper division courses. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. (Fall, every year).

COMP 061. Introduction to Programming for Data Science. 4 Units.

This course introduces programming concepts and program design using topics in data science as examples. Basic concepts such as assignment, control flow, iteration, and simple as well as object-oriented data types and structures are developed. The course includes a supervised lab. Credit for this course is not given if student has credit for COMP 051. Prerequisite: Fundamental Math Skills requirement. (GE3B)

COMP 093. Special Topics. 3 or 4 Units.**COMP 127. Web Applications. 4 Units.**

The World-Wide Web consists of client-server applications operating over the Internet. This course introduces the skills and techniques for designing and developing web applications. Topics include: client-server architectures, web servers and web browsers, server-side programming, client-side programming, form processing, state management and multimedia. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better or permission of instructor. (Fall, even years).

COMP 129. Software Engineering. 4 Units.

Students gain practical experience in dealing with medium to large scale software systems. Students learn how current analysis and design methodologies are used to develop the abstractions necessary to understand large systems. Students also learn how such methodologies and abstractions are used to communicate with coworkers and clients about the analysis and design. Because communication is an essential skill in large system development, students are expected to produce documents and presentations of professional quality and depth. Prerequisites: Completion of all Fundamental Skills and COMP 055 with a "C-" or better. (Spring, odd years).

COMP 135. Human-Computer Interface Design. 3 Units.

Human-Computer Interface (HCI) Design focuses on the relationship between humans and computers or other physical devices. This course helps students develop an understanding of the common problems in designing these interfaces and presents a set of design techniques to ensure that designs are both useful and useable. Prerequisite: Completion of all Fundamental Skills. Junior standing. (Spring, odd years).

COMP 137. Parallel Computing. 3 Units.

Parallel computing is a science which solves a large problem by giving small parts of the problem to many computers to solve and then combining the solutions for the parts into a solution for the problem. This course introduces architectures and implementation techniques to support parallel computation. Students are expected to design and implement an original parallel application as a term project. Prerequisite: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. Corequisite: ECPE 170. (Spring, even years).

COMP 141. Programming Languages. 4 Units.

Topics in evaluation, design, and development of programming languages. Topics include type systems, variables and scope, functions, parameter passing, data hiding and abstractions, recursion, memory allocation, grammars and parsing, compiler architecture, programming paradigms, and comparison of programming languages and environments. Prerequisites: Completion of Fundamental Skills and COMP 053 with a "C-" or better. (Spring, every year).

COMP 147. Computing Theory. 4 Units.

Students study automata, formal languages and computability. Topics include finite state automata, regular languages, pushdown automata, context-free languages, Turing machines; decidability, reducibility, and time complexity that includes NP-completeness and intractability. Prerequisites: Completion of all Fundamental Skills; COMP 047 or ECPE 071 or MATH 074 with a "C-" or better. (Fall, every year).

COMP 151. Artificial Intelligence. 3 Units.

Students study fundamental concepts, techniques and tools used in Artificial Intelligence. Topics include knowledge representation, search techniques, machine learning and problem solving strategies. Also listed as ECPE 151. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. (Fall, odd years).

COMP 153. Computer Graphics. 3 Units.

An introduction to two and three dimensional computer graphics. Basic representations and mathematical concepts, object modeling, viewing, lighting and shading. Programming using OpenGL and other computer graphics applications. Also listed as ECPE 153. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. (Fall, every year).

COMP 155. Computer Simulation. 4 Units.

This course explores digital simulation, in which a model of a system is executed on a computer. The course focuses on modeling methodologies, mathematical techniques for implementing models, and statistical techniques for analyzing the results of simulations. Students develop simulations using both simulation development toolkits and general-purpose programming languages. Also listed as EMGT 155. Prerequisites: Completion of all Fundamental Skills; MATH 037 or MATH 039; MATH 045 or MATH 051, COMP 051 or ENGR 019 with a "C-" or better. (Fall, even years).

COMP 157. Design and Analysis of Algorithms. 4 Units.

Topics for this course include complexity analysis, algorithms for searching, sorting, pattern matching, combinatorial problems, optimization problems, backtracking, algorithms related to number theory, graph algorithms, and the limitations of algorithm power. Prerequisites: Completion of all Fundamental Skills; COMP 047 or MATH 074; COMP 053; MATH 045 or MATH 051 with a "C-" or better. (Fall, every year).

COMP 159. Computer Game Technologies. 4 Units.

This course surveys the technologies and processes used for modern video game development. Course topics include software engineering, media creation and management, hardware interfaces, user interaction, 3D mathematics and common algorithms and data structures to support graphics, physics and artificial intelligence. Prerequisite: Completion of all Fundamental Skills and COMP 055 with a "C-" or better. (Fall, odd years).

COMP 162. Data Analytics Programming. 4 Units.

This course develops programming skills for computational data analysis. The course emphasizes programming for statistical analysis, machine learning and predictive modeling. Other topics include programming packages for handling, preparation, and manipulation of data, as well as visualization tools for exploration and presentation of data and results. The course emphasizes hands-on data and analysis using a variety of real-world data sets and analytical objectives. Prerequisites: Completion of all Fundamental Skills; COMP 051 or COMP 061.

COMP 163. Database Management Systems. 4 Units.

A database management system (DBMS) is a computer application designed for the efficient and effective storage, access and update of large volumes of data. This course looks at such systems from two perspectives. The user-center perspective focuses on how a DBMS is used to build support for a data intensive application. This perspective includes examination of common data models, query languages and design techniques. The system implementation perspective focuses on the policies, algorithms and data structures used to design and implement a DBMS. Prerequisites: Completion of all Fundamental Skills and COMP 053 with a "C-" or better. Corequisite: COMP 047 or MATH 074. (Spring, even years).

COMP 173. Operating Systems. 4 Units.

Students are introduced to the fundamental concepts of modern operating systems. Topics include an overview of the computer hardware that supports the operating system, process management, threads, and CPU scheduling. Students also study process synchronization that uses primitive and high-level languages, virtual memory management, file systems, system protection, and distributed systems. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 170 with a "C-" or better or permission of instructor. (Fall, every year).

COMP 175. System Administration and Security. 3 Units.

Students are introduced to an operating system from an administrator's standpoint. Topics include installation with the proper allocation of disk resources, maintaining the operating system and various subsystems, security issues that include server hardening, host firewalls and network security issues. Students also study account administration in a networked environment, change management and intrusion detection. Prerequisites: Completion of all fundamental skills and familiarity with console-based operating systems commands. Junior standing. (Fall, every year).

COMP 177. Computer Networking. 4 Units.

Topics examined in this course include computer networks and the internet, LAN and WAN architectures, and packet switched networks and routing. Students learn about the 7-layer OSI model and internet protocol stack, socket programming and client/server systems, wireless and security. The course includes a laboratory. Also listed as ECPE 177. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 170 with a "C-" or better. Junior or Senior standing. (Fall, every year).

COMP 178. Computer Network Security. 3 Units.

This course is an examination of the pervasive security threats related to the Internet, data communications and networking. Topics include TCP/IP protocols, authentication, encryption, malware, cybercrime, and social engineering. Emphasis is on computer and network attack methods, their detection, prevention and analysis, and the integration of the tools and techniques employed in this effort. Includes lab. Prerequisites: Completion of all Fundamental Skills and ECPE 170 or COMP 175 with a "C-" or better. (Spring, every year).

COMP 187. Internship in Computer Science. 1-4 Units.

This internship course offers cooperative employment in a professional computer science environment. The internship requires satisfactory completion of the work assignment and written reports. Prerequisites: Completion of all Fundamental Skills; COMP 055 and ENGR 025 with a "C-" or better. Grading is Pass/No Credit only.

COMP 191. Independent Study. 1-4 Units.

Students create student-initiated projects that cover topics not available in regularly scheduled courses. A written proposal that outlines the project and norms for evaluation must be approved by the department chairperson.

COMP 195. CS Senior Project. 4 Units.

In this course, students synthesize their cumulative computer science knowledge through the development of a computer application. Students will establish design objectives and criteria, analyze solution alternatives and evaluate design performance. Students will then implement, test and evaluate the system. Results will include analysis and design documents, the implemented system, test reports and a presentation and demonstration of the project. Prerequisites: Completion of all Fundamental Skills, Senior Standing, COMP 055 with a "C-" or better.

COMP 197. Undergraduate Research. 1-4 Units.

Students conduct supervised research that contributes to current active topics in Computer Science. Topics may be selected by the student, related to faculty research, or provided by industrial sponsors. Permission of Undergraduate Research Coordinator.

Cooperative Education

Phone: (209) 946-2151

Cooperative Education for Engineering Programs

Cooperative Education (CO-OP) is an integral part of the engineering curriculum at University of the Pacific. The CO-OP program gives each student the practical skills and discipline necessary to pave a strong career path in their chosen field. The CO-OP program is coordinated through the School of Engineering and Computer Science Office of Cooperative Education.

Cooperative Education employment enhances an engineering degree program by relating theory to practice. During CO-OP, students apply what they have learned in the classroom to professional practice in a workplace. This process of "learning by doing" increases student motivation.

The Cooperative Education Program is required for students who graduate with a BS in Engineering. There are three exceptions to this requirement.

1. International students are exempt from this requirement; however, they are encouraged to participate. This exemption is due to the fact that their study abroad experience already qualifies as a significant "experiential learning" component of their education. (Permanent residents are not exempt from the CO-OP requirement.)
2. Students who have work experience in engineering prior to enrolling at the University of the Pacific may file a petition for equivalent CO-OP credit. They must petition prior to the end of their second semester on campus. Approval of the petition rests with the CO-OP Director, the student's faculty advisor, and the Dean of the School of Engineering and Computer Science.
3. Bioengineers following the biomedical career pathway.

Successful CO-OP employment depends on many factors: Students are expected to be willing to accept CO-OP employment in a wide range of geographical locations and to proactively work with the Office of Cooperative Education in preparing resumes, developing interviewing skills and seeking appropriate positions. Faculty and staff keep in contact with the students during their CO-OP work period.

Cooperative Education Requirements

- A minimum overall GPA of 2.0.
- Students on academic probation are not eligible to participate in the CO-OP program until they eliminate their academic deficiency.
- All lower-division courses, as well as fundamental skills requirements, are to be completed before a student begins their CO-OP assignment.
- Transfer students must be enrolled at Pacific for a minimum of one semester immediately prior to their CO-OP experience.
- All students must complete their CO-OP requirement prior to the final semester of courses.
- A minimum of seven units (undergraduate or graduate) must be completed after the CO-OP experience. At least three of these seven units must be from their major area.

- All students register for Professional Practice units while on their CO-OP. Students do not enroll in any other academic courses at Pacific or at another institution in a traditional classroom setting or online. This is to maintain the high level of workplace performance anticipated by our CO-OP industry partners and provided by the University and CO-OP program.

If a student receives financial aid, income from CO-OP employment may affect the amount of financial assistance a student receives during the employment period.

Cooperative Education For Computer Science Program

Experiential learning is an integral part of the computer science curriculum at University of the Pacific. All computer science students are required to complete a senior project, which is a primary experiential learning experience. Computer Science students are encouraged to also elect a CO-OP experience or undergraduate research, to further enhance their experiential learning. Cooperative education employment enhances a computer science degree program by relating theory to practice. During CO-OP, students apply what they have learned in the classroom to a working situation. This process of “learning by doing” increases student motivation and improves student’s understanding of their future career prospects.

Computer science students who elect a CO-OP experience spend at least one term in their position. The CO-OP program is coordinated through the School of Engineering and Computer Science Office of Cooperative Education.

Successful CO-OP employment depends on many factors: Students are expected to be willing to accept CO-OP employment in a wide range of geographical locations and to proactively work with the Office of Cooperative Education in preparing resumes, developing interviewing skills and seeking appropriate positions. Faculty and staff keep in contact with the students during their CO-OP work period.

Cooperative Education Requirements

- A minimum overall GPA of 2.0.
- Students on academic probation are not eligible to participate in the CO-OP program until they eliminate their academic deficiency.
- All lower-division courses, as well as fundamental skills requirements, are to be completed before a student begins their CO-OP assignment.
- Transfer students must be enrolled at Pacific for a minimum of one semester immediately prior to their CO-OP experience.
- All students must complete their CO-OP requirement prior to the final semester of courses.
- A minimum of seven units (undergraduate or graduate) must be completed after the CO-OP experience. At least three of these seven units must be from their major area.
- All students register for Professional Practice units while on their CO-OP. Students do not enroll in any other academic courses at Pacific or at another institution in a traditional classroom setting or online. This is to maintain the high level of workplace performance anticipated by our CO-OP industry partners and provided by the University and CO-OP program.

If a student receives financial aid, income from CO-OP employment may affect the amount of financial assistance a student receives during the employment period.

Electrical Engineering

Phone: (209) 946-2153

Location: Anderson Hall

Website: Electrical Engineering (<http://www.pacific.edu/Academics/Schools-and-Colleges/School-of-Engineering-and-Computer-Science/Academics-/Majors/Electrical-Engineering.html>)

Degrees Offered

Bachelor of Science in Electrical Engineering

Electrical Engineering Program Educational Objectives

Through their careers in electrical engineering or related profession, Pacific graduates are expected to demonstrate the following within a few years of earning their Bachelor’s degree in Electrical Engineering:

- Competency in the electrical engineering profession via promotion to positions of increasing responsibility, publications, and/or conference presentations
- Adaptability to new developments in science and technology by successfully completing or pursuing graduate education in engineering or related fields, participating in professional development and/or industrial training courses, or pursuing professional licensure

Students graduating with a BS in Electrical Engineering will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Bachelor of Science in Electrical Engineering

Students must complete a minimum of 120 units of academic work and a minimum of 32 units of Cooperative Education in order to earn the bachelor of science in electrical engineering.

I. General Education Requirements

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIB. ENGR 030

One course from the following categories:

IIA. Language and Literature

IIC. Visual and Performing Arts

Note: 1) Only one course can come from each subcategory (A, B, or C) within each category. **2)** No more than 2 courses from a single department may be applied to meet the breadth program requirements, with the exception of certain 1-unit GE IIC courses.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

ENGR 030	Engineering and Computing Ethics in Society	3
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Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

Note: Fundamental skills must be satisfied before enrolling in upper division courses.

IV. Major Requirements

Mathematics and Science (minimum of 30 units)

MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4
PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5

Select one of the following science courses: 4-5

BENG 053 General Biology with Applications for Engineers I

BENG 063 General Biology with Applications for Engineers II

BIOL 051 Principles of Biology

BIOL 061 Principles of Biology

CHEM 024 Fundamentals of Chem

CHEM 025 General Chemistry

CHEM 027 General Chemistry

Select one of the following math courses: 4

MATH 075 Introduction to Linear Algebra

MATH 110 Numerical Analysis

MATH 145 Applied Linear Algebra

MATH 148 Cryptography

MATH 152 Vector Analysis

MATH 155 Real Analysis I

MATH 157 Applied Differential Equations II

MATH 174 Graph Theory

Engineering Science

ECPE 005	Introduction to Electrical and Computer Engineering *	1
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ECPE 041	Circuits	3
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ECPE 041L	Circuits Laboratory	1
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ECPE 071	Digital Design	3
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ECPE 071L	Digital Design Lab	1
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ENGR 010	Dean's Seminar	1
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Electrical Engineering Core

COMP 051	Introduction to Computer Science	4
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COMP 053	Data Structures	4
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ECPE 121	Digital Signal Processing	4
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ECPE 127	Random Signals	3
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ECPE 131	Electronics	3
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ECPE 131L	Electronics Lab	1
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ECPE 141	Advanced Circuits	4
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ECPE 172	Microcontrollers	4
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ECPE 195	Senior Project I	2
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ECPE 196	Senior Project II	2
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ENGR 025	Professional Practice Seminar	1
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Select one of the following: 4

ECPE 144 Applied Electromagnetics

PHYS 101 Electricity and Magnetism

Technical Electives

Select one of the following: 3-4

ECPE 135 Power Electronics

ECPE 163 Energy Conversion

ECPE 165 Power System Analysis

Select one of the following: 4

ECPE 124 Digital Image Processing

ECPE 135 Power Electronics

ECPE 136 VLSI Design

ECPE 155 Autonomous Robotics

ECPE 161 Automatic Control Systems

ECPE 162 Communication Systems

Select two of the following: 6-8

Any ECPE course listed above

BENG 171 Bioelectricity

ECPE 133 Solid State Devices

ECPE 170 Computer Systems and Networks

ECPE 173 Computer Organization and Arch

ECPE 174 Advanced Digital Design

ECPE 177 Computer Networking

ECPE 178 Computer Network Security

ECPE 191 Independent Study

ECPE 197 Undergraduate Research

MECH 155	Solar Energy Engineering	
MECH 175	Systems Analysis and Control	
Engineering Science Elective		
Select one of the following:		3-4
CIVL 015	Civil Engineering Graphics	
ENGR 020	Engineering Mechanics I (Statics)	
ENGR 045	Materials Engineering	
ENGR 122	Thermodynamics I	
MECH 015	Mechanical Engineering Graphics	
Upper Division SOECS Elective		
Select one 100 or 200 level BENG, CIVL, COMP, ECPE, ENGR, EMGT, EPHY or MECH course**		3-4
Cooperative Education (Minimum 32 units that include)		
ENGR 181	Professional Practice	1-16
ENGR 182	Professional Practice	1-16
ENGR 183	Professional Practice	1-16

* Students who transfer in with 28 or more units are exempt from taking ECPE 005.

** Excludes: ENGR 150, ENGR 181, ENGR 182, and ENGR 183.

Electrical Computer Engr Courses

ECPE 005. Introduction to Electrical and Computer Engineering. 1 Unit.

This course introduces students to various sub-disciplines of Electrical and Computer Engineering and to the tools, both hardware and software, that are used in Electrical & Computer Engineering. Prerequisite: ENGR 010 with a "C-" or better.

ECPE 041. Circuits. 3 Units.

Students study concepts of voltage, current, power, energy. Topics include ideal circuit elements and their I/V characteristics, Kirchhoff's laws, circuit analysis using node voltage and mesh current methods, Thevenin's and Norton's theorems, maximum power transfer, and operational amplifier circuits. The course examines step response of 1st order (RC, RL) and 2nd order (RLC) circuits, phasor analysis, impedance calculations, sinusoidal steady state response, instantaneous, average, and reactive power, frequency response, bandwidth of first order, and lowpass and highpass filters. Prerequisite: PHYS 055; MATH 055; COMP 051 or ENGR 019 with a "C-" or better. Corequisite: ECPE 041L.

ECPE 041L. Circuits Laboratory. 1 Unit.

Students study the use of standard test equipment to make DC and AC measurements and characterize electric circuits. Circuit simulation is taught with software tools, and data analysis is emphasized. Corequisite: ECPE 041.

ECPE 071. Digital Design. 3 Units.

Students study number systems, binary arithmetic, and Boolean logic. Topics include the analysis and synthesis of combinational and sequential circuits and the use of MSI, LSI, FPGA and CPLD devices. Prerequisite: Fundamental Math Skills requirement; COMP 051 or ENGR 019 with a "C-" or better. Recommended: ECPE 071L.

ECPE 071L. Digital Design Lab. 1 Unit.

This course involves laboratory treatment of the concepts discussed in ECPE 071. Prerequisites: Fundamental Math Skills requirement; COMP 051 or ENGR 019 with a "C-" or better. Corequisite: ECPE 071.

ECPE 121. Digital Signal Processing. 4 Units.

Students analyze discrete-time signals and systems using z transforms and Fourier transforms, the fast Fourier transform and its applications, digital filters and their applications and implementation of DSP algorithms using Matlab and Simulink. Prerequisites: ECPE 041 and MATH 057 with a "C-" or better.

ECPE 124. Digital Image Processing. 4 Units.

This course is the analysis and design of algorithms in digital image processing. Topics include: image formation, file format, pixel-based processing, object recognition, filtering and edge detection, image transforms, segmentation, stereo-vision, and motion tracking. Prerequisites: COMP 053, ECPE 121 with a "C-" or better.

ECPE 127. Random Signals. 3 Units.

This course is an introduction to probability and statistics in engineering applications. Students will become familiar with discrete and continuous random variables and their probability models. Topics include counting methods, reliability problems, probability mass functions (PMF), probability density functions (PDF), cumulative distribution functions (CDF), conditional PDF's, expected value and variance, joint and marginal PDF's and CDF's, functions of two random variables. Prerequisites: Completion of all Fundamental Skills, MATH 055 with a "C-" or better.

ECPE 131. Electronics. 3 Units.

This course introduces students to semiconductor physics. Topics include modeling, analysis, and simulation of analog and digital circuits containing diodes, bipolar junction transistors, and MOSFETs. Other topics include analysis and design of single stage amplifiers, frequency response of amplifiers, gain, bandwidth, DC biasing, and small signal analysis of amplifiers. Prerequisites: Completion of all Fundamental Skills; ECPE 041, ECPE 041L, ECPE 071, ECPE 071L; MATH 055, PHYS 055, completion of CHEM 024 or CHEM 025 or CHEM 027 or BIOL 051 or BIOL 061 or BENG 053 or BENG 063 with a "C-" or better. Prerequisite that may be taken concurrently: ECPE 071, ECPE 071L. Corequisite: ECPE 131L.

ECPE 131L. Electronics Lab. 1 Unit.

Students examine the use of standard electronic test equipment and simulation tools to analyze, design, and test electronic circuits. Emphasis on analog circuits. Prerequisites: Completion of all Fundamental Skills. Corequisite: ECPE 131.

ECPE 133. Solid State Devices. 4 Units.

This course introduces concepts related to the crystal structure of semiconductors and electronic, optical, and magnetic properties of semiconductors. Dynamics of carriers under equilibrium and non-equilibrium conditions are presented as a frame work for understanding the behavior of a number of devices including Metal-Oxide-Semiconductor (MOS) and Hetero-junction Bipolar (HBT) devices. On such a background, the course builds an understanding of the latest advances in the field. This course is cross listed with EPHY 133 and PHYS 170. Prerequisite: MATH 057, PHYS 055 with a "C-" or better.

ECPE 135. Power Electronics. 4 Units.

Switch-Mode DC-DC converters, Feedback control of converters, Rectifiers and power factor correction circuits, switch mode DC power supplies, applications to motor control and renewable energy integration to the grid. Includes laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 131 and ECPE 131L with a "C-" or better. Prerequisite may be taken concurrently: ECPE 121 with a "C-" or better.

ECPE 136. VLSI Design. 4 Units.

Students examine issues in VLSI design. Topics include logic families, sizing, timing models, fabrication, layout, high speed and low power design tradeoffs, circuit simulation and device modeling. Prerequisites: Completion of all Fundamental Skills; ECPE 071, ECPE 071L, ECPE 131, ECPE 131L with a "C-" or better. (Spring odd years).

ECPE 141. Advanced Circuits. 4 Units.

Analysis and design of circuits in the continuous time domain. Topics include: frequency response, Laplace transforms, Fourier transforms, stability and feedback. Applications include high-order filter design and controls. Prerequisites: ECPE 041, ECPE 041L, and MATH 057 with a "C-" or better.

ECPE 144. Applied Electromagnetics. 4 Units.

The purpose of this course is for students to gain an understanding of transmission lines and field theory as it applies to communication circuits and systems. Electromagnetic wave propagation, reflection, and transmission through common materials are examined. This course is cross listed with EPHY 144. Prerequisites: Completion of all Fundamental Skills; PHYS 055, MATH 057, ECPE 041 with a "C-" or better.

ECPE 155. Autonomous Robotics. 4 Units.

This course is an overview of the design of autonomous robotics. Students study architectures for robot organization and control, configurations of fixed and mobile robots, sensors and actuators. Students also study the design of algorithms and knowledge representations. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 172 with a "C-" or better or permission of instructor.

ECPE 161. Automatic Control Systems. 4 Units.

Students study component and system transfer functions, open and closed loop response; stability criteria; applications to engineering systems. This course includes a laboratory. Prerequisites: Completion of all Fundamental Skills and ECPE 121 with a "C-" or better.

ECPE 162. Communication Systems. 4 Units.

Students examine signal characterization in time and frequency domains. Topics include baseband communication, pulse code modulation, multiplexing, complex envelope representation of bandpass signals. AM, FM, and digital modulations. Students also examine applications to radio, television, telephone, and cellular phone systems. A laboratory is included. Prerequisites: Completion of all Fundamental Skills and ECPE 121 with a "C-" or better. (Spring).

ECPE 163. Energy Conversion. 4 Units.

Students study three phase power systems. Topics include magnetic circuits, transformers, rotating machines: DC, induction, and synchronous machines as well as equivalent circuits and characteristic curves of transformers and rotating machines, renewable energy sources and technologies. The course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 041 and ECPE 041L; PHYS 055 with a "C-" or better.

ECPE 165. Power System Analysis. 3 Units.

Students study electrical power generation and transmission, Three-phase systems, power system component models, per-unit system and single line diagrams, power flow analysis. Prerequisites: Completion of all Fundamental Skills and ECPE 041 with a "C-" or better. Junior standing.

ECPE 170. Computer Systems and Networks. 4 Units.

This course is a comprehensive and holistic examination of the modern computing environment. Students gain an understanding of the various hardware and software components that enable computers and networks to process information and execute applications. Students learn to apply this knowledge in the development of efficient and robust software applications. Prerequisites: Completion of all Fundamental Skills; ECPE 071, COMP 053 with a "C-" or better.

ECPE 172. Microcontrollers. 4 Units.

Students study the design and implementation of digital monitoring and control systems that use micro-controllers. Topics include hardware and software development, interfacing input and output devices, assembly and C programming as well as representative applications. The course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 071 and ECPE 071L with a "C-" or better.

ECPE 173. Computer Organization and Arch. 3 Units.

The objective of this course is to give students an understanding of how a complete modern computer system operates. Students learn about design of control, datapath and arithmetic-logic units. Other topics include pipelining, memory hierarchy and assembly language programming. Prerequisites: Completion of all Fundamental Skills; ECPE 170; ECPE 172 or ECPE 174 with a "C-" or better.

ECPE 174. Advanced Digital Design. 4 Units.

Students learn how to analyze, design, and implement synchronous state machines using programmable logic devices. Topics include CAD-based simulation and development that use schematic capture and hardware description languages, and representative applications. The course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 071 and ECPE 071L with a "C-" or better.

ECPE 177. Computer Networking. 4 Units.

Students study computer networks and the Internet. Topics include LAN and WAN architectures, packet switched networks and routing, the 7-layer OSI model and Internet protocol stack, socket programming and client/server systems as well as wireless security. The course includes a laboratory. Also listed as COMP 177. Prerequisites: Completion of all Fundamental Skills; COMP 053 and ECPE 170 with a "C-" or better. Junior or Senior standing.

ECPE 178. Computer Network Security. 3 Units.

This course is an examination of the pervasive security threats related to the Internet, data communications and networking. Topics include TCP/IP protocols, authentication, encryption, malware, cybercrime, and social engineering. Emphasis is on computer and network attack methods, their detection, prevention and analysis, and the integration of the tools and techniques employed in this effort. Includes lab. Prerequisites: Completion of all Fundamental Skills and ECPE 170 or COMP 175 with a "C-" or better.

ECPE 191. Independent Study. 1-4 Units.

Special individual projects are undertaken under the direction of one or more faculty members knowledgeable in the particular field of study. Permission of department chairperson and faculty members involved.

ECPE 195. Senior Project I. 2 Units.

This first semester capstone design course instructs students in the application of design processes and interdisciplinary teamwork. Student teams select a project and develop requirements, test, and design documents. Projects incorporate consideration of engineering standards and realistic constraints such as economics, the environment, sustainability, manufacturability, or safety. Components are evaluated and selected. Feasibility is analyzed through prototyping or simulation and results are presented via oral and written reports. This course is cross listed with EPHY 195. Prerequisites: Completion of all Fundamental Skills; ECPE 131 and ECPE 131L; ECPE 121, ECPE 141, ECPE 172 or ECPE 174 with a "C-" or better.

ECPE 196. Senior Project II. 2 Units.

This second-semester capstone design course, interdisciplinary teams complete the design of their projects. Full implementation is completed, including iteration, optimization, and refinement; justifications for design decisions are analyzed. Testing is performed and results are evaluated to demonstrate satisfaction of specifications. Final oral and written reports, complete documentation, and a project demonstration are required. This course is cross listed with EPHY 196. Prerequisites: Completion of all Fundamental Skills; ECPE 195 with a "C-" or better.

ECPE 197. Undergraduate Research. 1-4 Units.

This course offers applied or basic research in electrical and/or computer engineering under faculty supervision. Permission of faculty supervisor and department chair. The student must be in good academic standing.

Engineering Management

<http://www.pacific.edu/Academics/Schools-and-Colleges/School-of-Engineering-and-Computer-Science/Academics-/Majors/Engineering-Management-.html>

Phone: (209) 946-2575

Location: Baun Hall

Degrees Offered

Bachelor of Science in Engineering Management

The Bachelor of Science in Engineering Management provides academic preparation for individuals who plan a systems engineering, project management or management career in a technically related field. Pacific graduates from this program have done well in fields such as manufacturing plant engineering, applications engineering, technical sales, construction management, project engineering and cost engineering.

The Engineering Management core consists of courses that cover key topics within engineering management and business administration. In addition, the curriculum includes a large number of engineering electives that provide students with the flexibility to custom design a curriculum to fit their career objectives.

Educational Objectives

The Engineering Management Program at the University of the Pacific seeks to graduate engineers ready to enter professional practice or pursue graduate level studies. The educational objectives of the Engineering Management Program are to graduate engineers that:

1. Are ready to enter professional practice or pursue graduate level studies;
2. Use engineering knowledge as a base for solving problems requiring business and analytical skills;
3. Are able to work in a wide array of different industries, positions and projects; and,
4. Seek continual professional development and lifelong learning.

Students graduating with a BS in Engineering Management will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences

4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Bachelor of Science in Engineering Management

Students must complete a minimum of 120 units of academic work and a minimum of 32 units of Cooperative Education in order to earn the bachelor of science in engineering management.

I. General Education Requirements

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior (ECON 053)

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIB. ENGR 030

One course from the following categories:

IIA. Language and Literature

IIC. Visual and Performing Arts

Note: 1) Only one course can come from each subcategory (A, B, or C) within each category. 2) No more than 2 courses from a single department may be applied to meet the breadth program requirements, with the exception of certain 1-unit GE IIC courses.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

ENGR 030	Engineering and Computing Ethics in Society	3
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Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. 2) Courses are also used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

Note: 1) Fundamental skills must be satisfied prior to enrolling in upper division courses.

IV. Major Requirements

Mathematics and Science (32 units minimum)

MATH 039	Probability with Applications to Statistics	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4
PHYS 053	Principles of Physics I	5
Two math/science electives (above MATH 057)		8

Engineering Science (13 units minimum)

ENGR 010	Dean's Seminar	1
ENGR 019	Computer Applications in Engineering	3
ENGR 020	Engineering Mechanics I (Statics)	3
Two Engineering Science electives		6

Engineering Management Core

BUSI 031	Principles of Financial Accounting	4
EMGT 142	Design and Innovation	3
EMGT 142L	Design and Innovation Lab	1
EMGT 162	Introduction to Data Analytics for Engineers and Computer Scientists	3
EMGT 170	Project Decision Making	4
EMGT 174	Engineering Project Management	3
EMGT 176	Systems Engineering Management	4
Two BUSI/EMGT electives		8
ENGR 025	Professional Practice Seminar	1

Engineering Discipline Electives (27 units minimum)

EMGT 195	Engineering Management Synthesis	4
Engineering Discipline Electives *		23

Cooperative Education (minimum 32 units)

ENGR 181	Professional Practice	14-18
ENGR 182	Professional Practice	14-18
ENGR 183	Professional Practice	14-18

* Each student works with their advisor to develop a customized set of Engineering Discipline electives to meet student specific goals and objectives. The Engineering Management website describes potential sets of electives for different career paths.

Engineering Management Courses

EMGT 115. Building Information Modeling. 4 Units.

This course provides the basics of design, modeling, scheduling, resource allocation, time/cost tradeoffs, task coordination, team-building, progress monitoring, and post project assessment while using the latest BIM technologies. Students study the lean construction and how to integrate BIM into the project delivery processes. Prerequisite: Completion of all fundamental skills.

EMGT 142. Design and Innovation. 3 Units.

This course brings buyers, sellers and end-users of design, prototyping and testing together in an educational and real problem environment. Students will learn how to identify innovation, and develop, design and market new product or service. Students will also learn the nature and importance of technological innovation in commercial organizations with particular reference to bringing a new product or service off the drawing board, through virtual development, and into a modern pre-sales promotional environment in weekly project deliverables. Prerequisite: Upper division standing in engineering.

EMGT 142L. Design and Innovation Lab. 1 Unit.

The laboratory component of EMGT 142, course provides the basics of Industrial Design techniques including drawing, graphical, presentation and design communication skills. Students learn how to design functional objects, sculpture and use a variety of 2D and 3D applications to produce those models as physical objects. A variety of rapid prototyping methods include: 3D Printing, Vacuum Forming, and Laser Cutting is used in weekly project deliverables. Prerequisite: Upper division. Corequisite: EMGT 142.

EMGT 155. Computer Simulation. 4 Units.

This course explores digital simulation in which a model of a system is implemented and executed on a computer. The course focuses on modeling methodologies, mathematical techniques for implementing models, and statistical techniques for analyzing the results of simulations. Students develop simulations that use both simulation development toolkits and general-purpose programming languages. Also listed as COMP 155. Prerequisites: Completion of all Fundamental Skills; MATH 037 or MATH 039; MATH 045 or MATH 051, COMP 051 or COMP 061 or ENGR 019 with a "C-" or better.

EMGT 162. Introduction to Data Analytics for Engineers and Computer Scientists. 3 Units.

This course introduces students to state-of-the-art topics involving large collection of data. Particular emphasis is made on data collection, data storage and processing, extracting structured data from unstructured data, analytics, visualization, and a number of specific applications. Students explore large amounts of complex, digital data and learn about the tools and skills they need to solve knowledge from voluminous data sets. Prerequisites: ENGR 019 or COMP 051; upper division standing.

EMGT 170. Project Decision Making. 4 Units.

Project decision-making based upon engineering economy studies. This area covers techniques for economic evaluation of alternatives including time value of money, risk costs, effects of inflation, compound interest calculation, minimum attractive rate of return, capital budgeting, break-even analysis, sensitivity analysis, and risk analysis. A second facet of the course covers the fundamental aspects of project management within an engineering context. This area covers the project procurement process, project management and project scheduling. (Summer, Fall).

EMGT 172. Engineering Economy. 3 Units.

This course examines decision-making based upon engineering economy studies. This course covers techniques for economic evaluation of alternatives that includes time, value of money, risk cost, effects of taxation, monetary inflation, compound interest calculations, minimum attractive rate of return, capitol budgeting, break-even analysis, sensitivity analysis and risk analysis. Prerequisite: Completion of all Fundamental Skills.

EMGT 174. Engineering Project Management. 3 Units.

Students study the fundamentals of project management that are used in estimating, planning, coordinating and controlling engineering projects. Topics include fundamentals of specifications and contracts, and the scheduling of projects. Prerequisites: Completion of all Fundamental Skills.

EMGT 176. Systems Engineering Management. 4 Units.

This course provides an introduction to the concepts and process of systems engineering. It uses interactive lectures, participatory class exercises and case studies to illustrate the framing and solution of problems through a systems engineering approach. The course stresses an understanding of the interdisciplinary aspects of systems development, operations and support. Prerequisites: Completion of all Fundamental Skills; MATH 055 with a "C-" or better, or permission of instructor.

EMGT 191. Independent Study. 1-4 Units.

Special individual projects are undertaken under the direction of one or more faculty members knowledgeable in the particular field of study. Permission of faculty member involved. The student must be in good academic standing.

EMGT 195. Engineering Management Synthesis. 4 Units.

The capstone course is for Engineering Management majors. Emphasis on integration and application of management concepts, including project proposal and design, with periodic reviews and written and oral reports. Prerequisites: Completion of all Fundamental Skills.

EMGT 197. Undergraduate Research. 1-4 Units.

This course offers applied or basic research in focused topics within Engineering Management under faculty supervision. Permission of faculty supervisor and department chair.

Engineering Physics

Phone: (209) 946-2153

Location: Anderson Hall

Website: Engineering Physics (<http://www.pacific.edu/Academics/Schools-and-Colleges/School-of-Engineering-and-Computer-Science/Academics-/Majors/Engineering-Physics-.html>)

Degrees Offered

Bachelor of Science in Engineering Physics

Engineering Physics

The Bachelor of Science in Engineering Physics is offered in cooperation with the Department of Physics in the College of the Pacific. The degree is granted by the School of Engineering and Computer Science. Engineering Physics is well suited for the student with a strong interest in physics but with the desire to apply that knowledge to real world problems.

The Engineering Physics curriculum is designed to educate students to work in areas where technology is changing rapidly and where the boundaries of several traditional engineering disciplines overlap. These areas include sensors, robotics, energy, and semiconductor materials particularly in nano-scale electron devices. The curriculum develops sufficient depth in both engineering and science to produce graduates who are able to relate basic knowledge to practical problems in engineering. The physics engineer is a person with the training of an applied physicist that can function as an engineer with a deeper understanding of physics.

Engineering Physics Program Educational Objectives

Through their careers in engineering or related profession, Pacific graduates are expected to demonstrate the following within a few years of earning their Bachelor's degree in Engineering Physics:

- Competency in an engineering or science profession via promotion to positions of increasing responsibility, publications, and/or conference presentations
- Adaptability to new developments in science and technology by successfully completing or pursuing graduate education in engineering or related fields, participating in professional development and/or industrial training courses, or pursuing professional licensure.

Students graduating with a BS in Engineering Physics will have:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- an ability to communicate effectively with a range of audiences.
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Bachelor of Science in Engineering Physics

Students must complete a minimum of 120 units of academic work and a minimum of 32 units of Cooperative Education in order to earn the bachelor of science in engineering physics.

I. General Education Requirements

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIB. ENGR 030

One course from the following categories:

IIA. Language and Literature

IIC. Visual and Performing Arts

Note: 1) Only one course can come from each subcategory (A, B, or C) within each category. **2)** No more than 2 courses from a single department may be applied to meet the breadth program requirements, with the exception of certain 1-unit GE IIC courses.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

ENGR 030 Engineering and Computing Ethics in Society 3

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. **2)** Courses are also used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

Note: 1) Fundamental skills must be satisfied before enrolling in upper division courses.

IV. Major Requirements

Mathematics and Science (minimum of 30 units)

MATH 039	Probability with Applications to Statistics	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4
Select one of the following Chemistry courses:		4-5
CHEM 024	Fundamentals of Chem	
CHEM 025	General Chemistry	
CHEM 027	General Chemistry	
PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5

Engineering Science

Select one of the following:		3-4
COMP 051	Introduction to Computer Science	
ENGR 019	Computer Applications in Engineering	
ECPE 041	Circuits	3
ECPE 041L	Circuits Laboratory	1
ECPE 071	Digital Design	3
ECPE 071L	Digital Design Lab	1
ENGR 010	Dean's Seminar	1
ENGR 020	Engineering Mechanics I (Statics)	3
ENGR 045	Materials Engineering	4

Engineering Physics Core

CIVL 130	Fluid Mechanics I	3
CIVL 130L	Fluid Mechanics I Lab	1
ECPE 121	Digital Signal Processing	4
ECPE 131	Electronics	3
ECPE 131L	Electronics Lab	1

ENGR 025	Professional Practice Seminar	1
ENGR 120	Engineering Mechanics II (Dynamics)	3
EPHY 195	Senior Project I	2
or ECPE 195	Senior Project I	
EPHY 196	Senior Project II	2
or ECPE 196	Senior Project II	
PHYS 057	Modern Physics	4
Select one of the following:		4
EPHY 144	Applied Electromagnetics	
or ECPE 144	Applied Electromagnetics	
PHYS 101	Electricity and Magnetism	
Select one of the following:		3-4
ENGR 122	Thermodynamics I	
PHYS 161	Thermal Physics	

Technical Electives

Electives: Five Courses From Technical Electives Options 15-21

Physics Electives

Select two of the following:

PHYS 102	Electrodynamics	
PHYS 105	Optics	
PHYS 127	Computational Physics	
PHYS 137	Mathematical Physics	
PHYS 141	Cosmology	
PHYS 151	Advanced Physics Laboratory	
PHYS 170	Solid State Devices	
PHYS 181	Classical Mechanics	
PHYS 183	Quantum Mechanics	
PHYS 191	Independent Study	
PHYS 197	Undergraduate Research	

Engineering Electives

Select two of the following from the same discipline:

ECPE 124	Digital Image Processing	
ECPE 135	Power Electronics	
ECPE 136	VLSI Design	
ECPE 155	Autonomous Robotics	
ECPE 161	Automatic Control Systems	
ECPE 162	Communication Systems	
ECPE 163	Energy Conversion	
ECPE 165	Power System Analysis	
ECPE 170	Computer Systems and Networks	
ECPE 172	Microcontrollers	
ECPE 173	Computer Organization and Arch	
ECPE 174	Advanced Digital Design	
ECPE 177	Computer Networking	
ECPE 178	Computer Network Security	
ECPE 191	Independent Study	
ECPE 197	Undergraduate Research	
ECPE 225	Digital Signal Processing with Applications	
ECPE 233	Quantum and Nano Devices	
ECPE 263	Recent Topics in Renewable Energy	
ENGR 110	Instrumentation and Experimental Methods	
ENGR 121	Mechanics of Materials	
EMGT 170	Project Decision Making	
EMGT 172	Engineering Economy	

EMGT 174	Engineering Project Management
EPHY 133	Solid State Devices
	or ECPE 133 Solid State Devices
MECH 100	Manufacturing Processes
MECH 104	Introduction to Mechatronics
MECH 150	Heat Transfer
MECH 151	Applied Heat Transfer
MECH 155	Solar Energy Engineering
MECH 157	Thermodynamics II
MECH 158	Air Conditioning
MECH 160	Fluid Dynamics
MECH 175	Systems Analysis and Control
MECH 178	Finite Element Methods

Math Elective

Select one of the following:

MATH 075	Introduction to Linear Algebra
MATH 110	Numerical Analysis
MATH 145	Applied Linear Algebra
MATH 148	Cryptography
MATH 152	Vector Analysis
MATH 157	Applied Differential Equations II
MATH 174	Graph Theory

Cooperative Education - Minimum 32 units that include:

ENGR 181	Professional Practice	1-16
ENGR 182	Professional Practice	1-16
ENGR 183	Professional Practice	1-16

Mechanical Engineering

<http://www.pacific.edu/Academics/Schools-and-Colleges/School-of-Engineering-and-Computer-Science/Academics/Majors/Mechanical-Engineering-.html>

Phone: (209) 946-2377

Location: Khoury Hall

Degrees Offered

Bachelor of Science in Mechanical Engineering

Program Educational Objectives

Through their careers in Mechanical Engineering or a related profession, Pacific BSME graduates are expected to demonstrate one or more of the following within a few years of earning their BSME:

- Competence and/or leadership via promotion to positions of increasing responsibility, publications, and/or conference presentations;
- Adaptability to new developments in science and technology by successfully completing or pursuing graduate education in engineering and related fields, or participating in professional development and/or industrial training courses;
- Creativity and innovation in engineering and technology through participation in activities such as research, design, intellectual property development, and/or entrepreneurial endeavors;

Pacific BSME graduates are also expected to demonstrate an awareness of humanistic, societal, and environmental issues through application of these concerns within their professional activities.

Student Outcomes Required to Achieve M.E. Program Educational Objectives

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors .
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Bachelor of Science in Mechanical Engineering

Students must complete a minimum of 120 units of academic work and a minimum of 32 units of Cooperative Education in order to earn the bachelor of science in mechanical engineering.

I. General Education Requirements

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

Two courses from the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIB. ENGR 030

One course from the following categories:

- IIA. Language and Literature
- IIC. Visual and Performing Arts

Note: 1) Only one course can come from each subcategory (A, B, or C) within each category. **2)** No more than 2 courses from a single department are applied to meet the breadth program requirements, with the exception of certain 1-unit GE IIC courses.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

ENGR 030	Engineering and Computing Ethics in Society	3
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Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. **2)** Courses are also used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

Note: 1) Fundamental skills must be satisfied prior to enrolling in upper division courses.

IV. Major Requirements

Mathematics/Basic Science - Minimum 30 units that include:

MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4
PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5
Select one of the following for Chem Requirement:		4-5

CHEM 024 Fundamentals of Chem

CHEM 025 General Chemistry

CHEM 027 General Chemistry

One Math or Science Elective (from approved list) 3-4

MATH 037	Introduction to Statistics and Probability
MATH 072	Operations Research Models
MATH 075	Introduction to Linear Algebra
MATH 110	Numerical Analysis
MATH 131	Probability and Mathematical Statistics I
MATH 145	Applied Linear Algebra
MATH 152	Vector Analysis
MATH 157	Applied Differential Equations II
PHYS 057	Modern Physics
PHYS 101	Electricity and Magnetism
PHYS 105	Optics
PHYS 125	Molecular Nanotechnology
PHYS 127	Computational Physics
PHYS 170	Solid State Devices
PHYS 181	Classical Mechanics
PHYS 183	Quantum Mechanics
GESC 051	Dynamic Planet
GESC 053	Earth and Life Through Time
GESC 055	Physical Geography
GESC 057	Earth Systems Science
GESC 061	Geology of California
GESC 065	Regional Geology
BIOL 041	Introduction to Biology
BIOL 051	Principles of Biology

Engineering Science

CIVL 130	Fluid Mechanics I	3
CIVL 130L	Fluid Mechanics I Lab	1
ENGR 010	Dean's Seminar	1
ENGR 019	Computer Applications in Engineering	3
ENGR 020	Engineering Mechanics I (Statics)	3
ENGR 025	Professional Practice Seminar	1
ECPE 041	Circuits	3
ECPE 041L	Circuits Laboratory	1
ENGR 045	Materials Engineering	4
ENGR 110	Instrumentation and Experimental Methods	3
ENGR 120	Engineering Mechanics II (Dynamics)	3
ENGR 121	Mechanics of Materials	4
ENGR 122	Thermodynamics I	3

Mechanical Engineering

MECH 015	Mechanical Engineering Graphics	3
MECH 100	Manufacturing Processes	4
MECH 120	Machine Design and Analysis I	3
MECH 125	Machine Design and Analysis II	3
MECH 129	Vibrations	3
MECH 140	Engineering Design/Senior Project I	3
MECH 141	Engineering Design/Senior Project II	3
MECH 150	Heat Transfer	3
MECH 157	Thermodynamics II	3
MECH 175	Systems Analysis and Control	4

Engineering Electives: A Minimum of 9 units of Engineering Electives is required. Engineering Electives must be chosen from the list below. At Least 6 units must be MECH Courses. (Some Electives are not offered every year) 6

List of MECH Electives

MECH 104	Introduction to Mechatronics
MECH 123	Kinematics and Dynamics of Machinery
MECH 160	Fluid Dynamics
MECH 178	Finite Element Methods
MECH 151	Applied Heat Transfer
MECH 155	Solar Energy Engineering
MECH 158	Air Conditioning
MECH 191	Independent Study

MECH 193 Special Topics

MECH 197	Undergraduate Research
MECH 200	Computer Aided Manufacturing
MECH 202	Polymer and Composite Materials
MECH 204	Advanced Mechatronics
MECH 262	Combustion
MECH 293	Special Topics

(200-level courses require instructor's permission)

List of Engineering Electives

BENG 103	Biomaterials	4
BENG 124	Biomechanics	4
CIVL 132	Introduction to Environmental Engineering	4
CIVL 133	Water Resources Engineering	4
CIVL 171	Water and Environmental Policy	3
CIVL 173	Sustainable Engineering	3
ECPE 071	Digital Design	3

ECPE 071L	Digital Design Lab	1
ECPE 121	Digital Signal Processing	4
ECPE 131	Electronics	3
ECPE 131L	Electronics Lab	1
ECPE 144	Applied Electromagnetics	4
ECPE 163	Energy Conversion	4
ECPE 165	Power System Analysis	3
ECPE 170	Computer Systems and Networks	4
EMGT 155	Computer Simulation	4
EMGT 170	Project Decision Making	4
EMGT 172	Engineering Economy	3
EMGT 174	Engineering Project Management	3
EMGT 176	Systems Engineering Management	4
Cooperative Education - Minimum 32 units that include:		
ENGR 181	Professional Practice	14-18
ENGR 182	Professional Practice	14-18
ENGR 183	Professional Practice	14-18

General Engineering Courses

ENGR 010. Dean's Seminar. 1 Unit.

This course is a survey of the profession and practice of engineering and computer science. It is an overview of the programs and methodologies of the School of Engineering and Computer Science that includes educational requirements, professional and career opportunities, introduction to the history of engineering and computing, and entrepreneurship. Hands-on activities and guest lecturers are included to complement the discussion sessions. The course provides basic skills, tools, and techniques applied to problem solving, teamwork and communication necessary for academic and professional success. Students are required to complete a design project, write a basic technical report and present their results.

ENGR 019. Computer Applications in Engineering. 3 Units.

This course introduces students to binary arithmetic, numerical methods applicable to engineering problems and their solution that use a programming language and computation tools. Topics include root finding, solving systems of equations, curve fitting and interpolation, numerical integration and differentiation, and numerical solution of ordinary differential equations. Students develop programming skills in a high level language and learn to use mathematical computation tools including spreadsheets. Prerequisite may be taken concurrently: MATH 053 with a "C-" or better.

ENGR 020. Engineering Mechanics I (Statics). 3 Units.

Students study the fundamental principles of static equilibrium that results from the application of forces on particles and bodies. Prerequisites: MATH 053 and PHYS 053 with a "C-" or better.

ENGR 025. Professional Practice Seminar. 1 Unit.

This course is designed to prepare students for the Cooperative Education experience. Presentations are from representatives of industry, government, education and former Co-op students. Topics include engineering ethics, professionalism, time management and mock interviewing.

ENGR 030. Engineering and Computing Ethics in Society. 3 Units.

Major engineering achievements are explored with an emphasis on ethical principles and the global impact these achievements have on society and the environment. Topics include societal needs, personal rights, whistle blowing, conflicts of interest, professional autonomy, risk assessment, sustainable development and the application of engineering codes of ethics. Contemporary technological controversies are examined along with future developments that require engineers to stay current in their field. Student participation is expected in classroom discussions, oral presentations, and written analyses. Prerequisite: Fundamental Writing Skills requirement. (DVSU, GE2B)

ENGR 045. Materials Engineering. 4 Units.

Students examine the dependency of physical, chemical and mechanical properties on microscopic and macroscopic structure of materials. Laboratory experiments involve properties of materials such as metals, polymers, composites and ceramics. Prerequisites: CHEM 024 or CHEM 025 or CHEM 027; MATH 053 with a "C-" or better.

ENGR 110. Instrumentation and Experimental Methods. 3 Units.

Students study experimental techniques in the measurement of quantities such as biopotentials, force, pressure, sound, flow, temperature, strain and motion. Topics include statistical analysis and errors in measurement, data analysis and transmission. Students also use of instruments in the laboratory, and prepare a measurement project. Prerequisites: Completion of all Fundamental Skills; MATH 057; BENG 124 or ENGR 121 with a "C-" or better or permission of instructor.

ENGR 120. Engineering Mechanics II (Dynamics). 3 Units.

Students examine the fundamental principles of particles and bodies in motion under the action of external forces. Prerequisites: Completion of all Fundamental Skills and ENGR 020 with a "C-" or better.

ENGR 121. Mechanics of Materials. 4 Units.

Students study concepts of stress, strain and deformation, and the analysis and design of simple elements of structures and machines. The course introduces the failure theory and energy methods. Prerequisites: Completion of all Fundamental Skills and ENGR 020 with a "C-" or better. Prerequisite, may be taken concurrently: MATH 057 with a "C-" or better.

ENGR 122. Thermodynamics I. 3 Units.

Students examine the first and second laws of thermodynamics for open and closed systems. Topics include properties of gases and liquids, including entropy and availability. Students are also introduced to the Carnot and ideal Rankine cycles. Prerequisites: Completion of all Fundamental Skills; CHEM 024 or CHEM 025 or CHEM 027; PHYS 053 with a "C-" or better.

ENGR 150. Engineering and Science-Based Entrepreneurship. 4 Units.

Entrepreneurial businesses are increasingly based on new products, processes and services derived from the realms of engineering and/or science. In this hands-on course a multidisciplinary team of students will develop a business plan around a prototype for an original product or service created by students and/or faculty in engineering or the sciences. The plan will focus on the market, technical, operational, financial and organization/administrative dimensions of the business. Prerequisite: Senior standing.

ENGR 181. Professional Practice. 1-16 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 182. Professional Practice. 1-16 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 183. Professional Practice. 1-16 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 184. Professional Practice. 1-18 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 185. Professional Practice. 1-18 Units.

This course offers cooperative employment in a professional engineering environment. Students may register for a variable number of credits that depend upon the length of the work period. The course requires a satisfactory completion of the work assignment and a written report. Grading is on a Pass/Fail basis. Prerequisites: Completion of all Fundamental Skills.

ENGR 191. Independent Study. 1-4 Units.

Mechanical Engineering Courses

MECH 015. Mechanical Engineering Graphics. 3 Units.

This course covers the principles and applications of graphics in engineering design. Topics include pictorial and isometric sketching and orthographic projection, the use of auxiliary views and sections, drafting standards and conventions, dimensioning and tolerances, in addition to layout and assembly drawings, detail drawings and production drawings with SolidWorks and AutoCAD software. A laboratory is included. Prerequisite, may be taken concurrently: ENGR 010 with a "C-" or better.

MECH 100. Manufacturing Processes. 4 Units.

This course is a study of traditional manufacturing processes such as formatting, cutting, joining, casting, and heat treating as well as advanced processing methods; manufacturing with polymers, composites, and ceramics in addition to metals, tribology, nondestructive evaluation, and quality control. Laboratory projects involve manufacturing skills, reverse engineering, automated machines, geometric dimensioning and tolerancing, and statistical process control. Prerequisites: Completion of all Fundamental Skills; MECH 015 and ENGR 045 with a "C-" or better.

MECH 104. Introduction to Mechatronics. 3 Units.

Students examine a broad understanding of the main components of mechatronic systems and understanding of the general principles involved in computer-controlled machinery. Topics include sensing, actuation and control, practical knowledge of the development of simple embedded computer programs, understanding of the practical application of mechatronic systems in applications such as manufacturing, automobile systems and robotics. Prerequisites: Completion of all Fundamental Skills; ECPE 041, ENGR 120, ENGR 110 with a "C-" or better.

MECH 120. Machine Design and Analysis I. 3 Units.

This course builds on fundamental principles learned in statistics, dynamics, and mechanics of materials, and applies them to the design and analysis of machines. Methods for performing load and stress analysis are learned along with analytical methods for solving deflection and stability problems. Static, impact, and fatigue failure theories for machines are also studied. Statistical methods for solving machine design problems are presented, and engineering design practices are integrated throughout the course. Prerequisites: Completion of all Fundamental Skills; ENGR 045, ENGR 120, ENGR 121; MECH 015 with a "C-" or better. (Fall).

MECH 123. Kinematics and Dynamics of Machinery. 3 Units.

Students learn how to design, analyze and prepare a simulation of complex mechanisms with emphasis on high speed and precision applications. Topics include kinematics and dynamics of planar and three dimensional mechanisms; gyroscopic forces in machines and balancing, and applications to robotics. Prerequisites: Completion of all Fundamental Skills; ENGR 120 and ENGR 121 with a "C-" or better.

MECH 125. Machine Design and Analysis II. 3 Units.

Students learn how to design, analyze, and incorporate a variety of standard parts and devices into machines. These parts and devices include fasteners, gear systems, belt drives, chain drives, shafts, couplings, bearings, springs, clutches, and brakes. Principles of tribology (friction, wear, and lubrication) are introduced and applied to the design of machines. Engineering design practices are integrated throughout the course. Prerequisites: Completion of all Fundamental Skills and MECH 120 with a "C-" or better.

MECH 129. Vibrations. 3 Units.

Students study models of physical systems with lumped and distributed parameters. The studies include free and forced vibrations of machines and structures as well as excitation and response of single degree of freedom systems. The course introduces multiple degrees of freedom systems, finite element formulations and mode superposition techniques. Prerequisites: Completion of all Fundamental Skills; MATH 057, ENGR 019, ENGR 120 with a "C-" or better.

MECH 140. Engineering Design/Senior Project I. 3 Units.

This course discusses methods of initiating, planning, conceptualizing, and configuring engineering designs. The student uses these methods to develop an engineering design for a product or process that involves mechanical engineering. Product realization methods, project management, materials selection, manufacturing for designers, guided iteration, communication skills, economics, ethics, liability, and safety issues are put into practice through class activities. Prerequisites: Completion of all Fundamental Skills; ENGR 121 and ENGR 122 with a "C-" or better. Prerequisite, may be taken concurrently: ENGR 110; MECH 120 or MECH 150 with a "C-" or better.

MECH 141. Engineering Design/Senior Project II. 3 Units.

The student completes the design phase of their project. Parametric design techniques such as guided iteration, optimization, and Taguchi's methods are used to complete the detailed design of a product or process that involves mechanical engineering. Manufacturing necessary to complete the product or process is a requirement. Weekly oral and written progress reports are required along with final comprehensive oral and written reports. Prerequisites: Completion of all Fundamental Skills; MECH 100 and MECH 140 with a "C-" or better.

MECH 150. Heat Transfer. 3 Units.

Students study heat transfer by conduction in one, two and three dimensions in transient and steady state and heat transfer in extended surfaces. Topics include solutions by numerical methods, convection in external and internal flow, free convection, and radiation. Prerequisites: Completion of all Fundamental Skills; ENGR 122 and MATH 057 with a "C-" or better.

MECH 151. Applied Heat Transfer. 3 Units.

Applications and extensions of the topics in MECH 150. Multimode heat transfer; heat exchangers. Heat transfer with phase change. Prerequisites: Completion of all Fundamental Skills and MECH 150 with a "C-" or better.

MECH 155. Solar Energy Engineering. 3 Units.

This course introduces students to solar energy, sun-earth geometry, radiation measurement, insulation on surfaces, principles of solar collectors, applications such as space heating and solar ovens, and photovoltaics. Laboratory experiments are included. Prerequisites: Completion of all Fundamental Skills and ENGR 122 with a "C-" or better.

MECH 157. Thermodynamics II. 3 Units.

Students examine the thermodynamics of cycles for power and refrigeration. Other topics include the thermodynamics of gas mixture, chemical reactions, combustion, fuels, and processes involving air and water mixtures relating to heating, cooling, and ventilating for human comfort. The course includes experimental activities and written laboratory reports. Prerequisites: Completion of all Fundamental Skills and ENGR 122 with a "C-" or better.

MECH 158. Air Conditioning. 3 Units.

Students are introduced to air conditioning purpose, terminology and typical systems. Students study the analysis and design of air conditioning as applied to residential and small commercial buildings, and they learn the codes and standards applicable to this field. Prerequisites: Completion of all Fundamental Skills; ENGR 122 with a "C-" or better.

MECH 160. Fluid Dynamics. 3 Units.

Students study equations of continuity, energy, and momentum as applied to fluid flow. Topics include one dimensional compressible flow, and the introduction to more advanced topics, such as turbomachinery, viscous flow and potential flow. Prerequisites: Completion of all Fundamental Skills; CIVL 130 and ENGR 122 with a "C-" or better.

MECH 175. Systems Analysis and Control. 4 Units.

Students study dynamic analysis and control of systems composed of mechanical, electrical, hydraulic and thermal components. Students use of system modeling and simulation techniques to predict transient and steady state response, lumped parameter approximations and linearization. Students also use feedback to enhance system performance and stability and they study design of linear control systems in the time and frequency domains. Prerequisites: Completion of all Fundamental Skills; ECPE 041, ECPE 041L, ENGR 110, MECH 129 with a "C-" or better.

MECH 178. Finite Element Methods. 3 Units.

This course introduces the finite element method for engineering problems. Topics include matrix formulation of finite element models for problems in solid mechanics, heat transfer and fluid flow as well as solution of finite element equilibrium equations. Students study the development of computer algorithms and applications that use commercial finite element computer programs. Some familiarity with matrix methods is desirable. Prerequisites: Completion of all Fundamental Skills; ENGR 121 and ENGR 122 with a "C-" or better. Prerequisite, may be taken concurrently: CIVL 130 with a "C-" or better.

MECH 191. Independent Study. 1-4 Units.

Special individual projects are undertaken under the direction of one or more faculty members knowledgeable in the particular field of study. Permission of department chairperson and faculty members involved.

MECH 197. Undergraduate Research. 2-4 Units.

This course includes applied or basic research in mechanical engineering under faculty supervision. Projects may be experimental, mathematical or computational in nature. Permission of faculty supervisor and department chairperson. Student must be in good academic standing.

SCHOOL OF INTERNATIONAL STUDIES

http://www.pacific.edu/sis
Phone: (209) 946-2650
Location: George Wilson Hall
Bill Herrin, Director
email: DirectorSIS@pacific.edu (directorsis@pacific.edu)

Mary-Lou Tyler, Academic Adviser
e-mail: mtyler@pacific.edu

Degree Offered

Bachelor of Arts

Majors Offered

International Relations

Global Studies

International Affairs and Commerce

International Relations with Departmental Honors

Global Studies with Departmental Honors

International Affairs and Commerce with Departmental Honors

Minors Offered

International Studies

Diverse Academic Track

Foreign Language Track

Study Abroad Track

Anthropology

The school offers students three undergraduate majors that differ based on students' professional goals.

Mission

The School of International Studies is Pacific's window to the world. Through international, interdisciplinary and intercultural immersion, we prepare students to succeed in a variety of global professions in industry, government, not-for-profit organizations and educational institutions.

The School of International Studies (SIS) grew out of the innovative programs in two of University of the Pacific's three former "cluster colleges" (Callison and Elbert Covell) and the international majors offered in College of the Pacific. Established in 1987, SIS offers a unique and challenging environment that immerses students in an interdisciplinary approach to international affairs, and provides a community of students and faculty who share a deep intellectual curiosity for global issues.

The undergraduate program combines the study of political science, economics, history, anthropology and geography. Students develop strong research, critical thinking and analytical skills. Study abroad and competency in at least one second language are central to the curriculum. Students benefit from the school's internationally recognized cross-cultural training program before and after their study abroad experience. They can take advantage of any number of experiential learning opportunities through local and global internships, and many choose to design their own experiential program. The careers SIS graduates pursue range widely, and include positions in non-governmental organizations, business, the government, and academe.

Learning Outcomes

1. The ability to think and communicate critically and clearly in both written and oral forms.

2. The ability to recognize and explain relevant social science theories including their basic assumptions and how scholars in the discipline apply them to the analysis of historical events and contemporary international issues.
3. The ability to communicate effectively in cross-cultural situations and to relate appropriately in a variety of cultural contexts.
4. The ability to understand, evaluate, and apply quantitative and qualitative research methods.

Bachelor of Arts Major in International Relations

The International Relations major is designed for students with a particular interest in comparative and international politics. In addition to the CORE Requirements and General Education Requirements, students take additional coursework in Economics and substantial upper division work in Political Science. While all majors provide an excellent foundation for a range of careers, as evidenced by SIS alumni, this major prepares students for careers in government and law in particular, as well as for graduate school.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree in international relations.

I. General Education Requirements

Students who enter college for the first time are required to take PACS 001, PACS 002 and PACS 003 in addition to six courses from the breadth program. These breadth courses must come from categories IA, IB, IIA, IIC, IIIA and IIIB. Courses taken for the major can also fulfill these general education requirements.

Transfer students with 28 or more transfer units are not required to take PACS 001 and PACS 002. They are required to take PACS 003 and complete general education courses in the following categories: IA, IB, IIA, IIC, IIIA, IIIB and either a IC or IIB course and either an additional IIIA or IIIC course. Courses taken for the major can also fulfill these general education requirements.

Pacific Seminars

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit.

One course from each subdivision below:

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior (ECON 053*)
- IB. U.S. Studies (ECON 055*)
- IC. Global Studies (ANTH 053*)

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics (INTL 081*)
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences
IIIB. Mathematics and Formal Logic (INTL 101 or MATH 037 or MATH 051*)
GEIIC. Science, Technology and Society (Transfer Students only) or a second IIIA Natural Sciences course (Transfer Students only)

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. **2)** * Courses satisfy both GE and major requirements, except as noted.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. **2)** Courses may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Core Requirements

ANTH 053	Cultural Anthropology	4
ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
INTL 010	Director's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	Social Science Research Methods	4
INTL 151	Cross-Cultural Training I	2
INTL 161	Cross-Cultural Training II	2
INTL 185	SIS Capstone	2
Select one of the following:		4
POLS 011	Introduction to Comparative Politics	
POLS 151	Principles of Comparative Politics *	
Competence in a Modern Foreign Language at the level of 4th semester college course or equivalent (typically demonstrated through LANG 025)		
SABD 000	Overseas Study	12-18

* Cannot double count this course as a requirement in the International Relations major

Note: 1) The semester abroad must be in a program approved by the advisor as appropriate to the major. **2)** Students from abroad and Global Nomad students may be exempt from SABD 000.

V. Major Requirements

POLS 051	Introduction to International Relations	4
Select one of the following		4
ECON 125	Economic Development	
INTL 107	Global Economic Issues	
Select one of the following		4
ECON 190	Econometrics	
MATH 037	Introduction to Statistics and Probability	
MATH 045	Introduction to Finite Mathematics and Calculus	

MATH 051	Calculus I	
Select one of the following *		4
ANTH 132	Modern Middle East	
ANTH 134	Anthropology of Africa	
ANTH 153	Language and Culture	
ANTH 170	Culture and Economy	
ANTH 172	Culture and Power	
ANTH 188	Anthropology Theory	
Select three of the following: *		12
INTL 174	Global Environmental Policy	
POLS 141	Western European Comparative Politics	
POLS 151	Principles of Comparative Politics **	
POLS 152	Politics of Asia	
POLS 160	Theories of International Politics	
POLS 164	International Political Economy	
POLS 166	International Conflict and Conflict Management	
POLS 168	Comparative Foreign Policy	
POLS 170	U.S. Foreign Policy	

* Three of these four required courses must be taken at Pacific.

** Cannot double count this course as a requirement in the International Relations major

Bachelor of Arts Major in International Relations with Departmental Honors

The International Relations major is designed for students with a particular interest in comparative and international politics. In addition to the CORE Requirements and General Education Requirements, students take additional coursework in Economics and substantial upper division work in Political Science. While all majors provide an excellent foundation for a range of careers, as evidenced by SIS alumni, this major prepares students for careers in government and law in particular, as well as for graduate school.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 3.5 in order to earn the bachelor of arts degree in international relations with departmental honors.

I. General Education Requirements

Students who enter college for the first time are required to take PACS 001, PACS 002 and PACS 003 in addition to six courses from the breadth program. These breadth courses must come from categories IA, IB, IIA, IIC, IIIA and IIIB. Courses taken for the major can also fulfill these general education requirements.

Transfer students with 28 or more transfer units are not required to take PACS 001 and PACS 002. They are required to take PACS 003 and complete general education courses in the following categories: IA, IB, IIA, IIC, IIIA, IIIB and either a IC or IIB course and either an additional IIIA or IIC course. Courses taken for the major can also fulfill these general education requirements.

Pacific Seminars

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit.

One course from each subdivision below:

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior (ECON 053*)

IB. U.S. Studies (ECON 055*)

IC. Global Studies (ANTH 053*)

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics (INTL 081*)

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic (INTL 101 or MATH 037 or MATH 051*)

GEIIC. Science, Technology and Society (Transfer Students only) or a second IIIA Natural Sciences course (Transfer Students only)

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. 2) * Courses satisfy both GE and major requirements, except as noted.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. 2) Courses may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Core Requirements

ANTH 053	Cultural Anthropology	4
ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
INTL 010	Director's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	Social Science Research Methods	4
INTL 151	Cross-Cultural Training I	2
INTL 161	Cross-Cultural Training II	2
INTL 185	SIS Capstone	2
Select one of the following:		4
POLS 011	Introduction to Comparative Politics	
POLS 151	Principles of Comparative Politics *	
Competence in a Modern Foreign Language at the level of 4th semester college course or equivalent (typically demonstrated through LANG 025)		
SABD 000	Overseas Study	12-18

* Cannot double count this course as a requirement in the International Relations major

Note: 1) The semester abroad must be in a program approved by the advisor as appropriate to the major. 2) Students from abroad and Global Nomad students may be exempt from SABD 000.

V. Major Requirements

POLS 051	Introduction to International Relations	4
Select one of the following		4
ECON 125	Economic Development	
INTL 107	Global Economic Issues	
Select one of the following		4
ECON 190	Econometrics	
MATH 037	Introduction to Statistics and Probability	
MATH 045	Introduction to Finite Mathematics and Calculus	
MATH 051	Calculus I	
Select one of the following *		4
ANTH 132	Modern Middle East	
ANTH 134	Anthropology of Africa	
ANTH 153	Language and Culture	
ANTH 170	Culture and Economy	
ANTH 172	Culture and Power	
ANTH 188	Anthropology Theory	
Select three of the following: *		12
INTL 174	Global Environmental Policy	
POLS 141	Western European Comparative Politics	
POLS 151	Principles of Comparative Politics **	
POLS 152	Politics of Asia	
POLS 160	Theories of International Politics	
POLS 164	International Political Economy	
POLS 166	International Conflict and Conflict Management	
POLS 168	Comparative Foreign Policy	
POLS 170	U.S. Foreign Policy	
Select one of the following:		4
INTL 197	Independent Research ***	
POLS 189	Capstone Seminar ****	

* Three of these four required courses must be taken at Pacific.

** Cannot double count this course as a requirement in the International Relations major

*** A minimum grade of B+ is required to receive departmental honors.

**** Capstone research project must be conducted independently and completed on an approved international topic, and receive a minimum grade of B+ to earn departmental honors.

Bachelor of Arts Major in Global Studies

The Global Studies major is designed for students with a particular interest in culture and in learning about the diversity of human behavior. In addition to the CORE requirements and General Education Requirements, students will take additional upper division coursework in anthropology as well as an upper division course in international politics.

The major prepares students for working and living in different cultural settings, as well as for graduate school.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree in global studies.

I. General Education Requirements

Students who enter college for the first time are required to take PACS 001, PACS 002 and PACS 003 in addition to six courses from the breadth program. These breadth courses must come from categories IA, IB, IIA, IIC, IIIA and IIIB. Courses taken for the major can also fulfill these general education requirements.

Transfer students with 28 or more transfer units are not required to take PACS 001 and PACS 002. They are required to take PACS 003 and complete general education courses in the following categories: IA, IB, IIA, IIC, IIIA, IIIB and either a IC or IIB course and either an additional IIIA or IIIC course. Courses taken for the major can also fulfill these general education requirements.

Pacific Seminars

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit.

One course from each subdivision below:

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior (ECON 053*)

IB. U.S. Studies (ECON 055*)

IC. Global Studies (ANTH 053*)

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics (INTL 081*)

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic (INTL 101 or MATH 037 or MATH 051*)

GEIIC. Science, Technology and Society (Transfer Students only) or a second IIIA Natural Sciences course (Transfer Students only)

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. 2) * Courses satisfy both GE and major requirements, except as noted.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. 2) Courses may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Core Requirements

ANTH 053	Cultural Anthropology	4
ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
INTL 010	Director's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	Social Science Research Methods	4
INTL 151	Cross-Cultural Training I	2
INTL 161	Cross-Cultural Training II	2
INTL 185	SIS Capstone	2

Select one of the following:

POLS 011	Introduction to Comparative Politics
POLS 151	Principles of Comparative Politics

Competence in a Modern Foreign Language at the level of 4th semester college course or equivalent (typically demonstrated through LANG 025)

SABD 000	Overseas Study (1st Semester)	12-18
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Note: 1) The semesters abroad must be in a program approved by the advisor as appropriate to the major. 2) Students from abroad and Global Nomad students may be exempt from SABD 000. 3) Seniors with a 3.0 GPA or above may choose to complete a four unit senior thesis/independent research project (ANTH 197/ INTL 197) under the supervision of a cooperating professor. Students who complete a Senior Thesis with a B+ or better grade earn an SIS Honors Research designation.

V. Major Requirements

Select four of the following: * 16

ANTH 132	Modern Middle East
ANTH 134	Anthropology of Africa
ANTH 153	Language and Culture
ANTH 170	Culture and Economy
ANTH 172	Culture and Power
ANTH 188	Anthropology Theory

Select one of the following: * 4

INTL 174	Global Environmental Policy
POLS 141	Western European Comparative Politics
POLS 151	Principles of Comparative Politics
POLS 152	Politics of Asia
POLS 160	Theories of International Politics
POLS 164	International Political Economy
POLS 166	International Conflict and Conflict Management
POLS 168	Comparative Foreign Policy
POLS 170	U.S. Foreign Policy

Select one of the following: 4

ECON 125	Economic Development
INTL 107	Global Economic Issues

* Four of the five required courses must be taken at Pacific.

Bachelor of Arts Major in Global Studies with Departmental Honors

The Global Studies major is designed for students with a particular interest in culture and in learning about the diversity of human

behavior. In addition to the CORE requirements and General Education Requirements, students will take additional upper division coursework in anthropology as well as an upper division course in international politics.

The major prepares students for working and living in different cultural settings, as well as for graduate school.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 3.5 in order to earn the bachelor of arts degree in global studies with departmental honors.

I. General Education Requirements

Students who enter college for the first time are required to take PACS 001, PACS 002 and PACS 003 in addition to six courses from the breadth program. These breadth courses must come from categories IA, IB, IIA, IIC, IIIA and IIIB. Courses taken for the major can also fulfill these general education requirements.

Transfer students with 28 or more transfer units are not required to take PACS 001 and PACS 002. They are required to take PACS 003 and complete general education courses in the following categories: IA, IB, IIA, IIC, IIIA, IIIB and either a IC or IIB course and either an additional IIIA or IIC course. Courses taken for the major can also fulfill these general education requirements.

Pacific Seminars

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit.

One course from each subdivision below:

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior (ECON 053*)

IB. U.S. Studies (ECON 055*)

IC. Global Studies (ANTH 053*)

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics (INTL 081*)

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic (INTL 101 or MATH 037 or MATH 051*)

GEIIC. Science, Technology and Society (Transfer Students only) or a second IIIA Natural Sciences course (Transfer Students only)

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. 2) * Courses satisfy both GE and major requirements, except as noted.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. 2) Courses may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Core Requirements

ANTH 053	Cultural Anthropology	4
ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
INTL 010	Director's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	Social Science Research Methods	4
INTL 151	Cross-Cultural Training I	2
INTL 161	Cross-Cultural Training II	2
INTL 185	SIS Capstone	2

Select one of the following:

POLS 011 Introduction to Comparative Politics

POLS 151 Principles of Comparative Politics

Competence in a Modern Foreign Language at the level of 4th semester college course or equivalent (typically demonstrated through LANG 025)

SABD 000 Overseas Study (1st Semester) 12-18

Note: 1) The semesters abroad must be in a program approved by the advisor as appropriate to the major. 2) Students from abroad and Global Nomad students may be exempt from SABD 000. 3) Seniors with a 3.0 GPA or above may choose to complete a four unit senior thesis/independent research project (ANTH 197/INTL 197) under the supervision of a cooperating professor. Students who complete a Senior Thesis with a B+ or better grade earn an SIS Honors Research designation.

V. Major Requirements

Select four of the following: * 16

ANTH 132 Modern Middle East

ANTH 134 Anthropology of Africa

ANTH 153 Language and Culture

ANTH 170 Culture and Economy

ANTH 172 Culture and Power

ANTH 188 Anthropology Theory

Select one of the following: * 4

INTL 174 Global Environmental Policy

POLS 141 Western European Comparative Politics

POLS 151 Principles of Comparative Politics

POLS 152 Politics of Asia

POLS 160 Theories of International Politics

POLS 164 International Political Economy

POLS 166 International Conflict and Conflict Management

POLS 168 Comparative Foreign Policy

POLS 170 U.S. Foreign Policy

Select one of the following: 4

ECON 125 Economic Development

INTL 107 Global Economic Issues

INTL 197 Independent Research ** 4
 or ANTH 197 Independent Research

* Four of the five required courses must be taken at Pacific.
 ** Students must complete a Senior Honors Thesis as Independent Research (INTL 197 or ANTH 197), and receive a minimum of B+.

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. 2) * Courses satisfy both GE and major requirements, except as noted.

Bachelor of Arts Major in International Affairs and Commerce

The International Affairs and Commerce major is designed for students with a particular interest in economics, or an intention of working in international business. In addition to the CORE Requirements and General Education Requirements, students take further coursework in economics, math, and business. The major prepares students for careers in business and economics, as well as for graduate school.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree in international affairs and commerce.

I. General Education Requirements

Students who enter college for the first time are required to take PACS 001, PACS 002 and PACS 003 in addition to six courses from the breadth program. These breadth courses must come from categories IA, IB, IIA, IIC, IIIA and IIIB. Courses taken for the major can also fulfill these general education requirements.

Transfer students with 28 or more transfer units are not required to take PACS 001 and PACS 002. They are required to take PACS 003 and complete general education courses in the following categories: IA, IB, IIA, IIC, IIIA, IIIB and either a IC or IIB course and either an additional IIIA or IIC course. Courses taken for the major can also fulfill these general education requirements.

Pacific Seminars

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior (ECON 053*)
- IB. U.S. Studies (ECON 055*)
- IC. Global Studies (ANTH 053*)

Arts and Humanities

- IIA. Language and Literature
- IIIB. Worldviews and Ethics (INTL 081*)
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic (INTL 101 or MATH 037 or MATH 051*)
- GEIIC. Science, Technology and Society (Transfer Students only) or a second IIIA Natural Sciences course (Transfer Students only)

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. 2) Courses may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Core Requirements

ANTH 053	Cultural Anthropology	4
ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
INTL 010	Director's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	Social Science Research Methods	4
INTL 151	Cross-Cultural Training I	2
INTL 161	Cross-Cultural Training II	2
INTL 185	SIS Capstone	2
Select one of the following:		4
POLS 011	Introduction to Comparative Politics	
POLS 151	Principles of Comparative Politics	
Competence in a Modern Foreign Language at the level of 4th semester college course or equivalent (typically demonstrated through LANG 025)		
SABD 000	Overseas Study	12-18

Note: 1) The semester abroad must be in a program approved by the advisor as appropriate to the major. 2) Students from abroad and Global Nomad students may be exempt from SABD 000. 3) Seniors with a 3.0 GPA or above may choose to complete a four unit senior thesis/independent research project (ANTH 197/ INTL 197) under the supervision of a cooperating professor. Students who complete a Senior Thesis with a B+ or better grade earn an SIS Honors Research designation.

V. Major Requirements

ANTH 170	Culture and Economy *	4
ECON 121	International Trade	4
ECON 123	International Finance	4
POLS 164	International Political Economy *	4
Select one of the following:		4
ECON 190	Econometrics	
MATH 037	Introduction to Statistics and Probability	
MATH 045	Introduction to Finite Mathematics and Calculus	
MATH 051	Calculus I	
Select one of the following: **		4
BUSI 163	International Financial Management **	

BUSI 165	International Marketing **
BUSI 169	International Management **
BUSI 178	International Commercial Law **
ECON 125	Economic Development

* ANTH 170 and POLS 164 must be taken at Pacific.

** Check for prerequisites beyond SIS degree requirements.

Bachelor of Arts Major in International Affairs and Commerce with Departmental Honors

The International Affairs and Commerce major is designed for students with a particular interest in economics, or an intention of working in international business. In addition to the CORE Requirements and General Education Requirements, students take further coursework in economics, math, and business. The major prepares students for careers in business and economics, as well as for graduate school.

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 3.5 in order to earn the bachelor of arts degree in international affairs and commerce with departmental honors.

I. General Education Requirements

Students who enter college for the first time are required to take PACS 001, PACS 002 and PACS 003 in addition to six courses from the breadth program. These breadth courses must come from categories IA, IB, IIA, IIC, IIIA and IIIB. Courses taken for the major can also fulfill these general education requirements.

Transfer students with 28 or more transfer units are not required to take PACS 001 and PACS 002. They are required to take PACS 003 and complete general education courses in the following categories: IA, IB, IIA, IIC, IIIA, IIIB and either a IC or IIB course and either an additional IIIA or IIIC course. Courses taken for the major can also fulfill these general education requirements.

Pacific Seminars

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior (ECON 053*)
- IB. U.S. Studies (ECON 055*)
- IC. Global Studies (ANTH 053*)

Arts and Humanities

- IIA. Language and Literature
- IIIB. Worldviews and Ethics (INTL 081*)
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic (INTL 101 or MATH 037 or MATH 051*)

GEIIIC. Science, Technology and Society (Transfer Students only) or a second IIIA Natural Sciences course (Transfer Students only)

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program. 2) * Courses satisfy both GE and major requirements, except as noted.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 or more transfer units prior to fall 2011 are encouraged but not required to complete a designated diversity course prior to graduation. 2) Courses may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Core Requirements

ANTH 053	Cultural Anthropology	4
ECON 053	Introductory Microeconomics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
INTL 010	Director's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	Social Science Research Methods	4
INTL 151	Cross-Cultural Training I	2
INTL 161	Cross-Cultural Training II	2
INTL 185	SIS Capstone	2

Select one of the following:

- POLS 011 Introduction to Comparative Politics
- POLS 151 Principles of Comparative Politics

Competence in a Modern Foreign Language at the level of 4th semester college course or equivalent (typically demonstrated through LANG 025)

SABD 000	Overseas Study	12-18
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Note: 1) The semester abroad must be in a program approved by the advisor as appropriate to the major. 2) Students from abroad and Global Nomad students may be exempt from SABD 000. 3) Seniors with a 3.0 GPA or above may choose to complete a four unit senior thesis/independent research project (ANTH 197/ INTL 197) under the supervision of a cooperating professor. Students who complete a Senior Thesis with a B+ or better grade earn an SIS Honors Research designation.

V. Major Requirements

ANTH 170	Culture and Economy *	4
ECON 121	International Trade	4
ECON 123	International Finance	4
POLS 164	International Political Economy *	4

Select one of the following:

- ECON 190 Econometrics
- MATH 037 Introduction to Statistics and Probability
- MATH 045 Introduction to Finite Mathematics and Calculus
- MATH 051 Calculus I

Select one of the following: **		4
BUSI 163	International Financial Management **	
BUSI 165	International Marketing **	
BUSI 169	International Management **	
BUSI 178	International Commercial Law **	
ECON 125	Economic Development	
INTL 197	Independent Research ***	4
or ECON 197	Independent Research	

- * ANTH 170 and POLS 164 must be taken at Pacific.
- ** Check for prerequisites beyond SIS degree requirements.
- *** Students must complete a Senior Honors Thesis as Independent Research (INTL 197 or ECON 197), and receive a minimum of B+.

Anthropology Minor

The Anthropology Minor is designed to allow students with an interest in Anthropology the opportunity to combine a generalized sequence of courses into a program. An Anthropology Minor broadens a student's major field of study by exposing the student to the diverse ways of life of people around the globe. Students who complete the Anthropology Minor have a greater knowledge of the theories, concepts, and methods used by Anthropologists in the study of human cultures, past and present. A Minor in Anthropology is excellent preparation for further study in any field that requires the abilities to understand and engage with people from other cultures (including teaching, medicine, pharmacy, dentistry, business, law, and counseling).

Students must complete a minimum of 20 units and five courses with a minimum grade point average of 2.0 in order to earn a minor in anthropology,

Note: 1) At least two courses must be taken at Pacific as specified below.

ANTH 053	Cultural Anthropology	4
Select two of the following advanced anthropology electives:		8
ANTH 132	Modern Middle East	
ANTH 134	Anthropology of Africa	
ANTH 153	Language and Culture	
ANTH 170	Culture and Economy	
ANTH 172	Culture and Power	
ANTH 188	Anthropology Theory	
Approved ANTH Course		
Select one of the following groups:		8
A)		
Two Anthropology (ANTH) 4 unit Elective		
B)		
SABD 000	Overseas Study	
INTL 151	Cross-Cultural Training I	
INTL 161	Cross-Cultural Training II	

International Studies Minor

The minor in International Studies helps students from other disciplines prepare for globalization in the 21st century by systematically deepening their understanding of the world outside of the U.S. All minors in international studies start with an introductory course on the world of the 20th century, followed by one of three different international tracks. Students who pursue a major in the School of International Studies are not eligible for an SIS minor. A student interested in the International

Studies minor consults with the SIS Academic Advisor early in his or her academic planning.

Students must complete the required courses with a minimum grade point average of 2.0 in order to earn a minor in international studies.

Diverse Academic Track

Note: 1) A minimum of two electives must be taken from within the School of International Studies Electives and a minimum of two electives must be upper division (100 level courses).

(Minimum 20 units)

INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
Electives *		12
School of International Studies Electives:		
ANTH 053	Cultural Anthropology	
ANTH 132	Modern Middle East	
ANTH 134	Anthropology of Africa	
ANTH 153	Language and Culture	
ANTH 170	Culture and Economy	
ANTH 172	Culture and Power	
ANTH 188	Anthropology Theory	
ECON 071	Global Economic Issues	
ECON 125	Economic Development	
INTL 101	Social Science Research Methods	
INTL 151	Cross-Cultural Training I	
INTL 161	Cross-Cultural Training II	
INTL 174	Global Environmental Policy	
INTL 185	SIS Capstone	
POLS 011	Introduction to Comparative Politics	
POLS 051	Introduction to International Relations	
POLS 141	Western European Comparative Politics	
POLS 151	Principles of Comparative Politics	
POLS 152	Politics of Asia	
POLS 160	Theories of International Politics	
POLS 164	International Political Economy	
POLS 166	International Conflict and Conflict Management	
POLS 168	Comparative Foreign Policy	
POLS 170	U.S. Foreign Policy	

Other International Electives:

ARTH 116	Contemporary World Art 1945 to Present	
BUSI 163	International Financial Management	
BUSI 165	International Marketing	
BUSI 169	International Management	
BUSI 178	International Commercial Law	
COMM 143	Intercultural Communication	
FREN 114	Civilisation Française B	
FREN 118	Littérature Française B	
FREN 120	Le Cinema Francaise/French Cinema in English	
FREN 124	Individu et Societe	
FREN 126	Penseurs et Philosophes	
FREN 128	Images et Voix de Femmes	
HIST 111	Europe in Turmoil 1900-1945	
HIST 112	History of the Holocaust	

HIST 113	Europe Since 1945
HIST 114	Modern Germany
HIST 140	Southeast Asia and the West
HIST 142	Modern Chinese History
HIST 143	Japan in War and Peace
HIST 150	Women in Latin America
HIST 151	People's History of Mexico
JAPN 125	Advanced Japanese I
JAPN 126	Advanced Japanese II
JAPN 170	Japanese Literature in Translation
JAPN 180	Modern Japanese Fiction
RELI 134	World Religions
RELI 135	Asian Religious Traditions
SOCI 108	Food, Culture and Society
SOCI 114	Social and Cultural Change
SPAN 112	Civilización española
SPAN 128	Teatro hispánico
SPAN 135	Literatura del boom latinoamericano

* Select three courses. A minimum of two electives must be taken from within the School of International Studies electives and a minimum of two electives must be upper division (100 level courses).

Foreign Language Track

Note: 1) A minimum of two electives must be taken from within the School of International Studies Electives and a minimum of two electives must be upper division (100 level courses).

(Minimum 20 units)

INTL 077	Contemporary World Issues	4
LANG 025	Intermediate Language, 4th Sem *	4
LANG Elective	(One upper division Modern Language and Literature course taught in a foreign language. The course may be taken at the University of the Pacific or on an approved study abroad program.)	4
Electives **		12
School of International Studies Electives:		
ANTH 053	Cultural Anthropology	
ANTH 132	Modern Middle East	
ANTH 134	Anthropology of Africa	
ANTH 153	Language and Culture	
ANTH 170	Culture and Economy	
ANTH 172	Culture and Power	
ANTH 188	Anthropology Theory	
ECON 071	Global Economic Issues	
ECON 125	Economic Development	
INTL 101	Social Science Research Methods	
INTL 151	Cross-Cultural Training I	
INTL 161	Cross-Cultural Training II	
INTL 174	Global Environmental Policy	
INTL 185	SIS Capstone	
POLS 011	Introduction to Comparative Politics	
POLS 051	Introduction to International Relations	
POLS 141	Western European Comparative Politics	
POLS 151	Principles of Comparative Politics	
POLS 152	Politics of Asia	

POLS 160	Theories of International Politics
POLS 164	International Political Economy
POLS 166	International Conflict and Conflict Management
POLS 168	Comparative Foreign Policy
POLS 170	U.S. Foreign Policy

Other International Elective:

ARTH 116	Contemporary World Art 1945 to Present
BUSI 163	International Financial Management
BUSI 165	International Marketing
BUSI 169	International Management
BUSI 178	International Commercial Law
COMM 143	Intercultural Communication
ECON 121	International Trade
ECON 123	International Finance
FREN 114	Civilisation Française B
FREN 118	Littérature Française B
FREN 120	Le Cinema Francais/French Cinema in English
FREN 124	Individu et Societe
FREN 126	Penseurs et Philosophes
FREN 128	Images et Voix de Femmes
HIST 111	Europe in Turmoil 1900-1945
HIST 112	History of the Holocaust
HIST 113	Europe Since 1945
HIST 114	Modern Germany
HIST 140	Southeast Asia and the West
HIST 142	Modern Chinese History
HIST 143	Japan in War and Peace
HIST 150	Women in Latin America
HIST 151	People's History of Mexico
JAPN 125	Advanced Japanese I
JAPN 126	Advanced Japanese II
JAPN 170	Japanese Literature in Translation
JAPN 180	Modern Japanese Fiction
RELI 134	World Religions
RELI 135	Asian Religious Traditions
SOCI 108	Food, Culture and Society
SOCI 114	Social and Cultural Change
SPAN 112	Civilización española
SPAN 128	Teatro hispánico
SPAN 135	Literatura del boom latinoamericano

* This language may not be the same one used to complete a major in the Department of Modern Language and Literature.

** Select three courses. A minimum of two electives must be taken from within the School of International Studies electives and a minimum of two electives must be upper division (100 level courses).

Study Abroad Track

Note: 1) A minimum of one elective must be taken from within the School of International Studies Electives and a minimum of two electives must be upper division (100 level courses).

(Minimum 20 units)

INTL 077	Contemporary World Issues	4
INTL 151	Cross-Cultural Training I	2

INTL 161	Cross-Cultural Training II	2
SABD 000	Overseas Study *	
Electives: **		12
School of International Studies Electives:		
ANTH 053	Cultural Anthropology	
ANTH 132	Modern Middle East	
ANTH 134	Anthropology of Africa	
ANTH 153	Language and Culture	
ANTH 170	Culture and Economy	
ANTH 172	Culture and Power	
ANTH 188	Anthropology Theory	
ECON 071	Global Economic Issues	
ECON 125	Economic Development	
INTL 101	Social Science Research Methods	
INTL 174	Global Environmental Policy	
INTL 185	SIS Capstone	
POLS 011	Introduction to Comparative Politics	
POLS 051	Introduction to International Relations	
POLS 141	Western European Comparative Politics	
POLS 151	Principles of Comparative Politics	
POLS 152	Politics of Asia	
POLS 160	Theories of International Politics	
POLS 164	International Political Economy	
POLS 166	International Conflict and Conflict Management	
POLS 168	Comparative Foreign Policy	
POLS 170	U.S. Foreign Policy	
Other International Electives:		
ARTH 116	Contemporary World Art 1945 to Present	
BUSI 163	International Financial Management	
BUSI 165	International Marketing	
BUSI 169	International Management	
BUSI 178	International Commercial Law	
COMM 143	Intercultural Communication	
ECON 121	International Trade	
ECON 123	International Finance	
FREN 114	Civilisation Française B	
FREN 118	Littérature Française B	
FREN 120	Le Cinema Francais/French Cinema in English	
FREN 124	Individu et Societe	
FREN 126	Penseurs et Philosophes	
FREN 128	Images et Voix de Femmes	
HIST 111	Europe in Turmoil 1900-1945	
HIST 112	History of the Holocaust	
HIST 113	Europe Since 1945	
HIST 114	Modern Germany	
HIST 140	Southeast Asia and the West	
HIST 142	Modern Chinese History	
HIST 143	Japan in War and Peace	
HIST 150	Women in Latin America	
HIST 151	People's History of Mexico	
JAPN 125	Advanced Japanese I	
JAPN 126	Advanced Japanese II	
JAPN 170	Japanese Literature in Translation	
JAPN 180	Modern Japanese Fiction	

RELI 134	World Religions
RELI 135	Asian Religious Traditions
SOCI 108	Food, Culture and Society
SOCI 114	Social and Cultural Change
SPAN 112	Civilización española
SPAN 128	Teatro hispánico
SPAN 135	Literatura del boom latinoamericano

* One semester of an approved study abroad program.

** Select three courses. Classes taken abroad may count towards the minor with the approval of your advisor. A minimum of one must be taken from within the School of International Studies electives and a minimum of two must be upper division (100 level course).

Anthropology Courses

ANTH 053. Cultural Anthropology. 4 Units.

This introductory course covers the anthropological view of humanity, the character and nature of culture, and the diversity of the human species. The major concepts, methods, and theoretical assumptions of the discipline are illustrated by applying anthropological perspectives to peoples from around the world. Topics include culture, ethnicity, and language; kinship, marriage, and social organization; time and space; religion, magic and rituals; gender and sexuality; power, inequality, and political relations; economic production, circulation, and consumption; social control; and the various forces and forms of change. General Education IC. (DVSY, ETHC, GE1C)

ANTH 093. Special Topics. 1-4 Units.

Occasional offerings on topics in anthropology of current interest to faculty and students. Normally will have no prerequisite.

ANTH 132. Modern Middle East. 4 Units.

How do Palestinians and Israelis conceptualize the ideal polity? How do Muslims understand the roles of women and men? How are historical experiences related to the collective memory of a community, and how does memory shape contemporary social life in the Middle East? How are local histories, societies, and cultures related to global processes of politics, economics, and culture? How do modern Middle Eastern peoples see their own identities and how and why do these conceptions differ from Western discourses about the region? This course is an introduction to thinking critically about these and related questions. Readings are drawn from various areas, that include history, anthropology, and literature. Middle Eastern experiences are also surveyed through other media, such as film. Students are encouraged to think critically about and beyond both popular Western images of the Middle East and supposed boundaries between nations and civilizations. Particular emphasis is given to the interconnections – political, cultural, etc. – between East and West, South and North. Sophomore standing.

ANTH 134. Anthropology of Africa. 4 Units.

Africa is a large and diverse continent that is characterized by a multiplicity of cultures, histories, identities and experiences. This course is designed to encourage an appreciation of the complexity of contemporary Africa and to consider how African realities may differ from common stereotypes of the continent. This is primarily a course on contemporary Africa but it also includes a historical overview of key events that continue to shape current realities such as trade and migration, colonialism, and nationalist struggles for independence. While contemporary issues such as poverty and political violence are addressed, the focus is on the richness and diversity of African lives and experiences from rural to urban settings across the continent. Course material addresses the interconnections between politics, kinship, gender, ethnicity, economics and history. Sophomore standing is required.

ANTH 153. Language and Culture. 4 Units.

In this seminar, the interconnections between language and culture are explored from an anthropological perspective that include approaches to the study of language within anthropology, methods of linguistic anthropological research, linguistic relativity, conversational styles, and links between language and power. (DVSU)

ANTH 170. Culture and Economy. 4 Units.

This course provides an anthropological approach to the study of economic behavior in a cross-cultural context. Are there places in the world where people don't care about the latest cell phones or clothing fashions? Do people always seek to buy the most goods that they can with their money? Do different cultures define rational, maximizing behavior differently? In this class students explore the variety of different ways in which people produce, exchange and consume goods and how these processes are embedded in social and cultural institutions. Throughout the semester, students read ethnographic articles and case studies that discuss other peoples' economic lives and touch on important issues of global poverty and development. Topics include markets, gifts, commodities, property rights, systems of production and exchange, and change within local and global economies. Prerequisite: ANTH 053 or ANTH 054.

ANTH 172. Culture and Power. 4 Units.

What is power? How are power relations configured differently across cultures? How is power institutionalized and contested in an increasingly interconnected world? The theme that unites all these concerns is the politics of everyday life: how power works in and through culture to shape the lives of individuals and societies. Topics of discussion include: conflict and conflict resolution, law and custom, leadership and authority, social and cultural control, ritual and symbolism, gender, ethnicity, and identity politics, nationalism and colonialism, representation, agency and political subjectivity, civil society organizations and social movements, borders, boundaries and citizenship. (DVSU)

ANTH 187. Internship. 1-4 Units.

An internship, approved and supervised by a faculty adviser, is an opportunity for a student to intellectually reflect on a supervised work experience in a setting appropriate for the student's career and life goals. Prerequisites: two advanced anthropology courses with a minimum 2.5 GPA.

ANTH 188. Anthropology Theory. 4 Units.

This course provides a critical review of the history of anthropological theory, that include its epistemology, paradigms, major concepts, central questions, and methodologies, as well as the relationships of these to each other and to their historical context. In tracing the discipline's history from its precursors to its establishment as an academic discipline and then through the last century to the present, the course introduces students to major theoretical approaches in anthropology and interrogates the interconnections between anthropological theory, knowledge, ethics, and practice. Prerequisites: ANTH 053 or ANTH 054. Junior standing.

ANTH 191. Independent Study. 1-4 Units.

Permission of instructor. Junior standing.

ANTH 193. Special Topics, Upper Division. 1-4 Units.

Occasional offerings on topics in anthropology of current interest to faculty and students. Prerequisite: ANTH 053.

ANTH 197. Independent Research. 1-4 Units.

Advanced students are offered the opportunity to design and complete an independent research project under the direction of a faculty member beyond the requirements of other course work. Prerequisites: two advanced anthropology courses with a 3.0 Pacific GPA. Permission of Instructor.

International Studies Courses**INTL 010. Director's Seminar. 1 Unit.**

A general introduction to making a successful transition to college. Emphasis is placed on developing research and presentation skills, collaborative learning, critical thinking, and self-assessment. Students also develop a 4-year academic plan while learning about University resources and opportunities that complement and supplement their academic work. Required for all SIS first year students.

INTL 067. Introduction to Model United Nations (MUN I). 1-2 Units.

This course is an overview of the workings of the United Nations with particular attention paid to current world issues before that body. Emphasis is placed on developing critical thinking and oral advocacy skills in preparation for attending a competitive Model United Nations conference. Course may be taken for up to 2 units.

INTL 077. Contemporary World Issues. 4 Units.

Students are introduced to the most important current global issues through a look at their contemporaneous history over the last century. Students also examine the political, economic, and cultural changes around the world that have led to today's problems and opportunities.

INTL 077L. Twentieth Century Through Documentaries. 1 Unit.

Complementing INTL 077 (Contemporary World Issues), this video course offers historical footage of significant persons, events, and movements around the world throughout the 20th century. The discussion of the videos seeks to deepen understanding of the atmosphere and attitudes surrounding significant events of the 20th century. Prerequisite, may be taken concurrently: INTL 077 or permission of instructor.

INTL 081. Perspectives on World History. 4 Units.

Students study of the shape of human history from its beginnings to the present day. The course is built around the work of several modern historians whose interpretations differ, but whose insights help us to understand humanity's attempt to cope with life on Earth. General education IIB. (GE2B)

INTL 093. Special Topics. 1-4 Units.**INTL 101. Social Science Research Methods. 4 Units.**

Students are introduced to how research is conducted in the social sciences. The course shows how qualitative and quantitative research complements each other and it compares research methodologies in the different social science disciplines. The course also introduces basic statistical methods for analyzing social scientific data, and introduces the use of computers for quantitative analysis. Prerequisite: fundamental quantitative skills. (ENST, GE3B, PLAW)

INTL 107. Global Economic Issues. 4 Units.

This course is an introduction to international trade, international finance and economic development. Economic principles and tools are used to understand the interconnected global economy. Topics include trade theory and policy; regional and multilateral trading system; trade and climate change; balance of payments; foreign exchange markets and exchange rate determination; and the role of foreign aid private capital flows and trade policy in economic development. This course is cross-listed as ECON 071. Prerequisites: ECON 053; ECON 051 or ECON 055. INTL 107 cannot be taken for credit if the student has taken or is concurrently enrolled in ECON 121 or ECON 123. (ENST)

INTL 113. World Geography for the Social Sciences. 4 Units.

This interdisciplinary course is an overview of the study of human geography and is designed to promote both geographic literacy and critical geographical thinking. Issues and themes covered include cultural geography; political geography; space- and place-making; landscape, ecology, and resource consumption; cartography and its critics; and national, imperial, and gendered geographies and their critics. Case studies draw from many world regions and cultures. Sophomore standing.

INTL 123. Literature Across Cultures. 4 Units.

On the basis of selected works taken from the vast body of contemporary world literature, the course surveys the variety of literary expression from cultures around the globe. Although often separated physically by continents, creative writers respond to fundamental human dilemmas in ways characteristic of their craft as well as individuals and members of a culture. Students read, compare, and discuss these responses as they have been formed in Lagos, Berlin or Sao Paulo, Tokyo, Paris or Mobile. Emphasis is on conflicts that arise from post colonialism. General Education IC.

INTL 151. Cross-Cultural Training I. 2 Units.

This course prepares students for interacting in cultures other than their own. It is designed to assist students in developing learning and coping strategies when outside their native cultural environment, such as while studying abroad, as well as the communication and intercultural skills needed for interacting successfully in new cultural environments. Topics include cultural values and assumptions, intercultural communication, and cross cultural problems and adjustment. (DVSY)

INTL 161. Cross-Cultural Training II. 2 Units.

This course analyzes and evaluates the effects and consequences of cross-cultural exposure. Topics include entry and return culture shock, communication styles and channels, alterations in value structure, and models that characterize personal and cultural change. Prerequisites: INTL 151 and study abroad (SABD). (DVSY)

INTL 167. Advanced Model United Nations (MUN II). 1-2 Units.

This course offers advanced instruction on the workings of the specialized agencies of the United Nations and other international organizations with particular attention paid to current world issues before those bodies. Emphasis is placed on independent research and writing, as well as leadership skills, in preparation for attending a competitive Model United Nations conference. Prerequisite: POLS 051. May be taken for up to 2 units. (PLAW)

INTL 174. Global Environmental Policy. 4 Units.

Students examine the major environmental problems that confront the world today and an analysis of specific policies formulated to address those problems. Among the issues to be studied are deforestation, atmospheric and marine pollution, climate change, ozone depletion, and species loss. Prerequisite: POLS 051. (ENST)

INTL 185. SIS Capstone. 2 Units.

This capstone course integrates the interdisciplinary and multidisciplinary SIS core curriculum with the experiential learning of study abroad. This is accomplished through analysis of the role of the individual in a variety of cultural and historical contexts that pay particular attention to questions of identity and ethics in a complex global environment. Prerequisites: a semester of study abroad or permission of instructor. Senior standing.

INTL 187. Internship. 1-4 Units.

An internship, approved and supervised by a faculty adviser, is an opportunity for a student to intellectually reflect on a supervised work experience in a setting appropriate for the student's career and life goals. Prerequisites: two SIS core courses and a minimum 2.5 GPA.

INTL 191. Independent Study. 1-4 Units.

Ordinarily limited to SIS juniors and seniors. Student must be in good academic standing. Permission of instructor.

INTL 193. Special Topics. 1-4 Units.**INTL 197. Independent Research. 1-4 Units.**

Advanced students are offered the opportunity to design and complete an independent research project under the direction of a faculty member beyond the requirements of other course work. A minimum 3.0 GPA is required. Permission of instructor.

THE THOMAS J. LONG SCHOOL OF PHARMACY AND HEALTH SCIENCES

<http://www.pacific.edu/pharmacy>

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Marcus Ravnar, Assistant Dean, Pre-Pharmacy and Pre-Health Affairs

Contents

- Pharmacy
- Pharmaceutical and Chemical Sciences (see Graduate Catalog for information)
- Physical Therapy (see Graduate Catalog for information)
- Speech-Language Pathology
- Applied Science
- Audiology (see Graduate Catalog for information)

A professional school dedicated to the training of pharmacists, physical therapists and speech-language pathologists in modern healthcare delivery.

Mission

The mission of the Thomas J. Long School of Pharmacy and Health Sciences is to prepare students for lifelong success in health careers by providing an excellent, student-centered learning environment. The goal is to develop in our students leadership and a strong commitment to their professions and to society. These efforts are assisted by the linkages across the University's professional and liberal arts programs. The focus is to support outstanding professional and graduate teaching, research and other scholarly activity, and service as the means of achieving our mission.

The school offers degrees in four areas of study: the Doctor of Pharmacy Program, the Pharmaceutical and Chemical Sciences Graduate Program, the Doctor of Physical Therapy Program and the Speech Language Pathology Baccalaureate and Masters Programs.

Graduate Degree Programs in Pharmacy

The Thomas J. Long School of Pharmacy and Health Sciences, in conjunction with the Office of Graduate Studies, offers programs leading to the Master of Science and Doctor of Philosophy degrees and the combined PharmD/PhD and PharmD/MS degree programs. The PharmD/MBA degree program is offered in conjunction with the Eberhardt School of Business. These unique dual-degree programs are intended for students who are interested in careers in research, teaching or business but who wish to also possess a professional degree in pharmacy. The entrance requirements for these combined programs include all pre-pharmacy PharmD requirements and certain other standards. A baccalaureate degree with a minimum GPA of 3.0 is required for entry into the PharmD/PhD and PharmD/MS programs.

The school provides a scholarly environment to support research in basic and applied pharmaceutical sciences, to encourage fundamental discovery in healthcare sciences and the attainment of advanced

degrees. The School attempts to provide students the opportunity for interdisciplinary programs within the pharmaceutical sciences. Students are encouraged to combine the specialties of several of the faculty into unique interdisciplinary programs which meet their individual educational objectives.

Additional information on the graduate program and dual-degree programs may be found in the Office of Graduate Studies Catalog for the PhD and MS programs and in the Eberhardt School of Business section of this Catalog for the PharmD/MBA dual-degree program. Interested individuals may obtain further information by writing directly to the Associate Dean for Graduate Education and Research in the Thomas J. Long School of Pharmacy and Health Sciences for the Pharmaceutical and Chemical Sciences Graduate Program or the Eberhardt School of Business for the PharmD/MBA dual-degree program.

Pharmacy Programs

Pharmacy Mission

Our mission is to provide an exemplary educational experience that leads to highly competent and practice-ready caring pharmacists and pharmaceutical scientists who are accountable for improving the health and well-being of society. The programs seek to advance knowledge through collaborative education, science, research, service, patient care and advocacy. The school strives to achieve academic and professional excellence.

By virtue of their innate abilities and their education and experiences at Pacific, our graduates are:

- accomplished and compassionate practitioners dedicated to improving inpatient care in traditional and emerging roles in all practice settings;
- capable of critical thinking, problem solving and strong individual and team leadership;
- filled with the desire, knowledge and skills to serve their diverse communities and professions locally, regionally, nationally and globally;
- able to advance the profession of pharmacy by providing high quality health care, innovative practice models and leadership in healthcare policy to meet the needs of an increasingly diverse population;
- able to advance the pharmaceutical sciences by developing cutting-edge research and contributing to scientific discovery;
- prepared and inspired to seek postgraduate and continuing professional development; and
- ambassadors for preventive health and wellness

Programs in Pharmacy and Pharmaceutical Sciences

The Thomas J. Long School of Pharmacy and Health Sciences offers the Pre-Pharmacy Advantage program, Doctor of Pharmacy degree and graduate degrees in the pharmaceutical and chemical sciences.

Pre-Pharmacy Advantage Program

The University of Pacific offers first-time undergraduate freshmen three options that can lead to guaranteed admission into Pacific's Doctor of

Pharmacy program. The options are the five-year (2+3) Pre-Pharmacy/PharmD option, the six-year (3+3) Pre-Pharmacy/PharmD option and the seven-year (4+3) Bachelor's/PharmD option. Specific admission criteria for each ensure that students have the appropriate time to successfully prepare for advancement into the professional pharmacy program. Interested students should request information about the Pacific Pre-Pharmacy Advantage Program from the Admissions Office or visit <http://www.pacific.edu/Academics/Schools-and-Colleges/Thomas-J-Long-School-of-Pharmacy-and-Health-Sciences/Academics/Pre-Health-Sciences.html>. More specific program information is provided in the section on the Pre-Pharmacy Advantage Program.

Doctor of Pharmacy Program

The Doctor of Pharmacy Program is an accelerated program designed to develop pharmacy practitioners who are able to enter community and hospital pharmacy practice, residencies, and other roles in pharmacy and health care. Satisfactory completion of the Doctor of Pharmacy degree enables a student to sit for pharmacy licensing examinations throughout the United States, and eventually practice pharmacy. The basic residence requirement for completion of the Doctor of Pharmacy degree is eight semesters, which is completed in approximately two and two-thirds years. This has been made possible by utilizing the summer months for instruction, thus providing the same number of instructional semesters as in four academic years. The first two years of the program include on campus course work plus introductory pharmacy practice experiences.

The final year of the program consists of advanced pharmacy practice experiences in health care settings. More specific program information is provided in the section on the Doctor of Pharmacy program.

Accreditation

Organized in 1955, the Thomas J. Long School of Pharmacy and Health Sciences is a member of the American Association of Colleges of Pharmacy, and its Doctor of Pharmacy Program is fully accredited by the Accreditation Council for Pharmacy Education (ACPE). Accreditation information can be found online at <http://www.acpe-accredit.org/> or by contacting:

ACPE
20 North Clark Street, Suite 2500
Chicago, IL 60602-5109
Phone: (312) 664-3575
Fax: (312) 664-4652
E-mail: info@acpe-accredit.org

Pharmacy Licensure

For California pharmacy licensure requirements see <http://www.pharmacy.ca.gov/> or contact:

the California State Board of Pharmacy
1625 N. Market Blvd., Suite N219
Sacramento, CA 95834

Contact information for boards of pharmacy from other states can be found through the National Association of Boards of Pharmacy at <http://www.nabp.net/>.

Learner (Learner)

Develop, integrate, and apply knowledge from the foundational sciences (i.e. biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences) to evaluate the scientific literature, explain drug action, solve therapeutic problems, and advance population health and patient-centered care.

Patient-centered care (Caregiver)

Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).

Medication use systems management (Manager)

Manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems.

Health and wellness (Promoter)

Design prevention, intervention, and educational strategies for individuals and communities to manage common disease and improve health and wellness.

Population-based care (Provider)

Describe how population-based care influences patient-centered care and influences the development of practice guidelines and evidence-based best practices.

Problem Solving (Problem Solver)

Design, implement, and evaluate a viable solution to identified problems through exploration and prioritization of strategies.

Educator (Educator)

Educate all audiences by determining the most effective and enduring techniques and strategies to impart information, achieve learning objectives, and assess understanding.

Patient Advocacy (Advocate)

Assure that patients' best interests are represented.

Interprofessional collaboration (Collaborator)

Actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs.

Cultural sensitivity (Includer)

Recognize social determinants of health to diminish disparities and inequities in access to quality care.

Communication (Communicator)

Clearly communicate when interacting with an individual, group, or organization.

Self-awareness (Self-aware)

Examine and reflect on personal and professional knowledge, skills, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.

Leadership (Leader)

Demonstrate responsibility for creating and achieving personal and shared goals, regardless of position.

Innovation and Entrepreneurship (Innovator)

Engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals.

Professionalism (Professional)

Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

Pre-Pharmacy Advantage Program

In order to earn a guaranteed seat in the Doctor of Pharmacy program, all of the following criteria must be met within 5 (five) years of entering

the University; all seven-year (4+3) students must also obtain a Bachelors degree (BS or BA) from Pacific in addition to these criteria. A *Math/Science** GPA of 2.7 (by June 1st of the year the student matriculates to the Doctor of Pharmacy program) and a *cumulative Pacific* GPA of 3.0 must be achieved.

*The *Math/Science* GPA does not include all math and science courses. For a specific list of *Math/Science* courses, please contact the Office of Pre-Pharmacy and Pre-Health Affairs at PreHealth@pacific.edu or (209) 946-2563.

I. General Education Requirements

Minimum of 28 units that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) The diversity requirement only applies to students obtaining a bachelors degree. **2)** Courses may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

IV. Major Requirements

BIOL 051	Principles of Biology *	5
BIOL 061	Principles of Biology *	5
BIOL 081	Human Physiology	5
BIOL 145	Microbiology	5
CHEM 025	General Chemistry *	5
CHEM 027	General Chemistry *	5
CHEM 121	Organic Chemistry	5
CHEM 123	Organic Chemistry	5
PRAC 101	Pharmacy Orientation	1
Select one of the following:		5
PHYS 023	General Physics I *	

PHYS 025	General Physics II *	
PHYS 053	Principles of Physics I *	
PHYS 055	Principles of Physics II *	
Select one of the following:		4
MATH 033	Elements of Calculus **	
MATH 051	Calculus I **	
MATH 053	Calculus II **	
MATH 055	Calculus III **	

COMM 027	Public Speaking (Fall or Spring semester only) ***	3
Select one of the following:		4
PSYC 017	Abnormal and Clinical Psychology	
PSYC 031	Introduction to Psychology +	
Select one of the following:		3-4
ECON 051	Economic Principles and Problems ++	
ECON 055	Introductory Macroeconomics: Theory and Policy ++	

Two positive Letters of Reference*

* References cannot be from an immediate family member

Passing Writing Sample

Passing Interview

* First course satisfies GE IIIA and second course satisfies GE IIIC

** Satisfies GE IIIB requirement.

*** Satisfies GE IIA requirement.

+ Satisfies GE IA requirement.

++ Satisfies GE IB requirement

Admission into the Doctor of Pharmacy Program

There are two pathways for admission into the Doctor of Pharmacy Program: 1) Pacific's Pre-Pharmacy Advantage Program; and 2) application as a transfer student from another college, university, or program within the University of the Pacific. The criteria for advancement from the Pre-Pharmacy Advantage Program to the Doctor of Pharmacy program are provided in the description of the Pre-Pharmacy program.

For information about admission to the Doctor of Pharmacy Program as a transfer student, see the "Special Requirements for Pharmacy Applicants" section under Admission Requirements at the front of this catalog or information provided on the University's website at <http://www.pacific.edu/pharmd>. The pharmacy faculty determines admission requirements and the Office of Pharmacy Admission manages the admissions process. Questions regarding admission are directed to the Office of Pharmacy Admission. The program places strong emphasis on the academic record, verbal and written communication skills, demonstrated interest and experience in healthcare and leadership qualities in the selection process. The School attempts to select students with strength in all of these areas. After review of the completed application, the Office of Pharmacy Admission invites qualified candidates to participate in interviews on campus, which includes a writing demonstration. Admissions decisions are based on the application, transcripts, letters of recommendation, the interviews and the writing sample.

Pharmacy Pre-Professional Curriculum Requirements

At least sixty eight (68) transferable semester units are required prior to entry into the Doctor of Pharmacy program. Those courses are listed below. The liberal arts requirements must total a minimum of twenty eight (28) semester or forty two (42) quarter units. No more than two semester units of physical education are used to fulfill the electives

requirements. These requirements will be satisfied by successful completion of the Pre-Pharmacy Advantage program, which is described in detail in that section.

- Mathematics: One semester of college-level calculus or its equivalent.
- Physics: One semester/quarter of college-level physics (with laboratory) or its equivalent.
- Chemistry: (1) General chemistry with lab, eight semester units minimum and (2) organic chemistry with lab, eight semester units minimum. Coursework is designed for chemistry or biology majors.
- Biological Sciences: General biology, eight semester units with laboratory both semesters; coursework may include two semesters zoology, one semester each botany and zoology, or two semesters of general biology designed for biology majors; general microbiology, four units; human physiology with laboratory, 4 units.
- Writing for College or equivalent: One semester, minimum.
- Reading for College or equivalent: One semester, minimum.
- Public Speaking: Three semester/four quarter units, minimum.
- Psychology: One semester, minimum.
- Economics: Three semester/four quarter units, minimum.
- General Education: At least one three semester/four quarter unit course from each non-science category of the University of the Pacific's General Education Program.

Students must pass the fundamental skills competency in quantitative skills and writing and satisfy any general education and liberal arts course requirements not completed in pre-pharmacy. Students who enter the Doctor of Pharmacy program with a U.S. baccalaureate degree and students who have met the General Education requirements of another college or university are not required to meet the University General Education requirements. These requirements are listed elsewhere in this catalog.

Applicants are also strongly encouraged to take course work in human physiology. Although not yet a requirement, physiology will eventually become a requirement for entrance into the Doctor of Pharmacy program.

These pre-professional requirements simply make the candidate eligible for selection. Final selection is based on recommendations, personal factors and strength of academic preparation. Applicants are urged to communicate with the University of the Pacific's Pharmacy Admissions Office regarding questions on the above requirements.

Other Entrance and Progression Requirements

Entrance and progression in the Doctor of Pharmacy program requires that students provide documentation of receiving the required immunizations and disease screening. Students must also meet certain technical standards (see here (<https://www.pacific.edu/admission/graduate-programs/apply-now/pharmacy/pharmd-technical-standards.html>)) for entrance into and progression through the Doctor of Pharmacy program. Students must also be eligible for registration as a pharmacy intern in the state of California.

Participation in introductory and advanced pharmacy practice experiences requires a California pharmacy intern license. Program and pharmacy practice experience requirements also include required drug screening and background checks.

Academic Standards

Students must successfully pass each required course in each semester in order to be allowed to enroll in the subsequent semester. Because of the integrated nature of the pharmacy curriculum, students are not permitted to enroll in pharmacy courses out-of-sequence.

In order to remain in good academic standing, a student must maintain a 2.0 grade point average in all required professional coursework and in all University course work. Students with a course grade point deficiency of 0.1 to 7.9 will be placed on probation. Students with a major, required course grade point deficiency of from 8.0 to 11.9 are placed on probation and are not permitted to enroll in new required courses. Students with a required course grade point deficiency of 12.0 or greater will be disqualified from the professional program. Students who fail or receive a No Credit grade in the same required course twice, who fail any two advanced pharmacy practice experiences, or who are unable to get off probation or deferred disqualification despite retaking all courses in which they earned an initial grade of C- or worse will also be disqualified from the program.

Students must pass all required courses. A grade of C or better is required to pass the four practicum courses in semesters 1 through 6 and the six advanced pharmacy practice experiences in semesters 7 and 8 of the program. In other courses, a grade of D or better is required.

Students must be in good academic standing, have completed and passed all required courses and 4 units of electives, maintain an active pharmacy intern license, be certified in basic life support, adhere to professional and academic codes of conduct, have passed all curriculum assessments, and meet all other requirements for participation in pharmacy experiences (such as background checks, drug screening, etc.) prior to be allowed to progress from the 2nd year into the advanced pharmacy practice experiences in the 3rd year of the program.

Professional Curriculum for the Doctor of Pharmacy Degree

The Doctor of Pharmacy curriculum is carefully designed to progressively develop student abilities to meet program learning outcomes, accreditation standards, and the needs of the profession. Students must complete a minimum of 141 units as outlined below. The curriculum includes required didactic, laboratory, discussion and experiential courses in addition to a broad array of elective courses. An extensive co-curriculum supplements the curriculum and provides opportunities for further development of student abilities.

Note: The following courses must be taken in the prescribed semester sequence because of the integrated nature of the pharmacy curriculum. The IPPEs noted below with the '#' mark can be taken in Semesters 3, 4 or 5. A grade of C or better is required to pass Practicum II to IV courses in semesters 3 through 6 and the advanced pharmacy practice experiences in semesters 7 and 8. [IPPE stands for Introductory Pharmacy Practice Experiences and APPE stands for Advanced Pharmacy Practice Experiences.]

Semester 1		
PHAR 111	Physiology I	4
PHAR 112	Chemical Principles	2
PHAR 113	Biological Mechanisms	3
PHAR 114	Pharmaceutical Dosage Forms	3
PHAR 115	Dispensing, Compounding, and Calculations	3
PHAR 121	Professional Communications and Fundamentals of Law	1
PHAR 122	Bioinformatics	1
PHAR 131	Pharmacy Skills I – Introduction to Patient Workup	2
Total Hours		19

Semester 2

PHAR 211	Physiology II	4
PHAR 212	Introduction to Pharmacology	2
PHAR 213	Drug Disposition I	3
PHAR 221	Biostatistics and Research Design	2
PHAR 231	Pharmacy Skills II-Outpatient Care	1
PHAR 232	Clinical Assessment	1
PHAR 241	Nonprescription Therapy and Self Care	2
PHAR 251	Community I Introductory Pharmacy Practice Experience (IPPE)	2

Elective(s) * 0-3

Total Hours 17-20

Semester 3

PHAR 311	Drug Disposition II	3
PHAR 321	Health Care Delivery Systems I and Pharmacoeconomics	2
PHAR 331	Pharmacy Skills III- Assessment and Counseling	1
PHAR 332	Case Based Practice I	1
PHAR 341	Integrated Clinical Sciences: Cardiovascular Disease I – Foundations	3
PHAR 342	Integrated Clinical Sciences: Cardiovascular Disease II - Therapeutics	3
PHAR 343	Integrated Clinical Sciences: Endocrine Disorders	2
PHAR 552	Hospital Introductory Pharmacy Practice Experience (IPPE) A #	1
PHAR 553	Ambulatory Care Introductory Pharmacy Practice Experience (IPPE) #	1

Elective(s)* 0-3

Total Hours 17-20

Semester 4

PHAR 411	Physiology III: Immunology	1
PHAR 421	Health Care Delivery Systems II	2
PHAR 431	Pharmacy Skills IV: Inpatient Care	1
PHAR 432	Case Based Practice II	1
PHAR 441	Integrated Clinical Sciences: Neuropsychiatric Disorders I - Foundations	2
PHAR 442	Integrated Clinical Sciences: Neuropsychiatric Disorders II - Therapeutics	4
PHAR 443	Integrated Clinical Sciences: Gastrointestinal, Nutrition and Renal Disorders	4
PHAR 554	Hospital Introductory Pharmacy Practice Experience (IPPE) B #	1

Elective(s) * 0-3

Total Hours 16-19

Semester 5

PHAR 521	Pharmacy Practice Management	3
PHAR 531	Pharmacy Skills V: Professional Communications	1
PHAR 532	Case Based Practice III	1
PHAR 541	Integrated Course Series - Infectious Diseases I Fundamentals	2
PHAR 542	Integrated Course Series – Infectious Diseases II Applications	4

PHAR 543	Integrated Clinical Sciences: Women's, Men's & Genitourinary Disorders	2
PHAR 544	Integrated Clinical Sciences: Pulmonary & Ear, Nose and Throat Therapeutics	1
PHAR 551	Community II Introductory Pharmacy Practice Experience (IPPE) #	2
PHAR 559	Health Care Outreach Introductory Pharmacy Practice Experience (HCO IPPE) # @	1
Elective(s) *		0-3
Total Hours		17-20

Semester 6

PHAR 621	Pharmacy Law and Regulatory Affairs	3
PHAR 631	APPE Preparedness	1
PHAR 632	Case Based Practice IV	1
PHAR 641	Integrated Clinical Sciences: Immune, Inflammatory & Pain Disorders	3
PHAR 642	Integrated Clinical Sciences: Pediatrics and Geriatrics	2
PHAR 643	Integrated Clinical Sciences: Oncology	4
PHAR 644	Integrated Clinical Sciences: Critical Care & Emergency Medicine	1
PHAR 669	Interprofessional Education	1
Elective(s) *		0-3

Total Hours 16-19

Semester 7 and 8

PHAR 751	Advanced Pharmacy Practice Experience (APPE) Capstone I	1
PHAR 752	Advanced Pharmacy Practice Experience (APPE) Capstone II	1
PHAR 753	Internal Medicine Advanced Pharmacy Practice Experience (APPE)	6
PHAR 754	Ambulatory Care Advanced Pharmacy Practice Experience (APPE)	6
PHAR 755	Hospital Pharmacy Advanced Pharmacy Practice Experience (APPE)	6
PHAR 756	Community Pharmacy Advanced Pharmacy Practice Experience (APPE)	6
PHAR 757	Advanced Pharmacy Practice Experience (APPE) Elective I	6
PHAR 758	Advanced Pharmacy Practice Experience (APPE) Elective II	6

Total Hours 38

Total Unit: 144

Professional Electives

All candidates for the Doctor of Pharmacy degree are required to complete a minimum of four (4) semester units of approved electives while in residence and prior to progression into the Advanced Pharmacy Practice Experiences.

Students are also required to complete twelve (12) semester units of elective advanced pharmacy practice experiences in the final year of the program.

Professional electives include approved pharmacy electives and other approved courses from the University and select external institutions.

Students may petition to have an unapproved course count as a professional elective, but the course will only be allowed to count as a professional elective if the petition is approved prior to enrollment in the course.

Courses that are not eligible to be included as professional electives include courses taken: during the pre-professional education; during the Pre-Pharmacy Advantage program; while not in residence in the Doctor of Pharmacy program; or to fulfill a general education or liberal arts requirement (even if taken when the student is in residence in the Doctor of Pharmacy program).

Pharmacy Practice Experience and Practice Experience Placement Policy

All pharmacy students are required to complete introductory and advanced pharmacy practice experiences as part of their formal program of study. The total number of hours spent in introductory and advanced pharmacy practice experiences will meet or exceed accreditation requirements and the number of pharmacy intern hours required for application for pharmacy licensure in California if students follow the appropriate procedures for documentation and signatures.

The introductory pharmacy practice experiences include experiences in community pharmacy, hospital pharmacy, ambulatory care, and health care outreach during the first six semesters of the program. The advanced practice experience consists of two semesters third year (7th and 8th semesters) where students are required to enroll in four required six-week rotations that include Community, Hospital, Ambulatory Care and Internal Medicine advanced pharmacy practice experiences plus two six-week elective rotations and two capstone courses.

The selection of the sites for introductory and advanced pharmacy practice experiences is made at the sole discretion of the University of the Pacific Thomas J. Long School of Pharmacy and Health Sciences. Introductory pharmacy practice experiences generally occur within a one hour drive of the School. For advanced pharmacy practice experiences, each student is assigned to region within California or possibly other nearby states.

Graduation Requirements

Graduation requirements for each entering class are provided at the beginning of the first professional year for each student. Accreditation requirements and curriculum changes may necessitate changes in these requirements. The Thomas J. Long School of Pharmacy and Health Sciences reserves the right to modify or change the curriculum at any time without prior notice.

Graduation requirements include passing all required courses and 4 units of elective course in semesters 1 through 6, becoming certified in basic life support, passing all curriculum outcomes assessments, and adhering to the program's professional and academic codes of conduct.

A grade point average of 2.00 (on a 4-point scale) is required for graduation in: (1) all required Doctor of Pharmacy courses and (2) all courses taken while in residence in the professional program.

Eight semesters of Thomas J. Long School of Pharmacy and Health Sciences residency are required for the Doctor of Pharmacy programs. A semester in residence consists of registering for a minimum of 12 semester units each semester.

All requirements for the Doctor of Pharmacy degree must be completed within five (5) calendar years of the student's initial enrollment in the Doctor of Pharmacy program.

Pharmacy Courses

PHAR 111. Physiology I. 4 Units.

This course will provide foundational physiological principles, and an introduction to the Nervous, Cardiovascular and Respiratory systems at organ, cellular and molecular levels.

PHAR 112. Chemical Principles. 2 Units.

A study of physicochemical properties of endogenous and drug molecules in the context of their biological and pharmaceutical relevance.

PHAR 113. Biological Mechanisms. 3 Units.

This course covers biological mechanisms at the molecular level with focus on rational drug design.

PHAR 114. Pharmaceutical Dosage Forms. 3 Units.

This course will provide foundational knowledge about the different traditional and advanced dosage forms. In this course, students will learn how the drug development and approval process work in the US. This will be followed by the introduction of physicochemical principles of pharmacy that form the basis in the design of rational formulation, preparation/compounding, quality control, stability, packaging and storage of pharmaceutical dosage forms.

PHAR 115. Dispensing, Compounding, and Calculations. 3 Units.

This course covers pharmacy dispensing related topics. Using medications from the Top Drugs list, students will learn how to provide effective consultations, how to communicate effectively with health care professionals, and the process of dispensing medications. Other topics covered in this course include Interpretation of common pharmacy sig abbreviations, brand and generic names of the top medications as well as the major therapeutic use for the majority of those drugs. Students will learn basic non-sterile compounding skills and parenteral compounding skills. This course also covers mathematical concepts as they apply to the practice of pharmacy.

PHAR 121. Professional Communications and Fundamentals of Law. 1 Unit.

An introduction to the roles and responsibilities of the pharmacist in general and in various practice settings with a focus on fundamental pharmacy law and professional communications.

PHAR 122. Bioinformatics. 1 Unit.

This course will focus on the application of informatics to healthcare and the pharmacy profession and will use the global definition of informatics as an information science that involves the activities and processes associated with acquiring, storing, organizing, retrieving, processing, evaluating and presenting data and information. The course will focus on the ethical use of informatics primarily in patient care, but will also discuss its use in population based care and healthcare/health-system research. An introduction to presenting data and developing algorithms, methods, and tools for analyzing information to solve healthcare problems will also be included.

PHAR 131. Pharmacy Skills I – Introduction to Patient Workup. 2 Units.

Pharmacy practice skills and knowledge will be developed through completion of self-study modules and guided practice simulations. The practicum experiences relate to effective patient counseling for the most commonly prescribed and select non-prescription medications, pulmonary devices, and immunizations in addition to application of appropriate techniques for measurement of blood pressure, blood glucose and administration of immunizations for adolescents and adults.

PHAR 197. Research. 1-4 Units.

PHAR 211. Physiology II. 4 Units.

This course is an integrated study of the cellular, anatomical, and physiological components of the gastrointestinal, renal, and endocrine systems. Prerequisites: PHAR 111, PHAR 112, PHAR 113, and PHAR 122.

PHAR 212. Introduction to Pharmacology. 2 Units.

This course will provide the foundational principles of pharmacology prior to the integrated course series. Prerequisites: PHAR 111, PHAR 112, PHAR 113, PHAR 114, PHAR 115, PHAR 122, and PHAR 211.

PHAR 213. Drug Disposition I. 3 Units.

This course is designed to introduce the basic pharmacokinetic concepts by focusing on the fundamental principles of absorption, distribution and elimination that govern drug behavior in the body. Prerequisites: PHAR 111, PHAR 112, PHAR 113, PHAR 114, PHAR 115, and PHAR 122.

PHAR 221. Biostatistics and Research Design. 2 Units.

This course will focus on the theory, methods and processes used in differing types of research designs seen in healthcare. It will also include information on and an analysis and discussion of the mathematical tools used in testing hypotheses and presenting and making sense of the data collected from research, especially data collected from random samples from the population. This will include a review of scientific methods, forming hypotheses, designing/analyzing interventional and observational studies, processes for gathering data, techniques for summarizing the data collected and drawing inferences from data. An introduction to probability and descriptive statistics will be presented, followed by detailed descriptions of widely used inferential procedures and statistical options. Journal articles from pharmacy, healthcare and epidemiology will be used as examples to enhance the discussions and improve understanding. Prerequisite: PHAR 122.

PHAR 231. Pharmacy Skills II-Outpatient Care. 1 Unit.

Pharmacy practice skills course will build on previous and current course knowledge and content and encompass the application to practice like activities and simulations. The skills based course experiences relate to effective patient counseling for the advanced dispensing of most commonly prescribed, select non-prescription medications including pharmacist furnishing of products such as Naloxone and Plan B, etc. Students will learn and practice the skills involved in over-the-counter (OTC) therapeutics, patient counseling and motivational interviewing. Students will learn how to gather subjective patient data using patient interviewing and history gathering techniques and how to collect objective patient data. Students will participate in simulated patient scenarios and/or cases using the Pharmacist Patient Care Process (PPCP) requiring students to navigate electronic health records (EHRs) to identify drug related therapy problems and develop drug therapy plans. Implementation, documentation, and communication of drug therapy plans will be developed using standardized formats such as SOAP (subjective objective assessment plan) notes and SBAR (situation background assessment recommendation) model. Prerequisites: PHAR 121 and PHAR 131.

PHAR 232. Clinical Assessment. 1 Unit.

Students will learn how to collect, evaluate, and assess clinical data such as laboratory values, physical assessment findings, and diagnostic tests using various written and electronic resources including electronic health records, electronic databases, and/or written patient case studies. Prerequisites: PHAR 121 and PHAR 131.

PHAR 241. Nonprescription Therapy and Self Care. 2 Units.

Principles of triage and self-care using non-prescription pharmacotherapy and dietary supplements. Prerequisites: PHAR 114, PHAR 115, PHAR 121, PHAR 122, and PHAR 131.

PHAR 251. Community I Introductory Pharmacy Practice Experience (IPPE). 2 Units.

A practice-based introductory experience focusing on the role of the Pharmacist/Pharmacy Intern in a community pharmacy practice. This course is designed to allow students to participate in the delivery of pharmaceutical care. Prerequisites: PHAR 114, PHAR 115, PHAR 121, PHAR 122, PHAR 131, and CPR certification.

PHAR 311. Drug Disposition II. 3 Units.

This course is designed to expand on the basic pharmacokinetic concepts cover in Drug Disposition I and covers drug metabolism, advanced and clinical pharmacokinetic concepts, pharmacodynamics, drug interactions and pharmacogenetics. Prerequisites: PHAR 211, PHAR 212, PHAR 213, PHAR 221, PHAR 231, PHAR 232, and PHAR 241.

PHAR 321. Health Care Delivery Systems I and Pharmacoeconomics. 2 Units.

The description and application of economic-based evaluation methods to pharmaceutical products, treatments and services. This includes understanding principles which will help decision makers maximize clinical and/or humanistic outcomes given economic constraints. Additionally, this course will provide an introduction to managed care, an overview of governmental health programs, and their respective roles in the US health care delivery system. Prerequisites: PHAR 121 and PHAR 221.

PHAR 331. Pharmacy Skills III- Assessment and Counseling. 1 Unit.

Pharmacy practice skills III will focus on the learning and development of patient care skills necessary for successful implementation and follow up of the Pharmacist Patient Care Process (PPCP). Patient assessment and communication skills will be learned, developed, and applied to patient care scenarios to identify, evaluate, correct, and prevent therapy related problems. Major topics will be barriers to adherence, delivery device technique and evaluation, nutrition and other non-drug therapies, medication history taking, limited physical assessments, conflict resolution, and other patient communication techniques. Prerequisites: PHAR 211, PHAR 212, PHAR 213, PHAR 221, PHAR 231, PHAR 232, and PHAR 241.

PHAR 332. Case Based Practice I. 1 Unit.

This is part of a series of Case Based Practice courses that develop problem solving and critical thinking skills. Knowledge acquired through the Integrated Clinical Sciences series will be applied in cumulative fashion through the workup of complex patient cases utilizing the pharmacist patient care process, presentation, discussion and documentation. Prerequisites: PHAR 211, PHAR 212, PHAR 213, PHAR 221, PHAR 231, PHAR 232, and PHAR 241.

PHAR 341. Integrated Clinical Sciences: Cardiovascular Disease I – Foundations. 3 Units.

This cardiovascular disease focused course is an integration of Pathophysiology, Pharmacology, and Medicinal Chemistry. The course will enable students to 1) acquire a fundamental understanding of the pathophysiology of the cardiovascular diseases, 2) describe and classify drugs into the major cardiovascular system based pharmacologic classes, and 3) describe select structure-activity relationships of cardiovascular classes of drugs along with their medicinal chemistry bases. Course content, discussion and case based learning will build on student's pre-requisite knowledge, placing in-depth and focused emphasis on cardiovascular science empowering students to make appropriate decisions regarding the selection and use of drug therapy for the management or prevention of disease. Prerequisites: PHAR 211, PHAR 212, PHAR 213, PHAR 221, PHAR 231, PHAR 232, and PHAR 241.

PHAR 342. Integrated Clinical Sciences: Cardiovascular Disease II - Therapeutics. 3 Units.

The cardiovascular therapeutics course will enable students to design and implement patient care plans for patients with or at risk of commonly encountered cardiovascular diseases. Students will learn and apply clinical science and evidence-based medicine with the goal of improving patient care and health outcomes. Course content, discussion and case based learning will build on student's pre-requisite knowledge, placing in-depth and focused emphasis on cardiovascular clinical science and therapeutics with the goal of empowering students to make appropriate decisions regarding the selection, use and monitoring of drug therapy for the management or prevention of cardiovascular diseases. Topics covered include; Hypertension, Hyperlipidemia, Coronary Artery Disease & Angina, Peripheral Arterial Disease, Acute Coronary Syndromes, Post-MI, Stent and CABG Therapeutics, Transient Ischemic Attack & Cerebrovascular Accidents, Heart Failure, Cardiogenic Shock, Venous Thromboembolism, Atrial Fibrillation & Stroke Prevention and Brady & Tachyarrhythmias. Prerequisites: PHAR 211, PHAR 212, PHAR 213, PHAR 221, PHAR 221, PHAR 231, PHAR 232, and PHAR 241.

PHAR 343. Integrated Clinical Sciences: Endocrine Disorders. 2 Units.

This is an integrative course combining pathophysiology, pharmacology, medicinal chemistry and therapeutics. Students will develop the abilities to assess and develop patient-specific care plans for patients with endocrine disorders, diabetes and drug-induced problems utilizing basic and applied pharmaceutical science abilities. Lectures, readings, and discussion will enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisites: PHAR 211, PHAR 212, PHAR 213, PHAR 221, PHAR 231, PHAR 232, and PHAR 241.

PHAR 411. Physiology III: Immunology. 1 Unit.

Molecular and Cellular Basis of the Immune System. Prerequisites: PHAR 311, PHAR 331, PHAR 332, PHAR 341, PHAR 342, and PHAR 343.

PHAR 421. Health Care Delivery Systems II. 2 Units.

This social and behavioral based course will focus on the pharmacist role in various social and population based programs including the use of CLIA waivers to support point-of-care or clinic based laboratory testing, disease prevention (prediabetes, fall risk, etc.) programs and activities, major public health initiatives, the pharmacist's role in public health campaigns, preventative care strategies (e.g., Immunization programs), refill clinics, telepharmacy, and crisis management (e.g. natural disaster, eco-political turmoil, disruption of supply chain and threats to usual methods of delivering pharmaceutical care). Prerequisite: PHAR 321.

PHAR 431. Pharmacy Skills IV: Inpatient Care. 1 Unit.

This course is a component of the longitudinal skills based curriculum. Skills III will include a focus on inpatient or hospital practice. The student will gain an understanding of inpatient workflow, pharmacist order verification and entry, sterile intravenous compounding and administration, order-set development, medication reconciliation, transition of care and drug monographs. Prerequisites: PHAR 311, PHAR 331, PHAR 332, PHAR 341, PHAR 342, and PHAR 343.

PHAR 432. Case Based Practice II. 1 Unit.

This is part of a series of Case Based Practice courses that develop problem solving and critical thinking skills. Knowledge acquired through the Integrated Clinical Sciences series will be applied in cumulative fashion through the workup of complex patient cases utilizing the pharmacist patient care process, presentation, discussion and documentation. Prerequisites: PHAR 311, PHAR 331, PHAR 332, PHAR 341, PHAR 342, and PHAR 343.

PHAR 441. Integrated Clinical Sciences: Neuropsychiatric Disorders I - Foundations. 2 Units.

This course discusses the molecular mechanisms of drug action and its relation to chemical structure. This course will cover how prototype therapeutic agents used in the treatment of neuropsychiatric and other disorders affect the peripheral and the central nervous system, both in terms of therapeutic and adverse effects. The emphasis of the course is placed on the molecular mechanisms by which these drugs alter the biochemistry, physiology and pathology of the nervous system, and on the structure-activity relationship (SAR) of these drugs. Prerequisites: PHAR 311, PHAR 331, PHAR 332, PHAR 341, PHAR 342, and PHAR 343.

PHAR 442. Integrated Clinical Sciences: Neuropsychiatric Disorders II - Therapeutics. 4 Units.

Students will develop the abilities to assess and develop patient-specific care plans for patients with specific neurologic and psychiatric conditions, diseases, disorders, and drug-induced problems utilizing basic and applied pharmaceutical science abilities. Lectures, readings, and discussion will enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisites: PHAR 311, PHAR 331, PHAR 332, PHAR 341, PHAR 342, and PHAR 343.

PHAR 443. Integrated Clinical Sciences: Gastrointestinal, Nutrition and Renal Disorders. 4 Units.

Students will develop the abilities to assess and develop patient-specific care plans for patients with gastrointestinal, hepatic, nutrition, and renal conditions, diseases, disorders, and drug-induced problems utilizing basic and applied pharmaceutical science abilities. Lectures and readings will provide the foundational information to understand and apply pathophysiologic and pharmacologic principles. Lectures, readings, and case applications will enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisites: PHAR 311, PHAR 331, PHAR 332, PHAR 341, PHAR 342, and PHAR 343.

PHAR 521. Pharmacy Practice Management. 3 Units.

This course provides an overview of human resource management and financial modeling applicable to pharmacy management; included a problem solving models, management decision-making models, and elements from bioethics and legal cases that pertain to management. Prerequisite: PHAR 421.

PHAR 531. Pharmacy Skills V: Professional Communications. 1 Unit.

Pharmacy practice skills course will build on previous and current course knowledge and content and encompass the application to practice-like activities and simulations. The skills based course experiences relate to effective communications in verbal and written form. Students will learn and practice the skills involved in responding to a drug information request, developing of a drug monograph, and conducting in-service presentations. Prerequisites: PHAR 411, PHAR 431, PHAR 432, PHAR 441, PHAR 442, and PHAR 443.

PHAR 532. Case Based Practice III. 1 Unit.

This is part of a series of Case Based Practice courses that develop problem solving and critical thinking skills. Knowledge acquired through the Integrated Clinical Sciences series will be applied in cumulative fashion through the workup of complex patient cases utilizing the pharmacist patient care process, presentation, discussion and documentation. Prerequisites: PHAR 411, PHAR 431, PHAR 432, PHAR 441, PHAR 442, and PHAR 443.

PHAR 541. Integrated Course Series - Infectious Diseases I Fundamentals. 2 Units.

Infectious Diseases I is an integrated course where students will learn the foundational concepts of medical microbiology and medicinal chemistry to be able to progress to the Infectious Diseases II Applications course and learn to care for patients with infectious diseases. Prerequisites: PHAR 411, PHAR 431, PHAR 432, PHAR 441, PHAR 442, and PHAR 443.

PHAR 542. Integrated Course Series – Infectious Diseases II Applications. 4 Units.

Infectious Diseases II is an integrated course where students will build up on the foundational concepts from the Infectious Diseases I course and develop further knowledge in clinical pharmacology, pharmacokinetics, pharmacodynamics and therapeutics in order to care for patients with infectious diseases. Prerequisites: PHAR 411, PHAR 431, PHAR 432, PHAR 441, PHAR 442, and PHAR 443.

PHAR 543. Integrated Clinical Sciences: Women's, Men's & Genitourinary Disorders. 2 Units.

This integrated clinical science course develops a student's abilities to manage patients with common women's health, men's health, and genitourinary conditions. Prior course work in the foundational sciences serve as the basis for the development of knowledge and application of pertinent pathophysiology, pharmacology, medicinal chemistry and therapeutics. Prerequisites: PHAR 411, PHAR 431, PHAR 432, PHAR 441, PHAR 442, and PHAR 443.

PHAR 544. Integrated Clinical Sciences: Pulmonary & Ear, Nose and Throat Therapeutics. 1 Unit.

Students will develop the abilities to assess and develop patient-specific care plans for patients with pulmonary/ENT diseases, disorders, and drug-induced problems utilizing basic and applied pharmaceutical science abilities. Lectures and readings will provide the foundational information to understand and apply pathophysiologic and pharmacologic principles. Lectures, readings, labs, and case applications will enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisites: PHAR 411, PHAR 431, PHAR 432, PHAR 441, PHAR 442, and PHAR 443.

PHAR 551. Community II Introductory Pharmacy Practice Experience (IPPE). 2 Units.

Community II Introductory Pharmacy Practice Experiences are a method to enhance each student's understanding of the role and responsibilities of pharmacists in the community setting and to gain experiences with the medication use system within a community pharmacy and expand the abilities developed in the Community I Introductory Pharmacy Practice Experience. Prerequisites: PHAR 251, Pharmacy Intern License, and CPR Certification.

PHAR 552. Hospital Introductory Pharmacy Practice Experience (IPPE) A. 1 Unit.

The Hospital IPPE A course enhances each student's understanding of the role of pharmacists throughout the medication use process in the hospital setting, with emphasis on selecting drug products, compounding, dispensing, monitoring and evaluation, communicating with patients and other health care professionals, and providing drug information. Prerequisites: PHAR 251, Pharmacy Intern License and CPR Certification.

PHAR 553. Ambulatory Care Introductory Pharmacy Practice Experience (IPPE). 1 Unit.

The Ambulatory Care IPPE enhances each student's understanding, participation, and commitment to enhancing the health of an ambulatory population. Students will work with healthcare professionals within a health care system and utilize stratification strategies to provide ambulatory population management activities. Students will evaluate electronic health information and document assessments and plans using standardized progress notes. Students will contact patients to provide information and education pertinent to health promotion and disease prevention and document those discussions in electronic health records. Work is conducted under the supervision of a licensed pharmacist. Prerequisites: PHAR 251, Pharmacy Intern License, and CPR Certification.

PHAR 554. Hospital Introductory Pharmacy Practice Experience (IPPE) B. 1 Unit.

The Hospital IPPE B course enhances each student's understanding of the role of pharmacists throughout the medication use process in the hospital setting, with emphasis on pharmacy operations and administration, regulatory and accreditation standards, communicating with patients and other health care professionals, and providing drug information. Prerequisites: PHAR 251, Pharmacy Intern License, and CPR Certification.

PHAR 559. Health Care Outreach Introductory Pharmacy Practice Experience (HCO IPPE). 1 Unit.

Community health care outreach introductory pharmacy practice experiences are a method to enhance each student's understanding, participation, and commitment to enhancing the health of the public. Groups of students will work with community agencies and organizations in the development, organization, management, implementation, delivery, and assessment of health care outreach activities in local communities. Many of these activities will be managed through professional student organizations. Students will also reflect on their activities to determine the impact of these activities on the public and on themselves. Prerequisites: Pharmacy Intern License and CPR Certification.

PHAR 621. Pharmacy Law and Regulatory Affairs. 3 Units.

Discussions and analysis of federal and state law, regulations, standards of practice, case law and ethics related to pharmacy practice and drug development and distribution. The focus is California laws and regulations that govern the practice of pharmacy in community and institutional settings. Prerequisites: PHAR 521, PHAR 551, PHAR 552, PHAR 553, and PHAR 554.

PHAR 631. APPE Preparedness. 1 Unit.

This course brings the critical thinking, problem-solving skills, and knowledge acquired throughout the curriculum together to ensure students are best prepared to transition to the Advanced Pharmacy Practice Experiences (APPEs). Focus will be on effective workup of complex patient cases, applied pharmacokinetics, case presentation, SOAP/chart note documentation, drug information response, medication reconciliation, antimicrobial de-escalation, and common clinical protocols used at practice sites. Prerequisites: PHAR 521, PHAR 531, PHAR 532, PHAR 541, PHAR 542, PHAR 543, PHAR 544, PHAR 551, PHAR 552, PHAR 553, and PHAR 554.

PHAR 632. Case Based Practice IV. 1 Unit.

This is part of a series of Case Based Practice courses that develop problem solving and critical thinking skills. Knowledge acquired through the Integrated Clinical Sciences series will be applied in cumulative fashion through the workup of complex patient cases utilizing the pharmacist patient care process, presentation, discussion and documentation. Prerequisites: PHAR 531, PHAR 532, PHAR 541, PHAR 542, PHAR 543, and PHAR 544.

PHAR 641. Integrated Clinical Sciences: Immune, Inflammatory & Pain Disorders. 3 Units.

This integrated clinical science course develops a student's abilities to manage patients with common immune, pain, dermatologic, and ophthalmic conditions. Prior course work in the foundational sciences serve as the basis for the development of knowledge and application of pertinent pathophysiology, pharmacology, medicinal chemistry and therapeutics. Prerequisites: PHAR 531, PHAR 532, PHAR 541, PHAR 542, PHAR 543, and PHAR 544.

PHAR 642. Integrated Clinical Sciences: Pediatrics and Geriatrics. 2 Units.

This is an integrated course with both basic and clinical sciences. Students will develop the abilities to assess and develop pharmacy patient care plans (PPCP) for specific pediatric and geriatric conditions, diseases, disorders, and drug-induced problems utilizing basic and applied pharmaceutical science abilities. Lectures, readings, and discussion will enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisites: PHAR 531, PHAR 532, PHAR 541, PHAR 542, PHAR 543, and PHAR 544.

PHAR 643. Integrated Clinical Sciences: Oncology. 4 Units.

This integrated clinical science course develops students' abilities to manage patients with solid cancer and hematological malignancy or patients with high risk to have these conditions. Prior course work in the foundational sciences serve as the basis for the development of knowledge and application of pertinent pathophysiology, pharmacology, medicinal chemistry, and therapeutics. Prerequisites: PHAR 531, PHAR 532, PHAR 541, PHAR 542, PHAR 543, and PHAR 544.

PHAR 644. Integrated Clinical Sciences: Critical Care & Emergency Medicine. 1 Unit.

Students will develop the abilities to assess and develop patient-specific care plans for patients in emergency or critical care units with various diseases, disorders, and drug-induced problems utilizing basic and applied pharmaceutical science abilities. Lectures and readings will provide the foundational information to understand and apply pathophysiologic and pharmacologic principles. Lectures, readings, labs, and case applications will enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisites: PHAR 531, PHAR 532, PHAR 541, PHAR 542, PHAR 543, and PHAR 544.

PHAR 669. Interprofessional Education. 1 Unit.

This course is a longitudinal course which will provide pharmacy students with an opportunity to learn and collaborate with students from other health professions. These activities will generally include students from medical schools, nurse practitioner program, physician assistant program, dentistry, and/or other allied health professions. Prerequisite: Doctor of Pharmacy student.

PHAR 751. Advanced Pharmacy Practice Experience (APPE) Capstone I. 1 Unit.

This is the first of a required, two-semester sequential course for pharmacy students during their advanced pharmacy practice experiences. This course is designed to: 1) prepare students for practice in the profession of pharmacy, 2) build upon didactic knowledge gained previously in the Doctor of Pharmacy program, and 3) help students become life-long learners through self-assessment and reflection on learning. Course activities may include but are not limited to board exam preparation, quizzes, case presentations, disease state and/or drug information presentations/discussions, journal club presentations, self-reflection assignments, and/or guest lectures by pharmacists and other healthcare practitioners in addition to other region-specific activities. Prerequisites: All First and Second Year Required Doctor of Pharmacy Courses.

PHAR 752. Advanced Pharmacy Practice Experience (APPE) Capstone II. 1 Unit.

This is the second of a required, two-semester sequential course for pharmacy students during their advanced pharmacy practice experiences. This course is designed to: 1) prepare students for practice in the profession of pharmacy, 2) build upon didactic knowledge gained previously in the Doctor of Pharmacy program, and 3) help students become life-long learners through self-assessment and reflection on learning. Course activities may include but are not limited to board exam preparation, quizzes, case presentations, disease state and/or drug information presentations/discussions, journal club presentations, self-reflection assignments, and/or guest lectures by pharmacists and other healthcare practitioners in addition to other region-specific activities. Prerequisites: Completion of first and second year Doctor of Pharmacy Courses.

PHAR 753. Internal Medicine Advanced Pharmacy Practice Experience (APPE). 6 Units.

A clinical pharmacy practice rotation at an affiliated health care facility with emphasis on the medical management of disease states, rational drug therapy, and patient monitoring using the pharmaceutical care practice model in the care of inpatients. Prerequisites: All first and second year required Doctor of Pharmacy courses, Pharmacy Intern License, and CPR Certification.

PHAR 754. Ambulatory Care Advanced Pharmacy Practice Experience (APPE). 6 Units.

A clinical pharmacy practice rotation at an affiliated health care facility with emphasis on the medical management of disease states, rational drug therapy, and patient monitoring using the pharmaceutical care practice model in the care of outpatient and ambulatory care clinic patients. Prerequisites: All first and second year required Doctor of Pharmacy courses, Pharmacy Intern License, and CPR Certification.

PHAR 755. Hospital Pharmacy Advanced Pharmacy Practice Experience (APPE). 6 Units.

A clinical pharmacy practice rotation at an affiliated health care facility with emphasis on selecting drug products, compounding, dispensing, monitoring and evaluation, as well as understanding pharmacy operations and administration, communicating with patients and other health professionals, and providing drug information. Prerequisites: All first and second year required Doctor of Pharmacy courses, Pharmacy Intern License, and CPR Certification.

PHAR 756. Community Pharmacy Advanced Pharmacy Practice Experience (APPE). 6 Units.

A clinical pharmacy practice rotation at an affiliated community pharmacy facility with emphasis on selecting drug products, compounding, dispensing, monitoring and evaluating, communicating with patients, caregivers, and other health professionals, providing drug information, promoting public health, and learning pharmacy operations and management. Prerequisites: All first and second year required Doctor of Pharmacy courses, Pharmacy Intern License, and CPR Certification.

PHAR 757. Advanced Pharmacy Practice Experience (APPE) Elective I. 6 Units.

This is the first of two elective advanced pharmacy practice experiences that allow the student to explore and develop abilities in an area of interest within the health care industry. This experience may be in a variety of biomedical settings that include patient care, administration, health care system, public health, governmental agency, professional organization, research, academic, pharmaceutical industry, and other biomedical or health related settings. Prerequisites: All first and second year required Doctor of Pharmacy courses, Pharmacy Intern License, and CPR Certification.

PHAR 758. Advanced Pharmacy Practice Experience (APPE) Elective II. 6 Units.

This is the second of two elective advanced pharmacy practice experiences that allow the student to explore and develop abilities in an area of interest within the health care industry. This experience may be in a variety of biomedical settings including patient care, administration, health care system, public health, governmental agency, professional organization, research, academic, pharmaceutical industry, and other biomedical or health related settings. Prerequisites: All first and second year required Doctor of Pharmacy courses, Pharmacy Intern License, and CPR Certification.

Other Pharmacy Courses

PHRM 100. Continuous Registration. 0 Units.

PHRM 111. Pharmacy Practice and Professionalism. 3 Units.

This course is an introduction to the roles and responsibilities of the pharmacist in general and in various practice settings with a focus on leadership and professional development. Prerequisite: admission to the Doctor of Pharmacy Program. (DVSY)

PHRM 112. Dispensing, Compounding and Calculations. 3 Units.

This course presents mathematical concepts as they apply to the practice of pharmacy. The course also presents information on the techniques needed for the proper compounding and dispensing of medication as well as those techniques needed for communicating effectively with patients and health care professionals. Prerequisite: admission to the Doctor of Pharmacy program.

PHRM 113. Molecular and Cellular Biochemistry. 4 Units.

This course is a conceptual study of cellular function and control mechanisms at the molecular level. Prerequisite: admission to the Doctor of Pharmacy program.

PHRM 114. Physical Pharmacy and Dosage Forms. 5 Units.

Students study dosage forms and the relationship between the physicochemical properties of drugs and drug reaction. Prerequisite: admission to the Doctor of Pharmacy program.

PHRM 115. Nonprescription Therapy and Self Care. 2 Units.

Students study the principles of triage and self care that use non-prescription pharmacotherapy and dietary supplements. Prerequisite: admission to the Doctor of Pharmacy Program.

PHRM 118. Practicum I. 2 Units.

Pharmacy practice skills and knowledge are developed through completion of self-study modules and guided practice simulations. The practicum experiences relate to effective patient counseling for the most commonly prescribed and select non-prescription medications, smoking cessation products, and immunizations in addition to application of appropriate techniques for measurement of blood pressure, blood glucose and administration of immunizations for adults. Prerequisite: admission to the Doctor of Pharmacy Program.

PHRM 121. Informatics, Statistics and Research Design. 3 Units.

Students develop an understanding of the availability, selection and use of electronic and printed sources of medical and pharmacy information. Approaches to effectively responding to drug information questions in addition to analyzing and critiquing medical and pharmacy literature based on knowledge of the essentials of study design and statistics. Students will also understand the research steps prior to and following drug approval by the Food and Drug Administration. Prerequisite: a passing grade in all required courses in Semester 1 in the Doctor of Pharmacy Program.

PHRM 122. Physiology and Pathophysiology I. 5 Units.

This course is an integrated study of the cellular, anatomical, physiological, and pathophysiological components of the nervous and gastrointestinal systems. Prerequisite: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy program. Prerequisite, may be taken concurrently: PHRM 123.

PHRM 123. Physiology and Pathophysiology II. 5 Units.

This course is an integrated study of the cellular, anatomical, physiological, and pathophysiological components of the pulmonary, cardiovascular and renal systems. Prerequisite: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy program. Prerequisite, may be taken concurrently: PHRM 122.

PHRM 124. Drug Metabolism and Disposition. 3 Units.

This is a continuation course of PHRM 114 (Physical Pharmacy and Dosage Form) that utilizes the LADME framework (Liberation, Absorption, Distribution, Metabolism, and Excretion) to understand the biopharmaceutic, biometabolic and pharmacokinetic concepts underlying drug action. Prerequisite: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy program.

PHRM 129. Community I IPPE. 2 Units.

This course is a practice-based introductory experience that focuses on the role of the Pharmacist/Pharmacy Intern in a community pharmacy practice. This course is designed to allow students to participate in the delivery of pharmaceutical care. Prerequisites: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy Program and a current Pharmacy Intern license. Meet the minimum site and IPPE requirements, including but not limited to criminal background checks, drug and tuberculosis screening, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APhA immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance and signed student photo release form.

PHRM 134. Applied Pharmacokinetics and Pharmacogenomics. 4 Units.

This course is a continuation of PHRM 114 Physical Pharmacy & Dosage Forms and PHRM 124 Drug Metabolism & Disposition that use the LADME framework (Liberation, Absorption, Distribution, Metabolism, and Excretion) to understand biopharmaceutic and pharmacokinetic/pharmacodynamic principles governing drug behavior in the body. Additionally, the design of modified release drug delivery systems is covered. Prerequisite: a passing grade in all required courses in Semester 1 to 2 in the Doctor of Pharmacy program.

PHRM 135. Pharmacology and Medicinal Chemistry I. 4 Units.

The first course in the Pharmacology and Medicinal Chemistry series, effects of autonomic and central nervous system therapeutic agents and the mechanisms whereby these effects are induced. Drug classes will be presented to illustrate the effects of drug classes in the treatment of diseases. The principles of drug action and receptor theory will also be covered. Prerequisite: a passing grade in all required courses in Semesters 1 to 2 in the Doctor of Pharmacy program.

PHRM 136. Pharmacology and Medicinal Chemistry II. 4 Units.

The second course in the Pharmacology and Medicinal Chemistry series covers the effects of antimicrobial, hematologic, and gastrointestinal therapeutic agents and the mechanisms whereby these effects are induced. Drug classes are presented to illustrate the effects of drug classes in the treatment of diseases. The mechanisms of drug toxicity is also covered. Prerequisite: a passing grade in all required courses in Semester 1 to 2 of the Doctor of Pharmacy program.

PHRM 138. Practicum II. 2 Units.

Students develop communication, assessment and documentation abilities to prepare them for didactic courses and practice experience. Students learn to conduct a patient history, perform basic physical examinations, interpret common clinical laboratory data and diagnostic tests, and document pharmacist directed patient care using standardized approaches. Students assess simulated patient scenarios using a standardized SOAP (subjective data, objective data, assessment, plan) format. Each student is expected to demonstrate proficiency in each major ability. Prerequisite: a passing grade in all required courses in Semester 1 to 2 of the Doctor of Pharmacy program.

PHRM 139. Geriatrics Introductory Pharmacy Practice Experience. 2 Units.

PHRM 139 introduces practice-based experience that focuses on long term care, senior care, and geriatric patients. It is designed as a method to enhance each student's understanding of the role and responsibilities of pharmacists in the long term care and other geriatric care settings through the provision of pharmaceutical care to patients. Prerequisites are the successful completion of (passing grade in) all required courses in Semester 1 and 2 of the Doctor of Pharmacy program and a current Pharmacy Intern license. Meet the minimum site and IPPE requirements, including but not limited to criminal background checks, drug and tuberculosis screening, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APhA immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance and signed student photo release form.

PHRM 142. Physiology and Pathophysiology III. 5 Units.

An integrated study of the cellular, anatomical, physiological, and pathophysiological components of the endocrine, immunologic, and hematologic systems and processes involved in autoimmune, oncologic, and infectious diseases. Prerequisite: a passing grade in all required courses in Semester 1 to 3 of the Doctor of Pharmacy program.

PHRM 145. Pharmacology and Medicinal Chemistry III. 4 Units.

The third course in the Pharmacology and Medicinal Chemistry series covers the effects of cardiovascular, endocrine, cancer chemotherapy, immunologic therapeutic agents and the mechanisms whereby these effects are induced. Drug classes are presented to illustrate the effects of drug classes in the treatment of diseases. Prerequisite: a passing grade in all required courses in Semester 1 to 3 in the Doctor of Pharmacy program.

PHRM 146. Therapeutics I Neuro-Psychiatry. 4 Units.

Students develop the abilities to assess and develop patient-specific care plans for patients with specific conditions, diseases, disorders, and drug-induced problems that utilize basic and applied pharmaceutical science abilities. Lectures, readings and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisite: a passing grade in all required courses in Semesters 1 to 3 in the Doctor of Pharmacy program.

PHRM 147. Therapeutics II GI/Hepatic/Nutrition. 2 Units.

Students develop the abilities to assess and develop patient-specific care plans for patients with gastrointestinal, hepatic, nutrition, and anemia conditions, diseases, disorders, and drug-induced problems that utilize basic and applied pharmaceutical science abilities. Lectures, readings and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisite: a passing grade in all required courses in Semester 1 to 3 in the Doctor of Pharmacy program.

PHRM 149. Hospital IPPE A - Practice Focus. 1 Unit.

Hospital introductory pharmacy practice experience are a method to enhance each student's understanding of the role and responsibilities of pharmacists in the institutional setting and to gain experience with the medication use system and with other health care providers within a hospital. Prerequisites: passing grade in all required courses in Semester 1 and 2 of the Doctor of Pharmacy program. Meet the minimum site and IPPE requirements, including but not limited to criminal background checks, drug and tuberculosis screening, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APhA immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance and signed student photo release form.

PHRM 150. Hospital IPPE B - Administrative/Regulatory Focus. 1 Unit.

This course enhances each student's understanding of the role of pharmacists throughout the medication use process in the hospital setting, with emphasis on pharmacy operations and administration, regulatory and accreditation standards, communicating with patients and other health care professionals, and providing drug information. Prerequisites: passing grade in all required courses in Semester 1 and 2 of the Doctor of Pharmacy program. Meet the minimum site and IPPE requirements, including but not limited to criminal background checks, drug and tuberculosis screening, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APhA immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance and signed student photo release form.

PHRM 151. Pharmacoeconomics, Benefits and Outcomes. 2 Units.

This course describes and applies economic-based evaluation methods to pharmaceutical products, treatments and services. Content includes understanding principles which help decision makers maximize clinical and/or humanistic outcomes given economic constraints. Additionally, this course provides an introduction to managed care and Medicare and its role in US health care delivery. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program.

PHRM 152. Pharmacy Law and Ethics. 3 Units.

Discussions and analysis of federal and state law, regulations, standards of practice, case law and ethics related to pharmacy practice and drug development and distribution. The focus is California laws and regulations that govern the practice of pharmacy in community and institutional settings. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program.

PHRM 156. Therapeutics III Cardiology. 4 Units.

Students develop the abilities to assess and develop patient-specific care plans for patients with specific cardiovascular diseases that utilize basic and applied pharmaceutical science abilities. Lectures, readings, and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program.

PHRM 157. Therapeutics IV Renal/Respiratory. 3 Units.

Students develop the abilities to assess and develop patient-specific care plans for patients with renal and respiratory diseases. Lectures, readings, and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients with renal and respiratory-related issues. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program.

PHRM 158. Practicum III. 1 Unit.

Problem solving and critical thinking skills are developed through the discussion and solution of complex cases and problems, with a focus on patients with multiple disorders and patients from various cultures or diverse populations and pediatric and geriatric populations. Problem solving and critical thinking skills are also developed through the discussion and solution of cases and problems that involve the clinical pharmacokinetics of select drugs, which include the determination and documentation of initial dosing recommendations, dosage adjustments, drug concentration predictions, and monitoring plans. Prerequisite: a passing grade in all required courses in Semesters 1 to 4 in the Doctor of Pharmacy program. Prerequisites, may be taken concurrently: PHRM 156 and PHRM 157.

PHRM 159. Community II IPPE. 2 Units.

Community II introductory pharmacy practice experiences are a method to enhance each student's understanding of the role and responsibilities of pharmacists in the community setting and to gain experiences with the medication use system within a community pharmacy and expand the abilities developed in Community I introductory pharmacy practice experience. Prerequisites: a passing grade in all required courses in Semesters 1 and 2 of the Doctor of Pharmacy program. Meet the minimum site and IPPE requirements, including but not limited to criminal background checks, drug and tuberculosis screening, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APhA immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance and signed student photo release form.

PHRM 160. Ambulatory Care IPPE. 1 Unit.

The Ambulatory Care IPPE enhances each student's understanding, participation, and commitment to enhancing the health of an ambulatory population. Students will work with healthcare professionals within a health care system and utilize stratification strategies to provide ambulatory population management activities. Students will evaluate electronic health information and document assessments and plans using standardized progress notes. Students will contact patients to provide information and education pertinent to health promotion and disease prevention and document those discussions in electronic health records. Work is conducted under the supervision of a licensed pharmacist.

PHRM 161. Pharmacy Management. 2 Units.

Students study the analysis of financial management principles applicable to pharmacy practice which includes an analysis of human resources management applicable to pharmacy practice. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program.

PHRM 165. Therapeutics V Infectious Diseases. 4 Units.

Infectious Disease Therapeutics is an integrated course where students are taught to bring Medical Microbiology, Pharmacology, Physiology, Immunology, Pharmacokinetics, Pharmacodynamics and Chemotherapeutics together in order to care for patients with treatable infectious diseases. Students develop the ability to assess and develop patient-specific care plans for patients with infectious disease conditions, that include prevention and drug-induced problems that utilize applied pharmaceutical science principles and knowledge. Lectures, readings, presentations and discussions enable students to develop the ability to assess, manage, and document therapeutic care plans of varying complexity for patients with infectious diseases. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program.

PHRM 166. Therapeutics VI Oncology/Transplantation. 3 Units.

Students develop the abilities to assess and develop patient-specific care plans for patients with specific conditions, diseases, disorders of cancers and transplants and drug-induced problems that utilize basic and applied pharmaceutical science abilities. Lectures, readings, and discussion enable students to develop the abilities to assess, manage, and document simple to complex patients with cancers or transplants. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program.

PHRM 167. Therapeutics VII Endocrine/Musculoskeletal. 4 Units.

Students develop the abilities to assess and develop patient-specific care plans for patients with endocrine, musculoskeletal, pain, dermatologic, and ophthalmic conditions, diseases, disorders, and drug-induced problems that utilize basic and applied pharmaceutical science abilities. Lectures, readings, and discussion enable students to develop the abilities to assess, manage, and to document simple to complex patients. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program.

PHRM 168. Practicum IV. 1 Unit.

This course is a continuation of Practicum III. Problem solving and critical thinking skills are developed through the discussion and solution of complex cases and problems that focus on patients with multiple disorders and patients from various cultures or diverse populations and pediatric and geriatric populations. Problem solving and critical thinking skills are also developed through the discussion and solution of cases and problems that involve the clinical pharmacokinetics of select drugs, including the determination and documentation of initial dosing recommendations, dosage adjustments, drug concentration predictions, and monitoring plans. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program. Prerequisites, may be taken concurrently: PHRM 165, PHRM 166, PHRM 167.

PHRM 169. Health Care Outreach IPPE. 1 Unit.

Community health care outreach introductory pharmacy practice experiences are a method to enhance each student's understanding, participation, and commitment to enhancing the health of the public. Groups of students work with community agencies and organizations in the development, organization, management, implementation, delivery, and assessment of health care outreach activities in local communities. Many of these activities are managed through professional student organizations. Students also reflect on their activities to determine the impact of those activities on the public and on themselves. Prerequisite: a passing grade in all required courses in Semesters 1 to 5 in the Doctor of Pharmacy program. Meet the minimum site and IPPE requirements, including but not limited to criminal background checks, drug and tuberculosis screening, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APhA immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance and signed student photo release form.

PHRM 171. Internal Medicine APPE. 6 Units.

This clinical pharmacy practice rotation at an affiliated health care facility emphasizes the medical management of disease states, rational drug therapy, and patient monitoring that use the pharmaceutical care practice model. Prerequisites: a passing grade in all required courses and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for entry into advanced pharmacy practice experiences. Meet the minimum site and APPE requirements, including but not limited to criminal background checks, drug and Tuberculosis screenings, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APha immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance, and signed student photo release form.

PHRM 172. Ambulatory Care APPE. 6 Units.

This clinical pharmacy practice rotation at an affiliated clerkship site has an emphasis on providing pharmaceutical care for ambulatory care patients, that include the medical management of disease states, rational drug therapy, and patient monitoring. Prerequisites: a passing grade in all required courses and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for entry into advanced pharmacy practice experiences. Meet the minimum site and APPE requirements, including but not limited to criminal background checks, drug and Tuberculosis screenings, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APha immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance, and signed student photo release form.

PHRM 173. Hospital Care APPE. 6 Units.

This hospital pharmacy practice rotation at an affiliated clerkship site enhances experiences in selecting drug products, compounding, dispensing, monitoring and evaluation, as well as understanding pharmacy operations and administration, communicating with patients and other health professionals, and providing drug information. Prerequisites: a passing grade in all required courses and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for progression into Advanced pharmacy Practice Experiences. Meet the minimum site and APPE requirements, including but not limited to criminal background checks, drug and Tuberculosis screenings, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APha immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance, and signed student photo release form.

PHRM 174. Community Pharmacy APPE. 6 Units.

The Advanced Pharmacy Practice Experience in Community Pharmacy Practice is designed to provide students hands-on experience in selecting drug products, compounding, dispensing, monitoring and evaluating, communicating with patients, communicating with other health professionals, drug information, public health, and pharmacy operations and management. This required experiential learning rotation allows students to integrate their pharmacy knowledge with patient care skills, further develop effective communication skills, develop pharmacy management skills, and engage in innovative practice experiences when possible. Students actively participate in the day-to-day activities that comprise the work of a pharmacist who practices in the community setting. In addition, students have the opportunity to engage in pharmacy practice activities that include pharmacy management, medication therapy management and other pharmaceutical care services, and health promotion and preventive care services. Prerequisites: a passing grade in all required courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for progression into Advanced Pharmacy Practice Experiences. Meet the minimum site and APPE requirements, including but not limited to criminal background checks, drug and Tuberculosis screenings, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APha immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance, and signed student photo release form.

PHRM 175. Advanced Pharmacy Practice Experience Capstone I. 1 Unit.

This is the first of a required, two-semester sequential course for pharmacy students during their advanced pharmacy practice experience. This course is designed to: 1) prepare students for practice in the profession of pharmacy, 2) build upon didactic knowledge gained previously in the Doctor of Pharmacy program, and 3) help students become life-long learners through self-assessment and reflection on learning. Course activities will include but are not limited to board exam preparation, quizzes, case presentations, disease state and/or drug information presentations/discussions, journal club presentations, self-reflection assignments, and/or guest lectures by pharmacists and other healthcare practitioners in addition to other region-specific activities. Prerequisites, may be taken concurrently: PHRM 171, PHRM 172, PHRM 173, PHRM 174, PHRM 184 or PHRM 185 and satisfy academic standards and the institution's policies and procedures for progression into Advanced Pharmacy Practice Experiences.

PHRM 176. Advanced Pharmacy Practice Experience Capstone II. 1 Unit.

This is the second of a required, two-semester sequential course for pharmacy students during their advanced pharmacy practice experiences. This course is designed to: 1) prepare students for practice in the profession of pharmacy, 2) build upon didactic knowledge gained previously in the Doctor of Pharmacy program, and 3) help students become life-long learners through self-assessment and reflection on learning. Course activities will include but are not limited to board exam preparation, quizzes, case presentations, disease state and/or drug information presentations/discussions, journal club presentations, self-reflection assignments, and/or pharmacists and other healthcare practitioners in addition to other region-specific activities. Prerequisite: PHRM 175 with a "C" or higher. Prerequisites, may be taken concurrently: PHRM 171, PHRM 172, PHRM 173, PHRM 174, PHRM 184 or PHRM 185.

PHRM 177. Preparatory Advanced Pharmacy Practice Experience. 2 Units.

A preparatory Advanced Pharmacy Practice Experience (APPE) with emphasis on identifying and remediating deficiency (knowledge and/or practice skills) to better prepare students who have failed at least one APPE and have successfully completed any remediation or developmental courses, activities and assessment requirements set forth by the School. Prerequisites: a passing grade in all required courses in Semesters 1 to 6 in the Doctor of Pharmacy program, Good academic standing or by permission if on academic probation, prior failure in at least one APPE, successful completion of any required remediation courses, activities and/or assessments, meet the minimum site and APPE requirements.

PHRM 184. APPE Elective I. 6 Units.

This is the first of two elective advanced pharmacy practice experiences that allow the student to explore and develop abilities in an area of interest within the health care industry. This experience may be in a variety of biomedical settings that include patient care, administrative, health care system, public health, governmental agency, professional organization, research, academic, pharmaceutical company, and other biomedical or health related settings. Prerequisites: a passing grade in all required and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program. Students must satisfy academic standards for progression into Advanced Pharmacy Practice Experiences. Meet the minimum site and APPE requirements, including but not limited to criminal background checks, drug and Tuberculosis screenings, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APha immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance, and signed student phot release form.

PHRM 185. APPE Elective II. 6 Units.

This is the second of two elective advanced pharmacy practice experiences that allow the student to explore and develop abilities in an area of interest within the health care industry. This experience may be in a variety of biomedical settings including patient care, administrative, health care system, public health, governmental agency, professional organization, research, academic, pharmaceutical company, and other biomedical or health related settings. Prerequisite: Successful completion of (passing grade in) all required courses and 4 units of elective courses in semesters 1 to 6 of the Doctor of Pharmacy program Satisfy academic standards for progression into Advanced Pharmacy Practice Experiences. Meet the minimum site and APPE requirements, including but not limited to criminal background checks, drug and Tuberculosis screenings, up to date personal immunizations for healthcare provider, annual completion of University approved HIPAA training course, APha immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance, and signed student phot release form.

PHRM 191. Independent Study. 1-4 Units.**PHRM 197. Independent Research. 1-4 Units.****PHRM TPR. ELEC.: 1-6 Units.****Physiology Pharmacology Courses****PHYP 111. Veterinary Pharmacology. 2 Units.**

Students examine the application of pharmacology to the problems of animal health. The course is one two-hour lecture per week.

PHYP 113. Teaching Anatomy, Physiology and Pathophysiology Laboratory. 1 Unit.

This course provides academic credit for second-year PharmD students who assist with teaching laboratory and discussion sessions for first-year Anatomy, Physiology, and Pathophysiology courses. Assistance may be for demonstrations, wet laboratory procedures, or discussion sessions for PharmD courses taught by faculty in the Physiology & Pharmacology Department. Prerequisites: PHRM 122 or PHRM 123 with a C or better; permission of instructor; must not be on probation or received no credit in required pharmacy courses. The course may be repeated twice for credit.

PHYP 114. Teaching Anatomy and Physiology Laboratory II. 2 Units.

This course provides academic credit for second year students who assist with teaching laboratory and discussion sessions for first-year Anatomy and Physiology courses. Assistance may be for demonstrations, wet laboratory procedures, or discussion sessions in PHAR 125. Students must receive a grade of "C" or better in the course in which teaching assistance is provided. Permission of instructor.

PHYP 130. Science Education Experiences (SEE). 2 Units.

The course prepares second year pharmacy students for outreach to elementary school classrooms to teach science information and concepts. Students receive training to prepare for the classroom environment and then make 6-7 visits to assigned classrooms to present science information and direct hands-on science activities. Open to second year students in the Doctor of Pharmacy program with good academic standing.

PHYP 141. Parkinson's Disease Research. 1-4 Units.

This elective course is for students wishing to pursue scientific research into the neurobiology and genetics of Parkinson's disease. Credits are by arrangement and will be determined at the beginning of each semester by the nature of the research project and by the time schedule of each student. Students are expected to commit to 3 hours of lab research per week per unit, with the understanding that the numbers of hours of units will be directly proportionate to the relative complexity of the assigned research project. Participation will be documented by the students and by the instructor. Prerequisites: Doctor of Pharmacy student or permission of instructor.

PHYP 142. Pharmacogenomics. 1 Unit.

This elective course will introduce basic concepts, clinical applications and ethical considerations of pharmacogenomics. Students will learn about the genetic basis of inter-individual variability in response to drugs and drug pharmacokinetics, and how pharmacotherapy can be individualized based on a person's genetic makeup to optimize its effectiveness and minimize adverse effects. Prerequisite: Second year Doctor of Pharmacy student or permission of instructor.

PHYP 149A. Special Topics. 1-4 Units.**PHYP 149B. Special Topics. 1-4 Units.****PHYP 158. Fundamentals of Toxicology. 2 Units.**

An introduction to the general principles of toxicology. The toxic effects of various classes of non-medical chemicals are discussed with emphasis on the mechanisms of action, sites of action, signs and symptoms of toxicity and the treatment of toxicity. Prerequisites: PHRM 135 and PHRM 136.

PHYP 193. Undergraduate Independent Study. 1-5 Units.

This independent study course involves library and laboratory work and the writing of a report. Permission of the instructor.

Pharmaceutics Med. Chem Courses**PMED 097. Independent Research. 1-5 Units.****PMED 097A. Independent Research. 1-5 Units.****PMED 111A. Teaching the Pharmaceutical Dosage Forms Laboratory. 1 Unit.**

This course is designed to train pharmacy students to supervise a laboratory as a teaching assistant. This course is open to students who have completed all first year courses and are in good standing.

PMED 111B. Teaching the Pharmaceutical Dosage Forms Laboratory. 1 Unit.

A course designed to train pharmacy students in supervising a laboratory as a teaching assistant. This course will be open to students who have completed all first year courses and are in good standing.

PMED 121. Professional Communications and Interviewing. 1 Unit.

This course instructs students on the principles of professional communication and interviewing. After appropriate training, students participate in different aspects of the interview of candidates for the pharmacy program. At the end of their participation, students evaluate the program. Prerequisite: Doctor of Pharmacy Student.

PMED 122. Teaching Assistant for Professional Communications and Interviewing. 2 Units.

This course enables students to participate at a coordinator level in the process of professional communications and interviewing. Students are assigned specific coordinator roles and work in cooperation with the Office of Student and Professional Affairs, other students, and faculty in fulfilling those roles. Open to second year Doctor of Pharmacy students. Prerequisite: PMED 121.

PMED 129. Dynamics of Student Leadership. 2 Units.

Students explore and apply of basic leadership theories and processes which foster personal and interpersonal development via cognitive experiential classroom methods and mentoring relationships with experienced peer leaders. Professional standing.

PMED 131. Introduction to Dermatology. 2 Units.

This course is an integrated study of dermatological disorders with emphases on triage, medication options, and pharmaceutical care. Prerequisites: PHRM 112 and PHRM 115. Professional standing.

PMED 132. Bench Research in Protein Chemistry and Molecular Biology. 1 or 2 Unit.

This elective course provides bench research experience for 1st and 2nd year pharmacy students and undergraduate students. Research will be related to biochemistry, protein chemistry, and molecular biology. Emphasis will be on the rationale and hypothesis for the experiment. Students will have hand on experience to conduct experiments and opportunities to present findings. Prerequisite: Permission from instructor.

PMED 136. Making of Medicines: The Process of Drug Development. 1 Unit.

Drug discovery and development is very complex and may take up to 20 years and multiple steps to bring a medicine to patients. The medical expertise and processes that contribute to scientific-based drug development are often unfamiliar to students in science and health-related fields. This course addresses the need to increase understanding and awareness of the drug discovery and development process.

PMED 138. Lectures in Nuclear Pharmacy Science. 3 Units.

Students study radioactivity, radionuclides, and nuclear radiations. Topics include methods of detection and measurement of radiations as well as basic rules of use for nuclides and radioactive material.

PMED 143. Facilitating Molecular and Cellular Biochemistry (MCB) Lab Sessions. 2 Units.

This course provides academic units for second-year students who assist with teaching/facilitating laboratory discussion sessions for first-year Molecular and Cellular Biochemistry (MCB) students. Open to second year PharmD students. Prerequisite: PHRM 113 with an "A" and permission of instructor.

PMED 149A. Special Topics. 4 Units.**PMED 149B. Special Topic. 1 or 2 Unit.****PMED 153. Pharmaceutical Compounding. 2 Units.**

A study of extemporaneously preparing, mixing, assembling, packaging, and labeling of non-sterile compounded prescription drug orders according to the art of the apothecary. Prerequisite: Doctor of Pharmacy student.

PMED 164. Advances in Applied Pharmacokinetics. 2 Units.

This course offers a systematic approach to a rational application of basic pharmacokinetics to patient specific clinical practice.

PMED 185. Cosmetics: Formulation and Function Lab. 1 Unit.

This hands-on course is an introduction to the formulation and function of cosmetic products for the hair, nails, skin, lips and eyes. Prerequisite: PMED 184.

PMED 193. Undergraduate Independent Study. 1-5 Units.

This course is independent study that involves library and/or laboratory.

PMED 196F. Independent Study. 1-4 Units.**PMED 197. Undergraduate Independent Study. 1-5 Units.**

This course is independent study that involves library and/or laboratory.

Pharmacy Prof Devel Courses

PPDP 149U. Endocrine/Musculoskeletal Ther. 4 Units.

Students will develop the abilities to assess and develop patient-specific care plans for patients with endocrine, musculoskeletal, pain, dermatologic, and ophthalmic conditions, diseases, disorders, and drug-induced problems utilizing basic and applied pharmaceutical science abilities. Lectures, readings, and discussion will enable students to develop the abilities to assess, manage, and document simple to complex patients.

Pharmacy Practice Courses

PRAC 070. Clinical Experience Rotations. 18 Units.

PRAC 101. Pharmacy Orientation. 1 Unit.

Students study a general survey of the scope of pharmacy that includes and licensing requirements, career and occupational opportunities, pharmacy organizations (campus, local, state and national), basic pharmacy terminology and University and School of Pharmacy and Health Sciences regulations and pre-pharmacy requirements.

PRAC 110. Developing Effective Learning Strategies. 1 Unit.

This elective course will provide students with information about how learning occurs, determining learning preferences, developing effective strategies, effective time management, and psychosocial/lifestyle factors that impact learning.

PRAC 116. Teaching Pharmacy Dosage Labs. 1 Unit.

This course will present an opportunity for 2nd year pharmacy student to review and reflect on the methods used to teach 1st year professional students the proper techniques for dispensing medications, compounding, and drug consultation. It will also provide students with the opportunity to contribute their thoughts on ways in which these methods may be improved.

PRAC 118. Professional Communication and Interviewing. 1 Unit.

This course enables students to participate in the process of professional communications and interviewing. Students are assigned specific interviewing and facilitator roles and work in cooperation with the Office of Student and Professional Affairs, other students, and faculty in fulfilling those roles.

PRAC 119. Teaching Assistant for Professional Communication and Interviewing. 2 Units.

This course enables students to participate at a coordinator level in the process of professional communications and interviewing. Students are assigned specific coordinator roles and work in cooperation with the Office of Student and Professional Affairs, other students, and faculty in fulfilling those roles. Prerequisite: PRAC 118.

PRAC 120. Advanced Immunizations: Immunology and Influenza. 1 Unit.

This is an advanced course on immunizations that will emphasize the immunological basis for vaccine effectiveness and provide an in-depth review of the influenza virus and vaccines. Prerequisites: PHRM 111, PHRM 112, PHRM 113, PHRM 114, PHRM 115, PHRM 118; certification through APhA's Pharmacy Based Immunization Delivery training program.

PRAC 124. Developing Consumer Fact Sheets. 2 Units.

Students develop written communication skills geared towards consumers by writing consumer friendly fact sheets about relevant health topics. All facts sheets are submitted to the California State Board of Pharmacy for use at their discretion. Students receive acknowledgement for their contributions. Open to second year Doctor of Pharmacy students or those with permission of the instructor.

PRAC 127. Teaching the Drug Information Lab. 1 Unit.

PRAC 127A. RxTract Writer. 1 Unit.

Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127B. RxTract Writer. 1 Unit.

Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127C. RxTract Writer. 1 Unit.

Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127D. RxTract Writer. 1 Unit.

Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127E. RxTract Writer. 1 Unit.

Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 127F. RxTract Writer. 1 Unit.

Students write and publish pharmacotherapy reports in a newsletter format.

PRAC 130. Practice of Pharmacy- A Multicultural and International Approach. 1-2 Units.

The focus of this course is to develop a culturally competent and multifaceted approach to patient care in a diverse cultural and dynamic healthcare setting. This course takes into consideration the various health and illness needs, religious beliefs, complementary health practices, cultural orientation of various ethno cultural groups as well as the dynamics of transcultural communications between patients and healthcare professionals. Prerequisite: successful completion of semester 1 in the Doctor of Pharmacy program or permission of instructor.

PRAC 131. Managed Care: P&T Competition. 1-2 Units.

This course focuses on the practical and hands-on skills of formulary management through understanding the steps involved in evaluating the AMCP (Academy of Managed Care Pharmacy) Dossier format of pharmaceutical products, literature search and evaluation, interpreting pharmacoeconomic/cost-impact analysis, Comparative Effectiveness Research (CER), monograph creation and presentation to a Pharmacy and Therapeutics (P&T) Committee. Open to Doctor of Pharmacy students only.

PRAC 132. Advanced Immunizations: Introduction to Travel Medicine. 1 Unit.

Introduction to the practice of travel medicine with an emphasis on vaccines and pharmacological prophylaxis and treatment of tropical diseases. Prerequisites: PHRM 111, PHRM 112, PHRM 113, PHRM 114, PHRM 115, PHRM 118; certification through APhA's Pharmacy Based Immunization Delivery training program.

PRAC 133. Adv IMM Introduction to Travel Medicine II. 1 Unit.

An introduction to the practice of travel medicine with an emphasis on parasitic and non-vaccine preventable tropical diseases. Prerequisites: PHRM 118, certification through APhA's Pharmacy Based Immunization Delivery training program. Prerequisite, may be taken concurrently: PRAC 132.

PRAC 134. Past, Present and Future of Vaccine Preventable Diseases. 1 Unit.

A general overview of the successes and issues surrounding vaccine preventable diseases with topics ranging from small pox eradication to the therapeutic use of vaccines for non-infectious diseases. Prerequisite: PHRM 118.

PRAC 135. Student Journal Club. 2 Units.

This elective course is designed to help students practice and master 1) literature retrieval and evaluation skills and 2) information dissemination skills that help prepare them for rotations and the rotation requirement of reviewing and presenting journal articles. Students select, review, analyze and present articles each week that are related to topics of interest in other courses they are taking. Prerequisite: PHRM 121 and 3rd semester standing (or higher) in the Doctor of Pharmacy program.

PRAC 136. Entrepreneurial Pharmacy Practice. 2 Units.

An overview of entrepreneurship in general, the traits of an entrepreneur, current topics in entrepreneurship with a specific focus on pharmacy practice and patient care programs. The course teaches the participants a comprehensive set of critical skills needed to develop a profitable business project. Preference is given to students enrolled in the Entrepreneurial Program. Prerequisite: PHRM 111.

PRAC 137A. RxTract Editor. 2 Units.

Students organize and edit reports that are published in a newsletter format. Prerequisite is enrollment as a second year PharmD student.

PRAC 137B. RxTract Editor. 2 Units.

Students organize and edit reports that are published in a newsletter format. Prerequisite is enrollment as a second year PharmD student.

PRAC 137C. RxTract Editor. 2 Units.

Students organize and edit reports that are published in a newsletter format. Prerequisite is enrollment as a second year PharmD student.

PRAC 138. Behavioral Medicine in Pharmaceutical Care. 1 Unit.

This course will cover the basic principles of behavior, behavioral medicine, and health psychology. In addition, the application of these principles will be demonstrated through examples from disease states such as diabetes, asthma, chronic pain, cardiovascular diseases and cancer. Professional standing.

PRAC 139. Health Literacy: Fundamental Skills for Patient Care. 1-2 Units.

The course explore the link between literacy and health in the U.S. and how poor health literacy impacts access to health information and quality health care services. Students practice writing and speaking in plain language, and consider the Internet as a vehicle for achieving consumer health information literacy. The course provides an overview of the adult literacy system in the U.S. and explores opportunities for collaboration across fields. Prerequisites: PHRM 111, PHRM 112, PHRM 115, PHRM 118.

PRAC 140. Healthcare Finance: Pharmacy Applications. 2 Units.

Healthcare Finance offers an introduction to accounting, financial theory and practice in health care settings. It is designed to familiarize students with financial concepts and issues that confront managers in the health and pharmaceutical sectors. Second year standing in the Doctor of Pharmacy program or permission of instructor.

PRAC 141. Medicare Part D and MTM - Application and Outreach. 2 Units.

This course focuses on examining the Medicare Part D prescription drug benefit, utilization of the Medicare Plan Finder Tool and Medication Therapy Management (MTM). We will also focus on incorporating patient-specific considerations and evaluate the economic implications of Medicare Part D plan selection by beneficiaries. We will also train students about the process and how to perform MTM.

PRAC 142. Intro to the Medicare Benefit & Medication Therapy Management. 2 Units.

A course which focuses on understanding the eligibility, structure, financing and administration of the Medicare benefit. The prescription drug benefit (PartD) is discussed in detail and topics such as formulary requirements, restrictions, coverage determination and appeals are explored. Cost-minimization strategies including the late-enrollment penalty, Medicaid, the low-income subsidy, and pharmaceutical assistance programs are highlighted. Students also learn about the most common medications filled by Medicare beneficiaries, have a series of mini-modules on prevalent chronic conditions in the senior population, learn how to use the MTM billing platform and conduct MTM services. Prerequisites: Second year PharmD student or instructor permission. Meet the minimum site and IPPE requirements, including but not limited to criminal background checks, drug and tuberculosis screening, up to date personal immunization for healthcare provider, annual completion of University approved HIPAA training course, APhA immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance and signed student photo release form.

PRAC 143. Health Care Outreach IPPE- Medicare Part D. 1 Unit.

Community health care outreach introductory pharmacy practice experiences are a method to enhance each student's understanding, participation, and commitment to enhancing the health of the public, with a focus on enhancing Medicare beneficiary understanding and enrollment in a Medicare Part D prescription drug plan. Groups of students work to develop, organize, manage, implement, deliver, and assess Medicare Part community outreach activities in settings serving Medicare beneficiaries. This course is given in conjunction with PRAC 141 Medicare Part D-Fundamentals, Application and Outreach. Students also reflect on their activities to determine the impact of those activities on both the beneficiaries they serve and on themselves. Successful completion of this course satisfies completion of PHRM 169 Health Care Outreach Introductory Pharmacy Practice Experiences. Prerequisites: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy program or permission of the instructor, current Pharmacy Intern license, and current blood borne pathogen and CPR certifications. Corequisite: PRAC 141.

PRAC 149A. Special Topics. 1-4 Units.**PRAC 149E. Special Topics. 1-4 Units.****PRAC 149F. Special Topics. 1-4 Units.****PRAC 149G. Special Topics. 1-4 Units.****PRAC 150. Careers in the Pharmaceutical Industry. 1 Unit.**

This course will serve as an introductory course for the development of students who are interested in pharmaceutical industry fellowships and/or a career in the pharmaceutical industry. During the course students will learn about the recruitment process used by pharmaceutical and biotech companies. The course will expose students to the daily work of professionals in different functions of the pharmaceutical industry. Students will be linked with current and past pharmaceutical industry fellows and learn about the pharmacist's role in molecule development, medical science, regulatory affairs, clinical operations, clinical sciences, and the emerging global landscape of clinical trials. In addition, the course will be prepared for the rigors of the application process at the American Society of Health-System Pharmacists Mid-Year Clinical Meeting.

PRAC 151. Intro to Pediatrics. 2 Units.

Students are introduced to the pediatric patient, physiologic considerations, population-specific disease states and pharmacotherapy. Prerequisites: successful completion of all courses in the first three semesters of current Doctor of Pharmacy curriculum and current enrollment in fourth semester coursework or higher.

PRAC 152. Practicum I Teaching Assistant. 1 Unit.

This course presents an opportunity for 2nd year pharmacy student to act as teaching assistants (TA) and to help teach and foster learning for 1st year professional students in the practicum course. The practicum experiences relate to effective patient counseling for the most commonly prescribed and select non-prescription medications, pulmonary devices, smoking cessation products, in addition to application of appropriate techniques for measurement of blood pressure, blood glucose, and administration of immunizations for adults. Prerequisite: Permission of the instructor and a grade of B or better (or grade of Pass if Pass/No Credit) in PHRM 118, pharmacy students in the 2nd year of their professional studies. Students must not be on probation and must not have failed or received no credit in any required pharmacy course.

PRAC 153. Introduction to Spanish for the Pharmacy Professional I. 1 Unit.

This elective course is designed to develop a beginning level competence in Spanish for use in pharmacy practice settings. Basic communication skills related to everyday situations in the pharmacy will be presented using lecture, interactive laboratory sessions, and online and textbook listening and speaking exercises. Vocabulary, phrases, questions, patient assessment, and patient interview for basic conditions and OTC counseling will be presented and practiced. The goal of this course is not to develop fluency but to introduce the student to the Spanish language and its application in the pharmacy and also to develop a foundation for lifelong learning.

PRAC 154. Introduction to Spanish for the Pharmacy Professional I - Teaching Assistant. 1 Unit.

The course is designed to present an opportunity for pharmacy students who are fluent or proficient in the Spanish language to act as teaching assistants and assist other pharmacy students to learn Spanish for the Pharmacy Professional. Teaching assistants will meet with the instructor prior to each class session for class preparation and will then participate during class sections.

PRAC 155. Biotechnology and Product Development. 2 Units.

This course offers the students comprehensive information and insights about the science of biotechnology, as well as a focus on product development, and the differentiations of biological from drugs. Actual industry experiences are provided. The students also gain an understanding of key biological product attributes, and the business and science practices in the biopharma industry, plus regulatory issues. Through a student presentation, an understanding of a "Total Product Profile", is provided, which is essential in product development examining the clinical parameters of diseases in healthcare systems with the product applications, along with business potential of a biological product. Prerequisite: Second year Doctor of Pharmacy student.

PRAC 156. Opportunities in Pharmacy Practice. 1 or 2 Unit.

Students learn personal and business tools to make the transition from the academic environment to the daily practice of pharmacy, with an emphasis on entrepreneurship.

PRAC 157. Peer Tutoring and Mentoring. 1 Unit.

This course is designed to provide training for students to become effective tutors for courses in the Pharmacy curriculum and/or peer mentors for the Office of Academic Success and Instructional Support. Students will be in one of two tracks: tutoring for specific courses or serving as peer mentors for the OASIS office. Prerequisite: Cumulative GPA of 3.0 or better.

PRAC 158. Population Health Management Introductory Pharmacy Practice. 1 Unit.

Population health management introductory pharmacy practice experiences are a method to enhance each student's understanding, participation, and commitment to enhancing the health of a population. Students will work with healthcare professionals with the VA Northern California Health Care System (VANCHCS) to coordinate, deliver and measure the effectiveness of population management activities. Students will utilize VA Dashboard to identify populations at risk. Students will contact and counsel those patients at risk, and document those discussions and recommendations in electronic health records under the supervision of a licensed pharmacist. Completion of this course will satisfy the requirements for PHRM 169. Prerequisites: PHRM 111, PHRM 112, PHRM 113, PHRM 114, PHRM 115, PHRM 118.

PRAC 159. Pharmaceutical Care for Ambulatory Care Clinic Patients. 1 Unit.

A course which focuses on education and actively involving students in the provision of pharmaceutical care provided to patients through our four clinics [asthma, osteoporosis & falls, pharm. care (which includes smoking cessation), and wellness] and our associated education, assessment, and interventional community programs. Prerequisites: Doctor of Pharmacy student. Meet the minimum site and IPPE requirements, including but not limited to criminal background checks, drug and tuberculosis screening, up to date personal immunization for healthcare provider, annual completion of University approved HIPAA training course, APhA immunization certificate, current blood borne pathogen certificate, current AHA CPR for healthcare provider certificate and valid pharmacy intern license. Complete experiential requirements also include but are not limited to proof of medical and auto insurance and signed student photo release form.

PRAC 160. Pain Management. 2 Units.

Students examine pharmaceutical care for the patient with pain disorders and focus on pathophysiology, pharmacology and toxicology, pain assessment skills, appropriate medication therapy, side effect management and non-medication management of these disorders. Prerequisites: successful completion of all courses in semesters 1-4 of the Doctor of Pharmacy program.

PRAC 161. Practicum II TA 1. 1 Unit.

This is the first of a two-semester course series. In this course, second year pharmacy students focus on preparing to serve as teaching assistants for students in PHRM 138 Practicum II through guided activities. Students are expected to serve as teaching assistants in the PHRM 138 Practicum II course in the following semester. Prerequisites: Second year Pharm.D. student. Permission from the instructor and a grade of "B" or better in PHRM 138. Students must be in good academic standing and not tutoring 1st year pharmacy students for PHRM 138. Student must not have failed any required pharmacy course.

PRAC 162. Practicum II TA 2. 1 Unit.

This is the second of a two-semester course series. In this course, second year pharmacy students serve as teaching assistants for students in PHRM 138. Prerequisites: Second year Pharm.D. student. Completion of PRAC 161. Permission from the instructor. Students must be in good academic standing and not tutoring first year pharmacy students for PHRM 138. Students must not have failed any required pharmacy course.

PRAC 164. Applied Therapeutics and Managed Care. 2 Units.

This course is a blend of therapeutics and pharmacoeconomics that apply the principles of outcome research situations in managed care (real-life situations). Open to second year students in the Doctor of Pharmacy program.

PRAC 166. Becoming an Advanced Practice Pharmacist (APP) Practitioner. 1 Unit.

This course will provide students with strategies to advance pharmacy practice and become an integral part of the inter-professional health care team. Prerequisite: First or Second year standing in the pharmacy program.

PRAC 167. Pursuit of Residency or Fellowship Opportunities I. 1 Unit.

This course will serve as an introductory course for the development of students who are interested in pursuing residency or fellowship opportunities. During the course students will learn about various aspects involved in post-graduate training focused on residency and fellowship opportunities. As the basis of residency and fellowship knowledge is developed, the course will tackle various aspects related to finding the right residency or fellowship as well as securing and excelling in the residency or fellow application process. In addition, students will be linked to peers and mentors who are already pursuing residency/fellowship opportunities as well as alum during their post-graduate training.

PRAC 168. Introduction to Spanish for the Pharmacy Professional II. 1 Unit.

This elective course is designed to further develop competence in Spanish for use in pharmacy practice settings. Basic communication skills related to everyday situations in the pharmacy will be presented using lecture, interactive laboratory sessions, and online and textbook listening and speaking exercises. Vocabulary, phrases, questions, patient assessment, and patient interview for basic conditions and OTC counseling will be presented and practiced. The goal of this course is to continue to develop pharmacist skills using the Spanish language and its application in the pharmacy and also to develop a foundation for lifelong learning. Prerequisite: PRAC 153 with a 'C' or higher.

PRAC 169. Introduction to Spanish for the Pharmacy Professional II - TA. 1 Unit.

This course is designed to present an opportunity for pharmacy students who are fluent or proficient in the Spanish language to act as teaching assistants and assist other pharmacy students to learn in the class Spanish for the Pharmacy Professional. Teaching assistants will meet with the instructor prior to each class session for class preparation and will then participate in and lead class sessions. Prerequisites: First or second year standing in the pharmacy program. Current fluency or proficiency in Spanish as demonstrated to the course instructor. Students must not be on probation and must not have failed or received no credit in any required pharmacy course. Enrollment as a Spanish teaching assistant will be by permission of the instructor.

PRAC 193. Undergraduate Independent Study. 5 Units.

This independent study course involves library, conference and clinical studies in clinical pharmacy. Students may re-elect for a maximum of three units. Permission of instructor.

PRAC 197. Independent Research. 1-4 Units.

Speech-Language Pathology

<http://www.pacific.edu/Academics/Schools-and-Colleges/Thomas-J-Long-School-of-Pharmacy-and-Health-Sciences/Academics/Speech-Language-Pathology.html>

Phone: (209) 946-2381

Location: Chan Family Health Sciences Learning Center
Jeannene Ward-Lonergan, Chair

Degrees Offered

Bachelor of Science

Master of Science (see Graduate Catalog for information)

Majors Offered

Speech-Language Pathology

Speech-Language Pathology with Departmental Honors

Minors Offered

Speech-Language Pathology

Mission

The mission of the Speech-Language Pathology department is to prepare reflective speech-language pathologists for lifelong success by providing an excellent, student-centered experiential learning environment. Our students are mentored in developing leadership, critical thinking skills, and a strong commitment to their profession and society. These efforts are assisted by the department's commitment to professional and liberal arts programs. The faculty is dedicated to continued professional growth through clinical practice, scholarly activity, and service to the profession and the community. The graduate professional preparation program is developed in accordance with state and national accreditation standards and guidelines to ensure that graduates provide exemplary professional practice throughout their careers.

The Study of Speech-Language Pathology

Speech-Language Pathology is a professional program of habilitative and rehabilitative services. This program leads to varied occupations that pertain to providing services to individuals with speech and language disorders.

Speech-Language Pathologists work with people of all ages and are prepared to evaluate speech and language problems. They plan and implement programs to correct or modify the disorder, or develop other means of communicating. Some examples of the types of problems include articulation disorders, stuttering, voice, delayed language development and aphasia.

The Bachelor of Science in Speech-Language Pathology is a pre-professional program that leads toward a career in rehabilitative services for speech, hearing and language impaired individuals. The department has a designed major which, when combined with the graduate program, leads to the academic and in-residence clinical requirements for the Certificate of Clinical Competence in Speech-Language Pathology. This certificate is awarded by the American Speech-Hearing-Language Association.

Special Features

In addition to demonstrating satisfactory academic performance, students are allowed to demonstrate clinical competence. This includes:

1. The ability to identify individuals with communication disorders.
2. The ability to perform comprehensive evaluation of individuals with communicative disorder.
3. The ability to effect positive changes in the communicative skills of individuals with communicative disorders.
4. The ability to relate effectively to clients, their families and fellow professionals.
5. The ability to conduct oneself as a prospective professional, accepting the responsibilities and exhibiting the interest which this requires.

Clinical competencies are assessed throughout the clinical experience and are considered in the recommendation to grant the BS degree.

Clinical practicum experiences are performed in the University's Speech, Hearing and Language Center and the Stockton Scottish Rite Childhood Language Disorders Center. These local centers allow the student to directly observe and participate in the habilitative and rehabilitative processes. At the junior level, students may participate in a junior clinician role in conjunction with more advanced students. At the senior level, students are directly responsible for their own clients in the Center. All clinical experiences are under the direct observation of licensed and certified personnel.

Accreditation

The program in Speech-Language Pathology is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association.

Speech-Language Pathology Facilities

The department is housed in quarters designed specifically for the clinical aspects of the program. Observation mirrors and audio-monitoring systems are installed in each of the 18 therapy rooms. Facilities allow for close student-faculty interaction and clinical experiences incorporating all persons involved in the therapeutic process. The University Speech, Language and Hearing Center and the Scottish Rite Language Center strengthens the clinical aspect of the program and serves to abet the development of strong clinical skills.

Career Options

Speech-language pathologists are members of health care teams. Depending upon the nature of the problem, they may work with physicians, surgeons, orthodontists, psychologists, educators, counselors or social workers. Employment settings of the speech-language pathologist include public schools, clinics, hospitals and private practice.

Recommended High School Preparation

A strong college preparatory program serves the student very well in this major. Although not required, experience in a foreign language, good writing skills, behavioral and biological sciences and mathematics enhances the student's skills for performance in the major.

Typical First-Year Program

No courses within the major are required during the first year. However, students interested in the major are encouraged to take SLPA 051-

Introduction to Communication Disorders for an overall survey of the field during their first semester. The student is also encouraged to take a broad selection of courses in the Humanities, Social and Behavioral Sciences and the Physical Sciences toward fulfillment of the general education requirements.

Program Requirements

The BS degree in Speech-Language Pathology is viewed as a pre-professional degree which requires a year of clinical experience. In order to participate in Beginning and/or Intermediate Clinical Practicum (SLPA 189A/SLPA 189B) and Diagnostic Lab (SLPA 183), the student must have a 3.2 GPA in all required courses for the degree and no less than a "B-" in any Speech-Language Pathology major course. These include the following required courses taught outside the department: Biology, Physics/Chemistry, Statistics, Child Development and Sociology or Psychology.

In addition, students who have declared the major prior to their junior year (less than 56 units) must complete all three of the following courses before the beginning of the senior year: Biology, Physics/Chemistry, and Statistics. Transfer students who have declared the major during the junior year (more than 56 units) must complete two of the three following courses before the beginning of the senior year: Biology, Physics/Chemistry, and Statistics

If a student is ineligible to participate in SLPA 189A/SLPA 189B and SLPA 183, SLPA 110 and SLPA 181 must be taken in place of these courses.

In order to be certified, licensed and/or credentialed in the field the student must acquire the Master's degree. Further information regarding advanced work is obtained by contacting the Speech-Language Pathology Department.

Major Field Competence

Demonstrate knowledge in the discipline

Critical and Creative Thinking

Demonstrate critical and creative thinking

Communication

Demonstrate effective oral and written skills

Ethical Reasoning

Understand the importance of integrating ethical behavior in their personal and professional lives

Collaboration & Leadership

Demonstrate the importance of collaborating with others within and across disciplines

Intercultural and Global Perspectives

Evidenced by satisfactory completion of the assessment and intervention project in SLPA 143 – Multicultural Populations.

Program Specific Student Learning Outcomes

1. Demonstrate knowledge of basic human communication processes.
2. Demonstrate introductory knowledge of human communication disorders and swallowing disorders.
3. Demonstrate introductory knowledge of assessment and intervention procedures for the major types of communication disorders and swallowing disorders.
4. Demonstrate a commitment to ethical and compassionate service.
5. Demonstrate knowledge of the biological sciences, physical sciences, statistics, and the social/behavioral sciences.

6. Demonstrate knowledge of basic human communication and swallowing processes, including the appropriate biological, neurological, acoustic, psychological, developmental, and linguistic and cultural bases.
7. Demonstrate the ability to integrate information pertaining to normal and abnormal human development across the life span.

Bachelor of Science Major in Speech-Language Pathology

Students must complete a minimum of 124 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in speech-language pathology.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 24 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
 - IIIB. Mathematics and Formal Logic
 - IIIC. Science, Technology and Society
- or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative analysis

IV. Major Requirements

PSYC 029	Developmental Psychology	4
SLPA 051	Introduction to Communication Disorders	3
SLPA 101	Clinical Methods I	2
SLPA 103	Clinical Methods II	1
SLPA 105	Clinical Methods III	2
SLPA 107	Clinical Methods IV	1
SLPA 121	Speech and Language Development	3
SLPA 123	Language Disorders I	3
SLPA 125	Speech Sound Disorders I	3
SLPA 127	Audiology	3
SLPA 129	Anatomy and Physiology of Speech	3
SLPA 131	Phonetics	3
SLPA 133	Neurogenic Case Studies in Speech-Language Pathology	3
SLPA 137	Speech and Hearing Science	3
SLPA 139	Diagnostics	3
SLPA 143	Multicultural Populations	3
SLPA 145	Disorders of Fluency	3
SLPA 151	Behavior Modification for SLPs	3
Select one of the following:		1
SLPA 183	Diagnostic Laboratory	
SLPA 181	Diagnostic Observation	
Select one of the following:		1
SLPA 110A	Clinical Observations	
SLPA 189A	Beginning Clinic	
Select one of the following:		1
SLPA 110B	Clinical Observations	
SLPA 189B	Intermediate Clinic	
Select one of the following:		4
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
Select one of the following introduction to psychology/sociology courses:		4
PSYC 031	Introduction to Psychology	
SOCI 051	Introduction to Sociology	
Select one of the following biology courses:		4
BIOL 011	Human Anatomy and Physiology	
BIOL 041	Introduction to Biology	
Select one of the following physical science courses:		4
CHEM 023	Elements of Chemistry	
PHYS 017	Concepts of Physics	
PHYS 039	Physics of Music	
Additional requirement for Speech-Language Pathology Services credential:		
SPED 123	The Exceptional Child	3

Bachelor of Science Major in Speech-Language Pathology with Departmental Honors

Students must complete a minimum of 124 units with a Pacific cumulative grade point average of 3.5 and major/program grade point

average of 3.7 in order to earn the bachelor of science degree with a major in speech-language pathology with departmental honors.

I. General Education Requirements

Minimum 42 units and 12 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. **2)** Transfer students with 24 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

IA. Individual and Interpersonal Behavior

IB. U.S. Studies

IC. Global Studies

Arts and Humanities

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a designated course prior to graduation. **2)** Courses may also be used to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

PSYC 029	Developmental Psychology	4
SLPA 051	Introduction to Communication Disorders	3
SLPA 101	Clinical Methods I	2
SLPA 103	Clinical Methods II	1
SLPA 105	Clinical Methods III	2
SLPA 107	Clinical Methods IV	1
SLPA 121	Speech and Language Development	3
SLPA 123	Language Disorders I	3
SLPA 125	Speech Sound Disorders I	3
SLPA 127	Audiology	3

SLPA 129	Anatomy and Physiology of Speech	3
SLPA 131	Phonetics	3
SLPA 133	Neurogenic Case Studies in Speech-Language Pathology	3
SLPA 137	Speech and Hearing Science	3
SLPA 139	Diagnostics	3
SLPA 143	Multicultural Populations	3
SLPA 145	Disorders of Fluency	3
SLPA 151	Behavior Modification for SLPs	3
Select one of the following:		1
SLPA 183	Diagnostic Laboratory	
SLPA 181	Diagnostic Observation	
Select one of the following:		1
SLPA 110A	Clinical Observations	
SLPA 189A	Beginning Clinic	
Select one of the following:		1
SLPA 110B	Clinical Observations	
SLPA 189B	Intermediate Clinic	
Select one of the following:		4
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
Select one of the following introduction to psychology/sociology courses:		4
PSYC 031	Introduction to Psychology	
SOCI 051	Introduction to Sociology	
Select one of the following biology courses:		4
BIOL 011	Human Anatomy and Physiology	
BIOL 041	Introduction to Biology	
Select one of the following physical science courses:		4
CHEM 023	Elements of Chemistry	
PHYS 017	Concepts of Physics	
PHYS 039	Physics of Music	
Additional requirement for Speech-Language Pathology Services credential:		
SPED 123	The Exceptional Child	3

Speech-Language Pathology Minor

A minor in Speech-Language Pathology provides a basic understanding of normal speech, language and hearing processes, as well as an introduction to the identification of speech and language disorders.

The minor serves as an adjunct to such programs as Education, Music Therapy, Pre-Physical Therapy, Recreation Therapy, Psychology, Communication and Pre-Health Profession Preparation.

Minor in Speech-Language Pathology

Students must complete a minimum of 20 units with a Pacific minor grade point average of 2.0 in order to earn a minor in Speech-Language Pathology.

Minor Requirements

SLPA 051	Introduction to Communication Disorders	3
SLPA 121	Speech and Language Development	3
SLPA 127	Audiology	3
SLPA 129	Anatomy and Physiology of Speech	3
SLPA 131	Phonetics	3

Electives - select two of the following:	5-6
SLPA 053	Sign Language I
SLPA 123	Language Disorders I
SLPA 125	Speech Sound Disorders I
SLPA 137	Speech and Hearing Science
SLPA 143	Multicultural Populations
SLPA 145	Disorders of Fluency

Note: 1) 12 of these units must be completed at the University of the Pacific. 2) Electives are chosen in consultation with a departmental advisor.

Speech Courses

SLPA 051. Introduction to Communication Disorders. 3 Units.

This course introduces students to language, voice, fluency, articulation and hearing disorders in children and adults. It is open to non-majors. (GE1A)

SLPA 053. Sign Language I. 3 Units.

This course introduces students to comprehension and expression through sign language. It is open to non-majors with permission of department. (GE2A)

SLPA 055. Sign Language II. 3 Units.

A major part of the instruction for this course is conducted in sign language. This course requires active participation by the students to further develop beginning sign language skills.

SLPA 101. Clinical Methods I. 2 Units.

Students participate in observations and analysis of therapy, materials, teaching methods, behavioral management and data collection.

SLPA 103. Clinical Methods II. 1 Unit.

Students study methods, materials, and treatment of communicative disorders. Content includes: staffings, case studies, presentations, demonstrations, and class discussion.

SLPA 105. Clinical Methods III. 2 Units.

This course assists the beginning clinician with: writing professional reports, accountability issues while exploring a variety of therapy delivery models.

SLPA 107. Clinical Methods IV. 1 Unit.

Students discuss and analyze current clinical experiences. They also explore different disorders, populations, and work environments.

SLPA 110. Clinical Observations. 1 Unit.

SLPA 110A. Clinical Observations. 1 Unit.

This course offers structured clinical observations for seniors not enrolled in SLPA 189A or SLPA 189B. Grading is Pass/No Credit only.

SLPA 110B. Clinical Observations. 1 Unit.

This course offers structured clinical observations for seniors not enrolled in SLPA 189A or SLPA 189B. Grading is Pass/No Credit only.

SLPA 121. Speech and Language Development. 3 Units.

This course is designed to provide basic information relative to speech and language acquisition in normal children. Phonological, morphological, syntactic, semantic and pragmatic development is considered, as well as psychosocial and intellectual correlates. This course is open to non-majors.

SLPA 123. Language Disorders I. 3 Units.

This introductory course examines the speech language and behavioral characteristics associated with mental retardation, hearing impairment, emotional disturbance and neurological involvement. Discussion of appropriate diagnosis and therapeutic techniques is included.

SLPA 125. Speech Sound Disorders I. 3 Units.

An introduction to the etiology, assessment and remediation of articulation and phonologic disorders is the primary focus of the course. It is further designed to prepare students for the beginning clinical practicum experience.

SLPA 127. Audiology. 3 Units.

This introductory course in audiology emphasizes basic acoustics and psychoacoustics, anatomy and physiology of the ear, hearing measurement (pure-tone, speech and tympanometry) and types of causes of hearing impairment. This course is open to non-majors.

SLPA 129. Anatomy and Physiology of Speech. 3 Units.

Students examine the anatomy and physiology of the mechanisms of speech and hearing. This course is open to non-majors.

SLPA 131. Phonetics. 3 Units.

Students study the analysis and classification of the phonemes of standard and nonstandard dialects of American English. The course includes: intensive practice in the use of the International Phonetic Alphabet, the intensive use of Visual Phonics, and the application of phonetics to communicative disorders.

SLPA 133. Neurogenic Case Studies in Speech-Language Pathology. 3 Units.

This course requires students to integrate course content from all SLPA courses taken previously in analyzing and synthesizing clinical cases related to acquired neurogenic communication disorders.

SLPA 137. Speech and Hearing Science. 3 Units.

Speech and Hearing Science provides the student with academic and laboratory training in the sciences that provide the foundation of clinical practice in communication disorders. Students gain proficiency with various types of clinical equipment through hands-on experience.

SLPA 139. Diagnostics. 3 Units.

Students study the principles, models and methods of assessment of speech and language disorders. Topics include interview, testing, and reporting procedures.

SLPA 143. Multicultural Populations. 3 Units.

Students examine theoretical models of normal second language acquisition and bilingualism that emphasize the relationship to accurate identification of communication disorders. The content distinguishes between language differences due to differing cultural linguistic variables and underlying, cross-lingual language impairment. Current research and trends in diagnosis and re-mediation techniques for multicultural clients is studied as well as. Problem-solving approaches for specific clinical cases. (DVSY, ETHC)

SLPA 145. Disorders of Fluency. 3 Units.

This introductory course in fluency disorders (stuttering) emphasizes etiology, theory, diagnosis and treatment of this speech disorder.

SLPA 151. Behavior Modification for SLPs. 3 Units.

This class focuses on basic and advanced principles of behavior modifications as they relate to the area of communication sciences and disorders. Multiple strategies to increase, decrease, or modify behaviors are introduced. Theoretical and applied experiences in planning intervention strategies, measurement techniques, generalization and maintenance of changed behaviors are emphasized.

SLPA 181. Diagnostic Observation. 1 Unit.

SLPA 181 offers structured diagnostic observations for seniors not registered in SLPA 183. Grading is Pass/No Credit only.

SLPA 183. Diagnostic Laboratory. 1 Unit.

This course is a weekly three-hour lab experience that includes demonstration and practicum in assessment of speech and language disorders.

SLPA 189A. Beginning Clinic. 1 Unit.

SLPA 189B. Intermediate Clinic. 1 Unit.

SLPA 191. Independent Study. 1-4 Units.

Applied Science

Eric Boyce, Program Director

Susan Burkhardt, Program Coordinator

Degrees Offered

Bachelor of Arts

Majors Offered

Applied Science

Program Description

The goals of the applied science major are as follows:

1. Promote the development of a liberal education in students who enter into entry-level professional doctorate health science programs.
2. Promote the development of graduates who are able to apply the natural/basic sciences to the practice of their field of study in an applied health science field.
3. Enable students in entry-level professional doctorate health sciences programs the opportunity to earn a baccalaureate degree.

Admission

Eligibility Criteria

Students may enter the Bachelor of Arts in Applied Science program based on the following criteria.

- Students admitted to an entry-level professional doctorate health science degree program at the University of the Pacific (dentistry, pharmacy, other health science)
- Students admitted to the Pre-Pharmacy Advantage program or the Pre-Dental Advantage program, if approved by the Program Director.
- Students without a prior baccalaureate degree and no concurrent enrollment in another baccalaureate degree program.

Application Process

Students must apply to the Bachelor of Arts in Applied Science program by completing the appropriate section of the Change of Program form.

- For those graduating from the entry-level professional doctorate health science program, complete the "Addition to Program of Study" section.
- For those not graduating from the entry-level professional doctorate health science program, complete the "Change to Program of Study" section.
- Students entering the Pre-Pharmacy Advantage program or Pre-Dental Advantage program may enter the Bachelor of Arts in Applied Science program upon admission to the University if approved by the Program Director.
- Students are encouraged to apply to the Bachelor of Arts in Applied Science program at least one year prior to the expected graduation from that program.

Transcripts

- Students must have official transcripts from all other colleges and universities submitted to the University's Office of Admission in Stockton.
- Students may request copies of official transcripts housed in the School of Dentistry to be sent to the University's Office of Admission in Stockton.
- Unofficial copies of all transcripts should also be sent to the designated program director.
- The Bachelor of Arts in Applied Science is not eligible for the Pacific Transfer Admission Agreement (TAA).

Learning Outcomes

1. At the completion of the BA in Applied Science, students will be able to
 - a. Demonstrate and apply the discipline-specific knowledge and skills within their field of study.
 - b. Demonstrate effective and appropriate abilities within their discipline with respect to:
 1. Verbal and written communication;
 2. Collaboration and team work;
 3. Interactions with individuals from various cultures and ethnicities;
 4. Retrieval of information from appropriate resources.
 5. Use of information and data (quantitative and qualitative) in decision making; and
 6. Professionalism.
 - c. Engage in community based activities aimed at advancing society or assisting others.

Bachelor of Arts Major in Applied Science

Students must complete a minimum of 124 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree with a major in applied science. At least 64 semester (96 quarter) units must be from undergraduate courses and at least 60 semester (90 quarter) units must be from professional doctorate courses.

I. General Education Requirements

Minimum 36 units and 10 courses that include:

PACS 001	What is a Good Society	4
PACS 002	Topical Seminar on a Good Society	4
PACS 003	What is an Ethical Life?	3

Note: 1) Pacific Seminars cannot be taken for Pass/No Credit. 2) Transfer students with 28 or more transfer units complete 2 additional General Education elective courses from below in place of taking PACS 001 and PACS 002.

One course from each subdivision below:

Social and Behavioral Sciences

Two of the following:

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

Two of the following:

IIA. Language and Literature

IIB. Worldviews and Ethics

IIC. Visual and Performing Arts

Natural Sciences and Mathematics

IIIA. Natural Sciences

IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses 8 units from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

PHRM 111 Pharmacy Practice & Professionalism fulfills this requirement.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Undergraduate Courses

- A minimum of 64 semester or 96 quarter units of undergraduate courses is required
- Of the required 64 (96 quarter) units, 24 (36 quarter) units must be non-science undergraduate courses. These may include Pacific Seminar and non-science Breadth Program courses in addition to other non-science courses
- 2.0 GPA from these units is required to count towards the degree

Entry-Level Professional Doctorate Health Sciences Program Courses

- A minimum of 60 semester (90 quarter) units of professional doctorate courses is required
- 2.0 GPA from these units is required to count towards the degree
- All required courses in the Doctor of Dental Surgery or Doctor of Pharmacy program can be used towards this requirement.
- Elective courses in the Doctor of Dental Surgery or Doctor of Pharmacy program will be considered on an individual basis
- The criteria for courses that meet the requirements of the Bachelor of Arts in Applied Science degree include courses in the entry-level professional doctorate health sciences curriculum that meet at least one of the following criteria:
 - Courses with an emphasis on application of natural science knowledge to health care discipline-specific problems
 - Courses with an emphasis on basic science
 - Courses with an emphasis on other program outcomes, including laws, regulations, ethics, business and practice management, teamwork, leadership, cultural competence, community service, etc.

UNIVERSITY COLLEGE

<http://www.pacific.edu/UC/>

Phone: (209) 946-2424

Location: 1776 W. March Lane, Suite 290

Patricia Campbell, Dean of University College

University College extends learning opportunities beyond the traditional campus environment, providing a variety of programs that are designed to meet the diverse and non-traditional educational needs of students on campus and in the community.

The college offers a variety of courses for credit towards a Pacific degree, including the BS in Organizational Leadership degree completion program for returning adult students, extension and enrichment courses for current Pacific students and members of the community, and courses for UOP International students introducing them to the culture and history of the region. In addition, University College serves as a major regional center for continuing education units, professional development, customized workforce training and lifelong learning. From single courses, to full certificate programs, with formats including in seat, hybrid and online/distance learning, our programs and services are designed to meet the non-traditional academic, professional and personal development needs of San Joaquin county and surrounding areas

University College Acad Courses

UCAD 021. Pacific in the World. 3 Units.

This interdisciplinary course is designed to introduce international students to the history, people and culture of the University of the Pacific and California. In doing so, it helps students connect Pacific to their home countries, creates common ground between international and domestic students, and investigates Pacific as a place in a particular historical moment. Content delivery will include conventional classroom learning, including reading, lecture and discussion, as well as digital and field experiences.

UCAD 110. Budgeting and Financial Statement Analysis. 3 Units.

This course focuses on the accounting elements that are presented in each of the financial statements and how the financial statements are analyzed using the liquidity, solvency, and profitability ratios. Emphasis is placed on using accounting as a tool to assist managers in the decision-making process. This course also offers a brief introduction to the master budget process.

UCAD 120. Argumentation and Persuasion. 3 Units.

This course is intended to help students become more competent at making persuasive arguments and identifying weakness in arguments in a professional context. Students will be introduced to critical issues and topics for persuasive argumentation including decision making, genres, logos, pathos, and ethos.

UCAD 123. Benefits, Cost and Decisions. 3 Units.

This course examines how decisions are made. The economic framework of rational choice theory—taking action as long as benefits outweigh costs—is used as a starting point for analyzing decision-making behavior of individuals, firms and governments. We consider how costs and benefits are measured and how to evaluate the validity of information and data used in assessing them. Basic game theoretic models are introduced to explain strategic decision-making. The limits of rational choice theory are also addressed with insights from behavioral economics.

UCAD 130. Professional Communication. 3 Units.

This course is designed to help students become more effective communicators in professional and business settings. It covers the skills necessary for communication in the work environment and modern society.

UCAD 143. Mediation and Conflict Management. 3 Units.

Conflict is inevitable, but it does not have to be debilitating for individuals and organizational/social systems. This course explores the theory and practice of dispute resolution using interest-based mediation and negotiation techniques. Students gain a broad understanding of mediation and negotiation strategies, learn skills that lead to greater success in managing conflict, and develop confidence in the mediation process as an effective means to resolving interpersonal, organizational, and community disputes.

UCAD 150. Advanced Professional Writing. 3 Units.

This course will help students write more clearly, concisely, and persuasively for specific audiences in professional contexts. Students will learn to identify the needs of their audience, determine what information to include and how, and to structure a document to answer questions, solve problems or otherwise effectively meet the needs of a given audience and context.

UCAD 165. Project Management: Applied Theory and Practice. 3 Units.

This course develops a foundation of concepts and solutions that supports the planning, scheduling, controlling, resources allocation, and performance measurement activities required for successful completion of a project. Additional consideration is given to the project lifecycle, Gantt charting, execution and implementation strategies, risk management, budgeting, influence and team leadership.

Extended Education Credits

Extended Education Credit courses (whose Subject Code begins with "X") are offered for semester units of undergraduate degree credit. These courses are designed to meet individual's personal and professional learning and training needs. Undergraduate students may take these courses to earn elective units that add to their total unit count required for completion of their academic degree. However, these units do not count toward a student's overall university grade point average or meet major requirements. The typical number of extension units that can be applied toward a degree is eight but varies depending on the academic department, therefore students are encouraged to check with their academic department in regard to the total number of extension units counted toward their degree. Courses are offered both on campus and online.

Extended Learning

University College also offers a variety of extended learning programs, both online and in seat. Both credit and non-credit courses are available for personal enrichment and professional development.

Customized Workforce Training programs are offered to businesses throughout Sacramento, Stockton, and the surrounding community to improve workplace skills and address workforce needs. A few examples of customized programs available include computer training, interpersonal and teamwork skills, professional communication, and customer service skills.

Post-baccalaureate Professional Development (PDU) credit courses (9000 series number) are designed for educators and administrators to

enhance their professional skills. This graduate level extended learning credit may not be applicable toward a degree at Pacific.

Continuing Education Unit (CEU) courses are offered for individuals in professions where the CEU is accepted as the measure of continuing professional development or is required for recertification or relicensure.

Certificate Programs are designed to enhance specific skill sets for working professionals who can leverage these certificates to improve their knowledge, skills, and abilities in their current positions or to prepare them for new careers. Example certificate programs include Supervisory and Leadership, International Trade, Substance Abuse Counseling, Animal Shelter Management, Lifesaving-Centered, Paralegal, and Nonprofit Management.

Special Programs are offered throughout the year for youth (Summer Scholars) as well as for mature adult learners (Osher Lifelong Learning Institute).

Organizational Leadership

<http://www.pacific.edu/Academics/University-College/Programs/Degree-Completion-.html>

Phone: (209) 946-2424

Location: 1776 W. March Lane, Suite 290

Bachelor of Science in Organizational Leadership

The Bachelor of Science in Organizational Leadership is designed for working adult students who are returning to college to meet their professional and personal goals. Students develop knowledge and skills to be successful leaders in their careers and communities. Courses are offered in the evening, making it easier for working students to complete their undergraduate education while working full-time. While the majority of contact hours are in-seat, a hybrid format allows for flexibility in offering some content online to best meet the needs and constraints of our students.

The degree is offered in an accelerated, year-round, format. Courses are on an 8-week term, with students completing two three-unit courses each term on a set schedule with the same cohort of classmates. Entering students will ideally have at least 66 units of college coursework before entering the program, so that the additional 54 units of degree requirements will provide them with the 120 units total required for graduation. Students with fewer units may be admitted with the understanding that they will need to take additional courses beyond those required by the Organizational Leadership degree program to complete their graduation requirements.

This program is not open to current Pacific students and requires an interview of each applicant. There is a special reduced tuition for this program.

Degree Requirements

The Bachelor of Science in Organizational Leadership degree requires 120 units of credit including fulfilling University fundamental skills proficiency requirement, and completion of the University General Education Program and diversity requirements. Students must earn a minimum grade point average (GPA) of 2.00 in all college work taken for the degree at Pacific as well as in the courses taken as requirements in the major. A maximum of 20 units may be earned through a combination of concurrent enrollment in classes at other colleges and universities while enrolled at Pacific (maximum transfer unit policy applies), including transferable online and extension courses from other regionally accredited colleges and

universities, and military courses evaluated by the American Council on Education. A residency requirement stipulates that a minimum of 32 of the last 40 units taken for completion of the undergraduate degree must be taken at Pacific.

Students who successfully complete the Organizational Leadership Degree will have achieved the following Program Learning Outcomes:

Following each PLO is an indication of the University Core Competency(ies) to which it matches: Critical Thinking (CT), Quantitative Reasoning (QR), Oral Communication (OC), Written Communication (WC), and Information Literacy (IL)

1. Development and application of leadership skills

- Demonstrate knowledge and skills necessary for success in management and leadership positions in a variety of organizational settings. (CT, OC, WC, IL)
- Identify opportunities and challenges in organizational leadership and apply appropriate concepts, principles, and research methods to develop and assess strategies and approaches for addressing these issues. (CT, QR, IL)

2. Evaluation and use of quantitative and qualitative information

- Critically evaluate data, information and literature, and demonstrate competence in using quantitative and qualitative reasoning to analyze and solve problems. (CT, QR, IL)

3. Effective Communication

- Communicate clearly, cogently and effectively, in both written and oral forms, adapting presentations as appropriate for a range of audiences and a variety of professional uses. (WC, OC, CT)

4. Ethical reasoning

- Apply ethical reasoning to issues in organizational leadership and develop an ethical framework to enable effective professional and civic leadership and engagement. (CT, WC)

Bachelor Of Science Major In Organizational Leadership

Students must complete a minimum of 124 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science degree with a major in organizational leadership.

I. General Education Requirements

PACS 003 What is an Ethical Life? 3

Students must complete a minimum of 30 units and 9 courses that include one course from each subdivision below:

Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior
- IB. U.S. Studies
- IC. Global Studies

Arts and Humanities

- IIA. Language and Literature
- IIB. Worldviews and Ethics
- IIC. Visual and Performing Arts

Natural Sciences and Mathematics

- IIIA. Natural Sciences
- IIIB. Mathematics and Formal Logic

IIIC. Science, Technology and Society

or a second IIIA Natural Sciences course

Note: 1) No more than 2 courses from a single discipline may be applied to meet the requirements of the general education program.

II. Diversity Requirement

Students must complete one diversity course (3-4 units)

Note: 1) Courses may be used also to meet general education and/or major/minor requirements.

III. Fundamental Skills

Students must demonstrate competence in:

Writing

Quantitative analysis

IV. Major Requirements

Professional Skills Courses

UCAD 110	Budgeting and Financial Statement Analysis	3
UCAD 120	Argumentation and Persuasion	3
UCAD 123	Benefits, Cost and Decisions	3
UCAD 130	Professional Communication	3
UCAD 150	Advanced Professional Writing	3
UCAD 165	Project Management: Applied Theory and Practice	3

Major Courses

ORGL 100	Introduction to Organizational Leadership	3
ORGL 103	Organizational Management and Leadership	3
ORGL 105	Organizational Social Psychology	3
ORGL 135	Principles and Marketing	3
ORGL 139	Organizational Communication	3
ORGL 145	Issues in Human Resource Management	3
ORGL 175	Research Methods: Quantitative and Qualitative	3
ORGL 176	Applied Research	3
ORGL 180	Leadership: Culture and Challenges	3
ORGL 199	Organizational Leadership Capstone	3
UCAD 143	Mediation and Conflict Management	3

Organization Leadership Courses

ORGL 100. Introduction to Organizational Leadership. 3 Units.

This course is an introduction to organizational leadership focusing on what it means to be a good leader. Emphasis is placed on the practice of leadership. The course will examine the nature of leadership, and an introduction to leadership skills, concepts and ethics that will be covered in the program. Students will also be trained in digital information literacy skills – including finding, evaluating and appropriately using sources and data.

ORGL 103. Organizational Management and Leadership. 3 Units.

This course presents a comprehensive, integrative, and practical focus on leadership and management. It is based upon a framework that analyzes leadership and management at different levels: individual leadership, team leadership, and organizational leadership. This course also focused on foundational skill development as a manager/leader.

ORGL 105. Organizational Social Psychology. 3 Units.

Students study the sociological way in which the structure of organizations impinge upon the lives of individuals. Special attention will be given to the structural determinants of motivation, opportunity, power and participation within organizations. Organizational culture (roles and images), the processes of organizational change, and the recent efforts to improve the quality of work life and productivity in organizations is examined.

ORGL 135. Principles and Marketing. 3 Units.

The objective of this course is to increase the understanding of the Public Relations field. Emphasis is placed on marketing theory and practice, function in organizations, and PR's role in society.

ORGL 139. Organizational Communication. 3 Units.

This course provides an overview of some of the most important theories and research in the area of organizational communication. Students will learn about the essential role of communication in a number of organizational settings, and develop skills in applying organizational communication theory concepts, and perspectives to diagnose, prevent, and address organizational issues.

ORGL 145. Issues in Human Resource Management. 3 Units.

This course explores the issues and challenges that face the human resource area in any organization. Emphasis is placed on the challenge of attracting and retaining qualified, competent employees. Organizational change and its impact on employee motivation and performance is also addressed.

ORGL 175. Research Methods: Quantitative and Qualitative. 3 Units.

The objective of this course is to introduce students to fundamentals of communication research. Special emphasis is on understanding the "logic" of the research process. Students develop skills in research design, data collection and analysis, and learn how to apply quantitative and qualitative research methods to solving problems. This course also helps students understand the role of ethics in communication research.

ORGL 176. Applied Research. 3 Units.

The purpose of this course is to help the student synthesize and integrate the learning experiences acquired in organizational behavior studies and evaluate the research and current topics relative to major emphasis areas. Students are expected to do a literature review, analyze data, write empirical reports, conduct training and workshops, and present research results.

ORGL 180. Leadership: Culture and Challenges. 3 Units.

This course focuses on how leadership skills students have developed throughout the program can be applied to have meaningful and positive impact on organizations, communities, or societies. The course looks at exemplary leaders and contemporary leadership challenges, with special consideration of the moral aspects of effective leadership. Emphasis is on integrating practical leadership skills with qualities such as authenticity, integrity, and emotional intelligence to effectively address challenges in a variety of settings including and beyond the workplace. Prerequisite: ORGL 103.

ORGL 199. Organizational Leadership Capstone. 3 Units.

This course is designed to help students integrate their academic study of organizational leadership and their leadership experience in various organizational settings to prepare them for successfully and productively applying the skills and knowledge they have developed in the program, and in their careers and communities. Students will synthesize various perspectives, concept and methodologies, to research and analyze an organizational leadership issue or a problem and propose appropriate approaches or solutions. Prerequisites: ORGL 175, ORGL 176, and ORGL 180.

UOP International

<https://www.pacific.edu/academics/university-college/international-at-pacific/uop-international-resources.html>

Phone: (209) 946-3152

Location: Elbert Covell Hall

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About UOP International (UOPI)

University of the Pacific International (UOPI) is the name of the partnership between University of the Pacific and Shorelight Education LLC. The partnership, established in 2016, assists the university in attracting international students and establishing and operating International Accelerator Programs (IAP), the English Language Institute (ELI), and the International Direct (ID) process.

International Accelerator Programs

The IAP are non-degree granting programs that allow students to obtain English language proficiency, study skills, and academic credit such that students may matriculate to Pacific with advanced standing (at the undergraduate level) or into graduate programs (at the graduate level).

The IAP at the undergraduate level includes the extended accelerator program (EAP) and the academic accelerator program (AAP). Students are placed into either program based on GPA and English language proficiency level. The Extended Accelerator Program is a three-semester program during which students can earn up to 36 credit hours transferable to an undergraduate degree. The Academic Accelerator Program is a two-semester program during which students can earn up to 28 credit hours transferable to an undergraduate degree.

English Language Institute (ELI)

The English Language Institute (ELI) provides rigorous, student-centered English language instruction that fully prepares international students to succeed in their university studies. It creates a welcoming environment for both learning and living in a new culture, where all feel safe and supported. The ELI is dedicated to maintaining best practices in the field of Teaching English as a Second Language (TESOL) instruction and building sustainable educational programs through regular review and improvement.

International Direct / Graduate Direct

The International Direct / Graduate Direct process provides degree seeking (undergraduate or graduate) international students with enhanced skills and experiences to increase their chances of success at the University. These students are fully matriculated, degree seeking Pacific students and meet the same admissions requirements as direct entry students.

UOP International Courses

UOPI 001. Applied Integrated Skills Level I. 5-10 Units.

In this high elementary (A1+) course, students develop the ability to understand essential concrete and abstract information about everyday topics from writing and speech, and to speak and write effectively and spontaneously about factual information from their daily lives. Using the classroom textbooks, they read and listen actively while taking notes, and engage with short articles on high-interest topics, using a variety of strategies, such as timelines. They also skim and scan written texts for general and specific information, and identify key features of the texts, such as topic sentences and supporting detail. In writing, students review the components of a complete sentence and a well-organized paragraph before writing several expositions, narratives, and one opinion paragraph.

UOPI 002. Applied Integrated Skills Level II. 5-10 Units.

In this lower-intermediate (A2) course, students develop the ability to understand essential information about everyday topics from writing and speech, and to speak and write effectively and spontaneously about factual information from their daily lives. Using the core textbook, they read and listen actively while taking notes, and engage with short articles on high-interest topics, using a variety of aids, such as footnotes and graphic organizers. They also skim and scan written texts for specific information, and make general predictions and inferences about writing content using target features, such as topic sentences or signposts. In writing, students review the components of a complete sentence and a well-organized paragraph before writing several expositions and one argument.

UOPI 003. Applied Integrated Skills Level III. 5-10 Units.

In this intermediate (B1) course, students develop the ability to express and support their ideas by integrating information from multiple sources on familiar and technical topics, stretching beyond routine expressions to use language with more creativity and coherence. Using the core textbook and supplementary online activities, students practice a variety of sentence structures and organizational strategies as they discuss and write about topics from a range of disciplines, including information technology, philosophy, marketing and nutritional science. Students learn to read and listen actively and critically as they apply different strategies to take and organize notes and develop them into essays or speaking points. By analyzing and evaluating others' points of view, students gain skills in questioning and expressing arguments supported by reasons and examples.

UOPI 010. Grammar Level I. 5-10 Units.

In this elementary (A1+) course, students learn to speak and write more clearly about concrete facts related to their daily lives by improving the accuracy of the grammatical structures they use and expanding their vocabulary. Through text and speech analysis, guided practice exercises and communicative tasks, students study the form, meaning and use of new grammatical structures and work to integrate them into their everyday language production. In particular, students focus on correct simple and progressive present and past tense verb usage and noun phrase construction in simple and compound sentences, as well as the use of simple future forms, comparative and superlative adjectives, modals of necessity, and adverbs of manner and degree, among other topics. Students are also introduced to, but not expected to master, gerunds and infinitives and some common forms of complex sentences. Students apply and further develop their skills by completing activities and assignments in an online writing program.

UOPI 012. Grammar Level II. 5-10 Units.

In this lower-intermediate (A2) course, students learn to more clearly speak and write about concrete facts related to their daily lives by improving the accuracy of the grammatical structures they use and expanding their vocabulary. Through text and speech analysis, guided practice exercises and communicative tasks, students study the form, meaning and use of new grammatical structures and work to integrate them into their everyday language production. In particular, students focus on correct simple and progressive present and past tense verb usage and noun phrase construction in simple and compound sentences, as well as the use of simple future forms, modals, articles, prepositions, and comparatives. Students are also introduced to, but not expected to master, gerunds and infinitives and some forms of complex sentences. Students apply and further develop their skills by completing activities and assignments in an online writing program. Finally, they extend and personalize their learning by writing and refining journal or blog entries in different time frames on topics of their choosing, and presenting one of their entries in a final presentation.

UOPI 013. Grammar Level III. 5-10 Units.

In this intermediate (B1) course, students learn to more clearly speak and write about concrete facts related to their daily lives by improving the accuracy of the grammatical structures they use and expanding their vocabulary. Through text and speech analysis, guided practice exercises and communicative tasks, students study the form, meaning and use of new grammatical structures and work to integrate them into their everyday language production. In particular, students focus on correct simple and progressive present and past tense verb usage and noun phrase construction in simple and compound sentences, as well as the use of simple future forms, modals, articles, prepositions, and comparatives. Students also further refine their understanding and use of gerunds and infinitives and some forms of complex sentences. Students apply and further develop their skills by completing activities and assignments in an online writing program. Finally, they expand their academic writing skills by researching and writing an opinion essay that includes paraphrased and quoted information from at least authentic outside sources.

UOPI 014. Grammar Level IV. 2-8 Units.

This course is designed to improve students' grammar at the CEFR level B1+/B2-. In this course, students read detailed texts on a variety of academic topics, identifying target vocabulary, grammatical structures, and expressions illustrated in them. Students study the form, meaning, and use of the language, and then apply it in productive tasks that progress gradually in difficulty. For each essay type, students begin writing one or more paragraphs before producing at least one complete essay. Supplementary authentic articles expand on some of the themes explored in class, and provide additional examples of target language used in context. Students synthesize and evaluate the information and arguments from those texts in producing midterm and final projects, which include spoken and written components that are graded according to specially-designed rubrics. Finally, students also participate in regular writing and speaking workshops for additional practice and peer review and feedback on drafts of the essays and Capstone assignments.

UOPI 015. Grammar Level V. 2-8 Units.

This course is designed to improve students' grammar at the CEFR level B2. In this course, students read detailed texts on a variety of academic topics, identifying target vocabulary, grammatical structures, and expressions illustrated in them. Students study the form, meaning, and use of the language, and then apply it in productive tasks that progress gradually in difficulty. For each essay type, students begin writing one or more paragraphs before producing at least one complete essay. Supplementary authentic articles expand on some of the themes explored in class, and provide additional examples of target language used in context. Students synthesize and evaluate the information and arguments from those texts in producing midterm and final projects, which include spoken and written components that are graded according to specially-designed rubrics. Finally, students also participate in regular writing and speaking workshops for additional practice and peer review and feedback on drafts of the essays and Capstone assignments.

UOPI 016. Grammar Level VI. 2-8 Units.

This course is designed to improve students' grammar at the CEFR level B2+. In this course, students read detailed texts on a variety of academic topics, identifying target vocabulary, grammatical structures, and expressions illustrated in them. Students study the form, meaning, and use of the language, and then apply it in productive tasks that progress gradually in difficulty. Supplementary authentic articles expand on some of the themes explored in class, and provide additional examples of target language used in context. Students synthesize and evaluate the information and arguments from those texts in producing midterm and final projects, which include spoken and written components that are graded according to specially-designed rubrics. Finally, students also participate in regular writing and speaking workshops for additional practice and peer review and feedback on drafts of the essays and Capstone assignments.

UOPI 021W. Writing Workshop Levels Beginning to Low Intermediate. 3-5 Units.

The Writing Workshop: Beginner-Lower Intermediate (WW1) course provides essential grammar and writing support for students at the beginner, elementary, and lower-intermediate levels as they develop their ability to compose text in English. In addition to teaching fundamental structures for written English and the steps of the writing process, a primary goal of the course is to build students' confidence so that they can write and revise their work more independently. Students develop their understanding of writing techniques through lessons on sentence and paragraph structure and writing workshop sessions, participate in structured and free-form writing activities in and outside of class, and regularly review and critique one another's work. Through step-by-step practice crafting more and more complex sentences, linking them into paragraphs, and rereading and revising their writing, students learn to compose engaging paragraphs on familiar topics. In addition, a significant portion of the class is used as a writing workshop, in which students choose their own writing tasks, learn about their own writing process, and meet with peers and the instructor for individual feedback. By moving from practiced forms to original compositions of their choosing, students increase their flexibility and ability to use English to express their meaning in writing.

UOPI 022. English for Business Levels Beginning to Low Intermediate. 3-5 Units.

The English for Business: Beginner-Lower Intermediate (EFB 1) course exposes students to essential business-related vocabulary, expressions and concepts through lessons on a variety of business topics, such as careers, companies, marketing, and business planning. In addition to improving their general English proficiency through exercises in all four language skills (reading, writing, listening and speaking), students develop specific business-related communication skills, including exchanging information, giving and asking for opinions, participating in meetings, and writing email and letters summarizing decisions made. Students also learn phrases and strategies for managing business small talk and social business outings, including scenarios that demand cross-cultural communication. Students are challenged to apply their learning in authentic speaking tasks, such as role plays and case study analysis and discussion. In addition, students extend and reinforce their learning by completing a multi-part independent project: proposing, researching, and presenting a new product.

UOPI 023. Conversation Skills and Techniques Levels Beginning to Low Intermediate. 2-5 Units.

The Conversation Skills and Techniques: Beginner-Lower Intermediate (CST 1) course provides students with the support and encouragement to engage in conversation with confidence. During the first part of the course, students use rejoinders, questions, and comments to show interest and understanding as they practice starting, extending, and ending casual conversations in controlled exchanges. As students listen to multiple dialogues, they gain familiarity with English pronunciation and build the listening comprehension necessary to begin to actively participate in spoken interactions. Students then build on this foundation as they learn and apply strategic communication skills, such as eliciting confirmation to check for understanding, asking clarification questions that target specific information, and responding with details to keep a conversation going. In the final part of the course, students apply their skills more spontaneously by engaging in simple, structured discussions on high-interest topics. They are challenged to form, express, and discuss their opinions in small groups as they seek to reach a specific outcome. By learning set expressions through targeted practice, and then applying them in less and less controlled formats, students develop skills that enable them to sustain conversations and more flexibly and naturally respond to conversational shifts.

UOPI 030. Computer Assistance Language Learning (All Levels). 3-5 Units.

This lab is designed to help ESL students practice listening, speaking, reading, writing, pronunciation and typing skills using online resources and computer-based technology. The course incorporates online practice for Applied Integrated Skills, Grammar, and Pronunciation.

UOPI 031. Pronunciation. 2-5 Units.

In the English Pronunciation Fundamentals (EPF) course, students learn and practice the basic elements of English pronunciation, including stress, intonation, rhythm, thought grouping, and articulation of specific vowel and consonant sounds. In class presentations based on listening, analysis, and paired communicative activities, students gain familiarity with word stress patterns and how native English speakers group their words into meaningful phrases and use stress and intonation to draw listeners' attention to important ideas. Students also complete a diagnostic assessment using Carnegie Speech's Native Accent[®] program, which uses speech-recognition software to identify the specific sounds and pronunciation elements that students need to improve. Students then complete exercises from the independent study program generated by Native Accent[®] both in and outside of class. In addition, they strengthen their articulation of sounds by activities and exercises chosen by the instructor based on their specific needs. Through consistent instructor and computer-generated feedback, students learn to identify challenging pronunciation areas and improve the intelligibility of their speech.

UOPI 040W. Advanced Academic Writing. 2-6 Units.

In this advanced writing class students will continue to develop formal academic writing, research and citation skills by producing a variety of academic essays that show improved grammatical accuracy in writing. In addition, students will be able to: identify the content of news articles and reports on a wide range of professional topics, obtain information, ideas, and opinions from highly specialized sources, identify an author's stance or viewpoint on an issue, express opinions, emotions, and viewpoints in writing, and relate them to other viewpoints, write clear, detailed texts on a variety of subjects, synthesize information and arguments from multiple sources, write an essay that develops an argument systematically, highlight specific points and details, summarize a wide range of texts, connect main ideas to each other.

UOPI 041W. Writing Workshop Levels Intermediate to Low Advanced. 3-5 Units.

The Writing Workshop: Intermediate – Upper Intermediate (WW 2) course enables students at the intermediate to upper-intermediate levels to practice developing thoughtful, well-organized academic writing based on analysis of short readings. Students read passages that present different perspectives on a topic, then engage in a recursive, critical-thinking-based reading and writing process that culminates in original paragraphs and essays. Through journaling, focused vocabulary development, active reading with annotations, and investigation of the literal and implied meanings in reading passages, students learn to use others' ideas to generate their own. In subsequent writing workshops, students learn new writing strategies and develop the ideas they have collected into cohesive writing. In addition, students compare narrative and academic writing and analyze the differences. By practicing grammar and syntax that supports the more removed and objective point of view and "dry" tone of academic writing, students develop their ability to craft the type of writing which will be expected in university-level coursework.

UOPI 042. English for Business Levels Intermediate to Low Advanced. 3-5 Units.

The English for Business: Intermediate (EFB 2) course exposes students to essential business-related vocabulary, expressions and concepts through lessons on a variety of business topics, such as brands, business travel, finance, management, human resources, international markets, ethics and leadership. In addition to improving their general English proficiency through exercises in all four language skills (reading, writing, listening and speaking), students practice specific business-related communication skills, including managing meetings, networking, negotiating, presenting, and writing email, meeting minutes, reports and summaries. Students will also learn phrases and strategies for managing business small talk and networking, including scenarios that demand cross-cultural communication. Students are challenged to apply their learning in authentic speaking tasks, such as role plays and case study analysis and discussion. In addition, students extend and reinforce their learning through independent research designed to support business-related performance tasks: presenting a trade show poster promoting a hotel for business travelers, delivering an employee investment training seminar mini-presentation, and negotiating the best business strategy to turn around a struggling company in a meeting simulation.

UOPI 043. Conversation Skills and Techniques Levels Intermediate to Low Advanced. 2-5 Units.

The Conversation Skills and Techniques-Intermediate-Upper Intermediate (CST 2) course enables students to learn conversational speaking and facilitation skills that support effective academic interactions, whether as part of classroom discussions or when completing academic tasks with peers. Students practice specific phrases and questions to ask for and give elaboration and clarification; support ideas with examples; maintain focus in conversations and build on ideas; and paraphrase and synthesize new ideas as they are developed. After analyzing radio interviews and short articles, students offer and support viewpoints while applying various conversation skills. Through numerous activities that require students to formulate and reformulate their ideas, students learn to move from simple sharing of information to the development and evaluation of ideas and arguments. Students regularly assess their own usage of conversation skills and reflect on how their conversations shape their ideas and understanding, while learning to facilitate conversations by asking thought-provoking questions and maintaining a flow of conversation that leads to depth of thought.

UOPI 044. Presentation Skills Levels Intermediate to Low Advanced. 2-5 Units.

In the Presentation Skills (PS) course, students learn the essential features of effective presentations and practice techniques for engaging an audience, delivering meaningful content, and using pronunciation to support message delivery. Students learn both how to prepare a well-organized presentation and to use their voice and body language to connect with listeners. In preparation for delivering short talks, students analyze video excerpts of speeches, synthesize sources of information, study presentation structure, and improve their pronunciation through iterations of scripted speech. Regular paired and group practice prepares students to present themselves with poise and demonstrate how their ideas are relevant for their audience. Students learn several different presentation types, including introducing others, defining terms, delivering information, explaining processes, and presenting solutions to problems. By learning to design presentations to appeal to audiences, students develop skills they can use to effectively share their ideas in academic and professional settings.

UOPI 045. Trends in American Pop Culture Levels Intermediate to Low Advanced. 2-5 Units.

The Trends in American Pop Culture (TAPC) course allows students to examine various facets of American pop culture to learn how they reflect and influence American life. Students first discuss what defines pop culture, and then explore cultural expressions in videos and readings about American television and film, sports, fashion, music, and social media. Through interactive discussions and analysis, students apply critical thinking to gain basic media literacy, learning to identify the values conveyed through verbal and visual symbols in media, interpret cultural messages, and deepen their understanding of stereotypes and realities of American life. Students expand their learning through assignments requiring interactions with Americans, and express their reflections and interpretations in writing and presentations.

UOPI 046. English Through Art Levels Intermediate to Low Advanced. 3-5 Units.

In the English Through Art (ETA) course, students expand the range and depth of their English proficiency by learning to describe and evaluate the elements of artistic works, including media, line, shape/form, space, color, value and texture, and the principles of art, such as rhythm, balance and proportion. By examining a variety of artworks, students learn to identify and describe how artists apply these elements and principles to express meaning and feeling. Students develop and expand their aesthetics vocabulary and practice interpreting the meaning of the works – referencing aesthetics and sociohistorical context – and explaining their own reactions to them. Students also examine and critique local architecture, and depending on availability, visit local art museums and art exhibits, and/or participate in a discussion with a visiting artist. Through examination and interpretation of artworks, interactive discussions focused on art criticism, and written analyses, students are challenged to apply critical thinking to develop and express judgments based on evidence – skills they can apply in a wide range of academic settings.

UOPI 047. Contemporary English Levels Intermediate to Low Advanced. 2-5 Units.

The Contemporary English (CE) course examines how English is used most often in everyday life with a focus on current expressions. Students learn how Americans change their words, pronunciation and grammar when they are speaking informally, and practice analyzing authentic spoken and written materials to learn how the speakers use language differently in different contexts. Through text and video analysis, observation, journaling, and class discussion, students develop their ability to comprehend colloquial speech and change their level of formality based on audience and context. They also learn and practice strategies for asking questions to improve their understanding of the social interactions around them. Students write a weekly journal in which they describe, narrate, and explain their observations of colloquial speech, and use their reflections to develop personal inquiries for class discussion. They also practice translating informal speech to formal speech, create dialogues and skits applying the vocabulary and phrases they have learned, and develop and deliver final The Contemporary English (CE) course examines how English is used most often in everyday life with a focus on current expressions. Students learn how Americans change their words, pronunciation and grammar when they are speaking informally, and practice analyzing authentic spoken and written materials to learn how the speakers use language differently in different contexts. Through text and video analysis, observation, journaling, and class discussion, students develop their ability to comprehend colloquial speech and change their level of formality based on audience and context. They also learn and practice strategies for asking questions to improve their understanding of the social interactions around them. Students write a weekly journal in which they describe, narrate, and explain their observations of colloquial speech, and use their reflections to develop personal inquiries for class discussion. They also practice translating informal speech to formal speech, create dialogues and skits applying the vocabulary and phrases they have learned, and develop and deliver final presentations.

UOPI 048. Academic Reading & Discussion. 2-6 Units.

In this advanced course, students continue to develop the ability to determine a writer's main idea and the overarching conversation in which it is located. By utilizing annotation and notetaking strategies, students process and organize these ideas. They then practice responding to the ideas with assertions based on and supported by evidence, grounding their own opinions in the wider context of the conversation. By examining and practicing academic conversation moves, students learn to express and support their viewpoints more effectively, developing their capacity to participate in university-level academic discussions.

UOPI 051. EAP I. 8-10 Units.

In this high-intermediate (B2) course, students develop well-supported oral and written arguments and expositions that integrate information from multiple sources. Using the core textbook and supplementary online activities, students practice a variety of organizational strategies for different types of formal papers, including analysis, description, compare and contrast, summary, cause and effect and persuasion. Students analyze texts and recorded talks in paired and group discussions, as well as learn notetaking strategies to organize ideas. Topics covered in the text come from a range of disciplines, including sociology, consumer behavior, education, and fine arts. By developing supported arguments and evaluating others' points of view, students increase their ability to initiate discourse and contribute meaningfully to spoken and written academic discussions and debates.

UOPI 051W. EAP I Write. 3-6 Units.

In this high-intermediate (B2) course, students develop well-supported written arguments and expositions that integrate information from multiple sources. Using the core textbook and supplementary online activities, students practice a variety of organizational strategies for different types of formal papers, including analysis, description, compare and contrast, summary, cause and effect and persuasion. Topics covered in the text come from a range of disciplines, including sociology, consumer behavior, education, and fine arts. By developing supported arguments and evaluating others' points of view, students increase their ability to write in common academic discourse modes.

UOPI 052. EAP II. 3-5 Units.

In this low -advanced (C1) course, students develop the ability to determine a speaker's or writer's main idea and the overarching conversation in which it is located. By utilizing a range of notetaking strategies, students process and organize these ideas. They then practice responding to the ideas with assertions based on and supported by evidence, grounding their own opinions in the wider context of the conversation. By examining and practicing academic conversation and writing moves, students learn to express and support their viewpoints more effectively, developing their capacity to participate in university-level coursework.

UOPI 052W. EAP II Writing. 3-5 Units.

In this low-advanced writing class students will develop formal writing skills, and produce academic essays that show improved grammatical accuracy in writing. They will be able to identify important details and main ideas in complex essays. In addition, students will be able to: identify the content of news articles and reports on a wide range of professional topics, obtain information, ideas, and opinions from highly specialized sources, identify an author's stance or viewpoint on an issue, express opinions, emotions, and viewpoints in writing, and relate them to other viewpoints, write clear, detailed texts on a variety of subjects, synthesize information and arguments from multiple sources, write an essay that develops an argument systematically, highlight specific points and details, summarize a wide range of texts, connect main ideas to each other.

UOPI 061. English Studio I. 1 or 2 Unit.

English Studio classes are connected to a UOP credit bearing course and support international students taking the course. Students review and work on the course materials, content, assignments while also strengthening their English language skills. The studio course helps students develop study and academic skills, improve their English language reading, writing, listening, and speaking skills along with increasing their academic vocabulary.

UOPI 062. English Studio II. 1 or 2 Unit.

English Studio classes are connected to a UOP credit bearing course and support international students taking the course. Students review and work on the course materials, content, assignments while also strengthening their English language skills. The studio course helps students develop study and academic skills, improve their English language reading, writing, listening, and speaking skills along with increasing their academic vocabulary.

UOPI 063. English Studio III. 1 or 2 Unit.

English Studio classes are connected to a UOP credit bearing course and support international students taking the course. Students review and work on the course materials, content, assignments while also strengthening their English language skills. The studio course helps students develop study and academic skills, improve their English language reading, writing, listening, and speaking skills along with increasing their academic vocabulary.

UOPI 064. English Studio IV. 1 or 2 Unit.

English Studio classes are connected to a UOP credit bearing course and support international students taking the course. Students review and work on the course materials, content, assignments while also strengthening their English language skills. The studio course helps students develop study and academic skills, improve their English language reading, writing, listening, and speaking skills along with increasing their academic vocabulary.

UOPI 065. English Studio V. 1 or 2 Unit.

English Studio classes are connected to a UOP credit bearing course and support international students taking the course. Students review and work on the course materials, content, assignments while also strengthening their English language skills. The studio course helps students develop study and academic skills, improve their English language reading, writing, listening, and speaking skills along with increasing their academic vocabulary.

UOPI 066. English Studio VI. 1 or 2 Unit.

English Studio classes are connected to a UOP credit bearing course and support international students taking the course. Students review and work on the course materials, content, assignments while also strengthening their English language skills. The studio course helps students develop study and academic skills, improve their English language reading, writing, listening, and speaking skills along with increasing their academic vocabulary.

UOPI 071. Live, Learn, Grow I. 1 or 2 Unit.

'Live Learn Grow' is a series of three courses which together form a first-year experience that focus on achieving three primary goals. The first goal is orienting international students to UOP, its surrounding area, and the embedded national cultural context. The second goal is fostering student success through learner-centered class activities and assignments. The third goal is to maintain student success for the first year of study and beyond at UOP. In this first Foundation semester, students will be provided with essential information, exposure to key services, and help to familiarize students with their physical and cultural surroundings.

UOPI 072. Live, Learn, Grow II. 1 or 2 Unit.

'Live Learn Grow' is a series of three courses which together form a first-year experience that focus on achieving three primary goals. The first goal is orienting international students to UOP, its surrounding area, and the embedded national cultural context. The second goal is fostering student success through learner-centered class activities and assignments. The third goal is to maintain student success for the first year of study and beyond at UIC. The course has three themes that serve as a structure for its three-semester first year experience. In this second Bridge semester, the focus is on exploring and developing the personal qualities of students that will foster their success in various interpersonal dynamics, in analyzing career and life prospects, and in further surveying campus and community services and resources.

UOPI 073. Live, Learn, Grow III. 1 or 2 Unit.

'Live Learn Grow' is a series of three courses which together form a first-year experience that focus on achieving three primary goals. The first goal is orienting international students to UOP, its surrounding area, and the embedded national cultural context. The second goal is fostering student success through learner-centered class activities and assignments. The third goal is to maintain student success for the first year of study and beyond at UIC. The course has three themes that serve as a structure for its three-semester first year experience. In the 3rd semester students further explore themselves and the broader global community to become engaged as world citizens. Attention is given to connecting their studies and life to a dynamic and changing world.

UOPI 080G. Advanced Graduate Writing and Communication. 3-6 Units.

The Graduate Writing and Communication course establishes the foundation for building fluency through an approach that emphasizes and applies the specific language skills necessary to study and work in a particular profession, such as law, engineering, or business. Students who complete this course successfully do so by demonstrating CEFR B2.2 level of English language proficiency when engaging with texts and conversations relevant to in the field for which this topics course pertains, with some scaffolding and limited application. Assignments are designed to provide ongoing formative assessment towards this aim through engagement with texts and performance in activities relevant to the field. The course includes the four main language skills – listening, reading, writing and speaking – while focusing on developing the abilities to describe, explain, analyze, and compare ideas. Students develop the necessary language skills to speak and write about the facts, theories, relationships, and processes in their field. Through pair and group activities, the course integrates grammar and vocabulary appropriate for working and studying in a specific field, namely being introduced to research strategies and the setup of successful research projects. Students are challenged to apply their learning in authentic speaking tasks, such as presentations, discussions, and debates, critical thinking exercises, persuasive writing using legal research methods and literature reviews, as well as summaries of academic articles. In addition, students extend and reinforce their learning through classroom activities designed to help them be successful academically in graduate school. This course may include a 1-hour lab specific to students' fields of study.

UOPI 085G. Professional Development and Academic Skills. 1-3 Units.

In the Professional Development and Academic Skills course, international graduate students develop knowledge about U.S. university requirements, opportunities and policies and gain skills for succeeding academically in their field of study. Students also assess their career readiness and participate in a series of skill-building sessions, guest lectures, and experiential activities that prepare them to effectively develop and pursue their career goals. The overall intended goal of this course is to enable international graduate students to acquire the academic success strategies and career planning skills they need to navigate a U.S. university graduate program and develop a sustainable career path.

UOPI 093. Special Topics. 1-10 Units.

MCGEORGE SCHOOL OF LAW

<http://www.mcgeorge.edu/>
Phone: (916) 739-7191
Michael Hunter Schwartz, Dean

Programs Offered

Doctor of Juridical Science (JSD) with concentrations in:

- International Water Resources
- International Legal Studies

Dual Degrees in:

- JD/MPP
- JD/MPA
- BA Environmental Studies and Law/JD
- BA Geological & Environmental Sciences and Law/JD
- BA Political Science/MPP

Juris Doctor (JD) with certificates of concentration in:

- Business Certificate of Concentration
- Capital Lawyering Certificate of Concentration
- Environmental Certificate of Concentration
- Health Certificate of Concentration
- Intellectual Property Certificate of Concentration
- International Certificate of Concentration
- Tax Certificate of Concentration
- Trial & Appellate Advocacy Certificate of Concentration

Master of Laws (LLM) with concentrations in:

- Transnational Business Practice
- U.S. Law & Policy
- Water Resource Law

Master of Public Administration (MPA) with concentrations in:

- Capital Policy Making
- Environmental and Water Policy
- Policy Change, Institutional Reform, Sustainability
- Public and Non Profit Leadership

Master of Public Policy (MPP) with concentrations in:

- Capital Policy Making
- Environmental and Water Policy
- Public and Non Profit Leadership

Master of Studies in Law (MSL) with focus areas in:

- Government & Public Policy
- Health Care
- Human Resources
- Water & the Environment

Mission Statement

(As approved by Faculty on October 27, 2016)

The mission of the McGeorge School of Law, University of the Pacific, is to:

Provide a student-centered education that prepares its graduates for productive, successful, and ethical careers in law and other professions that serve society, and for leadership in building a diverse society committed to global social justice; and

Contribute to the improvement of law and policy through engaged scholarship and other forms of public service.

About McGeorge School of Law

Established nearly 90 years ago, the University of Pacific, McGeorge School of Law is an internationally recognized leader in the field of legal education with alumni practicing in all 50 states and in 58 countries. Its location in the capital city of California, Sacramento, has shaped the school's focus on state and local government law, International law, water law, and advocacy.

McGeorge School of Law began as a one-room night school in downtown Sacramento (L & 10th) in 1924, when it was founded as the Sacramento College of Law. Verne Adrian McGeorge was the founding dean and professor of law. The first commencement in 1925 marked the graduation of five new attorneys. The first female graduate of the school was Rose Sheehan in 1927, marking the college as ahead of its time in diversity and inclusion. In 1929, the Board of Trustees renamed the school McGeorge College of Law in honor of its founder.

Succeeding McGeorge, Russell Harris was dean from 1930-1933. Gilford Rowland was dean from 1933-1937. Lawrence Dorety was dean from 1937 until the school closed during WWII. The school reopened in 1946 under Dean John Swan. Dean Swan began to pursue a permanent home for McGeorge College of Law after several moves in downtown Sacramento.

Legacy of Leadership

In 1957, the influential Gordon D. Schaber became dean of McGeorge College of Law after Dean Swan's sudden death. Soon after, the Board of Trustees voted to move the school to a vacant well-baby clinic at the corner of 33rd Street and Fifth Avenue in the Oak Park neighborhood. Today, the McGeorge School of Law campus has grown to 13 acres. The law-school only campus continues to be located in Oak Park, three miles southeast of the state Capitol building in Sacramento, California.

For 34 years, Dean Schaber guided the school through its emergence as a first-class law school. In 1964, Schaber won accreditation by the Committee of Bar Examiners for the state of California. He recruited top-notch faculty, such as Supreme Court Justice Anthony M. Kennedy, who taught constitutional law on the Sacramento campus from 1965-1988.

Emergence of McGeorge as a National Law School

McGeorge School of Law was accredited by the American Bar Association in 1968, paving the way for its rise to national prominence. In 1983, McGeorge School of Law became a member school in the Order of the Coif, the ABA's highest acknowledgment of academic excellence; less than half of all law schools accredited by the American Bar Association are also Order of the Coif member schools.

The ABA bestowed on Schaber its highest honor for service in legal education (The Kutak Award) in 1991, the year he stepped down as dean. Dean Gerald Caplan succeeded Schaber in 1991. During Caplan's tenure, the Governmental Affairs program was established to capitalize on the school's location in Sacramento. He expanded McGeorge's presence in intercollegiate Mock Trial competitions around the nation. In 2002, Dean Elizabeth Rindskopf Parker became the eighth dean of McGeorge School of Law. Parker championed the expansion of student study and faculty exchanges in Europe, Latin America, Africa, and Asia. Parker expanded externships and started new clinical programming in specialty areas such as immigration, mediation, and appellate advocacy. She launched strong collaborations with high schools to establish mentoring programs and law-themed curricula. Francis J. Mootz III joined the McGeorge School of Law on June 1, 2012 as the school's ninth dean. Dean Mootz brought a keen and innovative spirit to his five years as the McGeorge dean. During Dean Mootz's tenure as dean, the law school became the only law school in the country to offer masters degrees in Public Policy and Public Administration, and Dean Mootz also oversaw the creation of three MSL degrees. The law school also became one of a small group of law schools to require both a clinic or externship experience and four semesters of legal writing. Dean Mootz also oversaw the creation of the law school's innovative Legislative and Policy Legal Clinic and its one-of-a-kind litigation consulting business, Focused Decisions. Dean Mootz strengthened the law school's water and environmental law offerings, and he oversaw the refinement of the law school's capital lawyering curriculum.

McGeorge School of Law Today

Michael Hunter Schwartz, former dean and professor of law in the William H. Bowen School of Law, University of Arkansas at Little Rock, became the 10th dean of McGeorge School of Law, in 2017. Each of the past three years, Dean Schwartz has been ranked among the 15 Most Influential People in Legal Education; he was ranked ninth in 2017. The McGeorge School of Law faculty includes full-time and part-time professors who hold law degrees from top law schools in the country, including Harvard, University of Chicago, Stanford, Columbia, University of Pennsylvania, Northwestern University, McGeorge, and Georgetown. McGeorge faculty members have created three national law school textbook series, have published, collectively, more than 100 books, and have published law school textbooks that have been adopted at more than 2/3 of the law schools in the United States.

The McGeorge School of Law Legal Studies Center was opened in 2011 and houses the Gordon D. Schaber Law Library. The state-of-the-art library serves the Sacramento legal community of students, law clerks and members of the Sacramento County bench and bar.

McGeorge School of Law enjoys a number of significant national rankings, including a top-10 ranking for trial advocacy, a top-10 ranking for government law, an A+ ranking for providing practical legal training, a top-20 ranking for International Law, and a top-35 ranking for part-time programs.

McGeorge School of Law has more than 13,000 alumni who practice in all 50 states and in 58 countries. More than 350 McGeorge alumni serve as judges, including two who are judges of the U.S. Ninth Circuit Court of Appeals, the second-highest court in the nation, and two who are state Supreme Court justices in Nebraska and Nevada.

McGeorge's unique Focused Decisions arm serves practicing lawyers all over the country providing litigation and jury consulting services, including mock trials and focus groups, trial presentations and technology support, and videography and editing services.

Affiliation with University of the Pacific

McGeorge merged with University of the Pacific as their school of law in 1966 and began offering day classes the following year. The original evening program for California leaders continues today and is consistently recognized as one of the best part-time law programs in the nation.

Areas of Academic Distinction

McGeorge School of Law offers award-winning programs in moot court and mock trial, having won dozens of competitions, has one of the strongest government law programs in the country, and enjoys a global reputation for its programs in international law and water law. Its master program in Transnational Business Practice counts 500 alumni around the globe, and the law school offers the only LL.M. in water law in the nation. McGeorge also offers the only Masters in Public Policy and Masters in Public Administration degrees in the nation that is housed in a law school. The school offers annual summer programs for J.D. students in Salzburg, Austria, and Antigua, Guatemala, attracting law students from around the world.

McGeorge's location in Sacramento, California's capital city, is a benefit to students who want to study public law and governmental decision-making. The McGeorge Capital Center prepares students for careers in leadership and service through extensive externship and co-curricular opportunities.

McGeorge has a rigorous core curriculum and also offers students a cutting-edge legal writing program and outstanding legal clinics, including clinics providing legal services in the areas of immigration law, mediation, legislation and public policy, bankruptcy, elder and health law, criminal law, and small business law. Students and supervising attorneys handle hundreds of civil and immigration cases a year through all phases, including trial and appeal; author legislation actually enacted by the California legislature; mediate disputes between prisons and prison inmates, and draft legislation.

Accreditation and Memberships

McGeorge School of Law is fully accredited by the Council of the Section of Legal Education and Admission to the Bar of the American Bar Association, and by the Committee of Bar Examiners of the State Bar of California. Degrees other than the JD (LLM, MSL, JSD, MPP, and MPA) are offered with the formal acquiescence of the American Bar Association Accreditation Committee. McGeorge School of Law is a member of the Association of American Law Schools. The school is approved for participation in veterans' educational benefits programs.

The law school has been awarded a chapter of The Order of the Coif, a national law school honorary society founded for the purposes of encouraging legal scholarship and advancing the ethical standards of the legal profession.

Full-Time and Part-Time Divisions

McGeorge School of Law offers programs leading to the Juris Doctor (J.D.) degree through a Full-Time Division and a Part-Time Division. The two divisions have the same curriculum, faculty, and methods of instruction; maintain the same scholastic standards and degree requirements; and adhere to the same objectives.

The law school operates on the semester system; two semesters of 14 weeks each plus examination periods. All year-long courses begin in the Fall Semester, which starts in mid-August. The Spring Semester begins in January. Summer Sessions are also offered beginning in May.

The course of study in the Full-Time Division leading to the J.D. degree requires three academic years (six semesters) of full-time study. A Full-Time Division student must enroll and earn credit for a minimum of 12 units each semester; the usual course load is 14 to 16 units per semester. Full-time students are expected to devote substantially all their working time to the study of law and are required to limit outside paid employment to not more than 20 hours per week during the academic year.

The Part-Time Division program offers a reduced course load which generally requires four academic years (eight semesters) plus two summers of part-time study to meet J.D. degree requirements. Course loads usually range from 8 to 10 units each semester, with a minimum of 8 units required per semester. Most Part-Time Division students enroll in Summer Session courses to reach the required 88 units, but may, schedule permitting, take those units during the academic year instead. An accelerated Evening Division program enables a student to meet degree requirements in three and one-half years (seven academic semesters and Summer Sessions).

First-year required courses and second-year part-time required courses must be taken with the division in which a student is enrolled unless an exception is approved by the Assistant Dean for Student Affairs. Electives and upper-division required courses may be taken after the first year during the day or evening hours, as individual schedules permit. Students who wish to change their programs of study from one division to another should schedule an appointment with an academic counselor regarding approval and course of study. Appointments can be made by calling 916.739.7089.

UNIVERSITY ADMINISTRATION

The Administration

Title	Name
President	Pamela A. Eibeck
Provost and Executive Vice President for Academic Affairs	Maria G. Pallavicini
Vice President for Business and Finance	Kenneth Mullen
Interim Vice President for Student Life	Steve Jacobson
Vice President for University Development and Alumni Relations	Burnie Atterbury
General Counsel and Secretary to the Board of Regents	Kevin Mills
Vice President for Technology and Chief Information Officer	Art Sprecher
Associate Vice President for Marketing and Communications	Marge Grey
Associate Vice President for External Relations, Strategic Partnerships and Presidential Initiatives	Stacy McAfee
Associate Vice President for Planning	Linda Buckley
Director of Institutional Research	Mike Rogers
Director of Intercollegiate Athletics	Ted Leland

Office of the Provost

Title	Name
Provost and Executive Vice President for Academic Affairs	Maria G. Pallavicini
Associate Vice President and Vice Provost for Enrollment Management	Roberta Kaskel
Vice Provost for Faculty Affairs	Joan Lin-Cereghino
Vice Provost for Undergraduate Education	Edith Sparks
Vice Provost for Strategy and Educational Effectiveness	Cyd Jenefsky
Associate Provost of Research	James Uchizono
Assistant Provost for Resource Management	Carrie J. Darnall
Assistant Provost for Diversity	Joan Lin-Cereghino
Chief of Staff to the Provost	Jared B. Gaynor
Assistant Vice Provost and Director of Admission	Christopher Krzak
Assistant Vice Provost and Executive Director of Financial Aid	TBD
Assistant Vice Provost for Enrollment Management and Director of Summer Sessions	Elisa Anders
Director, Center for Teaching and Learning	Lott Hill
Director, International Programs and Services	Ryan Griffith

University Registrar
Margo Landy

School and College Deans

Title	Name
Dean, College of the Pacific	Rena Fraden
Senior Associate Dean	Gregg Jongeward
Associate Dean	Marcia Hernandez
Dean, Conservatory of Music	Peter Witte
Dean, Eberhardt School of Business (Interim)	Tim Carroll
Associate Dean, Academic Programs	Cynthia Eakin
Dean, Gladys L. Benerd School of Education (Interim)	Linda Webster
Associate Dean	Dymanek Mitchell
Dean, School of Engineering and Computer Science	Steven Howell
Associate Dean	Michael Doherty
Dean, Thomas J. Long School of Pharmacy and Health Sciences	Phillip Oppenheimer
Associate Dean for Academic Affairs	Eric Boyce
Associate Dean for Graduate Education and Research	Xiaoling Li
Associate Dean for Student Affairs Enrollment Management	Marcus Ravnar
Associate Dean for Professional Programs	Allen Shek
Assistant Dean for External Relations	Nancy DeGuire
Associate Dean for Operations	Linda Norton
Assistant Dean for Pre-Pharmacy and Pre-Health Affairs	Marcus Ravnar
Dean, Graduate School	Thomas Naehr
Dean, Pacific McGeorge School of Law	Michael Schwartz
Associate Dean, Academic Affairs	Michael Colatrella Jr.
Associate Dean, Faculty Scholarship	Rachel Salccu
Associate Dean of Administration	Jeff Proske
Assistant Dean, Development	Mindy Danovaro
Assistant Dean, Law Library	James Wirrell
Assistant Dean, Student Affairs	Jennifer Carr
Assistant Dean, Admissions and Financial Aid	Tracy Simmons

Dean, Arthur A. Dugoni School of Dentistry	Nader A. Nadershahi
Dean Emeritus	Arthur A. Dugoni
Executive Associate Dean, Clinical Oral Health Care	Des Gallagher
Associate Dean, Clinical Services	Sigmund H. Abelson
Associate Dean, Fiscal Services	Edward Pegueros
Associate Dean, Student Services	Kathy Candito
Assistant Dean, Academic Affairs	Daniel J. Bender
Dean, University Library	Mary Somerville
Dean, University College	Patricia Campbell

Office of Vice President for Business and Finance

Title	Name
Vice President for Business and Finance	Kenneth M. Mullen
Associate Vice President for Business and Finance	Ron Ellison
Assistant Vice President, Chief Investment Officer	Jol Manilay
Assistant Vice President, Chief Facilities Officer	Graeme Mitchell
Assistant Vice President, Human Resources	Linda Jeffers
Associate Controller	Audrey George
Executive Director, Facilities Planning and Construction	Priscilla Meckley-Archuleta
Director, Budget	Jonallie Parra
Director, Internal Audit	Randy Schwantes
Director, Procurement Services	Ronda Marr
Director, Risk Management	Roberta Martoza
Director, Sacramento Campus	Patrick Faverty
Director, San Francisco Campus	Kara Bell
Director, Student Business Services	Vacant
Director, University Payroll Services	Tara Juano
Assistant Director, Learning and Development	Shani Richards

Office of Vice President for External Relations

Title	Name
Associate Vice President for External Relations, Strategic Partnerships and Presidential Initiatives	Stacy McAfee

Director of Special Events	Steve Whyte
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Office of the Vice President for Development and Alumni Relations

Title	Name
Vice President	Burnie Atterbury
Associate Vice President University Development and Alumni Relations	Cathy Wooten
Associate Vice President Development	Bill Johnson
Assistant Vice President Development	Scott Biedermann
Assistant Vice President Advancement Operations	Scott Rivinius
Executive Director Alumni Relations	Kelli Page

Office of Vice President for Student Life

Title	Name
Interim Vice President for Student Life	Steve Jacobson
Senior Associate VP for Student Life	Steven Jacobson
Associate VP/Executive Director, Career Development	Tom Vecchione
Associate Vice President/Dean of Students	Rhonda Bryant
Assistant Vice President for Student Life	Lynn King
Associate Dean of Students	Heather Dunn-Carlton
Executive Director of Planning and Assessment for Student Development	Sandra Mahoney
Executive Director, Educational Equity Programs	Anita Bautista
Executive Director, New Student and Family Programs	Linda Dempsey
Executive Director, Public Safety	Mike Belcher
Executive Director, Residential Life and Housing and Auxiliary	Joe Berthiaume
Director, Campus Career Partnerships	Deb Crane
Interim Director, Center for Community Involvement	Marylou Bagus-Hansen
Director, Community Involvement Program	Allison Dumas
Director, Corporate & Employer Engagement	Chris Haruta
Director, Counseling & Psychological Services	Stacie Turks
Director, Dining Services	Sia Mohsenzadegan
Director, Finance and Administration	Breann Northcutt

Director, Health Services	Dayna Cerruti- Barbero
Director, Housing Operations and Technology	Michael Krieger
Director, Intercultural Student Success	Ines Ruiz- Huston
Director of Pacific Recreation	Marc Falkenstein
Interim Director, Religious & Spiritual Life	Laura Steed
Director, Services for Students with Disabilities	Danny Nuss
Director of Student Involvement and University Center Services	Dave Crafts
Director, University Bookstore	Nicole Castillo
Director, Upward Bound Program	Rosa Montes
Director of Pacific Wellness	Liz Thompson
Director, Women's Resource Center	Shannon Schipper

THE BOARD OF REGENTS

Name

Norman E. Allen

Ronald A. Berberian

Charles P. Berolzheimer

Virginia Chan

Paul Dassenko

Evan Dreyfuss (Treasurer)

Mary-Elizabeth Eberhardt

Pamela A. Eibeck

Richard H. Fleming (Vice Chair)

Armando B. Flores

Bradford E. Gleason

Clark Gustafson

Corwin N. Harper

Randall T. Hayashi

Andrea Lynn Hoch (Secretary)

Kevin P. Huber (Chair)

Eve M. Kurtin

Gary M. Mitchell

Constance X. Rishwain

Arthur G. Scotland

Donald H. Shalvey

Janet Y. Spears

Susanne T. Stirling

Bo Yu

INTERCOLLEGIATE ATHLETICS COACHES AND ADMINISTRATORS

Christina Brekelmans, 2015, Assistant Director of Athletic Training, B.A., St. Mary's College of California, 2009; M.S., California Baptist University, 2015.

Lorna Brownlie, 2015, Assistant Women's Soccer Coach, B.S., Auburn University at Montgomery, 2012; M.S., 2013.

Joey Centanni, 2017, Assistant Baseball Coach, B.A., University of the Pacific, 2009; M.A., Ashford University, 2011.

Bryce Chamberlain, 2016, Assistant Director of Athletic Performance, B.S., Azusa Pacific University, 2014; M.S., California University of Pennsylvania, 2015.

Dan Chapman, 2013, Associate Director of Athletics for Marketing/Media, B.A., San Francisco State University, 1984.

John Cook, 2015, Head Men's Golf Coach, B.A., Boise State, 1995.

Wendy Cornwall, 1991, Assistant Director of Compliance, B.S., University of the Pacific, 1988.

Bradley Davis, 2006, Head Women's Basketball Coach, B.A., University of California, Berkeley, 1995.

Tim Dickson, 2009, Executive Associate Athletic Director for Development, B.A., University of the Pacific, 1998; M.A., Canisius, 2015.

Paul Felix, 2016, Assistant Director of Athletic Performance, B.A., University of Arizona, 2007.

Greg Gibbons, 2010, Head Women's Volleyball and Beach Volleyball Coach, B.S., Iowa State University, 1997; M.Ed., University of Phoenix, 2009.

James Graham, 2008, Head Men's and Women's Water Polo Coach, B.S., University of Redlands, 2003.

Joey Gullikson, 2015, Assistant Men's and Women's Water Polo Coach, B.A., University of the Pacific, 2011.

Josh Jones, 2009, Head Women's Cross Country and Track Coach, Performance Enhancement Specialist, B.S., Liberty University, 2000; M.S., California University of Pennsylvania, 2007.

Ryan Jorden, 2013, Head Men's Soccer Coach, B.A., Westmont College, Santa Barbara, 1995, M.S., Oregon State University, 2000, Ph.D., University of Northern Colorado, 2010.

Brian Kolze, 1992, Head Softball Coach, B.A., California State University, Northridge, 1984.

Daniel Llorenas, 2015, Assistant Men's Tennis Coach, University of Hawai'i, 2011.

Christopher M. Ludwig, 2007, Clinical Assistant Professor, Director of Athletic Training Program, B.S., California State University, Fresno, 2004; M.S., California State University, Fullerton, 2007; Ed.D., University of the Pacific, 2013.

JayDee Luster, 2016, Assistant Men's Basketball Coach, B.A., University of Wyoming, 2011; M.Ed., 2014.

Annette Martinez, 2007, Associate Director of Athletic Training, B.A., University of the Pacific, 2002; M.A., Fresno Pacific University, 2011.

Lindsey Moore, 2018, Assistant Women's Basketball Coach, B.A., University of Nebraska, 2013; M.Ed., Arizona State University, 2018.

Aaron Morales, 2016, Director of Athletics Annual Giving, B.A., California State University, Long Beach, 1999; M.A., University of San Francisco, 2003.

Jeremy Neisser, 2013, Athletic Marketing and Sales Manager, B.A., Broadcasting Institute of Maryland, 2000.

Robert Norton, 2015, Ticket Operations Manager, B.A., Whittier College, 2008.

Carmen Padilla, 2009, Assistant Women's Soccer Coach, B.S., University of the Pacific, 2007; M.A., 2015.

Julema Pérez, 2017, Coordinator for Student-Athlete Services, B.A., University of the Pacific; M.A., California State University, Long Beach.

Leonard Perry, 2016, Associate Head Men's Basketball Coach, B.A., University of Idaho, 1995.

Christopher Pond, 1990, Director of Athletic Training, B.S., Utah State University, 1988; M.S., University of Arizona, 1990.

Ryan Redondo, 2010, Director of Tennis and Head Men's Tennis Coach, B.A., San Diego State University, 2008.

Michael Reuvekamp, 2015, Assistant Baseball Coach, B.A., University of California, Berkeley, 2015.

Peter Richardson, 2012, Head Men's and Women's Swimming Coach, B.A., University of the Pacific, 2003; M.A., California State University, Fresno, 2007.

Cory Riecks, 2018, Assistant Women's Volleyball Coach, B.A., Pepperdine University, 2011; M.Ed., University of Missouri, 2017.

Bri Rodriguez, 2015, Manager of Athletics Development, B.S., West Virginia University, 2013.

Joey Rossi, 2013, Director of Athletic Performance, B.A., University of the Pacific, 2010; M.A., 2012.

Rebecca Scharmann, 2017, Director of Athletic Media Relations, B.A., Stanislaus State, 2008; M.A., 2010.

Kerri Scroope, 2016, Head Women's Soccer Coach, B.A., Stony Brook University, 2000; M.S., Delaware State, 2014.

Amy Starr, 2015, Associate Head Women's Basketball Coach, B.A., Washington State University, 1997.

David Stockton, 2017, Assistant Men's Soccer Coach, B.B.A., Midwestern State University, 2005.

Damon Stoudamire, 2016, Head Men's Basketball Coach, B.A., University of Arizona, 2008.

Tara Tembey, 2016, Assistant Softball Coach, B.S., University of Tennessee at Chattanooga, 2009.

Holly Trexler, 2005, Senior Associate Director of Athletics for Student-Athlete Services and Compliance/SWA, B.A., University of Kansas, 1995; J.D., 1998; MS.Ed., 1999.

Nicole Vargas Polster, 2013, Assistant Women's Volleyball Coach, B.A., Long Beach State University, 2009.

Sara Vargas, 2011, Assistant Director of Athletic Training, B.A., University of the Pacific, 2009; M.S., Utah State University, 2011.

Carl Weigley, 2017, Assistant Men's and Women's Swimming Coach, B.A., Fresno Pacific University, 2017.

Julie Wendland, 1989, Accounts Manager.

Luke Wicks, 2016, Assistant Men's Basketball Coach, B.S., Northern State University, 2006; M.Ed., 2008.

Alyssa A. Wray, 2017, Athletics Business Manager, B.A., University of the Pacific, 2013.

Tory Yamaguchi, 2016, Assistant Softball Coach, B.A., Indiana University, 2007; M.S., 2009.

Wes Yourth, 2010, Associate Director of Athletics for Internal Affairs, B.A., San Francisco State University, 2001; M.S., United States Sports Academy, 2005.

Nick Ziccardi, 2016, Assistant Men's Golf Coach, B.A., Northwood University Florida, 2014; M.Ed. St. Lawrence University, 2016.

LIBRARY FACULTY

Robin L. Imhof, Associate Professor, Academic Support Librarian - Humanities, 2002, BA, University of California, Los Angeles, 1987; MLIS, San Jose State University, 1995; MA, San Francisco State University, 2000.

Michelle Maloney, Associate Professor, Academic Support Librarian - Education, Psychology, HESP, 2007, BA, University of Massachusetts, Amherst, 2000; MLIS, University of Illinois at Urbana-Champaign, 2006.

Veronica Alzalde Wells, Associate Professor, Library Faculty Chair, Head of Library Academic Support Services, Academic Support Librarian - Music, 2010, BA, Luther College, 2006; MLIS, University of Wisconsin-Madison, 2008; MA, University of Wisconsin-Madison, 2010.

Michael Wurtz, Assistant Professor, Head of Special Collections, 2004, BA, Northern Arizona University, 1987; MA, Northern Arizona University, 1991; MLIS, University of Arizona, 2006.

Mary-Kate Dopkins, Interim Health Sciences Librarian, 2017, BA, University of the Pacific, 2004; MLIS, San Jose State University, 2017.

Jack Schroeder, Assistant Professor, Academic Support Librarian - Business, 2016, BA, University of Wisconsin Milwaukee, 1985; MLIS, University of Wisconsin Milwaukee, 1988; JD, Southwestern Law School, 1998.

Michael Ladisch, Associate Professor, Academic Support Librarian - Science, Technology, Engineering, & Mathematics, 2016, Diploma in Library Science, Leipzig University of Applied Sciences, 1984; MLIS, Humboldt University Berlin, 2007.

EMERITUS FACULTY/STAFF

Name	Year and Degrees	Name	Year and Degrees
Richard R. Abood	1991, Professor of Pharmacy Practice, Emeritus, 2014.	Gaylon L. Caldwell	1970, Dean of Elbert Covell College and Professor of Political Science, Emeritus, 1982.
Glen A. Albaugh	1971, Professor of Sport Sciences, Emeritus, 1999.	William H. Carpenter	1986, Professor of Dental Practice, Emeritus, 2014
Leigh Charles Anderson	2000, Professor of Biomedical Sciences, Emeritus, 2017	Linda Carter	1985, Distinguished Professor of Law, Emerita, 2016
Steven C. Anderson	1970, Professor of Biological Sciences, Emeritus, 1997.	Patrick N. Catania	1970, Professor of Clinical Pharmacy, Emeritus, 2006.
Judith K. Andrews	1966, Associate Professor, University Libraries, Emerita, 2001.	Patrick D. Cavanaugh	1997, Vice President, Business and Finance, Emeritus, 2014.
Harriett Arnold	1994, Director, Early Childhood Development Projects, Associate Professor of Education, Emerita, 2014.	Judith Chambers	1973, Vice President for Student Life, Emerita, 2001.
Michael H. Ballott	1971, Professor of Business, Emeritus, 2005.	Kishori Chaubal	1972, Associate Professor of Biological Sciences, Emerita, 1999.
David P. Baral	1981, Professor of Education, Emeritus, 1999.	Madhukar G. Chaubal	1964, Professor of Medicinal Chemistry, Emeritus, 1999.
Roger Barnett	1965, Professor of Geography, Emeritus, 1999.	Roy Childs	1973, Professor of Sociology, Emeritus, 2008.
Robert Benedetti	1989, Dean of the College of the Pacific, 2002, Executive Director of the Jacoby Center, Professor of Political Science, Emeritus, 2013.	Deann J. Christianson	1967, Professor of Mathematics, Emerita, 2006.
Roy C. Bergstrom	1980, Associate Professor of Mathematics, Assistant Dean for Administration, Emeritus, 2018	Lee Christianson	1967, Professor of Biological Sciences, Emeritus, 2006.
David F. Besch	1985, Assistant Professor of Electrical and Computer Engineering, Emeritus, 2002.	Elmer U. Clawson	1974, Professor of Education, Emeritus, 1995.
Robert W. Blaney	1966, Professor of Religious Studies, Emeritus, 1996.	Joel A. Cohen	1974, Professor of Biomedical Sciences, Emeritus, 2014.
James Blankenship	1977, Professor of Pharmacology, Emeritus, 2010.	Raymond Coletta	1989, Professor of Law, Emeritus, 2015
Diane M. Borden	1971, Professor of English, Director of Film Studies, Emerita, 2014.	Rex Cooper	1973, Professor of Piano, Emeritus, 2014.
Martha W. Bowsky	1984, Professor of Religious and Classical Studies, Emerita, 2014.	Thomas A. Coyne	1978, Professor of Law, Emeritus, 1999.
Lynn Beck Brallier	2005, Dean and Professor of Education, Emerita, 2017	Donald DaGrade	1970, Professor of Bassoon and Saxophone, Emeritus, 2007.
Dennis Brennan	1978, Assistant Dean and Associate Professor of Education, Emeritus, 2012.	Robert W. Dash	1964, Professor of Modern Language and Literature, Emeritus, 2001.
William H. Brennan	1976, Associate Professor of History, Emeritus, 2006.	Gilbert L. Dellinger	1973, Professor of Art, Emeritus, 2000.
Ashland O. Brown	1991, Dean of the School of Engineering, Professor of Mechanical Engineering, Emeritus, 2016	Donald V. DeRosa	1995, President Emeritus, 2009.
Gwenneth L. Browne	1968, Professor of Philosophy, Emerita, 1997.	Roland B. di Franco	1972, Professor of Mathematics, Emeritus, 2001.
Donald W. Bryan	1974, Associate Professor of Business, Emeritus, 2007.	Clifford L. Dochterman	1972, Vice President, Emeritus, 1990.
		Richard P. Dodge	1964, Professor of Chemistry, Emeritus, 1994.
		Arthur A. Dugoni	1951, Dean of the Dugoni School of Dentistry and Professor of Dentistry, Emeritus, 2006.
		I. Dale Dunmire	1973, Professor of Electrical and Computer Engineering, Emeritus, 1990.
		H. Richard Etlinger	1982, Professor of Music Management/Business, Emeritus, 2000.

Lee C. Fennell	1968, Professor of Political Science, Associate Provost and University Registrar, Emeritus, 1999.	Eddie K. Hayashida	1979, Associate Professor of Administration, Emeritus, 2017
U. Wolfgang Fetsch	1967, Professor of Piano, Emeritus, 1991.	James Heffernan	1972, Professor of Philosophy, Emeritus, 2014.
Dale Fjerstad	1974, Associate Professor of Trumpet, Emeritus, 1986.	Stefan Highsmith	1978, Professor of Biomedical Sciences, Emeritus 2018
Barbara Flaherty	1988, Associate Professor of Art, Emerita, 2010.	Ron Hoverstad	1990, Associate Professor of Marketing, Emeritus, 2015
David Q. Fletcher	1973, Professor of Civil Engineering, Emeritus, 2006.	Gary N. Howells	1971, Professor of Psychology, Emeritus, 2013.
Donald G. Floriddia	1968, Professor of Pharmaceuticals, Emeritus, 2014.	Wilbur R. Hughes	1980, Professor of Dentistry, Emeritus, 1995.
Dennis O. Flynn	1978, Professor of Economics, Emeritus, 2014.	J. Carolyn Hultgren	1989, Assistant Professor of Physical Therapy, Emerita, 2002.
Paul T. Fogle	1979, Associate Professor of Speech-Language Pathology, Emeritus, 2012.	Leonard A. Humphreys	1970, Professor of History, Emeritus, 1991.
William H. Ford	1974, Professor of Computer Science, Emeritus, 2014.	A. Thomas Indresano	2001, Professor of Oral and Maxillofacial Surgery, Emeritus, 2017
Richard Fredekind	1985, Executive Associate Dean, Professor, Emeritus, 2018	Giuseppe Inesi	1969, Professor of Biomedical Sciences, Emeritus, 2014.
David Fries	1973, Professor of Medicinal Chemistry, Emeritus, 2010.	Mari G. Irvin	1981, Professor of Education, Emerita, 2000.
Joan E. Coulter Garn	1973, Assistant Professor of Music, Emerita, 1997.	Ravi Jain	2000, Dean of the School of Engineering and Computer Science, Professor of Civil Engineering, Emeritus, 2013.
Philip Gilbertson	1996, Director of the Pacific History Project, 2010-2014, Provost Emeritus, 2014.	Patrick R. Jones	1974, Professor of Chemistry, Emeritus, 2011.
Katie Golsan	1994, Professor of French and Film Studies, Emerita, 2016	Warren Jones	1981, Professor of Law, Emeritus, 2015
George Gould	1983, Professor of Law, Emeritus, 2008.	Roger C. Katz	1974, Professor of Psychology, Emeritus, 2006.
Alex T. Granik	1982, Associate Professor of Physics, Emeritus, 2005.	David E. Keefe	1978, Associate Professor of Economics, Emeritus, 2011.
Carol Ann Hackley	1985, Professor of Communication, Emerita, 2011.	Charles D. Kelso	1978, Professor of Law, Emeritus, 2015
Fay B. Haisley	1984, Dean, Gladys L. Benerd School of Education and Professor of Education, Emerita, 1999.	W. Joseph King	1983, Professor of Electrical and Computer Engineering, Emeritus, 2009.
Robert E. Hamernik	1962, Professor of Civil Engineering, Emeritus, 1998.	John R. Knight	1995, Professor of Finance and Real Estate, Emeritus, 2013.
George T. Hankins	1980, Professor of Electrical and Computer Engineering, Emeritus, 1991.	Lorrie Knight	1996, Reference/Instruction Librarian, Professor, Emerita, 2013.
Roseann Hannon	1970, Professor of Psychology, Emerita, 2010.	Linda Koehler	1989, Associate Professor of Health, Exercise and Sport Sciences, Emerita, 2014.
Halvor P. Hansen	1959, Professor of Communication, Emeritus, 1990.	Randall Koper	1985, Professor of Communication, Emeritus, 2014.
Lois N. Harrison	1985, Professor of Music Education, Emerita, 1997.	J. Curtis Kramer	1975, Professor of Geosciences, Emeritus, 2005.
Michael Hatch	1984, Professor of Political Science, Emeritus, 2014.	Lynn Kraynak	1987, Associate Professor of Religious and Classical Studies, Emerita, 2012.
Paul J. Hauben	1969, Professor of History, Emeritus, 1994.	Robert A. Kreiter	1960, Professor of Modern Language and Literature, Emeritus, 1994.
A. Craig Hawbaker	1994, Professor, Reference and Instruction Librarian, Emeritus, 2014	Bruce LaBrack	1975, Professor of Anthropology, Emeritus, 2008.

Brian K. Landsberg	1987, Distinguished Professor of Law, Emeritus, 2015	Carl E. Nosse	1980, Professor of Theory-Composition, Dean, Conservatory of Music, Emeritus, 1999.
Margaret A. Langer	1981, Associate Professor of Education, Emerita, 2002.	Elizabeth Rindskopf Parker	2002, Dean of the Pacific McGeorge School of Law, Emerita, 2013.
Neil L. Lark	1962, Professor of Physics, Emeritus, 1999.	Newman Peery	1982, Professor of Business, Emeritus, 2008.
Estelle P. Lau	1977, Professor of Education, Emerita, 2000.	Edwin R. Pejack	1982, Professor of Mechanical Engineering, Emeritus, 2007.
Arthur M. LaVere	1968, Professor of Dentistry, Emeritus, 1998.	Richard L. Perry	1961, Professor of Physics, Emeritus, 1997.
Thomas J. Leach	2001, Professor of Law, Emeritus, 2015	Sandra L. Persels	1976, Professor of Drama, Emerita, 1996.
Ira C. Lehn	1968, Professor of Violoncello, Emeritus, 1991.	John C. Phillips	1976, Professor of Sociology, Emeritus, 2008.
Alan S. Leider	1975, Professor of Dentistry, Emeritus, 1998.	Larry L. Pippin	1965, Professor of Political Science and Geography, Emeritus, 1994.
George H. Lewis	1970, Professor of Sociology, Emeritus, 2013.	Mark Plovnick	1989, Dean of the Eberhardt School of Business, 2006, Director of Economic Development, Professor of Management, Emeritus, 2014.
Ronald H. Limbaugh	1966, Professor of History, Emeritus, 2000.	Edward T. Pohlman	1961, Professor of Education, Emeritus, 1995.
B. Jean Longmire	1976, Professor of Education, Emerita, 2005.	Willard T. Price	Professor of Operations Management and Engineering Management, Emeritus, 2015
Hether MacFarlane	1996, Professor of Lawyering Skills, Emerita, 2018	Virginia L. Puich	1969, Associate Professor of Communicative Disorders, Emerita, 1997.
Alice Jean Matuszak	1963, Professor of Medicinal Chemistry, Emerita, 2000.	Herbert R. Reinelt	1962, Professor of Philosophy, Emeritus, 1999.
Charles A. Matuszak	1963, Professor of Chemistry, Emeritus, 2000.	Claude D. Rohwer	1964, Professor of Law, Emeritus, 2005.
Maurice L. McCullen	1970, Professor of English, Emeritus. 2002.	Robert Sarka	1982, Professor of Dentistry, Emeritus, 2004.
Dale W. McNeal	1969, Professor of Biological Sciences, Emeritus, 2002.	Darwin Sarnoff	1972, Professor of Pharmacy Practice, Emeritus, 2004.
Lawrence Meredith	1966, Professor of Religious Studies, Emeritus, 1999.	Ralph L. Saroyan	1970, Director of Pharmacy Pre-Health Programs, Emeritus, 2002.
Doris C. Meyer	1956, Professor of Physical Education, Emerita, 1990.	Jon E. Schamber	1980, Professor of Communication, Emeritus, 2014.
David Wilkinson Miller	1981, Professor of Law, Emeritus, 2006.	Gilbert W. Schedler	1967, Professor of English and Religious Studies, Emeritus, 2004.
Sally M. Miller	1967, Professor of History, Emerita, 1999.	Merrill Schleier	1982, Professor of Art and Architectural History and Film Studies, Emerita, 2015
James P. Morgali	1961, Professor of Civil Engineering, Emeritus, 1999.	George W. Schroeder	1981, Professor of Electrical Engineering, Emeritus, 2005.
Roger C. Mueller	1969, Professor of English, Emeritus, 1997.	Glendalee Scully	1976, Professor of Law, Emerita, 2008.
Alexander Murphy	1972, Professor of Biomedical Sciences, Emeritus, 2018	Jed Scully	1977, Professor of Law, Emeritus, 2008.
Fred Muskal	1970, Professor of Education, Emeritus, 2009.	John E. Seaman	1969, Professor of English, Emeritus, 1999.
John M. Nagle	2000, Dean of the Benerd School of Education and Professor of Education, Emeritus, 2006.	Francis Michael Sharp	1979, Professor of Modern Language and Literature, Emeritus, 2008.
George L. Nemeth	1970, Professor of Horn and Music History, Emeritus, 2005.	Donald Y. Shirachi	1971, Professor of Physiology and Pharmacology, Emeritus, 1994.
David Nielsen	1986, Executive Director, Arthur A. Dugoni School of Dentistry Alumni Association, Emeritus, 2016		

Anthony Skrocki	1973, Professor of Law, Emeritus, 2004.	Ravindra C. Vasavada	1973, Professor of Pharmaceutics, Emeritus, 2000.
Douglas Smith	1970, Professor of Computer Science, Emeritus, 2007.	William H. Wadman	1955, Professor of Chemistry, Emeritus, 1988.
John D. Smith	1970, Professor of English, Emeritus, 1999.	Joel Wagner	1998, Clinical Professor of Pharmacy, Emeritus, 2017
Reuben W. Smith III	1972, Dean of the Graduate School and Professor of History, Emeritus, 1994.	Suzanne Walchli	2000, Associate Professor of Marketing, Emerita, 2017
Roland C. Smith	1971, Professor of Dentistry, Emeritus, 1998.	Coburn C. Ward	1977, Professor of Mathematics, Emeritus, 2001.
Simalee Smith-Stubblefield	1983, Associate Professor of Speech-Language Pathology, Emerita, 2015	Lori D. Warner	1987, Associate Professor of Economics, Emerita, 2007.
Christopher Snell	1990, Professor of Sport Sciences, Emeritus, 2014.	Paula Watson	2004, Associate Professor of Periodontics/Dental Hygiene. Emerita, 2018
Donald L. Sorby	1984, Dean of the School of Pharmacy, Emeritus, 1995.	Gregory Weber	1990, Professor of Law, Emeritus, 2014.
Larry O. Spreer	1970, Professor of Chemistry, Emeritus, 2011.	Donald K. Wedegaertner	1963, Professor of Chemistry, Emeritus, 2004.
Louise Stark	1992, Associate Dean and Professor of Computer Engineering, Emerita, 2015	Cynthia Wagner Weick	1990, Director of the Powell Scholars Program and Professor of Management, Emerita, 2017
William T. Stringfellow	2009, Director of the Ecological Engineering Research Program, Professor, Emeritus, 2018	Roy A. Whiteker	1976, Dean of the College of the Pacific, Emeritus, 1989; Professor of Chemistry, Emeritus, 1992.
S. Thomas Stubbs	1963, Associate Professor of Sport Sciences, Emeritus, 1999.	William P. Whitesides	1978, Professor of Voice, Emeritus, 1996.
Henghu (Henry) Sun	2008, Professor of Engineering, Director of the Pacific Resources Research Center, Emeritus, 2016	Philip Wile	1987, Professor of Law, Emeritus, 2007.
J. Connor Sutton	1963, Associate Professor of Sport Sciences, Emeritus, 1999.	John S. Williams	1965, Professor of English, Emeritus, 1998.
Ted T. Takaya	1979, Professor of Modern Language and Literature, Emeritus, 1996.	Christine R. Wilson	2003, Associate Professor of Physical Therapy, Emerita, 2014.
Paul A. Tatsch	1980, Associate Professor of Business, Emeritus, 2005.	Joseph A. Woelfel	2006, Professor of Pharmacy Practice, Emeritus, 2017
Joseph Taylor	1993, Professor of Law, Emeritus, 2015	William Wolak	1975, Professor of Theatre Arts, Emeritus, 2007.
Douglas Tedards	1982, Associate Professor of English, Emeritus, 2007.	David E. Wolfe	1987, Professor of Music Therapy, Emeritus, 2007.
Richard Tenaza	1975, Professor of Biological Sciences, Emeritus, 2014.	Walter Zimmermann	1970, Professor of Mathematics, Emeritus, 2008.
William Topp	1970, Professor of Computer Science, Emeritus, 2008.		
Richard H. Turpin	1984, Professor of Electrical and Computer Engineering, Emeritus, 2005.		
Darcy Umphred	1987, Professor of Physical Therapy, Emerita, 2006.		
Warren van Bronkhorst	1967, Professor of Violin, Emeritus, 1991.		
Judith L. Van Hoorn	1982, Professor of Education, Emerita, 2007.		
Richard J. Vargo	1981, Professor of Accounting, Emeritus, 2013.		
Ray VarnBuhler	1980, Professor of Art, Emeritus, 1998.		

CAMPUS BUILDINGS AND FACILITIES

Click the map below for a larger view. An interactive campus map can be found at <http://www.pacific.edu/Campus-Map.html>



UNIVERSITY OF THE PACIFIC

3601 PACIFIC AVE. STOCKTON, CA 95211

- | | | | |
|---|--|---|---|
| <p>A</p> <p>24 Admission Office, Knies Hall, E-7
175 Alan and Olive Gardemeyer Field, A-5
155 Alex G. Spinos Center, C-3
49 Alpha Phi, A-6, D-7
122 Alumni House, Alex and Vereschagin, G-5
177 Anderson Hall, F-6
122 Art Center, Susette Powell, J-4
120 Art Gallery, Reynolds, Geosciences Center, J-4</p> <p>B</p> <p>62 Banister Hall, E-5
81 Bean House Center, G-5
28 Baum Hall, F-6
73 Bethel International Center, F-5
48 Beta Theta Pi, BOTT, D-7
188 Bill Simon Field, F-3
103 Biological Sciences Center, H-6
170 Biological Laboratories, H-5
119 Bon Appetit Company, Nathan Garden, H-4
100 Bookstore, Dalhart University Center, B-6
115 Box Office, Long Theatre, C-4
163 Brookside Field, C-3
12 Back Memorial Hall, E-8
100 Burns Tower, Robert E., F-4</p> <p>C</p> <p>166 Calaveras Hall, D-3
177 Callison Hall, E-5
25 Career Resource Center, McCaffrey Center, J-6/Floor 5
76 Carter House, E-4
74 Chad Jackson, E-5
73 Cass Werner, F-5
3 Center for Community Involvement, F-9
124 Ceramics Studio, J-4
14 Chambers Technology Center, John T., F-6
172 Chan Family Hall, B-4
178 Chan Family Health Sciences Learning Center and Clinics Building, B-7
166 Chris Kahlen Pool, C-3
107 Classroom Building, F-5
68 College of the Pacific, Wendell Phillips Center, F-6
106 Collier Hall, Morris Chapel, Sears Hall, E-8
196 Communication Department, H-4
14 Conservatory of Music, Fred Spinos Center Hall, E-6
141 Covered Performance Center, J-1
100 Cowell Wellness Center, B-4</p> <p>D</p> <p>132 Donna Studis, east side of South Campus Gym, H-3
44 Delta Delta Delta, DAA, D-8
64 Delta Gamma, D-7
111 DeMarcus Brown Studio, Theatre Arts, H-5
60 Dalhart University Center, Don and Karen, D-6
40 Dining, DeLores University Center, D-4
25 Disability Services, McCaffrey Center, 3rd Floor, E-6
60 Don and Karen DeLores University Center, D-6
168 Duplating Services, C-4</p> | <p>E</p> <p>23 Eberhart School of Business, Weber Hall, E-8
179 Edward and Alice Long Memorial Hall, B-7
81 Egleston House, E-4
78 Elbert Covel Hall, F-4
34 Engineering and Computer Science, School of Chambers Technology Center, F-4
103 Engineering and Computer Science, South Campus Labs, H-4
102 Eva Zimmerman Tennis Center, G-2</p> <p>F</p> <p>84 Farley House, F-4
14 Faye Spinos Concert Hall, F-8
177 Field House, Turf, E-2
30 Finance Center, West Memorial Hall, F-6
100</p> <p>G</p> <p>175 Gardemeyer Field, Alan and Olive, A-5
171 George Wilson Hall, F-5
120 Geosciences Center, J-4
301 Gladys U. Bernard School of Education, G-5
61 Grace Covel Hall, E-7
24 Graduate School, Knies Hall, E-7
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42 External Relations, Hand Hall, E-7
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27 Office of the President, Anderson Hall, east side, F-4
27 Office of the Provost, Anderson Hall, north side, F-4
42 Office of Student Life, Hand Hall, E-7</p> <p>Visitor parking and information
Maps, information and parking permits are available in Burns Tower lobby. Limited outdoor parking spaces are located across from Burns Tower Building, Pacific Avenue. Permits are not required after 5 pm weekdays or on weekends.</p> <p>UPDATES 8-1-18</p> |
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ACADEMIC CALENDAR 2019-2020

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- Semester Programs (p. 415)
- Semester Law Programs (p. 415)
- Trimester Programs (p. 415)

Quarter Programs

Arthur A. Dugoni School of Dentistry

Dental (DDS, IDS, Certificates, and Dental Graduate Programs)

Semester Programs

Arthur A. Dugoni School of Dentistry

Dental Hygiene

College of the Pacific

All Programs

Conservatory of Music

All Programs

Eberhardt School of Business

All Programs

Gladys L. Benerd School of Education

All Programs

School of Engineering and Computer Science

All Programs

School of International Studies

All Programs

The Thomas J. Long School of Pharmacy and Health Sciences

Athletic Training

Pre-Pharm

Speech-Language Pathology

University College

Organizational Leadership

Semester Law Programs

McGeorge School of Law

All Programs

Trimester Programs

Arthur A. Dugoni School of Dentistry

Physician Assistant Studies

The Thomas J. Long School of Pharmacy and Health Sciences

Audiology

Pharmaceutical and Chemical Sciences

PharmD

Physical Therapy

The calendar on this page is for the following program.

Arthur A. Dugoni School of Dentistry

Dental (DDS, IDS, Certificates, and Dental Graduate Programs)

2019-2020

Summer 2019 Quarter

Description	Date(s)
Matriculation Week	July 9 - 12
Classes Begin	July 15
Labor Day Holiday	September 2
Last day to add classes (enrichment courses only)	September 23
*Last day to drop classes without record of enrollment	September 23
Study Day	September 24
Final Examination Period	September 25 - 27
Autumn Student Break	September 30 - October 4
Grades Due	October 2

Autumn 2019 Quarter

Description	Date(s)
Classes Begin	October 7
Thanksgiving Holiday Break	November 28 - 29
Last day to add classes (enrichment courses only)	December 16
*Last day to drop classes without record of enrollment	December 16
Study Day	December 17
Final Examination Period	December 18 - 20
Winter Student Break	December 23 - January 3
Grades Due	January 8

Winter 2020 Quarter

Description	Date(s)
Classes Begin	January 6
Martin Luther King Jr. Holiday	January 20
President's Day Holiday	February 17
Last day to add classes (enrichment courses only)	March 16
*Last day to drop classes without record of enrollment	March 16
Study Day	March 17
Final Examination Period	March 18 - 20
Spring Student Break	March 23 - 27
Grades Due	March 25

Spring 2020 Quarter

Description	Date(s)
Classes Begin	March 30
Memorial Day Holiday	May 25
Last day to add classes (enrichment courses only)	June 8
*Last day to drop classes without record of enrollment	June 8
Study Day	June 9
Final Examination Period	June 10 - 12
Commencement	June 14

Summer Student Break	June 15 - July 10
Grades Due	June 17

Summer Student Break	June 14 - July 9
Grades Due	June 16

2020-2021 Summer 2020 Quarter

Description	Date(s)
Matriculation Week	July 7 - 10
Classes Begin	July 13
Labor Day Holiday	September 7
Last day to add classes (enrichment courses only)	September 21
*Last day to drop classes without record of enrollment	September 21
Study Day	September 22
Final Examination Period	September 23 - 25
Autumn Student Break	September 28 - October 2
Grades Due	September 30

Autumn 2020 Quarter

Description	Date(s)
Classes Begin	October 5
Thanksgiving Holiday Break	November 26 - 27
Last day to add classes (enrichment courses only)	December 14
*Last day to drop classes without record of enrollment	December 14
Study Day	December 15
Final Examination Period	December 16 - 18
Winter Student Break	December 21 - January 1
Grades Due	January 6

Winter 2021 Quarter

Description	Date(s)
Classes Begin	January 4
Martin Luther King Jr. Holiday	January 18
President's Day Holiday	February 15
Last day to add classes (enrichment courses only)	March 15
*Last day to drop classes without record of enrollment	March 15
Study Day	March 16
Final Examination Period	March 17 - 19
Spring Student Break	March 22 - 26
Grades Due	March 24

Spring 2021 Quarter

Description	Date(s)
Classes Begin	March 29
Memorial Day Holiday	May 31
Last day to add classes (enrichment courses only)	June 7
*Last day to drop classes without record of enrollment	June 7
Study Day	June 8
Final Examination Period	June 9 - 11
Commencement	June 13

* Dropping core curriculum courses is only possible as part of a complete withdrawal from the university.

The calendar on this page is for the following programs.

Arthur A. Dugoni School of Dentistry
Dental Hygiene

College of the Pacific
All Programs

Conservatory of Music
All Programs

Eberhardt School of Business
All Programs

Gladys L. Benerd School of Education
All Programs

School of Engineering and Computer Science
All Programs

School of International Studies
All Programs

The Thomas J. Long School of Pharmacy and Health Sciences
Athletic Training
Pre-Pharm
Speech-Language Pathology

University College
Organizational Leadership

Fall 2019

Description	Date(s)
Orientation and Registration	
Graduate Student	(Registration) June 13
New Transfer Student Orientation I	June 21-22
New Freshman Orientation I	June 25 - 26
New Freshman Orientation II	June 28 - 29
New Transfer Student Orientation II	August 18 - 19
New International Student Orientation	August 19
New Freshman Orientation III	August 20 - 21
Payment Deadline for Fall 2019	August 1
Classes Begin	August 26
# Registration	August 26
Labor Day Holiday	September 2
# Last Day to Add Classes	September 6
# Last Day for Pass/No Credit or Letter Grade Option	September 6
# Last day to drop classes without record of enrollment	September 6
Deadline for Application for Graduation Fall 2019 (Graduate)	September 6

Priority deadline, Application for Graduation Spring 2020/Summer 2020 (Graduate)

Census Date	October 1
Fall Student Break	October 4
Spring 2020 Schedule of Classes available Online	October 7
Homecoming (classes in session)	October 11 - 13
* Advising for Spring 2020 Registration for continuing students	October 14 - November 1
Last Day for Pro-Rated Refund	October 17
* Early Registration Appointments begin date for continuing students Spring 2020	October 28
Last day to Withdraw	October 31
Thanksgiving Break	November 27 - 29
Classes Resume	December 2
Classes End	December 6
Final Examination Period	December 9 - 13
Deadline for Application for Graduation Spring 2020/Summer 2020 (Graduate)	December 13
Deadline to file Petition to Walk in May 2020 Commencement (Summer 2020 Graduate)	December 13

Spring 2020

Description	Date(s)
Payment Deadline for Spring 2020	January 1
New International Student Orientation	January 8 - 9
New Student/Transfer Orientation and Registration	January 9 - 10
Classes Begin	January 13
# Registration	January 13
Martin Luther King Jr. Holiday	January 20
# Last Day to Add Classes	January 24
# Last Day for Pass/No Credit or Letter Grade Option	January 24
# Last day to drop classes without record or enrollment	January 24
President's Day Holiday	February 17
Census Date	March 1
Last Day for Pro-Rated Refund	March 5
Summer 2020/Fall 2020 Schedule of Classes Available Online	March 9
Spring Break	March 9 - 13
Classes resume	March 16
* Advising for Summer 2020/Fall 2020 for continuing students	March 16 - April 3
Last day to withdraw	March 26
* Summer 2020 registration opens for continuing students (no appointments)	March 30
* Early Registration Appointments begin date for continuing students - Fall 2020	March 30
Deadline for Application for Graduation Fall 2020/ Spring 2021/Summer 2021 (Undergraduate)	April 3
Classes End	April 28
Study Day	April 29
Final Examination Period	April 30 - May 6
Commencement	May 9

Advisers should arrange to be available on this day.

* Limited to Currently enrolled students.

For More Information: go.pacific.edu/calendars (<http://go.pacific.edu/calendars>)

The calendar on this page is for the following programs.

McGeorge School of Law
All Programs

Fall 2019 & Spring 2020 Registration Dates

Description	Date(s)
Fall Registration Begins (Seniors, LLM, M.S.L., MPA, MPP & JSD)	Tuesday, June 18, 2019
Fall Registration Begins (Continuing Students)	Wednesday, June 19, 2019
Spring Registration Begins (Seniors, LLM, M.S.L., MPA, MPP & JSD)	Thursday, June 20, 2019
Spring Registration Begins (Continuing Students)	Friday, June 21, 2019

(Schedules distributed during New Student Check In at Orientation and available on insidePacific)

Fall Semester 2019

Description	Date(s)
LLM Orientation Begins	Thursday, August 8, 2019
First-Year JD (Part-Time) and MSL Orientation Begins	Monday, August 12, 2019
First-Year JD (Full-Time) Orientation Begins	Tuesday, August 13, 2019
MPA and MPP First Year Orientation Begins	Friday, August 16, 2019
Classes Begin	Monday, August 19, 2019
Add/Drop Deadline (Last day without administrative approval)	Monday, August 26, 2019
Labor Day (holiday - no classes)	Monday, September 2, 2019
Study Day (classes are made up on the last Tuesday of semester)	Friday, October 4, 2019
Last day of Classes (Friday classes only-makes up Study Day)	Tuesday, November 26, 2019
Thanksgiving Recess	Wednesday, Thursday, Friday, November 27-29, 2019
Reading Period	Saturday, November 30-Tuesday, December 3, 2019
Final Examination Period	Wednesday, December 4-Wednesday, December 18, 2019

Winter Break

Thursday, December 19, 2019 -
Wednesday, January 1, 2020

For information regarding tuition refunds, please refer to the McGeorge School of Law Refund Policy: <https://www.mcgeorge.edu/policies/withdrawal-and-refund-policy>

The calendar on this page is for the following programs.

Arthur A. Dugoni School of Dentistry
Physician Assistant Studies

The Thomas J. Long School of Pharmacy and Health Sciences
Audiology
Pharmaceutical and Chemical Sciences
PharmD
Physical Therapy

Spring Semester 2020

Description	Date(s)
Intersession	Thursday, January 2 - Sunday, January 5, 2020
LLM & JSD Orientation Begins	Thursday, January 2, 2020
Classes Begin	Monday, January 6, 2020
Add/Drop Deadline (Last day to add/drop classes without administrative approval)	Monday, January 13, 2020
Martin Luther King Day (holiday)	Monday, January 20, 2020
President's Day (holiday-classes made up on the last Weds. of semester)	Monday, February 17, 2020
Study Day (classes are made up on the last Tues. of the semester)	Friday, February 28, 2020
Spring Break	Monday, March 16 - Friday, March 20, 2020
Friday Classes Only (makes up Study Day)	Tuesday, April 21, 2020
Last day of Classes (Monday classes-makes up President's Day)	Wednesday, April 22, 2020
Reading Period	Thursday, April 23 - Sunday, April 26, 2020
Final Examination Period	Monday, April 27 - Saturday, May 9, 2020
Commencement	Saturday, May 16, 2020

Summer Sessions 2020

Description	Date(s)
Summer Registration Begins	Tuesday, March 10, 2020
Session 1	Tuesday, May 12 - Sunday, May 17, 2020
Session 2	Tuesday, May 26 - Sunday, June 21, 2020
Memorial Day (holiday)	Monday, May 25, 2020
Session 3	Monday, June 22 - Thursday, August 6, 2020
Fourth of July (holiday)	Saturday, July 4, 2020

Fall 2019

Description	Date(s)
Early Registration Fall 2019 - Incoming 1st year students	June 12 - September 6
Early Registration Fall 2019 - Incoming graduate students	June 12 - September 6
Payment deadline for Fall 2019	August 1
Advanced Pharmacy Practice Experiences	August 19 - December 20
Orientation	August 21 - 23
Classes Begin	August 26
# Registration	June 12 - September 6
Labor Day Holiday	September 2
# Last Day to Add Classes	September 6
# Last Day to Drop Classes without record of enrollment	September 6
Census Date	October 1
Pharmacy Spring 2020 Schedule of Classes Available Online	October 7
Last Day for Pro-rated refund	October 14
* Advising for Pharmacy Spring 2020	October 14 - 18
* Early Registration Pharmacy Spring 2020	October 21 - January 17
Last Day to Withdraw	October 31
Thanksgiving Break	November 27 - 29
Classes Resume	December 2
Classes End	December 6
Final Examination Period	December 9 - 13

Spring 2020

Description	Date(s)
Payment deadline for Pharmacy Spring 2020	December 1, 2019
Deadline for Application for Graduation Spring 2020/Summer 2020 (Graduate)	December 13, 2019
Classes Begin	January 6
# Registration	October 21 - January 17
Advanced Pharmacy Practice Experiences	January 6 - May 8
# Last Day to Add Classes	January 17

# Last Day to Drop Classes without record of enrollment	January 17
Martin Luther King Jr. Holiday	January 20
President's Day Holiday	February 17
Pharmacy Summer 2020 Schedule of Classes Available Online	February 17
* Advising for Pharmacy Summer 2020	February 24 - 28
Last Day for Pro-Rated Refund	February 25
Census Date	March 1
* Early Registration for Pharmacy Summer 2020	March 2 - May 8
Last day to Withdraw	March 12
Deadline for Application for Graduation Fall 2020/ Spring 2021/Summer 2021 (Professional)	April 3
Classes End	April 7
Final Examination Period	April 9 - 16

Summer 2020

Description	Date(s)
Payment deadline for Pharmacy Summer 2020	April 1
Deadline for Application for Graduation Fall 2020/ Spring 2021/Summer 2021 (Professional)	April 3
Classes Begin	April 27
# Registration	March 2 - May 8
# Last Day to Add Classes	May 8
# Last Day to Drop Classes without record of enrollment	May 8
Commencement	May 16
Pharmacy Fall 2020 Schedule of Classes Available Online	May 18
Memorial Day Holiday	May 25
* Advising for Pharmacy Fall 2020	May 26 - June 5
* Early Registration for Pharmacy Fall 2020	June 10 - September 4
Early registration Pharmacy Fall 2020 - Incoming 1st year students	June 10 - September 4
Early registration Pharmacy Fall 2020 - Incoming graduate students	June 10 - September 4
Last Day for Pro-Rated Refund	June 16
Last Day to Withdraw	June 29
Fourth of July Holiday Observed	July 3
Classes End	July 28
Final Examination Period	July 30 - August 5
Census Date	September 1

For More Information: go.pacific.edu/calendars (<http://go.pacific.edu/calendars>)

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