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## 2013/2014 University of the Pacific General Catalog

University of the Pacific

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# University of the Pacific

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As you review the university's general and graduate catalogs, we hope they will become useful guides that will help you throughout your academic journey at the University of the Pacific.

The catalog includes information about courses, campus resources and student services, program descriptions, degree requirements and information about college policies and procedures. Regulations that relate specifically to graduate degree programs, and graduate program information and course descriptions, appear separately for convenient reference. The focus of this catalog is on your success. It provides you with the information you will need to be a successful student.

*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.*

# General Catalog 2013-2014

## Academic Divisions of the University

College of the Pacific (Arts and Sciences)

Conservatory of Music

Eberhardt School of Business

Gladys L. Benerd School of Education

School of Engineering and Computer Science

School of International Studies

Thomas J. Long School of Pharmacy and Health Sciences

Arthur A. Dugoni School of Dentistry

Pacific McGeorge School of Law

Office of Research and Graduate Studies

Center for Professional and Continuing Education

## 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.

## Stockton Campus

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 of the University located on the Stockton campus. The University reserves the right to change fees, modify its services or change its programs at any time and without prior notice being given. General information pertaining to the Arthur A. School of Dentistry in San Francisco and Pacific McGeorge School of Law in Sacramento is included here. Specific provisions for these two schools are stated in their catalogs.

## Statement of Non-discrimination

The University does not discriminate on the basis of race, gender, sexual orientation, national origin, ancestry, color, religion, religious creed, age, marital status, cancer-related or genetic-related medical conditions, disability, citizenship status, military service status, and any other status protected by law.

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

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## A History of Innovation

University of the Pacific is an independent, coeducational university serving more than 6,500 students on three campuses in Stockton, San Francisco and Sacramento. It was established by pioneer Methodist ministers in 1851 as California's first chartered institution of higher learning. Pacific has earned widespread recognition for its student-centered approach to education, its many innovations, and the accomplishments of its 55,000 living alumni.

As an innovator and leader in higher education, Pacific provided the state with its first medical school in 1858 (which later became part of Stanford, and today is California Pacific Medical Center); its first coeducational campus in 1870; 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. With its move from San Jose to Stockton in 1924, Pacific became the first private four-year university in the Central Valley. Shortly after occupying the new campus, Pacific established one of California's earliest schools of education. In 1992 it was renamed the Gladys L. Benerd School of Education in honor of the alumna's endowed gift.

Pacific has enjoyed extraordinary stability in administration. Dr. 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.

The University experienced its greatest growth and an expansion into graduate and professional education under the administration of Dr. Robert Burns (1947–1971). The School of Pharmacy opened in 1955. It is now the Thomas J. Long School of Pharmacy and Health Sciences, in honor of the Pacific benefactor and Regent who co-founded the former Longs Drugs Stores. In 1956 the graduate school was created, and in 1957 the School of Engineering was established. The Department of Computer Science joined the school in 2002 and was subsequently renamed the School of Engineering and Computer Science.

In 1962, the University acquired the College of Physicians and Surgeons, a school of dentistry founded in San Francisco in 1896. In 2004, the school was named the Arthur A. Dugoni School of Dentistry in honor of its dean of 28 years. It was the first time any university in the United States or Canada had named its dental school for the current dean.

Three new cluster colleges were established at Pacific in the 1960s, in the model of British universities such as Oxford and Cambridge. These colleges integrated faculty and students into distinct living and learning communities. Raymond College, established in 1962, was an accelerated, interdisciplinary liberal arts program in which students shaped their own courses of study. Elbert Covell College, established in 1963, was a unique inter-American college. Half the students were from the U.S. and half from Latin America, with classes taught in Spanish. Callison College, established in 1967, focused on non-Western studies with a year of study in an Asian culture. The cluster colleges were absorbed into the rest of the University in 1982. Their values, including a close-knit learning community, accelerated and interdisciplinary programs, and self-designed majors, have left a lasting impact on Pacific. Their emphasis on global education continued in the School of International Studies, founded in 1987 as the first university-based undergraduate school of international studies in California. In 2012, the School of International Studies, while retaining its autonomy as a school, became part of the College of the Pacific.

In 1966, Pacific broadened its footprint to Sacramento when McGeorge College of Law, an independent law school founded in Sacramento in 1924, merged with the University as the Pacific McGeorge School of Law. In 1977, the department of business administration in College of the Pacific was reorganized as the School of Business and Public Administration. In 1995 it was renamed Eberhardt School of Business in honor of the Eberhardt family's endowed gifts. In 1985, programs designed specifically for adult re-entry students were reorganized and revitalized through University College, now the Center for Professional and Continuing Education.

Over the last twenty years, Pacific has advanced its legacy of innovation and leadership. In 1992 the University offered the nation's first "four-year guarantee," a promise to students that they will graduate on time if they meet certain requirements. Under the leadership of President Donald DeRosa (1995–2009), the University invested more than \$200 million in facilities renovation and construction projects on all three campuses. Pacific also increased distinctive accelerated programs that enabled students to complete undergraduate studies in combination with professional degrees in pharmacy, law, dentistry and business. The University intensified its commitment to experiential learning, including undergraduate research, internships, community service and education abroad. Pacific also launched an environmental sustainability initiative and instituted the Powell Scholars Program, a premier scholarship program for undergraduate student leaders.

In 1999, the late jazz legend Dave Brubeck '42 and his wife Lola Whitlock Brubeck '45, both Pacific graduates, announced that their papers, recordings and memorabilia would be deposited at Pacific for study and research. In response to this gift, a treasure of historic American music and memorabilia, the University established The Brubeck Institute for the study, promotion and performance of American music.

Dr. Pamela A. Eibeck assumed Pacific's Presidency in 2009. Under her stewardship Pacific is expanding its presence in Sacramento and San Francisco and implementing a bold new strategic vision, Pacific 2020. This vision capitalizes on the University's highly regarded academic programs, formative student-teacher relationships and multiple locations to position Pacific to become a leading California university preparing graduates for meaningful lives and successful careers.

President Eibeck has also made community engagement a top priority for the University. In 2010, Pacific launched the "Beyond Our Gates... Into the Community" initiative in order to forge community partnerships that improve lives in our region. As part of "Beyond Our Gates," the University has launched The Tomorrow Project, an intensive K-12 educational outreach program, and the Beyond Our Gates Community Council, an advisory body comprising local leaders representing business, education, nonprofit and other fields.

In November 2011, the University finalized the purchase of a new campus in San Francisco at 155 Fifth Street. The new campus provides the space and facilities the Arthur A. Dugoni School of Dentistry needs to remain one of the nation's top dental schools. It also affords Pacific an opportunity to expand its programming and visibility in San Francisco. The building is anticipated to open in June 2014.

Pacific continues to enjoy national recognition for its leadership in higher education. The University has been listed as a "Best Value" (Top 50) by U.S. News & World Report every year since 2000. U.S. News also ranks Pacific very high for ethnic (Top 10) and economic (Top 5) diversity. In 2012, PayScale, which tracks salary information, ranked the University in the top 75 institutions in the United States for highest paid graduates. Undergraduate applications have soared from approximately 5,300 in 2008 to nearly 23,000 for fall 2012.

The University remains committed to its personal, student-centered approach. Faculty and staff are dedicated to excellence in teaching. Highly interactive student-faculty relations and a broad array of co-curricular activities that develop students' abilities are hallmarks of the Pacific experience.

# General Information

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## 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 main 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 two-thirds of Pacific's students are from California, the Stockton campus student body of approximately 5,290 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 70% of the students live on or near the 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.

## Pacific Learning Objectives

Pacific's approach to teaching gives attention to the whole-person and emphasizes experiential and active forms of learning. The following are Pacific's university-wide learning objectives adopted in 2009 and subject to review and revision through institutional assessment:

- Major Field Competence
- Critical and Creative Thinking

- Communication
- Collaboration and Leadership
- Intercultural and Global Perspectives
- Ethical Reasoning
- Sustainability

The primary purpose of the objectives is to support teaching and learning at all three campuses of the University. These objectives and accompanying outcomes give specific meaning to the educational goals stated in the University's *Mission* and strategic plans.

Pacific's commitment to a common set of learning objectives will:

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

It is the responsibility of each School and Division to assess how these objectives are being addressed in their programs. Schools and Divisions are likely to have additional learning goals beyond the university-wide objectives stated here. At the undergraduate level, it is important to recognize that programs and experiences outside of the School or specific program (such as the General Education program and Student Life programming) will address many of the objectives. Each objective is supported by a set of outcome statements as indicated below. The outcomes are provided to illustrate the meanings of the objectives at Pacific and can be adjusted to meet the goals established within each School and Division.

## Objectives and Outcomes

### Major Field Competence

1. Articulate the essential concepts and methodologies in a major field of study or work.
2. Demonstrate competence in a major field of study as defined by that program's outcomes or competencies.

### Critical & Creative Thinking

1. Apply reasoning and evidence to judge and support claims.
2. Effectively analyze, integrate, and evaluate information.
3. Construct well-reasoned arguments and solutions.
4. Create novel approaches in a variety of contexts.

### Communication

1. Prepare and deliver effective forms of communication.
2. Adapt communication style to the occasion, task, and audience.
3. Select and use appropriate communication technologies.

### Collaboration & Leadership

1. Work cooperatively with others toward a common goal.
2. Demonstrate effective social interaction skills appropriate to the occasion, task, and audience.
3. Influence others ethically toward achievement of a common goal to effect positive change.
4. Demonstrate accountability for one's decisions and actions.

### Intercultural and Global Perspectives

1. Articulate the broad set of influences that has shaped one's personal identity.



2. Effectively and appropriately interact in a variety of cultural contexts.
3. Explain the interdependence of nations and peoples.
4. Engage in the civic life of the local, national, and global community.

## Ethical Reasoning

1. Articulate one's own ethical beliefs and their origins.
2. Identify ethical issues in personal, professional, and civic life.
3. Evaluate assumptions and implications of different ethical perspectives.
4. Defend ethical positions with reason and consider alternative courses of action.

## Sustainability

1. Identify the interconnectedness between humans and their natural environment.
2. Evaluate the social, economic, and environmental consequences of individual and group actions.
3. Engage in responsible environmental action.

## 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

Students in the Conservatory of Music may choose among majors in composition, performance, music education, music history, jazz studies, music therapy and music management. In addition to these programs currently pursued by 200 students, the Conservatory provides the opportunity for students throughout the University to develop or refine musical skills through courses in applied music, as well as general courses in music, such as music appreciation and music of the world's peoples. The Conservatory also offers minors in music and music management, and graduate degrees and certificates in music therapy and music education.

### 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 Eberhardt MBA programs in 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. 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, computer, electrical, and 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 with concentrations in civil engineering, computer/electrical engineering/computer science and mechanical engineering.

## School of International Studies

The School of International Studies is a professional school devoted to the interdisciplinary study of international affairs that offers students four undergraduate majors, a master's of intercultural relations and an accelerated BA/MBA in international commerce. Study abroad and competency in at least one second language are central to the undergraduate 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 Programs

The University's post-baccalaureate division, the Office of Graduate Studies, offers study in teacher credential programs, master's degrees in 14 disciplines, and doctorates in education, pharmaceutical and chemical sciences, and physical therapy. Students who hold a baccalaureate degree from an accredited college or university with a qualifying grade point average and appropriate graduate-level entrance examination results, may pursue graduate programs.

Programs include California teaching credentials, the degrees of Education Specialist, Master of Arts or Science, Master of Accounting, Master of Business Administration, Master of Music, Master of Education, Master of Science in Engineering Science, Doctor of Education, or the Doctor of Philosophy. Dual professional-graduate degree programs exist for the MBA/JD and PharmD/MS. PharmD/PhD Chemistry graduate programs are included in the Pharmaceutical Sciences Graduate Program.

## McGeorge School of Law and A. Dugoni School of Dentistry

In addition to these schools and colleges on the Stockton campus, the University includes the McGeorge School of Law, located in Sacramento, and the Arthur A. Dugoni School of Dentistry in San Francisco. Nearly 1,000 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 students.

## General Education

All accredited universities require that 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 freshmen must complete the three Pacific Seminars. Freshmen are required to take Pacific Seminars 1 and 2 in their first year, and Pacific Seminar 3 in their senior 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 Pacific Seminars 1 and 2 but must complete Pacific Seminar 3. Freshman students admitted to the honors program are required to complete Pacific Seminars 1 and 2 regardless of the number of college units completed.

Students are not allowed to drop Pacific Seminar 1 or 2 for any reason, even if they plan to transfer to another college or university. Freshmen entering in the spring semester begin the Pacific Seminar 1-2 sequence the following fall. Students who would benefit from special attention to reading and writing skills are deferred from the Pacific Seminar sequence until their sophomore year.

Pacific Seminar 3 must be taken in the senior year, which means students must have completed 92 or more units to take the course.

Transfer and Post Baccalaureate students must complete Pacific Seminar 3.

## 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. In subcategory IIC, students may take courses in applied music or dance. 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 reading, written expression and quantitative skills. These students are

required to take courses designed to improve their understanding and performance in these areas. The reading, 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 Bachelor's/JD or a Four-Year JD/MBA. Details on these programs are found in each school's section later in this publication. Graduate program details are found in the Graduate Catalog

## 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, who 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: March 15
- All Pre-Dental Applicants/Notification: March 15
- All Dental Hygiene Freshman Applicants/Notification: March 15
- All Powell Scholarship Applicants/Notification : March 15
- All Early Action Admission Program Applicants (see below)/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 Dental Hygiene, Pharm.D, Pacific Legal Scholars, and Organizational Behavior). The University does reserve 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) The Office of Admission arranges a schedule for a prospective student's visit which may include an appointment with a faculty member, an admission counselor appointment, a tour, and/or a group information session. The opportunity for high school seniors to spend the night in a residence hall is also available on a limited basis.

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

Fax: (209) 946-2413

Website: [www.pacific.edu/admission](http://www.pacific.edu/admission)

E-mail: [admission@pacific.edu](mailto:admission@pacific.edu)

## 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 Application Includes:

1. Form and Fee: [www.pacific.edu/apply](http://www.pacific.edu/apply)  
Option I: On-line application. The application must be filled out and submitted by the applicant. The normal application fee is waived (it's free to apply)  
Option II: Paper application. The form must be completed, dated and signed by the applicant. The normal application fee is waived (it's free to apply)
  2. Essay: A 500 word essay is required. Please include your name and birth date on each page if submitting a paper application.
  3. 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.
  4. Transcripts: An official, sealed 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
  5. Test Score Policies for Applicants to the Fall 2011 or Spring 2012 semesters
- Freshman applicants must submit scores from the SAT and/or ACT. Transfer applicants are not required to submit these test scores.

- 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.
- Pacific requires that the SAT or ACT scores be sent electronically from the College Board (SAT) web site, [www.collegeboard.com](http://www.collegeboard.com) (<http://www.collegeboard.com>) or the ACT web site, [www.act.org](http://www.act.org) (<http://www.act.org>).
- 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. Students for whom later tests are the first and only test taken are exempt from this policy.

## 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/dentalthygiene](http://www.pacific.edu/dentalthygiene) 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 or November 15 for Fall). After an initial review, strong dental hygiene candidates are invited for interviews that are required for admission into the program.
- Art Applicants (Transfer Students Only): [www.pacific.edu/cop](http://www.pacific.edu/cop) All college transfer students who apply for degrees in the Art Department must contact that office to find out more information about the portfolio required for admission consideration. Students may call the Art Department at (209) 946-2241.

## 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 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, transfer applicants must:



- Be in good academic standing at the college in which they are currently enrolled
- Have a satisfactory record (recommended minimum 2.80 GPA in all coursework)
- Provide a supporting recommendation from the most recent college or university

## A Completed Application

Please refer to the information under this heading in the Freshman Admission section above. Letter of recommendation is optional.

## 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.

## 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.

International applicants whose native language is not English are required to provide scores from either the Test of English as a Foreign Language (TOEFL) or from the English Language Testing Service (IELTS) tests. The minimum TOEFL score accepted for undergraduate admission consideration is 500 (paper-based), 173 (computer-based) or 61 (iBT). The minimum IELTS score accepted for undergraduate admission consideration is 5.5. The minimum TOEFL score for professional PharmD admission consideration is 550 (paper-based), 213 (computer-based) or 80 (iBT). The minimum IELTS score for professional PharmD admission consideration is 6.5. SAT-I: Reasoning Test results are not routinely required of international students applying from outside the U.S. unless they are graduating from an American-style high school, or if they are interested in consideration for the Accelerated Pre-Dental Programs, Pre-

Pharmacy Advantage Programs, or the bachelors degree programs in biological sciences, chemistry, or dental hygiene.

Transfer applicants who attended universities outside of the United States **must** submit an evaluation of their academic records. Transcripts must be reviewed by World Education Services (WES). Request a Course-by-Course WES ICAP (International Credential Advantage Package) 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 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.

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 itself, or by means of the Test of English as a Foreign Language (TOEFL). 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.

The following minimum criteria for consideration are valid for students entering in the Fall semester 2007. University of the Pacific reserves the right to change criteria for freshmen entering in subsequent years.

### 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. Minimum Criteria for consideration: High school GPA of 3.75 (on a 4.0 scale) and either a combined SAT Reading and Math score of 1350 (with at least a 550 in both Reading and Math), or an ACT composite of 30.

### **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. Minimum Criteria for consideration: High school GPA of 3.65 (on a 4.0 scale) and either a combined SAT Reading and Math score of 1270 (with at least a 550 in both Reading and Math), or an ACT composite of 28.

### **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. Minimum criteria for consideration: High School GPA of 3.20 (on a 4.0 scale) and either a combined SAT Reading and Math score of 1200 (with at least a 550 in both Reading and Math), or an ACT composite of 22.

*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/preident](http://www.pacific.edu/preident)

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 in their pre-dental program acceptance letter. 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 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 2007. 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. Minimum Criteria: High school GPA of 3.75 (on 4.0 scale) and either an ACT composite score of 31 or a combined SAT Reading and Math score of 1350 (with a minimum Reading score of 630). Only students who come to Pacific as first-time freshmen are eligible for this program at the time of admission.

### **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. The minimum GPA and test score requirements for admission into the 3+3 Program are a high school GPA of 3.65 (on a 4.0 scale) and either an ACT composite score of 29 or a combined SAT Reading and Math score of 1270 (with a minimum Reading score of 600). Only students who come to Pacific as first-time freshmen are eligible for either of these options at the time of admission.

### **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. Minimum Criteria: High school GPA of 3.55 (on 4.0 scale) and either an ACT composite score of 27 or a combined SAT Reading and Math score of 1210 (with a minimum Reading score of 600). Only students who come to Pacific as first-time freshmen are eligible for this program at the time of admission.

*Please note: The Office of Admission does not admit students to this program. Any student interested in this option should begin working directly with a pre-dental faculty advisor as soon as they enroll or as soon as they know they are interested in pursuing this option.*

### **Pacific Legal Scholars**

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

<http://web.pacific.edu/x13999.xml>

This program permits highly qualified students to enroll at University of the Pacific's McGeorge Law School 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 Pacific McGeorge, students must complete all general education and major course requirements, complete three seminars 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 Pacific McGeorge and meet all admissions criteria including the median LSAT score and undergraduate GPA for the prior year's matriculating students (currently 158 and 3.42). 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.pharmcas.org](http://www.pharmcas.org) (<http://www.pharmcas.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 stationery 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. 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.

## Tuition and Fees

The University of the Pacific is an independent institution. On the Stockton campus, 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 2013-2014, enrolled in 12 to 18 units in each semester	\$39,290
Wellness Center	\$240
ASUOP Student Fee	\$200
Activity & Recreation Fee	\$80
Room and Board	\$12,308
Total per academic year	\$52,118

School of Pharmacy and Health Sciences Annual Tuition (Eleven-month program, three terms) \$63,255

<sup>1</sup> Arthur A. Dugoni School of Dentistry and McGeorge School of Law tuition and fee schedules are available by contacting those campuses.

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 \$4,887 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)	\$19,645
Part-time (.5 to 8.5 units) per unit	\$1,355
Part-time (9 to 11.5 units) per unit	\$1,708
Excess units above 18 units, per unit	\$1,355
Engineering Co-op (full-time) tuition rate	\$9,823

## Tuition – School of Pharmacy and Health Sciences (per semester)

Type	Cost
Full-time (12 to 19 units)	\$21,085
Part-time (.5 to 8.5 units) per unit	\$1,454
Part-time (9 to 11.5 units) per unit	\$1,833
Excess units above 19 units, per unit	\$1,454
Pharmacy Clerkship Rotation (full-time)	\$21,085
Pharmacy Technology Fee	\$330
Pharmacy Professional Fee (1)	\$325

<sup>1</sup> 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	\$19,645
All schools, .5 to 15.5 units per unit, plus applicable fees	\$1,228
Excess units above 18 units, per unit	\$1,228
Physical Therapy 12 to 18 units, plus applicable fees (Fall, Winter, Spring Terms)	\$19,645
Physical Therapy .5 to 11.5 units	\$1,228

## General Fees (per semester)

*Wellness Center Fee \$120*

This fee is required for all students who reside in University housing and for all others, both graduate and undergraduate, who take 9 units or more. It is optional for students taking .5 to 8.5 units.

*ASUOP Student Fee \$100*



This fee is required for all undergraduate students who reside in University housing and all undergraduates who take 9 units or more. It is optional for students with .5 to 8.5 units.

#### *ASUOP Graduate Student Fee \$30*

This fee is required for all graduate students and doctoral candidates taking 8.5 units or more. It is optional for students with .5 to 8.0 units.

#### *Activity & Recreation Fee \$40*

This fee is required for all students who take 9 units or more.

#### *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.

#### *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.

#### *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 lesson<sup>1</sup> 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.

<sup>1</sup> 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
Course Audit 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.

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 1<sup>st</sup> for the fall semester and January 1<sup>st</sup> for the spring semester for general students. Payment deadline information for other programs is available online on the Student Financial Services website located at [www.pacific.edu/finance](http://www.pacific.edu/finance). 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 deferred fee; 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. In addition, monthly payments are due by the first of the month. 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 may 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 may suspend check writing privileges and institute collection and/or legal actions against the payer. The student's account is then placed on a financial 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.

## 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 Housing and Greek Life. 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. The Financial Aid Office can provide additional information related to changes in financial aid awards.

## 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/About-Pacific/AdministrationOffices/Office-of-Financial-Aid.html).

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 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 February 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](mailto:cip@pacific.edu)

## Work-Study

University of the Pacific participates in the Federal Work-Study program, which provides employment opportunities for students who demonstrate financial need.

## 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/About-Pacific/AdministrationOffices/Office-of-Financial-Aid.html).

### 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 \$15,000 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 \$10,000 per academic year, and President's Scholarships, for \$6,500 per academic year.

Recipients are selected on the basis of grade point average, test scores, and other criteria.

Tri-County Transfer Scholarships, for \$15,000 per academic year, are awarded to the top two applicants from each community college in the tri-county area. A minimum college GPA of 3.60 is required.

Distinguished Transfer Scholarships valued at \$10,000 per year are awarded annually to five entering transfer students with college GPAs of 3.50 or above.

Students transferring to Pacific with college GPAs of 3.35 or above may be considered for Commended Transfer Scholarships of \$5,000.

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, 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 Shambau 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.

Alstynne 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.

## 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 Stafford 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 Stafford 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.

### Federal Perkins Loan

This federally sponsored program provides five percent loans for students who demonstrate high financial need.

### Health Professions Student Loan

The HPSL program, administered by the U.S. Department of Health and Human Services, provides loans at five percent interest for eligible students enrolled full-time in the University's professional pharmacy and dental programs.

### Henry and Elsie Bell Memorial Endowed Student Loan Fund

Established with gifts from the Virginia and Harris Fowler Trust.

### 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.

## Mr. & Mrs. Robert C. Powell Merit Loan Program

Established to assist students from middle income families who would not otherwise qualify for adequate aid to attend Pacific.

## 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

To assist students with expenses. Established with an estate gift.

## 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.

## Academic Regulations

(Stockton Campus)

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 Bachelors 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 (CAPP) 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 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 may apply for readmission to the University through the Admission Office. 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

Undergraduates can open a graduate transcript (i.e., receive credit in graduate-level courses while an undergraduate) if they meet all of the following conditions. The undergraduate student must:

- be within 9 units of completing the baccalaureate degree.
- be in the last two semesters of the baccalaureate degree at University of the Pacific.
- submit the completed *Evaluation of Degree Requirements* form to the Registrar's Office prior to the last day to add classes. This must be submitted before or with the Graduate Credit as Undergraduate petition. (This serves as permission by the undergraduate advisor for the student to take graduate-level coursework.)

- be admitted into the Graduate School in a graduate or credential program and receive approval of the *Application to Receive Graduate Credit as an Undergraduate Student* by the Dean of the Graduate School before the last day to add classes of the last semester as an undergraduate.

Additional regulations for receiving graduate credit as an undergraduate are as follows:

- Coursework will not count for graduate credit if the student fails to complete the baccalaureate degree by the second semester of taking graduate credit
- The total number of graduate credits for the semester cannot exceed the maximum *graduate* course load of the department providing graduate coursework. This includes coursework taken at other schools.
- Graduate credit will only be granted for upper division (100 numbered) courses.
- The tuition rate for the entire semester is at the undergraduate rate.
- Units cannot be retroactively transferred from an undergraduate to a graduate program. (The approval must be obtained prior to the beginning of the last day to add classes of the last semester.)
- 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 counted in the undergraduate grade point average (*unless the baccalaureate degree is not completed*).
- No more than 12 units (16 units for student teachers), no matter when they are earned, can be transferred from an undergraduate transcript into a graduate degree program.
- Students who do not complete the baccalaureate degree by the second semester when graduate courses are taken will not be admitted into the Graduate School and cannot take additional graduate course work until the baccalaureate degree has been awarded.
- There is no guarantee that graduate units earned as an undergraduate 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 courses and complete a term that begins after receiving the baccalaureate degree.
- Undergraduate students cannot register in graduate-only courses (numbered 200 and above) unless this petition is approved by the Graduate School **prior** to registration or other arrangements have been approved in writing by the Graduate Dean.

## 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) may not be used to fulfill or waive any degree requirements.

## 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 you are not permitted to drop your last class via the Pacific portal *insidePacific* if it is after the last

day to add classes. You must visit the Office of the Registrar, located on the 1st floor of Knoles Hall, if you intend to withdraw completely. Official withdrawal must be processed by the Office of the Registrar. The 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 are based on the date of your notification to the Office of the Registrar.

## Catalog Expiration and Requirements Policy

The University of the Pacific 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.

The university requires that any candidate for a bachelor's degree who has not completed work within seven years of continuous attendance to reapply and be subject to any new requirements in effect at that time.

## 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 the objective to another degree/major or to another college or school of the University must obtain and 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, however, determined by individual instructors who provide students with a written statement of such policies at the beginning of the semester.

At the request of a student to the Office of Student Life, his/her instructors are notified of absences due to illness, University related activities, or other conditions beyond the control of the student.

## 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.

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 graduate degrees are held each year in May. Students who have earned their degrees in the previous Fall term or in Summer Session are welcome to participate.

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 (Undergraduates 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 or college for approval 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 the first two Summer Sessions and 4 units during the third Summer Session.

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 noted carefully; 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

Students on the Stockton campus 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.

*Dual Major:*

Students may obtain a baccalaureate degree with two majors by completing the requirements for both majors under the same catalog requirements. A dual major may consist of two departmental majors, two interdepartmental majors or two majors in different schools. Students must consult each school for specific requirements. Multiple majors are recorded on the student's permanent record, but only one degree is awarded. The degree is issued by the student's 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 or college of the University awarding the degree, 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 5 times a year Fall, Spring and Summer I, II and III with the exception of the Doctor of Physical Therapy program which has an additional date of September 30<sup>th</sup>. 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 grade point average.

Beginning Fall 2006, transfer courses which a student takes at other colleges or universities are NOT counted in the overall cumulative 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.)

Symbc	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		Audit

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 may wish to indicate a grade in lieu of the F or NC which automatically would be imposed with failure to complete the work. All incompletes must be made up before graduation if the student intends to complete the course.
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.
W	Authorized withdrawal from courses after the prescribed period.

*Degree Check:* After a student files his/her Undergraduate Application for Graduation his/her college or school checks for the fulfillment of major, department, and college requirements as well as General Education breadth requirements. The Office of the Registrar checks records to ensure that the student has completed University requirements and he/she is in good academic standing (2.00 or better).

## Honors at Graduation

Effective Spring '05, university wide honors at graduation for undergraduates is 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 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 bachelor's 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 obtain and submit an approved Change of Program form with the Office of the Registrar. Course requirements for each of the majors offered are in the department's section of the University 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 20 units and a minor GPA of 2.00 is required. Course requirements for each of the minors offered are in the department's section of the University Catalog. Students who wish to have a minor posted to their academic record must obtain and 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. Add/Drop forms are available in the Office of the Registrar and must be submitted prior to the deadline for adding classes.

## 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.

## 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 the 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.

The university requires that any candidate for a bachelor's degree who has not completed work within seven years of continuous attendance to reapply and be subject to any new requirements in effect at that time.

## Filing for Graduation

*Application for Graduation:* An Undergraduate Application for Graduation must be filed with the Office of the Registrar as an indication of intent to graduate at a specific time. It should be filed upon completion of 92 units (senior standing) with the Office of the Registrar in the Spring semester (see Term calendars on Office of the Registrar web site) by any student who expects 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. Certification for actual graduation is designated by the advisor and the faculty of the college or school.



## 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, available at the Office of Admission, 1st floor Knoles Hall. The deadline filing dates are July 1st for Fall and December 1st for Spring.

**After Withdrawal:** If students withdrew from the University and wish to return in a future semester, they must submit an Application for Return to Active Status, available at the Office of Admission, 1st floor Knoles Hall. The deadline filing dates are July 1st for Fall and December 1st for Spring.

## 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 register on the dates published. No registration activity is permitted after the last day to add or drop, as published in the University Academic Calendar. Students are held accountable to complete every course for which they register. If it is necessary to add or drop a course, the student must complete the appropriate registration transaction by the last day such activity is allowed as published in the University Academic Calendar.

After the deadline dates have passed (but prior to the end of the term) requests to add or withdraw courses must be made by special petition to the student's respective school/college.

Requests to add or withdraw courses after the term must be made to the Academic Regulations Committee (ARC). In either case, petitions are normally approved only if it can be shown that the request is warranted due to some special situation or hardship. Courses which a student is allowed to drop after the deadline appear on the student's transcript with the notation "W" but do not count in the units earned or in the calculation of the grade point average.

Any petitions approved after the deadline dates is subject to a clerical service fee. Tuition and fee refunds are based on the date a withdraw form is initiated in the Office of the Registrar.

## Registration - Individualized Study:

Individualized study courses are designed for special educational needs which are not met by the available curriculum. To register for an Individualized Study (Independent Study course, Internships, Practicum, or non-engineering Co-op) complete an approved Individualized Study Request 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 or college dean's office of which the course is housed.*

## Repetition of a Course

In order to repeat a course 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. Grades are averaged when courses are repeated. The Pacific grade point average then reflects the two grades averaged.

In any course or program where enrollment demand exceeds the resources to offer sufficient openings or sections to meet that demand,

the academic unit may give registration priority to students who take the course for the first time.

If a student repeats a course at Pacific, when transfer credit or test units has been allowed; the credit and grade for the course completed at Pacific is NOT reflected in the Pacific grade point average. The credit previously accepted in transfer or awarded for placement exams remains unchanged.

A student who receives permission to repeat a course at another institution has no adjustment made to the Pacific grade point average. The new course may count for content and/or for credit as determined by established transfer policies.

## Grade Replacement Policy

(Applies only to courses taken at Pacific for the first time prior to Fall 2008)

The policy applies only to courses originally taken at Pacific for the first time prior to Fall 2008. Courses taken Fall 2008 or after are not eligible for grade replacement. The last grade received is the grade that is calculated into the GPA although the transcript includes all courses and earned grades. The student receives credit for the units of the course only once. Eligible students may exercise their grade replacement rights up to a maximum of three times while at Pacific. Repeats of fundamental skills courses are not included in this maximum. Students and faculty must complete a "Grade Replacement" form to assure the course is calculated correctly by the deadline (see Academic Calendar).

## 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 of the student's 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 of credit earned at other institutions which have been presented for admission or evaluation of credit 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 a transcript of the approved work forwarded to the Office of Admission once completed.

## Undergraduate Unclassified Students

Undergraduate Unclassified students may complete up to 27.9 units (to include completed courses and courses in progress) prior to being required to formally apply for admission to the university. Upon acceptance 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 placed on leave of absence and 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 Return in 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 students has completely withdrawn from the University, he/she must file a Return to Active Status application with the Office of Admission. The deadline is July 1st for Fall admission or December 1st for Spring 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.

## Division of Student Life

The vision of Student Life at Pacific is to be nationally recognized as an exemplary Student Life program committed to the development of a campus culture that values Diversity, Integrity, Collaboration, Leadership, Respect, and the connection of individuals to the Community. The mission of Student Life is to provide exceptional service and support to Pacific

students. Through innovative thinking and dynamic programs, each Student Life staff member focuses on all aspects of a student's personal growth and educational experience. These values transcend individual roles and departmental functions and unify the division. The mission is fulfilled through:

- Sharing individual skills, passions, differences and lives through the services and programs that we provide to each student;
- Creating a living, learning, and working environment that encourages students to reach their potential;
- Encouraging the expression, understanding of, and respect for differences within and beyond our university community;
- Intentionally facilitating the inclusion of all community members through active community building;
- Working towards social justice related to policy and historic and emerging forms of exclusion;
- Modeling ethical decision making and leadership;
- Collaborating with faculty, students, staff, and community partners to provide learning experiences that extend beyond the classroom;
- Celebrating our community accomplishments and;
- Being flexible, passionate, and fun.

## 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

Students tend to have a more meaningful college experience and make better decisions when they discuss their academic and campus life choices with their families. Family Orientation is structured with this thought in mind. Family members who attend 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.

## Welcome Week

Welcome Week serves as a kick off to the academic year at Pacific. For new students, the week provides the opportunity to participate in Pacific's nationally recognized MOVE (Mountains Ocean Valley Experience). This event provides students with the choice of one of many shared experiences including: a trip to Yosemite, a trip to the Headlands Institute just outside of Golden Gate Park, river rafting and clean up on the Sacramento River, or travel within the local area as a part of "Reach Out Pacific". A complete list of trip options is available at [www.pacificmove.org](http://www.pacificmove.org) (<http://www.pacificmove.org>). Each experience includes social activities; a service project; opportunities to meet students, faculty staff and alumni;

and an orientation to Pacific values and areas of distinction. The week concludes with New Student Convocation and an all campus BBQ. For returning students, the weekend 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 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.

## **Environmental Stewardship: Making the Most of Muir through MOVE (Mountains Oceans Valley Experience)**

All first year and transfer students are invited to experience the impact of Pacific's relationship with John Muir through a class trip to Yosemite, the Headlands Institute, Mount Diablo, the regional network of rivers or one of at least nine other regional sites. While at Yosemite or Headlands, students work alongside park and university faculty on the completion of an environmental service project. This trip provides an opportunity for students to further develop social connections within the Pacific community and region. This experience also serves as an introduction to leadership development at Pacific and provides students with at least one initial deposit for the leadership component of their learning e-portfolios.

## **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](mailto:parentassociation@pacific.edu). Information on Homecoming, a weekend for parents, families, alumni and students, as well as other programs specifically for family members can also be accessed via the internet – just click “Parent” on the University's website [www.pacific.edu](http://www.pacific.edu). University calendar information, campus news, and special event information can also be accessed through the “Parent” page. If you'd like to receive the parent newsletter and other correspondence from the University please send your email address to [parentassociation@pacific.edu](mailto:parentassociation@pacific.edu).

## **Student Outreach and Academic Support Services**

### **Student Advising Program**

In recognition of the fact that many students naturally feel more comfortable talking with a peer who has gone through similar situations, student advisors provide assistance in such areas as time management, taking lecture notes and homework difficulties. In addition, student advisors work with faculty advisors in helping students with program planning and personal adjustment during the critical first year on campus. Peer advisors also assist in referring students to the full range of campus services. Student Support Services also coordinates the Program of Access to Support Services (PASS), an individualized plan of access to University resources designed to facilitate college success. Based on an assessment of the student's academic needs, each PASS student helps design his or her own action plan for the semester. PASS is required for some students, but is available to any enrolled student who can benefit from a system of contact and academic resources. For more information visit Student Support Services in Hand Hall or call at (209) 946-2177.

### **Referral Center**

The Referral Center at Pacific is a “one-stop” referral center for support services to aid students in their academic success. Any enrolled student may use the Referral Center to access tutoring, study skills sessions, peer counseling, financial aid counseling, academic counseling, or personal

counseling. Faculty, staff and students may refer a student who needs academic support. Once a student is referred, peer Student Advisors contact the student to help him or her receive the needed services. For more information, call the Referral Center at (209) 946-2080.

## **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, American Cancer Society, Stockton Shelter for the Homeless, Animal Protection League, St. Mary's Interfaith and Community Services, the Women's Center and many more. 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://www.pacific.edu/Community/Center-for-Community-Involvement/Reach-Out-Community-Service.html>).

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 designed to serve the educational needs of local students who demonstrate a historically low family income and a disadvantaged background. 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](mailto:cip@pacific.edu)

## **Multicultural Affairs**

Multicultural Affairs works with the University of the Pacific campus and the community to promote cultural diversity and awareness by promoting interaction and engagement among students, faculty staff, and community members. The office promotes programs, services, and activities to encourage increased awareness, collaboration, education and relationships among and within diverse groups. Multicultural Affairs oversees the PRIDE Resource Center, the Women's Resource Center and the Multicultural Center. The Multicultural Center located in the McCaffrey Center provides space for all students across campus. The Multicultural Center is home to the United Cultural Council (UCC) which is a governing body for all cultural student organizations on campus. The Multicultural Affairs office provides leadership opportunities for all students through the Multicultural Leadership Retreat, Diversity Retreat, Celebrate Diversity



Calendar, International Spring Festival, and a multitude of other programs and activities.

The PRIDE Center supports a campus environment that is free from prejudice, harassment, and violence towards LGBTQIA individuals and organizations. Opening its doors to students, faculty and community members in Spring 2003, the Pacific PRIDE Center provides an abundance of resources for the lesbian, gay, bisexual, transgender, and intersex (LGBTI) community as well as allies and those who are questioning their sexual and/or gender identity. The PRIDE Center welcomes a diversity of ethnic, religious, political and cultural values while promoting understanding and acceptance for those marginalized as a result of sexual/gender orientation. The PRIDE Center is located in the Multicultural Center.

## Housing

Living on campus is central to student life at Pacific. The University considers the residential living experience to be an important part of its educational opportunities, and recognizes that living on campus contributes significantly to a student's development and to the learning process. The University requires all students to live on campus for their first four semesters (not including summer term). The only exceptions are for students who reside with their parent(s) or legal guardian(s) at their permanent address within the 50 miles of the University, or who are over the age of 21 (twenty-one). Additional information of this policy is available in the Tiger Lore and from the Housing and Greek Life Office.

Housing and Greek Life provide living accommodations in residence halls, fraternities, sororities and apartment facilities for approximately 2,100 students. All University-operated Greek houses, residence halls and apartments are staffed by professional and graduate student staff.

Each of the University's residence halls and apartments is coeducational, where men and women reside within the same facility, but not in the same room or apartment. All students living in the residence halls, apartment communities, and some fraternities and sororities are required to purchase a meal plan.

Some residence halls are reserved for new freshmen interested in specific Residential Learning Communities (RLC), such as the Honors Program (by invitation only) and other Residential Learning Community programs. University apartments are reserved for students who have either a junior or senior standing. The Towerview Apartments are for married students or students with a domestic partner, and/or a child under the age of three (3). Residence within the fraternity and sorority system is limited to students who were members of the organization the previous semester.

The Housing and Greek Life office is responsible for making all assignments to the residence halls and apartment communities. Students already enrolled apply directly to the Housing and Greek Life Office. Upon acceptance to the University, an applicant will be sent a packet of information with the a brochure describing Pacific's living options, instruction on how to apply online for housing, the student housing contract for housing and dining services, and rates. The student housing and dining contracts are for the complete academic year including both the fall and spring semesters for general university students and the fall, winter and spring terms for Pharmacy students. The residence halls and dining halls are not open during the winter break recess period. Detailed descriptions of these facilities, including cost are available from Housing and Greek Life Office at 209.946.2331 or iamhome@pacific.edu. Housing is guaranteed for freshmen and sophomores 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 and quality using only the freshest ingredients. The program requires students who reside in the residence halls and apartments to participate. Multiple student dining options are found at the University Center with "Grab and Go" alternatives available in the Grove.

Pacific utilizes a declining balance meal plan. This plan works like a debit card and is useable at the eating venues in the University Center and at other campus dining locations. Each time a student makes a purchase at one of the many dining options throughout campus, the amount is deducted from the balance. A receipt will be provided with 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 will also be able to use their Dining Dollars at the Davy's 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 **Taqueria** station that focuses on meals from many countries in South America, a **Classics** station that features home-style items and comfort foods, a **Pacific Rim** station that offers specialties from throughout the Asian region, an **Exhibition** station that focuses on grill menu options, and other menu options that include such things as a salad bar, deli station, home-style soups, freshly baked desserts, and beverages. At least one vegetarian entrée is featured at each meal.

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

## Pacific Health Services and Counseling and Psychological Services (CAPS)

Pacific Health Services and Counseling and Psychological Services (CAPS) are housed in the Cowell Student Wellness Center. The facility is located north of the footbridge, at 1041 Brookside Road, in Stockton. Services are available to students who have paid the student health fee and are enrolled at any of Pacific's campuses. Students are required to submit documentation of health history, health insurance coverage, and meet the immunization and TB clearance requirements. Pacific Health Services and CAPS are provided on an appointment basis, Monday through Friday. Walk in appointments are seen on a case-by-case basis determined by the urgency of the presenting condition. During the summer, Pacific Health Services and CAPS has reduced summer hours. The services are not available on weekends, holidays, retreats and winter break. When services are unavailable, students may access a Nurse Advice Line or Psychological Advice Line to receive instructions or recommendations for treatment options. Students who use the advice line must be currently enrolled and provide their student identification numbers. Professional staff also provide follow-up as needed on the next operational day.

## Pacific Health Services

Health care providers consist of full time and part time Nurse Practitioners, a Physician consultant, Registered Dietitian and Medical Assistants. Health care delivery and medical record management are protected by privacy and confidentiality regulations.

Health services provided include the management of common health problems such as acute minor illnesses and injuries, and preventative care. Routine gynecological care (Pap smears), contraceptive maintenance, STI testing, immunizations, routine physicals, and health education are well-utilized preventative care services. Prescription medications are made available as indicated. Several categories of medication are provided directly through the Center, 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. Typically, students are referred to local specialists for this care and



as the need arise. Hospitalization and emergency treatment for life-threatening conditions are not managed at Pacific Health Services. In those circumstances care is referred to one of three local hospitals. Staff may arrange for ambulance transport as indicated.

The Health fee pays for unlimited health service visits and up to ten individual therapy appointments through Counseling and Psychological Services (CAPS). Students are accommodated on a case-by-case basis for situations or conditions requiring additional therapy sessions. Further costs are incurred with the purchase of medication, diagnostic testing, or referrals to off campus health care providers. Students can elect to pay these additional costs associated with their care at time of service and or submit a bill to their health insurance plans.

## Health Insurance

The University has a mandatory health insurance policy with a hard waiver. This requires all students to submit a copy of their health insurance card to the Pacific Health Services Insurance Office and complete a waiver on-line [through the link found on the Pacific Health Services web page](http://www.pacific.edu/insurancewaiver): <http://www.pacific.edu/insurancewaiver>. Once at the waiver website students click on "Find Your School" and enter University of the Pacific in the designated space on the form. Once the University of the Pacific Insurance Homepage is located, the insurance waiver is found among the links on the left hand side of the page. Students have the option to enroll in the University of the Pacific Student health insurance Plan offered through Anthem Blue Cross, select an outside plan, or be covered under their family's policy. Students who do not complete the waiver by the posted deadline date are automatically enrolled in the Anthem Blue Cross plan to ensure that their health needs are covered.

## Counseling and Psychological Services (CAPS)

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. Located in the Cowell Wellness Center, Counseling and Psychological Services 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 is also available.

CAPS consults with 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 licensed psychologists, marriage and family therapists, and consulting psychiatrists. In addition, experienced psychology doctoral interns work under licensed supervision to provide services. Counseling sessions are confidential and free of charge to students who have paid the Health Fee.

After-hours crisis consultation is available by calling 209-946-2315, extension 2, option 4. For on-campus psychological emergencies contact the Department of Public Safety at (209) 946-3911.

## The Student Victim Advocate Program

The Student Victim Advocate Program is housed within Public Safety. The Student Victim Advocate provides free and confidential information, advocacy and support to students who may be victims or survivors of crime, violence or abuse. This includes but is not limited to battery, theft, assault, stalking, sexual battery, rape (acquaintance/date/stranger), attempted sexual assault, and sexual harassment. The Student Victim Advocate can be reached on a 24 hour basis. 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.

## Career Services

The Career Resource Center (CRC), located in the McCaffrey Center, provides a wide range of career services for students and alumni that facilitate goal setting, academic and non-academic internship search, graduate and professional school assistance and post graduate employment efforts, to name a few. The CRC provides services and events that assist students and alumni in developing the skills required to obtain part-time, full-time, work study, summer jobs or graduate school admission. Students, even as freshman, are encouraged to participate in CRC programs, services and events. Staff is available to support students and alumni who are in all parts of the process of identifying activities and steps necessary to achieve employment and academic goals. Emphasis is placed on individuals participating in active career exploration and skill building through internship opportunities and other experiential learning opportunities.

The CRC also sponsors and coordinates on-campus recruitment events as well as career fairs, etiquette dinners and graduate and professional school information sessions. These events bring over 100 diverse companies and organizations to campus to interact with job seekers and career explorers. Additionally, the CRC provides access to a variety of hard copy and electronic resources related to career exploration and job search. Employment and internship opportunities are easily accessed through postings on TigerJobs, that allow students to search twenty four hours a day, seven days a week from the convenience of any computer with internet access.

The Career Resource Center is a comprehensive career center offering services to students and alumni seeking to establish and accomplish employment and graduate education goals. Through personalized career counseling, interest assessments and job search assistance, as well as many other offerings, the CRC is here to meet the career related needs of students and alumni.

## 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
- Customized media network
- 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 art exhibition gallery that features noted regional and national artists. The exhibition program is closely correlated with the Art Department's academic goals and features guest artists' lectures and demonstrations. The Gallery is located in the Jeannette Powell Art Center.

## Pacific PROMISE Scholars

The Pacific PROMISE Scholars program was launched during 2012-13 for University of the Pacific students who were formerly in foster care. We help students see higher education as a path toward achieving their dreams by clearing the way for a successful college experience. Students can receive assistance with transitioning to college; campus and community resources referrals; assistance with housing arrangements during temporary breaks in the academic year and information about additional funding opportunities.

For more information, contact: Pacific PROMISE Scholars  
Location: Center for Student Success, McCaffrey Center, First Floor  
Phone: (209) 946-2439  
Email: [abautist@pacific.edu](mailto:abautist@pacific.edu)

## SUCCESS

A Student Support Services (SSS) grant from the U.S. Department of Education provides funding for 200 eligible students to participate in a program designed to assist in retention and graduation and in the overall academic success of its students. Specifically, SUCCESS is a federal TRIO program designed to assist students in overcoming academic, social, cultural and other barriers to academic success. The following services are available to SUCCESS students:

- One-on-one tutoring
- Personal, financial and career counseling
- Assistance with financial aid matters
- Workplace and graduate/professional school visits
- Assistance in applying to graduate/professional schools.

Studies by the U.S. Department of Education document that students who receive all of the services of SUCCESS are more than twice as likely to remain in college than students from similar backgrounds who do not receive services. For more information contact the SUCCESS Office at:

Center for Student Success  
McCaffrey Center, First Floor  
Telephone: (209) 946-2439  
FAX: (209) 946-2984  
e-mail: [success@pacific.edu](mailto:success@pacific.edu)

## Religious and Spiritual Life

The University offers students a variety of opportunities to explore issues of faith, to deepen knowledge and understanding of their faith and to express commitment through community worship and service. Whether the student is a person of faith or is a person of no particular faith; whether they consider themselves religious, spiritual or simply open to learning about what and how others believe, the University Chaplain's Office is committed to support and encourage the students on their journey. Pacific has many active faith based groups and organizations including: Hillel (Jewish Students), Chi Alpha, Newman House, IntersVarsity Christian Fellowship, Muslim Students Association, Buddhist Students, Pacific Pagan Council, Canterbury Club, Hindu Students, Sikh Students, Fellowship of Christian Athletes, Coptic Christians, and more.

In greater Stockton itself, over 160 different churches, synagogues and other religious organizations can be found. Many offer classes and activities especially oriented to the student.

## Campus Safety

The University is serviced by the Department of Public Safety. The campus police are dedicated to the goal of maintaining the excellent 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: date rape prevention, self protection, crime prevention, emergency phones, 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:

<http://www.pacific.edu/Campus-Life/Safety-and-Conduct/Public-Safety-and-Services/Crime-Statistics.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 completely operated and funded by the University of the Pacific students. The organization houses five different entities which are the ASUOP Government, Arts and Entertainment, Retail, Communications, and Digital Productions. 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 automatically assessed to every undergraduate or professional student registered with more than 8.5 units including them as an ASUOP member. This fee income, combined with various revenue sources, amounts to a total budget to fund the programs, services, activities, and goals of the Associated Students. ASUOP has designated a large part of the budget to fund the unique social and professional needs of Pacific students. The student leadership within each constituent school provides additional attention and personal service for those students.

The success of ASUOP depends upon active student involvement. The University and the Associated Students encourage student involvement in campus governance and believe that a sound administration calls for shared responsibility among all members of the campus community. 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.

A complete list of Student Governance and Political groups can be found on our website at <http://asuop.pacific.edu>.

## Intercollegiate Athletics

The University is an NCAA Division I-AAA institution and a member of the West Coast Conference. A broad range of intercollegiate athletic opportunities are offered in both team and individual sports. Men's sports include baseball, basketball, golf, swimming, tennis, volleyball and water polo. Women's sports include basketball, cross country, field hockey, sand volleyball, soccer, softball, swimming, tennis, track, volleyball and water polo. Notable among the facilities are the Pacific Aquatics Center with an Olympic-size swimming pool, Bill Simoni Field (softball), Hal Nelson Tennis Courts, the 6,000-seat Alex G. Spanos Center, and the Klein Family Field (baseball).

## Campus Recreation - Pacific Recreation

Pacific Recreation is committed to providing high quality and innovative programs and services designed to foster the development of whole person wellness. We are dedicated to student development and meeting the needs of the diverse Pacific Community.

Located in the Baun Fitness Center, Pacific Recreation (Pac Rec) offers facilities, programs, and services to improve the quality of life for students, faculty, staff, and alumni. All members of the Pacific Community are encouraged to take the time to explore the recreational opportunities and participate in the programs.

Pacific Recreation's facilities consist of the Baun Fitness Center, Main Gym, Brookside East field, and Gardemeyer East and West fields. We collaborate with Pacific Athletics to offer programming in Janssen-Lagorio Gym (JL Gym), the Hal Nelson tennis courts, and the Chris Kjeldsen Pool complex. A current Pacific ID card is required to gain access to and participate in any activities offered at any of these facilities.

With more than 70 percent of Pacific's student body annually participating in recreation activities, Pac Rec has a strong following. The Baun Student Fitness Center (BFC) offers opportunities for self-service recreation through use of the fitness equipment, multipurpose rooms, and racquetball courts. Students and the Pacific Community can also find a wide range of group fitness classes (like yoga, indoor cycle, hip-hop, and sculpting classes) at the BFC. Outside of the BFC, students can participate in open recreation volleyball, basketball, and badminton throughout the week at Main Gym and JL Gym. For those looking for some friendly competition, Pac Rec offers 4 seasons of RecSports (also known as intramurals) including activities like softball, flag football, indoor soccer, floor hockey, basketball, and grass volleyball. We also offer one day tournaments for such activities as ping pong, racquetball, and tennis.

For students that are feeling the need to be more competitive, Pac Rec has a variety of Club Sports. Club Sports participate in competition against other California universities with similar programs. We have rugby, lacrosse, soccer, climbing, volleyball and badminton teams, or students can start their own Club Sport. The Associate Director of Pacific Recreation can guide any student through the steps to establish a new Club Sport.

For students that want to get away from campus for the day, Pac Rec offers a Tiger Escapes program that takes students on one day excursions to places outside of the Stockton area. For more information on how to take advantage of a semester Escape, stop by the BFC.

Pacific Recreation is a great way to meet people, reduce stress, enjoy some friendly competition, and improve whole person wellness. For more information about Pacific Recreation and the programs, services, and facilities, visit our webpage (<http://www.pacific.edu/Campus-Life/Events-and-Activities/Athletics-and-Recreation/Baun-Fitness-Center.html>) or at our Facebook page (<https://www.facebook.com/PacificRec>).

## Baun Fitness Center

The Baun Student Fitness Center (BFC) was completed in August of 2003 and is the home of Pacific Recreation.

The BFC is a full-service fitness center that includes state-of-the-art cardiovascular equipment with Cardiotheater, areas equipped with free

weights and machine weights, two racquetball courts, two multipurpose rooms, a 36' climbing wall, and locker rooms with showers. All fee paying undergraduate Pacific students, and graduate students enrolled in 8.5 or more units, are eligible to use the facility free of charge. Memberships to BFC are also available at a low cost to part-time students, faculty, staff, alumni, and emeritus faculty.

In addition to the self-service fitness options, the BFC offers a wide variety of group exercise classes (TigerX) throughout the year. We also have certified Personal Trainers available to assist you for a small fee. During the academic year the BFC hosts special events including TigerJamz and BFC Blackout. For TigerJamz, a in-house DJ will spin some tunes to ramp up your exercise routine. For BFC Blackout, be sure to wear your white and bright colored clothes because after 4pm all TigerX classes and activities in the multipurpose rooms happen under black lights. You will glow as you go.

Be sure to check out all the special events, activities, and services offered by Pacific Recreation at the Baun Fitness Center. Call us at 209-946-7811 to learn more. Stay up to date with what the BFC has to offer at our Facebook page: <https://www.facebook.com/PacificRec>.

## Tiger Escapes

Tiger Escapes is a program offered by Pacific Recreation that provides opportunities for students, faculty and staff to get away from campus and enjoy activities outside of the Stockton area. Each semester we offer 4 different Tiger Escapes adventures (usually one per month), as well as one Escape during summer session I. Escapes might be a day at the lake, a trip to Santa Cruz, a paintball adventure, horseback riding, a float trip down the Stanislaus River, or a hike along the Pacific Coast. Each academic semester we offer something different. The Escapes are one day in length. Transportation and lunch are provided by Pacific Recreation, and registration for each Escape is very inexpensive; usually \$10-\$25 depending on the activity.

Be sure to check out the Tiger Escapes planned during the semester. Information is available at the Baun Fitness Center (home of Pacific Recreation), on our Pacific website (<http://www.pacific.edu/Campus-Life/Events-and-Activities/Athletics-and-Recreation/Baun-Fitness-Center.html>) or at our Facebook page (<https://www.facebook.com/PacificRec>).

## Theatre Arts

The Theatre Arts department 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 majors and 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 radio station. The station allows students to gain practical experiences and test classroom theory. KPAC utilizes a low-powered FM signal that broadcasts to the Pacific and surrounding communities.

## 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 sold out film series, A&E gives new perspective and new experiences to students at Pacific. A&E also produces weekly nightly programming in the Lair, the campus pub, where you can find open mic nights, karaoke, and live music every Thursday! Annual staple programs include Fall Festival & a major concert. Past artists include: The Cataracs & DEV, John Legend, Talib Kwali, Lupe Fiasco, Common, CAKE, Floggy Molly, & Third Eye Blind, just to name a few.

**For a full listing of upcoming events please check out our website.**

Be our friend on Facebook/ASuop Arts & Entertainment or Follow us on Twitter/ASuopAE. For our latest trailers check out our youtube channel, ASuop.AE

## Forensics

On March 25, 1854, a group of young men 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 Speaking, 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.

## Orchestra

The University Symphony Orchestra presents a full series of symphony concerts each year. The Symphony also performs for opera, choral and commencement performances featuring student artists.

## 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 Jazz Ensemble presents jazz music concerts emphasizing the big band tradition, and takes part in competitions and festivals. The Pep Band, which is run by Student Life, performs at various University athletic events. Students throughout the University are encouraged to audition for participation in all band ensembles.

## 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.

## Publications

The Pacifican is an independent weekly newspaper, published by the Pacifican Publication 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.

## 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 individual one-on-one tutoring to students K-12 and adult learners at the center. CCI also assist in staffing educational support programs throughout the community. Additionally, the CCI provides co-curricular community service opportunities to Pacific students through its Reach Out program (<http://www.pacific.edu/Community/Center-for-Community-Involvement/Reach-Out-Community-Service.html>). The CCI is the largest employer of Pacific student on campus.

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

## 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.

## National Professional Organizations

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

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.

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

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

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

Sigma Alpha Iota. International female music fraternity.

## 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

Delta Sigma Theta

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 at our website at <http://asuop.pacific.edu>.

## 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 Panels 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 heritage that came from them. Events include a chapel service for all members of the University community and a luncheon with speakers from the Heritage Society.

### Holiday Festival of Lights

An annual celebration, held in December that honors and incorporates various religious and cultural traditions focusing on light, including, Hanukkah, Christmas, Ramadan, Winter Solstice and Kwanza.

### Student Activities Fair

The Student Activities Fair is held annually on the third Thursday of the fall semester in the McCaffrey Center. 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.

## University Standards

### Academic Standards

#### Student Conduct and Community Standards

The Office of Student Conduct and Community Standards manages the student conduct process for students on the Stockton campus. 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 Handbook and on the web site at <http://www.pacific.edu/Student-Life/Student-Life-Services/Judicial-Affairs/Tiger-Lore-Student-Handbook.html>

#### Honor Code

All students on the Stockton campus are expected, on applying for enrollment, to sign an honor pledge appropriate to the objectives and relationships of the University. The Honor Code calls each student to be responsible for observing high ethical conduct. While the Honor Code recognizes that its vitality rests with the individual student as the

community structure of controls and judiciary procedures to make the Honor Code effective is outlined in the Tiger Lore.

### **Violating the 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 honor code. Such violations may include conduct that occurs off-campus when students are participating, attending or in some manner connected to a University related activity.

### **Campus 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 his/her own actions.

University policies and regulations are published in the Tiger Lore Student Handbook and distributed annually to all students. Statements pertaining to or clarification of student rights are also published in this document.

### **Alcohol and Other Drugs Policy**

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 represents Pacific as part of an off-campus program, activity or event.

More detailed policy information regarding the consumption, possession, distribution and sale of alcohol can be found on the Tiger Lore website link at [www.pacific.edu](http://www.pacific.edu).

Except as legally prescribed, drugs are prohibited. Additionally, the unlawful manufacture, distribution, dispensing, possession or use of any controlled substance, including marijuana, is prohibited.

### **Academic Standards for Holding Student Office**

In order to hold either an elected or appointed office in the Associated Students of the University of the Pacific (ASUOP), the constituent schools, fraternal societies, residence halls or the editorial staff of The Pacifican, a student must be registered for a full-time course of study (12 units undergraduate, 8 units graduate) each semester during which he/she holds office. He/she must successfully complete the above minimum units each semester in order to continue in the position. Exceptions to this may be made for seniors in the final semester prior to graduation.

A student must maintain a minimum of a 2.25 cumulative GPA in all letter-graded coursework attempted at the University of the Pacific. In addition, specific policies of professional schools may stipulate that in order to hold student office, a student must maintain a 2.0 GPA minimum in the required courses of the major program. Major leadership positions in ASUOP require a 2.5 GPA. Finally, a student may not be on disciplinary probation during the period of time that he/she holds office. Except for any professional school policy, exceptions to these standards may be considered by the Office of Student Life.

## **University Programs and Services**

### **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 two-, three-, and four-year programs leading to a commission in the United States Air Force. All coursework (12 to 16 semester units) is completed on the CSUS campus. Leadership Laboratory, 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 admissions officer in the Aerospace Studies Department at CSUS, telephone (916) 278-7783, for information on the program or the entry process.

### **Testing Services**

The Testing Center in the 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.

### **Clinical Services**

In the School of Pharmacy and Health Sciences, the Speech, Hearing and Language Center, in cooperation with the Stockton Scottish Rite Childhood Language Disorders Center, provides a program for children and adults who have need for individual or group therapy for such problems as stuttering, cleft palate, aphasia, cerebral palsy, and speech and language disorders. The Center also provides communication development, auditory training, and speech reading therapy for hearing impaired individuals. Comprehensive audiological assessment and digital hearing aid fittings are also available for children and adults at the Pacific Hearing and Balance Center.

### **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.

## 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 Coordinator 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](mailto: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>

## Tutorial Program

Administered by the Educational Resource Center, the University of the Pacific's Tutorial Program offers free one-on-one tutoring to all enrolled students. This is a peer-tutoring program; tutors are those students who have achieved success in their subject areas. Students interested in our tutoring services should come to the first floor of the McCaffrey Center, Room 103 to schedule an appointment. The Tutoring Center's hours during the Fall and Spring semesters are Monday through Thursday, 8:30 a.m. to 9:00 p.m., Fridays, 8:30 a.m. to 5:00 p.m. and Sunday 4:00 p.m. to 9:00 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 Tutorial Program 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 contact the office. For more information, please contact us by calling (209) 946-2437 or via email: [erctutorial@pacific.edu](mailto:erctutorial@pacific.edu), or visit <http://www.pacific.edu/Academics/Schools-and-Colleges/Gladys-L-Benerd-School-of-Education/Academics/Services-for-Students/Educational-Resource-Center/Tutorial-Center.html>.

## University Honors Program

Pacific's Honors Program supports an intellectual community of academically outstanding students in all programs and majors who seek added challenge and breadth in their studies, and who wish to more fully develop their talents and potential. Participation is by invitation, and is open to students who plan to earn their bachelor's degrees before entering a graduate or professional program, or starting their career paths. Freshmen students are invited based on high school performance. Factors considered include Advanced Placement courses, general curriculum, SAT or ACT scores and GPA. Sophomore students are invited on the basis of freshman year grades. By accepting the invitation, students agree to remain in the program for at least one year.

The honors curriculum consists of honors general education courses, honors seminars, and a senior project. Requirements and timing vary with a student's choice of school and program. Additionally, freshman honors students are required to attend eight events from our calendar of "colloquia" events. Students who complete the program receive appropriate annotation on their official transcripts.

Honors students may elect to live in the honors residential community (John Ballantyne Hall and Carter House). The Honors Program Director, whose office is located in John Ballantyne 113, works with select "honors peers" and the residential life staff to coordinate extra-curricular programming. Honors Program residents traditionally have taken leadership roles in campus politics, social activities and scholarship.

For further information, e-mail the Honors Program at [honors@pacific.edu](mailto:honors@pacific.edu), or call (209) 946-2283. <http://honors.pacific.edu>.

## 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](mailto:sweiner@pacific.edu), or call (209) 946-2406.

## International Programs and Services (IPS)

Located in the Bechtel International Center (BIC) between Casa Jackson and Jessie Ballantyne Halls, IPS offers comprehensive services for Pacific international students and scholars coming to the United States as well as for Pacific students wanting to study, intern or volunteer abroad. IPS serves as the 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 home to International Programs and Services, but also as a gathering place for a variety of international and global functions. BIC is open for office hours from 8:30 a.m. – 5:00 p.m. when classes are in session, except for holidays.

### International Students and Scholars Services

IPS offers a comprehensive package of services for all international students and scholars at Pacific. IPS supports and enhances the academic, cultural, and social integration of international students, scholars, and their families. This includes, but is not limited to, counseling about immigration, academic, financial, and personal issues. IPS conducts the Exchange Visitor Program of the U.S. Department of State. The objective of the Exchange Visitor category is to facilitate and increase mutual understanding between the people of the United States and the people of other countries by means of educational and cultural exchanges. For more information call (209) 946-2246.

### Education Abroad

The University of the Pacific offers students the opportunity to study, intern or volunteer abroad for a semester or an academic year in a variety of Pacific sponsored programs around the world. Students are encouraged to consider this option to enrich their lives, add an essential dimension to effective study at Pacific, and further career preparation in an increasingly global world.

In addition to its own direct exchange and direct enrollment options, IPS sponsors programs through other universities and consortia. Credit earned on Pacific Education Abroad is awarded through University of the Pacific. For all Pacific sponsored education abroad programs, students pay Pacific tuition, which covers all program tuition, and all scholarships and federal loans apply. Students may only participate in Pacific sponsored education abroad programs and the general requirements for pre-approval are sophomore standing and a 2.5 Pacific cumulative GPA.

The foreign language requirements for Pacific education abroad programs vary, but viable options exist for every major on campus. Most students choose to participate in their sophomore or junior years. However, interested students should investigate education abroad choices as early as possible in their academic careers to ensure eligibility. Many programs require prerequisite courses (e.g., a certain level of foreign language proficiency) and all require a minimum grade-point average. Additionally, many programs incorporate home stays with local families and some the opportunity for independent study or research, internships, and/or volunteer opportunities.

Many education abroad programs offer a broad curriculum, although some have a specific academic focus such as business, ecology, language immersion, studio arts or music performance. Internships in government, business, law, public relations, etc., are also available at many sites. All Pacific sponsored programs offer students the challenges and benefits of studying and immersing themselves in a culture different from their own.

Cross-Cultural Training Course is required for all students studying abroad for a semester or full year. A companion course, also is available for

students returning from an education abroad experience. Both courses are two-unit offerings.

The enrollment courses for Education Abroad and School of Record students are listed under SABD 093a-z, and 193a-z.

For more information on education abroad, please call (209) 946-2246, or visit [www.go.pacific.edu/educationabroad](http://www.go.pacific.edu/educationabroad).

## Office of Information Technology

The Office of Information Technology (OIT) provides reliable and responsive information technologies and services to University students, faculty and staff. The Office of Information Technology maintains e-mail, the learning management system, the university website and insidePacific portal, the wired and wireless network, video conferencing, classroom technology, and telecommunications. OIT also provides IT services related to technology integration, security and troubleshooting.

**Customer Support Center (CSC)** Helpdesk provides computer hardware/software support for students, faculty and staff. CSC Helpdesk can be reached by phone at 209.946.7400 or by email at [helpdesk@pacific.edu](mailto:helpdesk@pacific.edu).

CSC Helpdesk is staffed from 7:30am to 8:00pm Monday - Friday and Saturday and Sunday from 12:00pm - 5:00pm.

The CSC Helpdesk does close during university holiday and seasonal days and on some weekends associated with these events.

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 IT 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](mailto: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.

## Library Services and Collections

The University Library delivers its services from two facilities. The main library, the William Knox Holt Memorial Library, provides resources in the humanities, fine arts, social sciences, music, business, education, natural and physical sciences, international studies, engineering and computer science, and speech language pathology. Academic disciplines represented in the Health Sciences Branch Library include pharmacy, physical therapy, and dental hygiene. Both facilities offer a variety of services and study settings, including carrels, large tables, lounge areas, and group study rooms.

In addition to more than 400,000 print and multimedia items in its collections, the University Library continues to increase online availability to thousands of electronic full-text journals, electronic books, and streaming audio and video resources. In addition, more than 100 databases targeted toward the academic disciplines taught at Pacific are



now accessible at any time to students and faculty wherever they have access to an Internet connection, on or off campus.

Library faculty and staff members are regularly singled out and recognized by students and faculty for their commitment to service and expertise in providing research assistance. Librarians present specialized classes and workshops designed to help students and faculty use library resources and research tools effectively. Most of this instruction includes hands-on learning at computer workstations in our electronic classrooms.

### **Fletcher Jones Information Commons**

An integration of computer lab and library reference services, the main library's Fletcher Jones Information Commons currently provides more than 70 computer workstations and laptops. Students can combine information and data culled from library resources and web-based materials with tools such as word processing, spreadsheets, scanning, and presentation software that enhance and improve their academic research and presentations. The Commons is staffed with a reference librarian who assists with research and information questions and an Information Commons student assistant who provides technical help with workstations, printers, and software tools. The Rite-Aid Information Commons, in the Health Sciences Branch Library, provides 20 computer workstations, a print station, and a scanner.

### **Multimedia Studio**

The Multimedia Studio is located on the main floor of the library next to the Information Commons. Its six workstations provide the Pacific community with specialized software and hardware for the completion of multimedia-infused projects. Designed to accommodate the increasing importance of multimedia technology within the educational process, the Multimedia Studio welcomes any Pacific student, faculty, and staff member to take advantage of its advanced design tools.

### **Roger A. and Elizabeth Davey Cafe**

The Roger and Elizabeth Davey Café, more commonly referred to as the Davey Café, is located on the main floor of the University Library. The Davey Café is open early morning to late evening, Monday-Friday and Sunday. Stop by this popular library meeting place for your favorite coffee drink and pastry or a light lunch.

### **Instant Messaging**

Members of the Pacific community can now receive reference and directional assistance by way of our AskPacific Instant Messaging service. Our IM screen name (AskPacific) works with all major IM service providers. For more information, see <http://www.pacific.edu/Library/Get-Help/Ask-a-Librarian.html>

### **The University Library Website**

<http://pacific.edu/Library.html>

The University Library's website provides a portal to its materials, research tools, and services. Here is *POUNCE*, the University Library's web-based search tool that allows users to search all of the Library's content in one search. In addition, you can connect to an academic database that leads to journal references on a particular topic. And once you know what journals you're looking for, it leads you to those journals in print or electronic full-text format. From the website you can chat with a librarian, request a book through interlibrary loan, check on the University Library's hours, renew your books, and much more. The University Library's website is an excellent starting point when looking for library materials and assistance!

### **Holt-Atherton Special Collections**

The Holt-Atherton Special Collections Department embodies Pacific's sense of distinctiveness. It houses over 400 unique manuscript collections that document the history of California, as well as a Western Americana book collection dating to the 18th century, and the University's archival records. The most significant manuscript materials include the John Muir Papers, the Brubeck Collection, several collections of original documents from Japanese-American internment camps in World War II, and extensive

holdings on the history of Stockton and San Joaquin County. Because these collections can only be found at Pacific, they draw scholars and researchers from around the world and offer unique research opportunities to Pacific students.

### **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**

Mike Peterson, PhD  
Director of University Writing Programs

Main Library, 2<sup>nd</sup> Floor  
209-932-2970 Ext. 22970

### **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 2<sup>nd</sup> floor of the main library in the fall of 2009. It is currently staffed by the Director, a part-time Coordinator, 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, consultations, and stipends 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, funding, and training for writing instruction in any field or discipline.

# University Policy on Disclosure of Student Records

## Family Educational Rights and Privacy Act (Buckley Amendment)

The University of the Pacific adheres to a policy of compliance with the Family Educational Rights and Privacy Act (Buckley Amendment). As such, it is the policy of the university (1) to permit students to inspect their education records, (2) to limit disclosure to others 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.

### 1. Definitions

- a. "Student" means an individual who is or who has been in attendance at University of the Pacific. 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.)
- b. "Education records" include those records that contain information directly related to a student and that are maintained as official working files by the University. The following are not education records:
  - i records about students made by instructors, professors and administrators for their own use and not shown to others;
  - ii campus police records maintained solely for law enforcement purposes and kept separate from the education records described above;
  - iii employment records, except where a currently enrolled student is employed as a result of his or her status as a student;
  - iv 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;
  - v records that contain only information relating to a person's activities after that person is no longer a student at the university.

### 2. It is the policy of the University of the Pacific to permit students to inspect their education records.

#### a. Right of 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.

#### b. Waiver

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.

### c. Types of Education Records, Titles of Records Custodians

Please note that all requests for access to records should be routed through the Office of the Registrar.

- i Academic Records  
All ongoing academic and biographical records/Registrar.
- ii Departments  
Miscellaneous records kept vary with the department/ Department Chairs.
- iii Schools/Colleges  
Miscellaneous records/Deans.
- iv Residential Life  
Students' housing records/Assistant Dean of Students for Rental Life and Housing.
- v Advisors  
Letters of evaluation, personal information sheet, transcript, test scores.
- vi Counseling Center  
Biographical data, summaries of conversations with students, test results. (Where records are made and used only for treatment purposes, they are not education records and are not subject to this policy)/Director.
- vii Financial Aid  
Financial aid applications, needs analysis statements, awards made (no student access to parents' confidential statements)/Director of Financial Aid.
- viii Career and Internship Center  
Recommendations, copies of academic records (unofficial)/ Director.
- ix SUCCESS  
Records of academic progress, transcripts/Director.
- x Business Services  
All student accounts receivable, records of students' financial charges, and credits with the University/Bursar.
- xi Services for Students with Disabilities  
Educational, psychological and medical evaluations/ reports as well as diagnostic testing informations, including Individualized Education and Transition Plans/ Coordinator.

#### 1. Procedure to be Followed:

Requests for access should be made in writing to the Office of the Registrar. The University complies with a request for access within a reasonable time, at least within 45 days. In the usual case, arrangements are made for the student to read his or her records in the presence of a staff member. If facilities permit, a student may ordinarily obtain copies of his or her records by paying reproduction costs. The fee for copies is \$.25 per page. The University does not provide copies of any transcripts in the student's records other than the student's current university transcript. Official university transcripts (with university seal) are provided at a higher charge.

### 3. It is the policy of University of the Pacific to limit disclosure of personally identifiable information from education records unless it has the student's prior written consent, subject to the following limitations and exclusions.

#### a. Directory Information

- i The following categories of information have been designated directory information:

Student's name  
University ID number \*  
Mailing, permanent and local address

Telephone number  
 E-mail address  
 Photograph  
 Date and place of birth  
 Degrees, honors, and awards  
 Major field of study  
 Grade level  
 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

**Note:** \* *Dugoni School of Dentistry excludes University ID number from directory information.*

- ii This information is disclosed even in the absence of consent unless the student files written notice requesting the University not to disclose any of the categories within three weeks of the first day of the semester in which the student begins each school year. This notice must be filed annually within the above allotted time to avoid automatic disclosure of directory information. The notice should be filed with the Office of the Registrar. See II.C.
- iii The University gives annual public notice to students of the categories of information designated as directory information.
- iv Directory information may appear in public documents and otherwise be disclosed without student consent unless the student objects as provided above.
- v All requests for non-disclosure of directory information are implemented as soon as publication schedules will reasonably allow.
- vi The University uses its best efforts to maintain the confidentiality of those categories of directory information that a student properly requests not be publicly disclosed. The University, however, makes no representations, warranties, or guarantees that directory information designated for non-disclosure does not appear in public documents.

b. Prior Consent Not Required

Prior consent is not required for disclosure of education records to the following parties:

- i School officials of University of the Pacific who have been determined to have legitimate educational interests.
  - 1. "School officials" include instructional or administrative personnel who are or may be in a position to use the information in furtherance of a legitimate objective;
  - 2. "Legitimate educational interests" include those interests directly related to the academic environment;
- ii 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;

- iii 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;
- iv State and local officials to which such information is specifically required to be reported.
- v 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;
- vi Accrediting organizations for purposes necessary to carry out their functions;
- vii 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.)
- viii 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;
- ix In response to a court order or subpoena, the University makes reasonable efforts to notify the student before complying with the court order.
- x 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.
- xi May disclose education records 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.

c. Prior Consent Required

In all other cases, 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:

- i disclosures to the student himself or herself;
- ii disclosures pursuant to the written consent of the student (the written consent itself suffices as a record);
- iii disclosures to instructional or administrative officials of the University.
- iv 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.

d. It is the policy of University of the Pacific to provide students the opportunity to seek correction of their education records.

i Request to Correct 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.

ii Right to a Hearing

Upon request by a student, the University provides an opportunity for a hearing to challenge the content of the student's records. A request for a hearing is made in writing and submitted to the Office of the Registrar. Within a reasonable time of receipt of the request, the student is notified in writing of the date, place, and time reasonably in advance of the hearing.

iii Conduct of the Hearing

The hearing is conducted by a university official who does not have a direct interest in the outcome. The student has 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.

iv Decision

Within a reasonable period of time after the conclusion of the hearing, the University notifies the student in writing of its decision. The decision is based solely upon evidence presented at the hearing and includes 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 amends the records accordingly.

v Right to Place an Explanation in the Records

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 informs 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 is kept as part of the student's record as long as the contested portion of the record is kept and is disclosed whenever the contested portion of the record is disclosed.

vi Right to File Complaint

A student alleging university noncompliance with the Family Educational Rights and Privacy Act may file a written complaint with the Family Educational Rights and Privacy Act Office (FERPA).

Department of Education  
600 Independence Ave, S.W.  
Washington, D.C. 20202-4605.



# General Education Program

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"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, reading, 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 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)

During the first semester of the freshman year, all students must take **Pacific Seminar I: What is a Good Society?** The course is a broad introduction to the fundamental issues of a Good Society, such as the purposes of education, the role of the family, the nature of work and the economy, the value of the arts and sciences, the purposes of law and government, the rights and responsibilities of the citizen, and the place of humans in the natural world. Pacific Seminar I is a shared intellectual experience since there is a common course syllabus and a common reader. The reader has materials from the humanities, social sciences, and natural sciences, and so the course also serves as an introduction to the different disciplines as a 'living university catalog.' Students meet in small sections to discuss the readings and issues and develop their writing, critical thinking and reading, and oral presentation skills. 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 2 Topical Seminar**. Whereas Pacific Seminar I introduces students to aspects of the issue of a Good Society, the Pacific II topical seminars focus in depth on a particular aspect of this issue. Some potential seminars are "War, Nonviolence, and Pacifism," "Controversial Issues in Modern Science and Medicine," "Perilous Earth: Natural Disasters in Human History," and "Conflict Management: Interpersonal to International Solutions." The seminars are offered from virtually every department and academic unit on campus and will be so of the most innovative courses at Pacific. During registration, students will list their top ten choices of topical seminars and be placed in one of them. Students meet in small sections to discuss the readings and issues and develop their writing, critical thinking and reading, and oral presentation skills. 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 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. 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. Senior Standing.

**Pacific Seminar Exemption Policy:** All students must take PACS 003; however, students who enter the University having completed 28 or more units of transferable, classroom college level work that appear on a college transcript are exempt from taking PACS 001 and PACS 002. Freshman students admitted to the honors program are required to complete PACS 001 and PACS 002 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. Freshmen entering in the spring semester begin the Pacific Seminar sequence the following fall. Students who would benefit from special attention to reading and writing skills are deferred from the Pacific Seminar sequence until their sophomore year.

Students who place into WRIT 017 are deferred from PACS 001 and PACS 002 until the following year.

Students must pass PACS 001 ("D" or better) in order to take PACS 002. Students who have an Incomplete (I grade) in PACS 001 must clear the "I" before the first Friday of the Spring semester in order to take PACS 002. Students can repeat a different PACS 002 course.

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.

The Pacific Seminars must be taken for a letter grade.

All transfer and post baccalaureate students must pass 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	CON	COP	EDU	ENGR/ COMP	PH	SIS
I.A Individual and interpersonal Behavior	X	Two of	X	Two of	Two of	X	X
I.B U.S. Studies	X	three areas	X	three areas	three areas	X	X
I.C Global Studies	X	Two of	X	Two of	Two of	X	X
II.A Language and Literature	X	three areas	X	three areas	three areas	X	
II.B Worldviews and Ethics	X	three areas	X	three areas	three areas	X	
II.C Visual and Performing Arts	X	three areas	X	three areas	three areas	X	X
III.A Natural Sciences	X	X	X	X	X	X	X
III.B Mathematics & Formal Logic	X	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 three fundamental skills at entrance: reading, 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:

- Currently, the Educational Resource Center and its constituents are piloting changes to the reading and writing courses for traditional freshmen and transfer students. Beginning Fall 2013, a combination reading/writing course, PACS 093 taken in conjunction with PACS 001, or WRIT 093Z, will fulfill both the reading and writing requirement.
- To show competency in quantitative analysis (math), students must successfully complete MATH 005 (Intermediate Algebra), MATH 035 (Statistics) or PSYC 103 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.
- To show competency in writing, students must successfully complete WRIT 021 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.
- To show competency in reading, students must successfully complete READ 031 or READ 051 with a grade of C- or better during the first full year of study including summer sessions or complete an equivalent course from another accredited college or university with a grade of C or better.
- Successful completion of course work in quantitative analysis, writing and reading at Pacific requires a grade of C- or better. Course work taken in quantitative analysis, writing, or reading 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), writing, and reading 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 reading, 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
ECON 053	Introductory Microeconomics	4
EDUC 100	Introduction to Language	4
ENGL 122	Literature and Psychology	4
GEND 011	Introduction to Gender Studies	4
PSYC 029	Child Development	4
PSYC 031	Introduction to Psychology	4
PSYC 066	Human Sexuality	4

PSYC 110	Psychoactive Drugs and Behavior	4	HIST 151	People's History of Mexico	4
PSYC 111	Abnormal Psychology	4	JAPN 023	Intermediate Japanese, Third Semester	4
PSYC 131	Adolescence and Young Adulthood	4	JAPN 025	Intermediate Japanese, Fourth Semester	4
PSYC 133	Adulthood and Aging	4	JAPN 125	Advanced Japanese I	4
PSYC 167	Psychology and the Law	4	MHIS 006	Music of the World's People	3
SOCI 031	Deviant Behavior	4	POLS 011	Introduction to Political Science	4
SLPA 051	Introduction to Communication Disorders	3	POLS 051	International Politics	4
SOCI 133	Criminology	4	POLS 152	Politics of Asia	4
<b>I-B. United States Studies</b>			RELI 102	History of Ancient Egypt and the Near East	4
BUSI 053	The Legal and Ethical Environment of Business	4	RELI 104	Religion of the Pharaohs	4
COMM 031	Media and Society	3	RELI 124	Ancient Judaism	4
ECON 051	Economic Principles and Problems	3	RELI 130	The Christian Tradition	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4	RUSS 023	Intermediate Russian, Third Semester	4
ENGL 051	American Literature before 1865	4	RUSS 025	Intermediate Russian, Fourth Semester	4
ENGL 053	American Literature after 1865	4	SOCI 108	Food, Culture and Society	4
ENGL 161	Topics in American Ethnic Literature	4	SPAN 023	Intermediate Spanish, Third Semester	4
ETHN 011	Introduction to Ethnic Studies	4	SPAN 025	Intermediate Spanish, Fourth Semester	4
HESP 141	Sport, Culture and U.S. Society	4	<b>II-A. Language and Literature</b>		
HIST 020	United States History I	4	CHIN 011A	First-Year Chinese, First Semester	4
HIST 021	United States History II	4	CHIN 011B	First-Year Chinese, Second Semester	4
HIST 120	Native American History	4	CLAS 110	Reading Greek Literature in English	4
HIST 133	Women in United States History	4	CLAS 112	Reading Roman Literature in English	4
HIST 134	African-American History	4	COMM 027	Public Speaking	3
MMGT 011	Music, Entertainment in U.S. Society	4	ENGL 025	English 25	4
POLS 041	U.S. Government and Politics	4	ENGL 041	British Literature before 1800	4
SOCI 021	Culture and Society	4	ENGL 043	British Literature after 1800	4
SOCI 051	Introduction to Sociology	4	ENGL 131	Shakespeare	4
SOCI 041	Social Problems	4	FREN 011A	First-Year French, First Semester	4
SOCI 125	Sociology of Health and Illness	4	FREN 011B	First-Year French, Second Semester	4
<b>I-C. Global Studies</b>			FREN 051	French Literature in English	4
ANTH 053	Cultural Anthropology	4	GERM 011A	First-Year German, First Semester	4
ANTH 054	Antropología Cultural	4	GERM 011B	First-Year German, Second Semester	4
ASIA 124	Society, Gender and Culture in East Asia	4	GREK 011A	First-Year Ancient Greek, First Semester	4
CHIN 023	Intermediate Chinese, Third Semester	4	GREK 011B	First-Year Ancient Greek, Second Semester	4
CHIN 025	Intermediate Chinese, Fourth Semester	4	HBRW 011A	First-Year Classical Hebrew, First Semester	4
CHIN 125	Advanced Chinese I	4	HBRW 011B	First-Year Classical Hebrew, Second Semester	4
CLAS 051	Classical Mythology	4	JAPN 011A	First-Year Japanese, First Semester	4
CLAS 100	History of Ancient Greece	4	JAPN 011B	First-Year Japanese, Second Semester	4
CLAS 102	History of Ancient Rome	4	LANG 011A	First Year Language, 1st Sem	4
COMM 143	Intercultural Communication	4	LANG 011B	First Year Language, 2nd Sem	4
ENGL 063	Masterpieces of World Literature	4	LATN 011A	First-Year Latin, First Semester	4
FREN 023	Intermediate French, Third Semester	4	LATN 011B	First-Year Latin, Second Semester	4
FREN 025	Intermediate French, Fourth Semester	4	RELI 023	Hebrew Bible	4
FREN 122	La Francophonie	4	RUSS 011A	First-Year Russian, First Semester	4
GERM 023	Intermediate German, Third Semester	4	RUSS 011B	First-Year Russian, Second Semester	4
GERM 025	Intermediate German, Fourth Semester	4	SLPA 053	Sign Language I	3
HIST 030	East Asian Civilization I	4	SPAN 011A	First-Year Spanish, First Semester	4
HIST 031	East Asian Civilization II	4	SPAN 011B	First-Year Spanish, Second Semester	4
HIST 040	Colonialism in Latin America	4	SPAN 103	Introducción a la literatura hispánica	4
HIST 041	The Problem with Latin America	4	SPAN 133	Don Quijote	4
HIST 061	Global History of Food	4	THEA 111	Script Analysis	3
HIST 105	History of Ancient Greece	4	THEA 113	What's Past is Prologue: Practice and Perspective in Theatre History I	4
HIST 106	History of Ancient Rome	4	THEA 115	What's Past is Prologue: Practice and Perspective in Theatre History II	4
HIST 111	Europe in Turmoil 1900-1945	4	<b>II-B. Worldviews and Ethics</b>		
HIST 113	Europe Since 1945	4	CLAS 120	Sexuality in Greek Society	4
HIST 132	American Immigration	4			
HIST 141	Pre-Modern China to 1840	4			



CLAS 122	Sexuality in Roman Society	4	ARTS 007	Principles of 2-D Design and Color	3
ENGL 141	Topics in British Literature Pre-1800	4	ARTS 009	Principles of 3-D Design	3
ENGL 164	WAR	4	ARTS 035	Ceramics	3
ENGR 030	Engineering Ethics and Society	3	ARTS 037	Sculpture	3
HIST 010	Western Civilization I	4	ARTS 045	Digital Photography	3
HIST 011	Western Civilization II	4	ASIA 120	Asian Cinemas	4
HIST 050	World History I	4	CLAS 130	Greek Art and Architecture	4
HIST 051	World History II	4	CLAS 132	Roman Art and Architecture	4
HIST 052	John Muir's World: Origins of the Conservation Movement	4	EDUC 142	Visual Arts in Education	3
HIST 060	A History of Medicine	4	ENGL 031	Aesthetics of Film	4
HIST 062	History of Warfare	4	ENGL 121	Major Filmmakers	4
HIST 100	Renaissance and Reformation	4	ENGL 123	Film, Literature, and the Arts	4
HIST 135	Women in Time and Place	4	FREN 120	Le Cinema Francais/French Cinema in English	4
HONR 041	Creativity and Knowledge *	1	HIST 119	History Goes to Hollywood	4
HONR 043	Knowledge and Human Values *	1	MHIS 005	Music Appreciation	4
HONR 141	Social Uses of Knowledge *	1	MHIS 007	Topics in American Popular Music	3
INTL 081	Perspectives on World History	4	MPER 066	Jazz Ensemble (Note: 1 unit)	1
PHIL 011	Introduction to Philosophy	4	MPER 070	University Symphony Orchestra (Note: 1 unit)	1
PHIL 021	Moral Problems	4	MPER 072	Symphonic Wind Ensemble (Note: 1 unit)	1
PHIL 025	The Meaning of Life	4	MPER 073	Concert Band (Note: 1 unit)	1
PHIL 027	Fundamentals of Ethics	4	MPER 082	The Oriana Choir (Women's Chorus) (Note: 1 unit)	1
PHIL 035	Environmental Ethics	4	MPER 083	University Chorus (Note: 1 unit)	1
PHIL 047	Philosopher in Depth	4	MPER 084	Pacific Singers (Note: 1 unit)	1
PHIL 053	Ancient and Medieval Philosophy	4	MUJZ 008	Introduction to Jazz	3
PHIL 055	History of Modern Philosophy	4	RELI 171	Religion and Cinema	4
PHIL 124	Philosophy of Religion	4	RUSS 120	Contemporary Russian Film	4
PHIL 135	Political Philosophy	4	SPAN 114	Cine hispano/Hispanic Film	4
PHIL 145	Biomedical Ethics	4	THEA 011	Introduction to the Theatre	3
POLS 130	Ancient to Medieval Political Theory	4	THEA 051A	Ballet (Note: 1 unit)	1
POLS 132	Modern to Contemporary Political Theory	4	THEA 051B	Jazz (Note: 1 unit)	1
POLS 134	American Political Thought	4	THEA 051C	Modern Dance (Note: 1 unit)	1
RELI 025	New Testament and Christian Origins	4	THEA 051D	Tap (Note: 1 unit)	1
RELI 027	Portraits of Jesus	4	THEA 071	Beginning Acting	3
RELI 030	Western Religious Traditions	4	THEA 075	Expressive Movement	3
RELI 034	Introduction to Religion	4	THEA 112	Playwriting	3
RELI 043	Social Ethics	4	THEA 134	Mask-Making	3
RELI 044	Sex, Sin, and Salvation	4	<b>III-A. Natural Sciences</b>		
RELI 134	World Religions	4	BIOL 011	Human Anatomy and Physiology	4
RELI 135	Asian Religious Traditions	4	BIOL 041	Introduction to Biology	4
RELI 142	Business Ethics	4	BIOL 051	Principles of Biology	4
RELI 145	Biomedical Ethics	4	BIOL 061	Principles of Biology	4
<b>II-C. Visual and Performing Arts</b>			BIOL 076	Marine Biology	4
ARTH 007	Survey of World Art to 1400	4	BIOL 079	California Flora	4
ARTH 009	Survey of World Art After 1400	4	CHEM 023	Elements of Chemistry	4
ARTH 101	History of Graphic Design	4	CHEM 024	Fundamentals of Chem	4
ARTH 108	Renaissance Art and Architecture	4	CHEM 025	General Chemistry	5
ARTH 112	19th Century European Art	4	CHEM 027	General Chemistry	5
ARTH 114	20th Century Art and Film	4	GEOS 043	Environmental Science for Informed Citizens	4
ARTH 116	Contemporary World Art 1945 to Present	4	GEOS 051	Dynamic Planet	4
ARTH 118	Art in the United States: 1865-1945	4	GEOS 053	Earth and Life Through Time	4
ARTH 120	Chinese Art History	4	GEOS 057	Earth Systems Science	4
ARTH 122	Japanese Art History	4	GEOS 061	Geology of California	4
ARTH 124	Sex, Gender and the Arts	4	GEOS 065	Regional Geology	4
ARTS 003	Visual Arts Exploration	4	PHYS 017	Concepts of Physics	4
ARTS 005	Drawing	3	PHYS 023	General Physics I	5
			PHYS 025	General Physics II	5
			PHYS 039	Physics of Music	4

PHYS 041	Astronomy	4
PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5
<b>III-B. Mathematics and Formal Logic</b>		
COMP 025	Computers and Information Processing	4
COMP 047	Discrete Math for Computer Science	4
COMP 051	Introduction to Computer Science	4
MATH 033	Elements of Calculus	4
MATH 035	Elementary Statistical Inference	4
MATH 037	Introduction to Statistics and Probability	4
MATH 039	Probability with Applications to Statistics	4
MATH 041	Pre-calculus	4
MATH 045	Introduction to Finite Mathematics and Calculus	4
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 072	Operations Research Models	4
PHIL 037	Introduction to Logic	4
PSYC 103	Statistical Inference in Behavioral Sciences	4
<b>III-C. Science, Technology and Society</b>		
ANTH 112	Physical Anthropology	4
BIOL 035	Environment: Concepts and Issues	4
COMP 041	Great Ideas in Computing	4
ENGL 126	Literature and the Environment	4
ENGL 128	Science and Literature	4
GEOS 045	Soil, Water, and War	4
HIST 063	History of Science and Technology	4
HIST 167	Gender in the History of Science/Medicine/ Technology	4
PHIL 061	Philosophy of Science	4
SOCI 111	Environment and Society	4
HESP 041	Heart, Exercise and Nutrition	4
HESP 045	Nutrition for Health	4
Any Second IIIA Course		

\* HONR 041, HONR 043 and HONR 141 must all be taken to satisfy the General Education IIB requirement.

## General Education Program Faculty

# 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 054	Antropología Cultural	4
ANTH 153	Language and Culture	4
ANTH 172	Culture and Power	4
ARTH 124	Sex, Gender and the Arts	4
COMM 133	Documentary Film as Persuasive Communication	4
ENGL 041	British Literature before 1800	4
ENGL 126	Literature and the Environment	4
ENGL 131	Shakespeare	4
ENGL 141	Topics in British Literature Pre-1800	4
ENGL 164	WAR	4
ENGR 030	Engineering Ethics and 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	Equity and Inclusion in Physical Education	4
HIST 020	United States History I	4
HIST 021	United States History II	4
HIST 050	World History I	4
HIST 070	Historical Imagination	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 134	African-American 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
PSYC 129	Developmental Psychology	4
RELI 104	Religion of the Pharaohs	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	Prejudice and Racism	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



# College of the Pacific

## Departments and Programs

Biological Sciences  
Chemistry  
Communication  
Earth & Environmental Sciences  
Economics  
English  
Ethnic Studies  
Film Studies  
Gender Studies  
Health, Exercise and Sport Sciences  
History  
Jacoby Center  
John Muir Center  
Mathematics  
Modern Language and Literature  
Philosophy  
Physics  
Political Science  
Psychology  
Religious and Classical Studies  
Sociology  
Theatre Arts  
Visual Arts  
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 examination. 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. George Condon  
Pacific's representative for Washington Semester  
Room 128 Wendell Phillips Center  
Phone: (209) 946-7405  
e-mail: gcondon@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. George Condon  
Director of the Sacramento Experience program  
Room 128 Wendell Phillips Center  
Phone: (209) 946-7405  
e-mail: gcondon@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

Applied Mathematics (BS)  
Art (BA)  
Asian Language and Studies Major (BA)  
Athletic Training (BS)  
Biochemistry (BS)  
Biological Sciences (BA, BS, MS)  
Chemistry (BA, BS) (MS, PhD)  
Pharmaceutical/Chemical Sciences  
Chemistry-Biology (BS)  
Chemistry Major with a Concentration in Medicinal Chemistry (BS)  
Communication (BA, MA)  
Economics (BA, BS)  
Economics and Computer Science (BS)  
English (BA)  
Environmental Studies (BA)  
Environmental Science (BS)  
Film Studies (BA)  
French (BA)  
Geology (BA, BS)

Graphic Design (BFA)  
Health, Exercise and Sport Sciences (BA, MA)  
History (BA)  
Liberal Studies (BA)  
Mathematics (BA, BS)  
Pacific Humanities Scholars Program  
Pacific Legal Scholars Program  
Philosophy (BA)  
Physics (BA, BS)  
Political Science (BA)  
Psychology (BA, MA)  
Religious Studies (BA)  
Self-Designed (BA)  
Social Sciences (BA)  
Sociology (BA)  
Spanish (BA)  
Studio Art (BFA)  
Theatre Arts (BA)

## Minors Offered

Ancient Studies  
Applied Mathematics  
Art History  
Biological Sciences  
Chemistry  
Child Psychology  
Chinese Studies  
Civic Leadership  
Classical Studies  
Communications  
Economics  
English  
Environmental Studies  
Ethnic Studies  
Film Studies  
French  
Gender Studies  
Geology  
Graphic Design  
Health, Exercise and Sport Sciences  
History  
Japanese  
Lifespan Development  
Mathematics  
Philosophy  
Physics  
Political Science  
Pre-Law  
Psychology  
Public History and Museum Studies  
Religious Studies  
Russian Area Studies  
Sociology  
Spanish  
Statistics  
Studio Art  
Theatre Arts  
Thematic

## General Academic Regulations

### Requirements for Graduation

1. Students must complete at least 124 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 136 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 64 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 53 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.

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.

## 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.



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.

## College of the Pacific Faculty

### Biological Sciences

Gregg D. Jongeward, Senior Associate Dean and Associate Professor, 1996, BS, University of Minnesota, 1986; PhD, California Institute of Technology, 1993.

Craig A. Vierra, Professor and Chair, 1995, BS, University of California, Davis, 1990; PhD, University of California, Riverside, 1994.

Joan Lin-Cereghino, Professor and Assistant Chair, 2000, AB, Princeton University, 1987; PhD, University of California, San Diego, 1992.

Maria G. Pallavicini, Provost and Professor, 2010, BS, University of California, Berkeley; PhD, University of Utah.

Mark S. Brunell, Associate Professor, 2002, BA, California State University, Fullerton, 1988; MA, 1991; PhD, University of California Riverside, 1997.

Marcos Gridi-Papp, Assistant Professor, 2009, BS, State University of Campinas, Sao Paulo, Brazil, 1994; MS, State University of Campinas, Sao Paulo, Brazil, 1997; PhD, University of Texas, Austin, 2003.

Kirkwood M. Land, Associate Professor, 2004, BS, University of California, Davis, 1992; MA, University of California, Riverside, 1995; PhD, University of California, Los Angeles, 2001.

Geoffrey Lin-Cereghino, Professor, 2004, BS, University of California, Davis, 1989; PhD, University of California, San Diego, 1995.

Stacy Luthy, Assistant Professor, 2007, BS, Louisiana State University, 1997; PhD University of Miami, 2004.

Douglas Risser, Assistant Professor, 2013, BS, University of New Hampshire, 2000; PhD, University of Hawaii, 2009.

Ajna Rivera, Assistant Professor, 2010, BS, Stanford University, 1999; PhD, University of California, Berkeley, 2006.

Richard Tenaza, Professor, 1975, BA, San Francisco State College, 1964; PhD, University of California, Davis, 1974.

Tara Thiemann, Assistant Professor, 2013, BS, Truman State University, 2001; MS, Truman State University, 2003; PhD, University of California, Davis, 2011.

Eric O. Thomas, Associate Professor, 1993, BS, University of California, Riverside, 1984; MA, 1987; PhD, University of California, Berkeley, 1991.

Douglas Weiser, Assistant Professor, 2009, BA, College of Wooster, 1999; PhD, Duke University, 2004.

Lisa A. Wrischnik, Associate Professor, 2002, BA, University of California, Berkeley, 1986; PhD, University of California, San Francisco, 1995. Member, Phi Beta Kappa.

### Chemistry

Andreas H. Franz, Associate Professor and Co-Chair, 2002, BS, Universitaet-Gesamthochschule Siegen, 1994; MS, University of the Pacific, 1997; PhD, University of the Pacific, 2000.

C. Michael McCallum, Professor and Co-Chair, 1994, BS, Michigan State University, 1988; PhD, University of California, Berkeley, 1993.

Anthony D. Dutoi, Assistant Professor, 2012, BS, Saint Louis University, 1999; PhD, University of California, Berkeley, 2006.

Ryan Moffet, Assistant Professor, 2011, BS, San Francisco State University, 2002; PhD, University of California San Diego, 2007

Jianhua Ren, Associate Professor, 2002, BS, Beijing Normal University, 1986; MS, Auburn University, 1994; PhD, Purdue University, 1999.

Silvio Rodriguez, Professor, 1978, BS, University of Chile, 1968; MS, University of California Santa Barbara, 1970; PhD, University of California Santa Barbara, 1978.

Vyacheslav V. Samoshin, Professor, 1999, MS, Lomonosov Moscow State University, USSR, 1974; PhD, Moscow State University 1982; DSci, Moscow State University, 1991.

Bálint Sztáray, Associate Professor, 2008, MS, Eötvös Loránd University, 1997; PhD, Eötvös Loránd University, 2001.

Jerry Tsai, Associate Professor, 2008, BS, University of California, Los Angeles, 1991; PhD, Stanford University, 1998.

Liang Xue, Assistant Professor, 2007, BS, Fudan University, Shanghai, China, 1996; PhD, Clemson University, 2004.

Qinliang Zhao, Assistant Professor, 2010, BS, Zhejiang University, 2003; PhD, Texas A & M University, 2007

### College of the Pacific

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### Communication

Qingwen Dong, Professor and Chair, 1996, BA, Beijing Second Foreign Language Institute, 1983; MA, University of Missouri-Columbia, 1990; PhD, Washington State University, 1995.

Marlin Bates, Associate Professor, 2005, BA, University of the Pacific, 1996; MA, University of the Pacific, 1999; PhD, Pennsylvania State University, 2005.

Teresa G. Bergman, Associate Professor, 2006, BA, University of California, Berkeley, 1978; MA, San Francisco State University, 1991; PhD University of California, Davis, 2001.

Kenneth D. Day, Professor, 2006, BS, Indiana University, 1970; MA, 1975; MS, 1976; PhD, 1980.

Heather J. Hether, Assistant Professor, 2011, BA, York University, 1992; MA, 2003, 2007; PhD University of Southern California, 2009.

Randall J. Koper, Professor, 1985, BA, Michigan State University, 1974; MA, 1984; PhD 1985.

R. Alan Ray, Assistant Professor, 1987, BS, Memphis State University, 1977; MA, 1980; PhD, University of Missouri, 1986.

Jon F. Schamber, Professor, 1980, BA, University of the Pacific, 1974; MA, 1975; PhD, University of Oregon, 1982.

Paul Turpin, Associate Professor, 2007, BA, University of California, Berkeley, 1994; MA, University of Southern California, 1997; PhD, 2005.

## Earth & Environmental Sciences

Lydia K. Fox, Associate Professor and Chair, 1990, BSE, Princeton University, 1981; PhD, University of California, Santa Barbara, 1989.

Kurtis Burmeister, Assistant Professor, 2005, BA, University of California at Santa Barbara, 1996; MA, 2000; PhD, University of Illinois, 2005.

Eugene Pearson, Professor, 1971, BA, Pomona College, 1967; PhD, University of Wyoming, 1972.

Laura Rademacher, Assistant Professor, 2005, BS, University of Wisconsin, Madison; PhD, University of California, Santa Barbara, 2002.

## Economics

Peter J. Meyer, Associate Professor and Chair, 1985, AB, Harvard University, 1972; PhD, University of California, Berkeley, 1979.

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Benjamin N. Dennis, Associate Professor, 1996, BA, Michigan State University, 1990; PhD, Harvard University, 1996.

Dennis O. Flynn, Professor, 1979, BS, University of Nevada, 1968; MS, 1972; PhD, University of Utah, 1977.

William E. Herrin, Professor, 1985, BS, Wilkes College, 1980; MA, State University of New York, Binghamton, 1982; PhD, 1985.

David E. Keefe, Professor Emeritus, 1978, BS, Cornell University, 1965; PhD, University of California, Berkeley, 1980.

Sharmila K. King, Associate Professor, 2001, BA, University of York, England, 1992; MA, San Francisco State University, 1996; PhD, University of California, Davis, 2001.

J. Farley Staniec, Associate professor, 1993, BS, University of Delaware, 1986; MA, Duke University, 1988; PhD, 1992.

Simge Tarhan, Assistant Professor, 2011, BA, Bogazici University, Istanbul, Turkey, 2003; MA, 2008, University of Minnesota, Twin Cities, PhD 2009.

Niru Yadav, Assistant Professor, 2011, BA, Randolph-Macon Woman's College, 2001; MA, 2003, Indiana University, PhD 2007.

## English

Eric A. Sonstroem, Associate Professor and Chair, 2001, BA, Westeyan University, 1988; MA, Indiana University, 1990; PhD, 1999.

Diane M. Borden, Professor and Film Studies Program Director, 1971, BA, Lone Mountain College, 1964; MA, San Francisco State University, 1966; PhD, University of California, Santa Cruz, 1971.

Andreea D. Boboc, Associate Professor, 2009, BA, Ludwig-Maximilians University, 1997; MA, 1998; PhD, University of Michigan, Ann Arbor, 2006.

Cynthia Dobbs, Associate Professor, 1998, BA, Pomona College, 1987; PhD, University of California, Berkeley, 1998. Member, Phi Beta Kappa.

Jeffrey Hole, Assistant Professor, 2009, BA, Aquinas College, 1995; MA, University of Pittsburgh, 1999; PhD, University of Pittsburgh, 2007.

Courtney Lehmann, Professor, 1998, BA, University of North Carolina at Chapel Hill, 1991; MA, Indiana University, 1994; PhD, 1998. Member, Phi Beta Kappa.

John Lessard, Associate Professor, 2006, BA, Rice University, 1997; MA, University of Pennsylvania 1999; PhD, 2006.

Camille Norton, Professor, 1994, BA, University of Massachusetts, 1983; MA, Harvard University, 1987; PhD, 1992.

Amy Elizabeth Smith, Associate Professor, 1999, BA, West Virginia University, 1986; MA, The Pennsylvania State University, 1991; PhD, 1998.

Xiaojing Zhou, Professor, 2002, BA, College of Foreign Languages and Literature, Shandong University, China, 1974; MA, University of Regina, Saskatchewan, Canada, 1989; PhD, Memorial University of Newfoundland, St. John's, Canada, 1995.

## Health, Exercise and Sport Sciences

Peter J. Schroeder, Associate Professor and Chair, 2007, BS, Truman State University, 1996; MA University of the Pacific, 1998; EdD University of Missouri, 2003.

Jodi Baker, Clinical Assistant Professor and Program Director, Athletic Training Education Program, 2006, BS Whitworth University, 1997; MA San Diego State University, 2002; EdD University of the Pacific, 2012.

Margaret E. (Peg) Ciccolella, Professor, 1985, BA, University of Colorado, 1970; MS, Brigham Young University, 1972; EdD, 1978; JD, Humphreys College of Law, 1993.

Lara Killick, Assistant Professor, 2009, BA, Durham University, 2000; MA, University of Leicester, 2005; PhD, Loughborough University, 2009.

Virgil Darrin Kitchen, Assistant Professor, 2005, BA, California State University, Chico, 1996; MA, 1997; EdD, University of the Pacific, 2006.

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Brian D. Moore, Assistant Professor, 2011, BA, Loyola Marymount University, 1998; MEd, University of Virginia, 2000; PhD University of California-Davis, 2012

Christopher Snell, Professor, 1990, BA, Bedford College, 1987; MS, University of Oregon, 1990; PhD, 1993.

J. Mark VanNess, Associate Professor, 1999, BS, Wheaton College, 1990; MS, California State University, Sacramento, 1993; PhD, Florida State University, 1997.

## History

Gesine Gerhard, Associate Professor, Associate Dean of the College and Director of General Education, 1999, BA, Free University of Berlin, 1991; MA, Technical University of Berlin, 1994; PhD, University of Iowa, 1999.

Gregory Rohlf, Associate Professor and Chair, 2001, BA, Luther College, 1988; MA University of Michigan, 1993; Ph.D. University of Iowa, 1999

Kenneth Albala, Professor, 1994, BA, George Washington University, 1986; MA, Yale University, 1987; MPhil, Columbia University, 1990; PhD, 1993. Member, Phi Beta Kappa.

Caroline Cox, Professor, 1998, BA, University of California, Berkeley, 1990; MA, 1993; PhD, 1997. Member, Phi Beta Kappa.

Jennifer Helgren, Assistant Professor, 2010, BA, University of California at Los Angeles, 1994; MA, Ph.D., Claremont Graduate University, 2005. Member Phi Beta Kappa

Tomomi Kinukawa, Assistant Professor, 2006, BA, University of Tokyo, 1989; MA, University of Wisconsin-Madison, 1993; PhD, 2001.

Marisela J. Ramos, Assistant Professor, 2007, BA, Brown University, 1999; MA, University of Connecticut, 2001; MA, Brown University, 2002, PhD, Brown University, 2008.

Edith Sparks, Associate Professor, 1999, BA University of California, Berkeley, 1991; MA, Ph.D., University of California, Los Angeles, 1999

William Swagerty, Professor, 2001, BA, The Colorado College, 1973; PhD, University of California at Santa Barbara, 1981. Member, Phi Beta Kappa.

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## Mathematics

Dennis K. Parker, Associate Professor and Chair, 1985, BSE, University of Oklahoma, 1974; MNS, 1978; PhD, 1985.

Aleksei I. Beltukov, Associate Professor, 2004, BS, Mendeleyev University, 1994; MS, Mendeleyev University, 1996; MS, Tufts University, 1996; PhD, 2004.

Mouchumi Bhattacharyya, Associate Professor, 2000, BS, Cotton College, 1988; MS, Delhi University, 1990; MPhil, 1992; PhD, University of Wisconsin, Milwaukee, 1999.

Jialing Dai, Associate Professor, 2006, BS, Southwestern Normal University (China), 1985; MS, Jilin University of Technology (China), 1987; MS, University of Arizona, 1998; PhD, 2000.

Alex Dugas, Assistant Professor, 2010, BS, Stanford University, 2000; PhD, University of California, Berkeley, 2006.

Christopher Goff, Associate Professor, 2002, BS, BA, University of Texas, Austin, 1993; MA, University of California, Santa Cruz, 1995; PhD, 1999. Member, Phi Beta Kappa.

Larry Langley, Associate Professor, 2001, BS, U.C. Santa Cruz, 1988; AM Dartmouth College, 1990; PhD, Dartmouth College, 1993.

Sebastian Marotta, Assistant Professor, 2008, BS, Hydraulic and Civil Engineering, Universidad Nacional de La Plata, 1999; PhD, Boston University, 2008.

John Mayberry, Assistant Professor, 2010, BA, California State University, Fullerton, 2003; MA, University of Southern California, 2004; PhD, University of Southern California, 2008.

Sarah Merz, Professor, 1995, BA, Whitman College, 1991; MS University of Colorado at Denver, 1994; PhD, 1995. Member, Phi Beta Kappa

Keith E. Whittington, Professor, 1987, BS, University of California, Riverside, 1975; PhD, University of Texas, 1980.

## Modern Language and Literature

Susan C. Giráldez, Chair and Associate Professor, 1994, BA, University of the Pacific, 1980; MA, Middlebury College, 1982; PhD, University of California, Santa Barbara, 1992.

Martín Camps, Associate Professor, 2005, BA, Instituto de Comunicacion y Filosofia, Mexico City, 1997; MFA, University of Texas, El Paso, 1999; PhD, University of California, Riverside, 2003.

Zeljko Cipris, Associate Professor, 2000, MA, Columbia University, 1987; MPhil, 1987; PhD, 1994.

Cosana Eram, Assistant Professor, 2012, Ph.D, Stanford University, 2010; MA University of Bucharest, Romania, 1998, BA University of Bucharest, Romania (1993).

Arturo Giraldez, Professor, 1990, BA, Universidad Complutense de Madrid, 1976; MA, 1979; PhD, University of California, Santa Barbara, 1990; PhD, Amsterdam University, 1999.

Katherine Golsan, Professor, 1994, BA, Colgate University, 1976; MA, University of North Carolina, 1980; PhD University of Michigan, 1988. Member, Phi Beta Kappa.

Jie Lu, Professor of Chinese and Film Studies, 1996, BA, Beijing Second Foreign Language Institute, Beijing, 1982; MA, University of Massachusetts, Amherst, 1990; PhD, Stanford University, 1996.

Traci Roberts-Camps, Associate Professor, 2005, BA, Willamette University, 1999; MA, University of California, Riverside, 2001; PhD, 2004.

## Philosophy

Ray Rennard, Associate Professor and Chair, 2005, BA, University of Pittsburgh, 1992; PhD, Johns Hopkins University, 2003.

Lou Matz, Professor and Assistant Provost of University-Wide Academic Programs, 1999, BA, University of the Redlands, 1984; MA, University of California, San Diego, 1987; PhD, 1992. Member, Phi Beta Kappa.

James Heffernan, Professor, 1972, BA, Fordham University, 1964; MA, 1967; PhD, University of Notre Dame, 1976.

Ty Raterman, Associate Professor, 2006, BA, Northwestern University, 1999; MA, University of North Carolina at Chapel Hill, 2001; PhD, 2006.

Eleanor Wittrop, Assistant Professor, 1996, BA, Wellesley College, 1986; MTS, Harvard University Divinity School, 1989; PhD, University of California, San Diego, 1994.

## Physics

James E. Hetrick, Professor and Chair, 1997, BS, Case Western Reserve University, 1982; PhD, University of Minnesota, 1990.

Joseph F. Alward, Assistant Professor, 1979, BA, California State University, Sacramento, 1968; MA, University of California, Davis, 1973; PhD, 1976.

Sayandeb Basu, Visiting Lecturer, B.Sc. Calcutta University, 1993; M. Sc. Indian Institute of Technology, 1993; M. Phil. University of Cambridge, 1997; Ph.D. University of California, Davis, 2005

Kieran Holland, Associate Professor, 2006, BSc, University College Cork, 1994; M.Sc., 1995; PhD, Massachusetts Institute of Technology, 1999.

Keisuke J. Juge, Assistant Professor, 2007, BSc, University of Toronto, 1993; MS, University of California, San Diego, 1995; PhD, 1998.

## Political Science

Brian E. Klunk, Associate Professor and Chair, 1987, BA, Pennsylvania State University, 1977; MA, University of Virginia, 1980; PhD, 1985.

Jeffrey Becker, Associate Professor, 2006, BA, University of California, Santa Cruz, 1991; MA, Rutgers University, 1996; PhD, 2004. Member, Phi Beta Kappa.

Robert B. Benedetti, Professor Emeritus, 1989, BA, Amherst College, 1964; MA University of Pennsylvania, 1967; PhD, 1975; Member, Phi Beta Kappa

Michael T. Hatch, Professor, 1985, BA, Utah State University, 1970; MA, Johns Hopkins University, 1973; PhD, University of California, Berkeley, 1983.

Cynthia Ostberg, Professor, 1994, BA, University of California, Berkeley, 1985; MA, Northern Illinois University, 1991; PhD, 1995.

Susan Sample, Associate Professor, 1999, BA, University of Missouri, 1991; PhD, Vanderbilt University, 1996. Member, Phi Beta Kappa.

Keith W. Smith, Assistant Professor, 2008, BA, Pepperdine University, 1997, MPM, University of Maryland, 1999; MA University of California, Berkeley, 2000; PhD, 2005.

Dari Sylvester, Associate Professor, 2005, BA, Trinity College, 1998; MA State University of New York, Stony Brook, 2002; PhD, 2006. Member, Phi Beta Kappa.

## Psychology

Scott A. Jensen, Associate Professor and Chair, 2006, BS, Brigham Young University, 1998; MS, Colorado State University, Fort Collins, 2003; PhD, 2004.

Paul Bulakowski, Assistant Professor, 2011, BA, Fairfield University 2003; PhD, University of California, Davis, 2009

Jessica Grady, Assistant Professor, 2013, B.S., Lebanon Valley College, 2006; Ph.D., West Virginia University, 2011

Elizabeth Graham, Assistant Professor, 2012, B.S., Biology, Cornell University, 1995; M.S. Exercise Science, Smith College, 1999; Ph.D. Psychology, Claremont Graduate University, 2011



Carolynn S. Kohn, Associate Professor, 2004, BA, University of California at Santa Barbara, 1991; MA, Hahnemann University, 1996; PhD, MCP-Hahnemann University, 2000.

Matthew P. Normand, Associate Professor, 2007, BA, Western New England College, 1997; MA, Western Michigan University, 1999; MS, Florida State University, 2002; PhD, 2003.

## Religious & Classical Studies

George D. Randels, Jr., Professor and Chair, 1996, BA, University of Iowa, 1984; MAR, Yale University, 1987; PhD, University of Virginia, 1994. Member, Phi Beta Kappa.

Martha W. Bowsky, Professor, 1984, BA, University of North Carolina, 1972; MA, 1974; PhD, University of Michigan, 1983. Member, Phi Beta Kappa.

Alan Lenzi, Associate Professor, 2006, BA, Central Bible College, 1993; MAR, Westminster Theological Seminary, 1997; MA, Brandeis University, 2002; PhD, 2006.

Caroline T. Schroeder, Associate Professor, 2007, AB, Brown University, 1993; MA, Duke University, 1998; PhD, 2002. Member, Phi Beta Kappa.

Tanya Storch, Associate Professor, 2000, BA, MA, University of St. Petersburg, 1988; PhD, University of Pennsylvania, 1995.

## Sociology

Alison H. Alkon, Assistant Professor and Co-Chair, 2008, BA, Emory University, 1999; MA, U.C. Davis, 2003; PhD, University of California, Davis, 2008.

Marcia Hernandez, Associate Professor, 2005, BA, University of California, Santa Barbara, 1994; PhD, State University of New York, Albany, 2007.

George H. Lewis, Professor, 1970, BA, Bowdoin College, 1965; MA, University of Oregon, 1968; PhD, 1970. Member of Phi Beta Kappa

Ethel G. Nicdao, Assistant Professor, 2007, BA, University of California, Davis, 1994; MA, California State University, Hayward, 2001; PhD, University of New Mexico, 2006.

## Theatre Arts

Gary Armagnac, Associate Professor, 2001, BA, Speech and Theatre, Iona College, 1974; MFA, Acting and Directing, California State University, Long Beach, 1993, garmagnac@pacific.edu, 209-946-9462, Theatre Arts Building 1050

Tara Colt, Dance Instructor, 2008, BS, California State University, Sacramento; MA, University of the Pacific, in progress, tcolt@pacific.edu, 209-946-2116, Dance Studio

Randall A. Enlow, Associate Professor, 2003, BA, University of Akron, 1987; MFA, Case Western Reserve University, 1993, renlow@pacific.edu, 209-946-2050, Theatre Arts Building 1050

Macelle Mahala, Assistant Professor, 2007, BA, Macalester College, 2001; MA, University of Minnesota, 2004; PhD, 2007, mmahala@pacific.edu, 209-946-2055, Theatre Arts Building 1050

Cathie McClellan, Associate Professor, 2002, BA, Brigham Young University, 1975; MFA, University of Arizona, 1989, cmcclellan@pacific.edu, 209-946-2051, Theatre Arts Building 1050

Michael Wayne Rice, Lecturer, 2012, BA Cal State University-Northridge, 1998; MFA, University of Missouri at Kansas City, 2001, mrice@pacific.edu, 209-946-2116, MichaelWayneRice.com, Theatre Arts Building 1050

Lisa A. Tromovitch, Associate Professor, 2005, BA Dartmouth College, 1983; MFA Southern Methodist University. Member Phi Beta Kappa, ltromovitch@pacific.edu, 209-946-2117, www.LivermoreShakes.org, Theatre Arts Building 1050, Room 3

## Visual Arts

Trent Burkett, Professor and Co-Chair, 2002, BA, California State University, Sacramento 1993; MFA University of Minnesota, Twin Cities, MN, 2000, tburkett@pacific.edu, (209) 946-3100, Ceramic Studio

Brett DeBoer, Associate Professor, 1999, BFA, University of Northern Colorado, 1977; MS, Parsons School of Design, 1985; MFA, Rochester Institute of Technology, 1989, bdeboer@pacific.edu, (209) 946-3097, ART 112

Daniel Kasser, Professor, 1984, BA, Humboldt State University, 1980; MFA, University of New Mexico, 1991, dkasser@pacific.edu, (209) 946-3101, ART 113

Lucinda Kasser, Associate Professor, 1995, BA, Humboldt State University, 1979; MA, California State University, Sacramento, 1989,, lkasser@pacific.edu, (209) 946-2242, ART 108

Marie Ana Lee, Assistant Professor, 2009, BA, Michigan State University, 2000; BFA, Colorado State University, 2002; MFA, Colorado State University, 2005, mlee2@pacific.edu, (209) 946-7323, ART 120

Jennifer Little, Associate Professor, 2005, BFA, Washington University, 2001; MFA, University of Texas, Austin, 2005, jlittle@pacific.edu, (209) 946-3175, ART 111

Monika Meler, Assistant Professor, 2010, BFA, Milwaukee Institute of Art and Design, 2003; MA, Purdue University, 2005; MFA Tyler School of Art, 2007, mmeler@pacific.edu, (209) 946-2864, ART 101

Merrill Schleier, Professor, 1982, BA, The City College of New York, 1973; MA, University of California, Berkeley, 1976; PhD, 1983. Member, Phi Beta Kappa, mschleie@pacific.edu, (209) 946-3103, ART 202

## Biological Sciences

Craig Vierra, Chair  
Joan Lin-Cereghino, Assistant Chair

## 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 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.

## Biological Sciences Faculty

Gregg D. Jongeward, Senior Associate Dean and Associate Professor, 1996, BS, University of Minnesota, 1986; PhD, California Institute of Technology, 1993.

Craig A. Vierra, Professor and Chair, 1995, BS, University of California, Davis, 1990; PhD, University of California, Riverside, 1994.

Joan Lin-Cereghino, Professor and Assistant Chair, 2000, AB, Princeton University, 1987; PhD, University of California, San Diego, 1992.

Maria G. Pallavicini, Provost and Professor, 2010, BS, University of California, Berkeley; PhD, University of Utah.

Mark S. Brunell, Associate Professor, 2002, BA, California State University, Fullerton, 1988; MA, 1991; PhD, University of California Riverside, 1997.

Marcos Gridi-Papp, Assistant Professor, 2009, BS, State University of Campinas, Sao Paulo, Brazil, 1994; MS, State University of Campinas, Sao Paulo, Brazil, 1997; PhD, University of Texas, Austin, 2003.

Kirkwood M. Land, Associate Professor, 2004, BS, University of California, Davis, 1992; MA, University of California, Riverside, 1995; PhD, University of California, Los Angeles, 2001.

Geoffrey Lin-Cereghino, Professor, 2004, BS, University of California, Davis, 1989; PhD, University of California, San Diego, 1995.

Stacy Luthy, Assistant Professor, 2007, BS, Louisiana State University, 1997; PhD University of Miami, 2004.

Douglas Risser, Assistant Professor, 2013, BS, University of New Hampshire, 2000; PhD, University of Hawaii, 2009.

Ajna Rivera, Assistant Professor, 2010, BS, Stanford University, 1999; PhD, University of California, Berkeley, 2006.

Richard Tenaza, Professor, 1975, BA, San Francisco State College, 1964; PhD, University of California, Davis, 1974.

Tara Thiemann, Assistant Professor, 2013, BS, Truman State University, 2001; MS, Truman State University, 2003; PhD, University of California, Davis, 2011.

Eric O. Thomas, Associate Professor, 1993, BS, University of California, Riverside, 1984; MA, 1987; PhD, University of California, Berkeley, 1991.

Douglas Weiser, Assistant Professor, 2009, BA, College of Wooster, 1999; PhD, Duke University, 2004.

Lisa A. Wrishnik, Associate Professor, 2002, BA, University of California, Berkeley, 1986; PhD, University of California, San Francisco, 1995. Member, Phi Beta Kappa.

## Bachelor of Arts Major in Biological Sciences

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 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 Intersonal 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. 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:

- Reading
- Writing
- Quantitative analysis

### V. Breadth Requirement

Students must complete 64 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	4
BIOL 061	Principles of Biology	4
BIOL 101	Genetics	4
BIOL 179	Evolution	4
Select one of the following:		4-5
BIOL 175	Ecology	
BIOL 176	Ecology and Conservation Biology	
BIOL Electives (3 additional courses above BIOL 061, excluding BIOL 089, BIOL 093, BIOL 191. 2 courses must include a laboratory component)		12
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: 2 courses from MATH 033 or above *		8
Electives: 2 additional courses in Biological Sciences, Chemistry, or Geosciences **		8
<b>Total Hours</b>		<b>68-69</b>

- \* 1. One course in statistics is recommended.  
2. Credit will not be 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 which must be met.
- \*\* 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. GEOS 191 and GEOS 197 do not count towards these electives.

## Bachelor of Science Major in Biological Sciences

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 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:

- Reading
- Writing
- Quantitative analysis

### IV. Breadth Requirement

Students must complete 64 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	4
BIOL 061	Principles of Biology	4
BIOL 101	Genetics	4
BIOL 179	Evolution	4
Select one of the following:		4-5
BIOL 175	Ecology	
BIOL 176	Ecology and Conservation Biology	
BIOL Electives (5 additional courses above BIOL 061 excluding BIOL 089 and BIOL 093. Three courses must include a laboratory component) *		20
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 (2 courses from MATH 033 or above) **		8
<b>Total Hours</b>		<b>78-79</b>

- \* 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.
- \*\* 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 which must be met.

## Bachelor of Science Major in Biological Sciences for Teaching Credential Candidates

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 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
  - 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. Fundamental Skills

Students must demonstrate competence in:

- Reading
- Writing
- Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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	4
BIOL 061	Principles of Biology	4
BIOL 101	Genetics	4
BIOL 153	Cell Biology	4
BIOL 175	Ecology	4
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	
GEOS 051	Dynamic Planet	4
GEOS 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 20 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	4
BIOL 061	Principles of Biology	4
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.

#### 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.

#### 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.

#### BIOL 051. Principles of Biology. 4 Units.

A lecture and laboratory introduction to evolutionary biology and ecology. Preparation for continued studies in biological science. Prerequisite: completion of the Fundamental Skills Reading requirement.

**BIOL 061. Principles of Biology. 4 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. Prerequisite: Fundamental Skills Reading requirement.

**BIOL 071. Human Anatomy. 4 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.

**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.

**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.

**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.

**BIOL 079. California Flora. 4 Units.**

Identification and classification of flowering plants, gymnosperms, ferns and fern allies as represented in Northern Calif. are studied.

**BIOL 081. Human Physiology. 4 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 051, BIOL 061; CHEM 025. Recommended: one semester of genetics.

**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. 4 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.

**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.

**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. 4 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.

**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.

**BIOL 175. Ecology. 4 Units.**

The structure and dynamics of populations, biotic communities and ecosystems, is emphasized with particular focus upon relationships of organisms to their environments. In addition to lecture, one three-hour laboratory per week is required. Prerequisites: BIOL 051 and BIOL 061.

**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.

**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, BIOL 101; CHEM 025 and CHEM 027. Recommended: BIOL 071 and 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, BIOL 061, BIOL 101.

**BIOL 191. Independent Study. 2-4 Units.****BIOL 197. Undergraduate Research. 1-4 Units.**

## Chemistry

Andreas H. Franz and C. Michael McCallum, Co-Chairs

### Degrees Offered

Bachelor of Arts  
Bachelor of Science

### Majors Offered

Chemistry (BA, BS)

**Medicinal Chemistry**  
**Chemistry-Biology (BS)**  
**Biochemistry (BS)**  
**Pharmaceutical/Chemical Science (MS, PhD)** (see 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.

The emphasis in Medicinal Chemistry is offered by the College of the Pacific with the support of the Thomas J. Long School of Pharmacy and Health Sciences. The major is only open to students in the 3 + 3 Pre-Pharmacy Advantage Program or those in the 2 + 3 who extend a year (see pre-pharmacy requirements). The COP courses are to be completed prior to entry into the PharmD program. The TJLSPHS courses may only be completed as part of the PharmD degree plan.

## Chemistry Faculty

Andreas H. Franz, Associate Professor and Co-Chair, 2002, BS, Universitaet-Gesamthochschule Siegen, 1994; MS, University of the Pacific, 1997; PhD, University of the Pacific, 2000.

C. Michael McCallum, Professor and Co-Chair, 1994, BS, Michigan State University, 1988; PhD, University of California, Berkeley, 1993.

Anthony D. Dutoi, Assistant Professor, 2012, BS, Saint Louis University, 1999; PhD, University of California, Berkeley, 2006.

Ryan Moffet, Assistant Professor, 2011, BS, San Francisco State University, 2002; PhD, University of California San Diego, 2007

Jianhua Ren, Associate Professor, 2002, BS, Beijing Normal University, 1986; MS, Auburn University, 1994; PhD, Purdue University, 1999.

Silvio Rodriguez, Professor, 1978, BS, University of Chile, 1968; MS, University of California Santa Barbara, 1970; PhD, University of California Santa Barbara, 1978.

Vyacheslav V. Samoshin, Professor, 1999, MS, Lomonosov Moscow State University, USSR, 1974; PhD, Moscow State University 1982; DSci, Moscow State University, 1991.

Bálint Sztáray, Associate Professor, 2008, MS, Eötvös Loránd University, 1997; PhD, Eötvös Loránd University, 2001.

Jerry Tsai, Associate Professor, 2008, BS, University of California, Los Angeles, 1991; PhD, Stanford University, 1998.

Liang Xue, Assistant Professor, 2007, BS, Fudan University, Shanghai, China, 1996; PhD, Clemson University, 2004.

Qinliang Zhao, Assistant Professor, 2010, BS, Zhejiang University, 2003; PhD, Texas A & M University, 2007

## Bachelor of Arts Major in Chemistry

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 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:

Reading  
Writing  
Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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 I-Thermodynamics	
CHEM 163	Physical Chemistry II-Quantum Mechanics	
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 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 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:

Reading  
Writing  
Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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
Two of the following courses:		8
CHEM 161	Physical Chemistry I-Thermodynamics	
CHEM 163	Physical Chemistry II-Quantum Mechanics	
CHEM 165	Physical Chemistry III-Kinetics	
CHEM 167	Experimental Physical Chemistry	4
CHEM 171	Advanced Inorganic Chemistry	4
PHYS 053	Principles of Physics I	5
PHYS 055	Principles of Physics II	5
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
Select one of the following:		4
MATH 057	Applied Differential Equations I: ODEs	
MATH 145	Applied 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.

# Bachelor of Science Major in Chemistry, Concentration in Medicinal Chemistry

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 chemistry, concentration in medicinal 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 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:

- Reading
- Writing
- Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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 77 units and 18 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 151	Biochemistry I	4
Select one of the following:		4

CHEM 159	Biophysical Chemistry	
CHEM 161	Physical Chemistry I-Thermodynamics	
CHEM 163	Physical Chemistry II-Quantum Mechanics	
CHEM 165	Physical Chemistry III-Kinetics	

CHEM 197	Independent Research	1-4
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PHRM 124	Drug Metabolism and Disposition	3
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PHRM 135	Pharmacology and Medicinal Chemistry I	4
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BIOL 051	Principles of Biology	4
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BIOL 061	Principles of Biology	4
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BIOL 071	Human Anatomy	4
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BIOL 145	Microbiology	4
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MATH 051	Calculus I	4
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MATH 053	Calculus II	4
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Select one of the following groups: 10

### Group A

PHYS 023	General Physics I	
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PHYS 025	General Physics II	
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### Group B

PHYS 053	Principles of Physics I	
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PHYS 055	Principles of Physics II	
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# Bachelor of Science Major in Chemistry-Biology

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 chemistry-biology.

## 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

Students must demonstrate competence in:

Reading  
 Writing  
 Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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 78 units and 18 courses that include:

BIOL 051	Principles of Biology	4
BIOL 061	Principles of Biology	4
BIOL 101	Genetics	4
Select one of the following:		4
BIOL 175	Ecology	
BIOL 179	Evolution	
BIO Electives (3 additional courses above BIOL 061, excluding BIOL 089, BIOL 093, BIOL 191, and BIOL 197)		12
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:		4
CHEM 159	Biophysical Chemistry	
CHEM 161	Physical Chemistry I-Thermodynamics	
CHEM 163	Physical Chemistry II-Quantum Mechanics	
CHEM 165	Physical Chemistry III-Kinetics	
CHEM Electives (2 additional courses above CHEM 123 courses excluding CHEM 132 and CHEM 134)		8
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 051	Calculus I	4
MATH 053	Calculus II	4

## Bachelor of Science Major in Biochemistry

Students must complete a minimum of 124 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:

Reading  
 Writing  
 Quantitative analysis

## IV. Breadth Requirement

The student must complete 64 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 77 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
Select one of the following:		4
CHEM 159	Biophysical Chemistry	

CHEM 161	Physical Chemistry I-Thermodynamics	
CHEM 163	Physical Chemistry II-Quantum Mechanics	
CHEM 165	Physical Chemistry III-Kinetics	
CHEM Electives (2 course above CHEM 123 excluding CHEM 132 and CHEM 134)		8
BIOL 051	Principles of Biology	4
BIOL 061	Principles of Biology	4
BIOL 101	Genetics	4
Select one of the following:		4
BIOL 145	Microbiology	
BIOL 153	Cell Biology	
MATH 051	Calculus I	4
MATH 053	Calculus II	4
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	

**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 I-Thermodynamics	
CHEM 163	Physical Chemistry II-Quantum Mechanics	
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.

#### **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.

#### **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.

#### **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 023 with a "C-" or better, Chemistry Subject Test, or appropriate score on Pacific Diagnostic Chemistry test.

#### **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 "C-" 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.

**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 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 I-Thermodynamics. 4 Units.**

A classical course on equilibrium thermodynamics including the laws of thermodynamics, the Gibbs equations, the phase rule, solutions, chemical reactions, non-ideal systems, multi-component phase equilibrium and equilibrium electrochemistry. Three class periods a week are required. Prerequisites: CHEM 025, CHEM 027, MATH 055, PHYS 055 all with a "C-" or better or permission of instructor.

**CHEM 163. Physical Chemistry II-Quantum Mechanics. 4 Units.**

This course is a continuation of physical chemistry and includes quantum chemistry and applications, bonding, symmetry and group theory, atomic and molecular spectroscopy, and chemical kinetics. Three class periods a week are required. Prerequisites: CHEM 025, CHEM 027, MATH 055, PHYS 055 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 laboratory course is designed to illustrate experimentally the theoretical principles and methods of thermodynamics, quantum chemistry and kinetics. It provides a research orientation through the preparation of research manuscripts and oral presentations of results. Error analysis and statistical treatment of data are emphasized. Prerequisite: CHEM 159 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 197. Independent Research. 1-4 Units.**

Prerequisite: CHEM 025 with a "C-" or better.

**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.**

# Communication

Qingwen Dong, 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: *KPAC 89.7 FM* is the student-operated low wattage radio station on campus. *Pacific TV 2* is the closed circuit television station on campus. Both stations offer students experience in advertising sales, announcing, producing, and directing for a student audience.

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 practica and internships are important adjuncts to learning. These experiences are available both on and off campus in the communication areas of radio, television, public relations, journalism, organizational communication and forensics. Internships and practica are taken for pass/no credit.

## Internship and Practica 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. Students must participate in the mandatory internship seminar sessions, and a site-visit with the faculty supervisor.

## 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.

## Communication Faculty

Qingwen Dong, Professor and Chair, 1996, BA, Beijing Second Foreign Language Institute, 1983; MA, University of Missouri-Columbia, 1990; PhD, Washington State University, 1995.

Marlin Bates, Associate Professor, 2005, BA, University of the Pacific, 1996; MA, University of the Pacific, 1999; PhD, Pennsylvania State University, 2005.

Teresa G. Bergman, Associate Professor, 2006, BA, University of California, Berkeley, 1978; MA, San Francisco State University, 1991; PhD University of California, Davis, 2001.

Kenneth D. Day, Professor, 2006, BS, Indiana University, 1970; MA, 1975; MS, 1976; PhD, 1980.

Heather J. Hether, Assistant Professor, 2011, BA, York University, 1992; MA, 2003, 2007; PhD University of Southern California, 2009.

Randall J. Koper, Professor, 1985, BA, Michigan State University, 1974; MA, 1984; PhD 1985.

R. Alan Ray, Assistant Professor, 1987, BS, Memphis State University, 1977; MA, 1980; PhD, University of Missouri, 1986.

Jon F. Schamber, Professor, 1980, BA, University of the Pacific, 1974; MA, 1975; PhD, University of Oregon, 1982.

Paul Turpin, Associate Professor, 2007, BA, University of California, Berkeley, 1994; MA, University of Southern California, 1997; PhD, 2005.

## Bachelor of Arts Major in Communication

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 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:

- Reading
- Writing
- Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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 44 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 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 135	Principles of Public Relations	
COMM 137	Public Relations Case Studies and Problems	
COMM 140	Writing for Public Relations	
COMM 152	Public Relations Administration	

Minimum 2 units of internship or practicum: 2-4

COMM 087	Internship	
COMM 187	Internship	
COMM 089	Practicum	
COMM 189	Practicum	

### Capstone

COMM 150	The Capstone	4
COMM 151	Community Based Learning	2

Total Hours 46-48

**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 (1additional course)		2-4

Total Hours 19-21

**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.

**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.

**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.

**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.

**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. Political Advocacy. 4 Units.**

This course teaches the principles of persuasion in political contexts in the U.S. (types and characteristics of political audiences, official and unofficial advocacy campaigns, media framing of political news & commentary) from historical and theoretical perspectives. The focus is to make students aware of the constraints and opportunities in policy arguments and their public dissemination.

**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.

**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.

**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.

**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 to 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.

**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. This course is designed to foster and promote communication competence, including analytic capacity, media literacy and ability to identify ethical issues in communication. Preparation for future professional work and development are explored. Senior standing.

**COMM 151. Community Based Learning. 2 Units.**

This senior-level capstone course provides students with a supervised learning experience in an off-campus, community-based organization. Students apply their knowledge of communication theories and skills to the needs of local organizations, which allows them to contribute to the public good. Senior Standing.

**COMM 152. Public Relations Administration. 4 Units.**

Theoretically grounded, the course focuses on how public relations managers can effect change. Communication strategies for effective leadership and motivation of public relations professionals are emphasized. The course enhances critical skills of management for the understanding of public relations research, action/planning, communication and evaluation. Prerequisite: COMM 135. Prerequisite may be taken concurrently: COMM 137. Senior standing.

**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 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 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.**

## Earth & Environmental Sciences

Lydia Fox, Chair

### Degrees Offered

Bachelor of Arts

Bachelor of Science

### Majors Offered

Geology (BA, BS)

Environmental Science (BS)

Environmental Studies (BA)

### Minors Offered

Geology

Environmental Studies

The Bachelor of Arts in Geology is for liberal arts students with a strong interest in the earth and its environments, but who do not plan to pursue a career in geology. The breadth of a BA in geology is ideal for preparing students for professional degrees and successful careers in law, business, administration, or international relations. The Bachelor of Science in Geology prepares the student for professional employment or graduate study in geology. Students earning a BS in geology can obtain competitive jobs in a number of geoscience areas, including geotechnical and environmental consulting, where they assess geologic hazards and environmental impacts. Other career paths include working as a geologist involved with the exploration and production of fossil fuels and other important mineral resources. An increasing emphasis on environmental issues and growing demand for natural resources, in addition to recent retirement patterns in the geosciences, create a considerable demand for well-trained geoscientists. According to the American Geological Institute, Masters and PhD-level geoscientists have experienced effectively zero unemployment during the past 20 years.

The Bachelor of Science in Environmental Science major is designed to impart students with the practical skills and knowledge required to critically evaluate environmental problems and issues and provide applied solutions. The major is decidedly interdisciplinary in nature, and focuses

on the underlying natural processes that relate to the environment and understanding and employing the scientific method. The need for broadly trained scientists in the area of environmental science is critical and the understanding of the importance of this field provides many employment opportunities. A BS in Environmental Science can lead to numerous employment opportunities with many different agencies and areas. Typical employment could involve working for consulting firms performing environmental restoration, producing environmental impact studies for both governmental agencies and private firms, and additional vital biological services. Other types of employment can be found with regulatory agencies that seek to ensure compliance with environmental regulations and laws, with environmental law firms, or public health agencies. 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.

## Earth & Environmental Sciences Faculty

Lydia K. Fox, Associate Professor and Chair, 1990, BSE, Princeton University, 1981; PhD, University of California, Santa Barbara, 1989.

Kurtis Burmeister, Assistant Professor, 2005, BA, University of California at Santa Barbara, 1996; MA, 2000; PhD, University of Illinois, 2005.

Eugene Pearson, Professor, 1971, BA, Pomona College, 1967; PhD, University of Wyoming, 1972.

Laura Rademacher, Assistant Professor, 2005, BS, University of Wisconsin, Madison; PhD, University of California, Santa Barbara, 2002.

## Bachelor of Arts Major in Geology

Students must complete a minimum of 124 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 geology.

### 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

**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:

Reading

Writing

Quantitative analysis

### V. Breadth Requirement

The student must complete 64 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

Select one of the following:	4
GEOS 051 Dynamic Planet	
GEOS 053 Earth and Life Through Time	
GEOS 061 Geology of California	
GEOS 065 Regional Geology	
GEOS 100 Mineralogy	5
GEOS 102 Spatial Analysis and GIS	4
GEOS 110 Igneous and Metamorphic Petrology	4
GEOS 112 Sedimentary Petrology	4
GEOS 114 Structural Geology	4
GEOS 161 Geologic Field Methods	4
Select one of the following:	4
GEOS 053 Earth and Life Through Time	
GEOS 120 Paleontology	
Select one of the following:	4
GEOS 142 Geochemistry	
GEOS 144 Geomorphology	
GEOS 145 Engineering Geology	
GEOS 148 Hydrogeology	
Select one of the following:	4-5
CHEM 023 Elements of Chemistry	
CHEM 024 Fundamentals of Chem	
CHEM 025 General Chemistry	

## Bachelor of Science Major in Geology

Students must complete a minimum of 124 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 geology.

### 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:

- Reading
- Writing
- Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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

Select one of the following: 4

GEOS 051	Dynamic Planet	4
GEOS 053	Earth and Life Through Time	
GEOS 061	Geology of California	
GEOS 065	Regional Geology	
GEOS 100	Mineralogy	5
GEOS 102	Spatial Analysis and GIS	4
GEOS 110	Igneous and Metamorphic Petrology	4
GEOS 112	Sedimentary Petrology	4
GEOS 114	Structural Geology	4
GEOS 142	Geochemistry	4
GEOS 161	Geologic Field Methods	4
Select one of the following:		4
GEOS 053	Earth and Life Through Time	

GEOS 120	Paleontology	
Select two of the following applied geology courses:		8
GEOS 144	Geomorphology	
GEOS 145	Engineering Geology	
GEOS 148	Hydrogeology	
GEOS Electives (1 additional course excluding GEOS 105 and GEOS 193)		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 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
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MATH 053	Calculus II	4
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Select one of the following: 3-4

GEOS 187	Internship in Geosciences	
GEOS 197	Undergraduate Research	

## Bachelor of Science Major in Environmental Science

Students must complete a minimum of 124 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 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:

Reading  
Writing  
Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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

GEOS 043	Environmental Science for Informed Citizens	4
GEOS 102	Spatial Analysis and GIS	4
GEOS 103	Global Change	4
GEOS 106	Earth Materials and the Environment	4
GEOS 144	Geomorphology	4
GEOS 148	Hydrogeology	4
BIOL 051	Principles of Biology	4
BIOL 061	Principles of Biology	4
MATH 037	Introduction to Statistics and Probability	4

Select one of the following: 4-5

CHEM 024	Fundamentals of Chem	
CHEM 025	General Chemistry	

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 130	Plant Kingdom	
BIOL 193	Fishes of California	

Select one of the following: 4

BIOL 175	Ecology	
BIOL 176	Ecology and Conservation Biology	

Select two of the following: 8

CHEM 141	Analytical Chemistry	
CIVL 060	Water Quality	
CIVL 171	Water and Environmental Policy	
ECON 157	Environmental and Natural Resource Economics	
GEOS 142	Geochemistry	

Select one of the following: 3-4

GEOS 045	Soil, Water, and War	
HIST 136	American Environmental History	
INTL 174	Global Environmental Policy	
SOCI 111	Environment and Society	

Select one of the following: 4

ENGL 126	Literature and the Environment	
HIST 052	John Muir's World: Origins of the Conservation Movement	
PHIL 035	Environmental Ethics	

Select one of the following: 3-4

BIOL 171	Methods in Field Biology	
GEOS 163	Environmental Field Methods	

Select one of the following: 4

GEOS 187	Internship in Geosciences	
GEOS 197	Undergraduate Research	
BIOL 197	Undergraduate Research	
CHEM 197	Independent Research	

GEOS 185 Capstone Seminar in Environmental Science 3

## Bachelor of Arts Major in Environmental Studies

Students must complete a minimum of 124 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

Reading

Writing

Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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

Select one of the following: 4-5

CHEM 023 Elements of Chemistry

CHEM 024 Fundamentals of Chem

CHEM 025 General Chemistry

Select two of the following: 8

BIOL 035 Environment: Concepts and Issues

BIOL 041 Introduction to Biology

BIOL 051 Principles of Biology

BIOL 061 Principles of Biology

BIOL 076 Marine Biology

BIOL 077 Marine Birds and Mammals

BIOL 079 California Flora

BIOL 130 Plant Kingdom

GEOS 043 Environmental Science for Informed Citizens 4

Select one of the following: 4

GEOS 051 Dynamic Planet

GEOS 053 Earth and Life Through Time

GEOS 055 Physical Geography

GEOS 061 Geology of California

GEOS 065 Regional Geology

Select two of the following: 7-8

CIVL 171 Water and Environmental Policy

ECON 157 Environmental and Natural Resource Economics

GEOS 045 Soil, Water, and War

HIST 136 American Environmental History

INTL 174 Global Environmental Policy

SOCI 111 Environment and Society

Select two of the following: 8

ENGL 126 Literature and the Environment

HIST 052 John Muir's World: Origins of the Conservation Movement

PHIL 035 Environmental Ethics

Select one of the following: 4

MATH 035 Elementary Statistical Inference

MATH 037 Introduction to Statistics and Probability

Select two of the following: 3-4

GEOS 187 Internship in Geosciences

MUIR 187 Internship

GEOS 197 Undergraduate Research

BIOL 197 Undergraduate Research

## VII. Concentration Requirements

Select one of the following concentrations:

### Biology Concentration

BIOL 051 Principles of Biology 4

BIOL 061 Principles of Biology 4

Select one of the following: 4-5

BIOL 175 Ecology

BIOL 176 Ecology and Conservation Biology

Select two of the following: 8

BIOL 074 Biology of Insects

BIOL 076 Marine Biology

BIOL 077 Marine Birds and Mammals

BIOL 079 California Flora

BIOL 130 Plant Kingdom

BIOL 151 Parasitology

BIOL 193 Fishes of California

### Geosciences Concentration

Select three of the following: 12

GEOS 102 Spatial Analysis and GIS

GEOS 103 Global Change

GEOS 106 Earth Materials and the Environment

GEOS 114 Structural Geology

GEOS 142 Geochemistry

GEOS 144 Geomorphology

GEOS 148 Hydrogeology

### Policy Concentration

Select three of the following: 11-12

CIVL 171 Water and Environmental Policy

ECON 157 Environmental and Natural Resource Economics

GEOS 045 Soil, Water, and War

HIST 136 American Environmental History

INTL 174 Global Environmental Policy

POLS 119 Government in Action: Public Policy Analysis

POLS 193 Comparative Environmental Policy

SOCI 111 Environment and Society

**Note:** 1) ECON 157 has a prerequisite of ECON 053. 2) No prerequisite of POLS 051 required for INTL 174.

## 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

GEOS 051 Dynamic Planet

GEOS 053 Earth and Life Through Time

GEOS 055 Physical Geography

GEOS 057 Earth Systems Science

GEOS 061 Geology of California

GEOS 065 Regional Geology

GEOS Electives (4 additional courses GEOS 100 and above excluding GEOS 105) 16

## 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:

Select two of the following: 8-10

GEOS 041 Environmental Geology

GEOS 043 Environmental Science for Informed Citizens

GEOS 061	Geology of California	
GEOS 065	Regional Geology	
BIOL 035	Environment: Concepts and Issues	
BIOL 079	California Flora	
CHEM 023	Elements of Chemistry	
CHEM 024	Fundamentals of Chem	
CHEM 025	General Chemistry	
Select two of the following:		7-8
CIVL 171	Water and Environmental Policy	
ECON 071	Global Economic Issues	
ECON 157	Environmental and Natural Resource Economics	
GEOS 045	Soil, Water, and War	
INTL 174	Global Environmental Policy	
Select one of the following:		4
ENGL 126	Literature and the Environment	
HIST 052	John Muir's World: Origins of the Conservation Movement	
HIST 136	American Environmental History	
PHIL 035	Environmental Ethics	

**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.

#### Geosciences Courses

#### **GEOS 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.

#### **GEOS 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.

#### **GEOS 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.

#### **GEOS 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.

#### **GEOS 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 or GEOS 065.

#### **GEOS 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.

#### **GEOS 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.

#### **GEOS 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.

#### **GEOS 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 or GEOS 065.

#### **GEOS 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 or GEOS 061.

#### **GEOS 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; GEOS 051 or GEOS 053 or GEOS 061 or GEOS 065.

#### **GEOS 102. Spatial Analysis and GIS. 4 Units.**

This general education course of lecture, laboratory, and field work to support a research project familiarizes the student with methods of spatial analysis. The learning objectives include: identifying and describing geo-referenced data (i.e. linked to a specific location); describing the variability of geo-referenced data; observing, designing, and performing spatial data research; comparing maps at different scales and in different projections; using spatial data to answer questions and make management decisions; using methods of spatial data collection and analysis, including geographic information systems (GIS), geographic positioning systems (GPS) and surveying equipment.

#### **GEOS 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 GEOS course; CHEM 023 or CHEM 024 or CHEM 025 or CHEM 027.

#### **GEOS 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 GEOS course and permission of instructor.



**GEOS 106. Earth Materials and the Environment. 4 Units.**

This lecture, laboratory, and field study course is a study of the origin, occurrence, identification, and environmental significance of earth materials (minerals, rocks, soils). Laboratory work includes the study of minerals and rocks in hand sample, as well as in thin section and with X-ray diffraction analysis. Environmental aspects such as the health effects of minerals, engineering properties of soil, acid mine drainage, etc. are also addressed. This course includes laboratory and field work. Prerequisite: an introductory GEOS course and a college level course in chemistry (CHEM 023 or CHEM 024 or CHEM 025 or CHEM 027).

**GEOS 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: GEOS 100 or permission of instructor.

**GEOS 112. Sedimentary Petrology. 4 Units.**

This lecture, laboratory, and field work course studies characteristics, occurrence, origin and classification of sedimentary rocks with an emphasis on the materials and processes of sedimentation. Prerequisite, may be taken concurrently: GEOS 100 or permission of instructor.

**GEOS 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: GEOS 051 or permission of instructor.

**GEOS 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: GEOS 053 or permission of instructor.

**GEOS 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: GEOS 110 and GEOS 112.

**GEOS 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 GEOS course; CHEM 024 or CHEM 025 or CHEM 027; MATH 041.

**GEOS 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 GEOS course.

**GEOS 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.

**GEOS 148. Hydrogeology. 4 Units.**

This lecture, laboratory, and field work course studies the different processes of water movement, analysis of the importance of water in Earth systems, the interactions of surface and subsurface water systems with the environment, and water as a human resource. Laboratory exercises and field work involve methodologies and principles used in research and practical applications. Prerequisites: an introductory GEOS course; MATH 051; CHEM 024 or CHEM 025 or CHEM 027 with a grade of "C" or better.

**GEOS 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 GEOS course, GEOS 110 and GEOS 114 or permission of instructor.

**GEOS 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.

**GEOS 185. Capstone Seminar in Environmental Science. 3 Units.**

This seminar focuses on local/regional environmental issues. Informed members of the community/region present the issues and then students work in teams to address scientific aspects of selected environmental problems. Prerequisites: GEOS 163. Senior standing in the Environmental Science major.

**GEOS 187. Internship in Geosciences. 2-4 Units.****GEOS 191. Independent Study. 2-4 Units.****GEOS 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.

**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.

**BIOL 051. Principles of Biology. 4 Units.**

A lecture and laboratory introduction to evolutionary biology and ecology. Preparation for continued studies in biological science. Prerequisite: completion of the Fundamental Skills Reading requirement.

**BIOL 061. Principles of Biology. 4 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. Prerequisite: Fundamental Skills Reading requirement.

**BIOL 072. Vertebrate Biology. 4 Units.**

Taxonomy, life history, ecology and evolutionary history of vertebrates are emphasized. Prerequisites: BIOL 051 and BIOL 061.

**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.

**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.

**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.

**BIOL 079. California Flora. 4 Units.**

Identification and classification of flowering plants, gymnosperms, ferns and fern allies as represented in Northern Calif. are studied.

**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.

**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.

**BIOL 175. Ecology. 4 Units.**

The structure and dynamics of populations, biotic communities and ecosystems, is emphasized with particular focus upon relationships of organisms to their environments. In addition to lecture, one three-hour laboratory per week is required. Prerequisites: BIOL 051 and BIOL 061.

**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.

**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.

**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.

**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.

**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 023 with a "C-" or better, Chemistry Subject Test, or appropriate score on Pacific Diagnostic Chemistry test.

**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.

**CHEM 197A. Independent Research. 1-4 Units.****CHEM 197B. Independent Research. 1-4 Units.****CHEM 197C. Independent Research. 1-4 Units.****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.****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; and MATH 051 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.

**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.

**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.

**ENGL 126. Literature and the Environment. 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.

**GEOS 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.

**GEOS 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.

**GEOS 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.

**GEOS 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 or GEOS 065.

**GEOS 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.

**GEOS 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.

**GEOS 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 or GEOS 065.

**GEOS 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 or GEOS 061.

**GEOS 102. Spatial Analysis and GIS. 4 Units.**

This general education course of lecture, laboratory, and field work to support a research project familiarizes the student with methods of spatial analysis. The learning objectives include: identifying and describing geo-referenced data (i.e. linked to a specific location); describing the variability of geo-referenced data; observing, designing, and performing spatial data research; comparing maps at different scales and in different projections; using spatial data to answer questions and make management decisions; using methods of spatial data collection and analysis, including geographic information systems (GIS), geographic positioning systems (GPS) and surveying equipment.

**GEOS 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 GEOS course; CHEM 023 or CHEM 024 or CHEM 025 or CHEM 027.

**GEOS 106. Earth Materials and the Environment. 4 Units.**

This lecture, laboratory, and field study course is a study of the origin, occurrence, identification, and environmental significance of earth materials (minerals, rocks, soils). Laboratory work includes the study of minerals and rocks in hand sample, as well as in thin section and with X-ray diffraction analysis. Environmental aspects such as the health effects of minerals, engineering properties of soil, acid mine drainage, etc. are also addressed. This course includes laboratory and field work. Prerequisite: an introductory GEOS course and a college level course in chemistry (CHEM 023 or CHEM 024 or CHEM 025 or CHEM 027).

**GEOS 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: GEOS 051 or permission of instructor.

**GEOS 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 GEOS course; CHEM 024 or CHEM 025 or CHEM 027; MATH 041.

**GEOS 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 GEOS course.

**GEOS 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.

**GEOS 148. Hydrogeology. 4 Units.**

This lecture, laboratory, and field work course studies the different processes of water movement, analysis of the importance of water in Earth systems, the interactions of surface and subsurface water systems with the environment, and water as a human resource. Laboratory exercises and field work involve methodologies and principles used in research and practical applications. Prerequisites: an introductory GEOS course; MATH 051; CHEM 024 or CHEM 025 or CHEM 027 with a grade of "C" or better.

**GEOS 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.

**GEOS 185. Capstone Seminar in Environmental Science. 3 Units.**

This seminar focuses on local/regional environmental issues. Informed members of the community/region present the issues and then students work in teams to address scientific aspects of selected environmental problems. Prerequisites: GEOS 163. Senior standing in the Environmental Science major.

**GEOS 187. Internship in Geosciences. 2-4 Units.****GEOS 187A. Internship in Geosciences. 2-4 Units.****GEOS 187B. Internship in Geosciences. 2-4 Units.****GEOS 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.

**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.

**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.

**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 signal 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.

**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.

**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.

**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?

**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.

**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.

## Economics

Peter Meyer, Chair  
pjmeyer@sbcglobal.net

### Degrees Offered

Bachelor of Arts

Bachelor of Science

### Majors Offered

Economics (BA)

- General Social Science
- Political Economy
- International

Economics (BS)

- Social Science
- Applied Economics
- Mathematical Economics

Computing and Applied Economics (BS)

### Minors Offered

Economics

### Cooperative Programs Offered

**5-year Applied International Economics (MS at Marquette University, Milwaukee, Wisconsin)**

The study of Economics examines how societies choose to use their limited resources to produce goods and services; it is also concerned with the mechanisms through which societies decide to distribute products to its members. Economics, therefore, by necessity studies interactions among households, firms and governmental institutions. Economic policy decisions ultimately rest upon economic theory, so considerable care is taken to explain the basic theories which render economics a scientific discipline.



## Mission

The mission of the Economics Department is twofold. First, students from all majors are taught how to conceptualize their own roles in society, whether acting as individuals, members of private-sector firms or as public servants in the government sector. Second, economics majors and minors learn how to apply higher-level theoretical and technical skills (e.g. statistics and computers) to any number of specialized areas within the broad reach of the discipline.

## Economics Faculty

Peter J. Meyer, Associate Professor and Chair, 1985, AB, Harvard University, 1972; PhD, University of California, Berkeley, 1979.

Michelle M. Amaral, Assistant Professor, 2007, BS, University of the Pacific, 1998; MA, University of Virginia, 2001; PhD University of California, Davis, 2007.

Benjamin N. Dennis, Associate Professor, 1996, BA, Michigan State University, 1990; PhD, Harvard University, 1996.

Dennis O. Flynn, Professor, 1979, BS, University of Nevada, 1968; MS, 1972; PhD, University of Utah, 1977.

William E. Herrin, Professor, 1985, BS, Wilkes College, 1980; MA, State University of New York, Binghamton, 1982; PhD, 1985.

David E. Keefe, Professor Emeritus, 1978, BS, Cornell University, 1965; PhD, University of California, Berkeley, 1980.

Sharmila K. King, Associate Professor, 2001, BA, University of York, England, 1992; MA, San Francisco State University, 1996; PhD, University of California, Davis, 2001.

J. Farley Staniec, Associate professor, 1993, BS, University of Delaware, 1986; MA, Duke University, 1988; PhD, 1992.

Simge Tarhan, Assistant Professor, 2011, BA, Bogazici University, Istanbul, Turkey, 2003; MA, 2008, University of Minnesota, Twin Cities, PhD 2009.

Niru Yadav, Assistant Professor, 2011, BA, Randolph-Macon Woman's College, 2001; MA, 2003, Indiana University, PhD 2007.

## 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 124 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:

Reading

Writing

Quantitative analysis

### V. Breadth Requirement

Students must complete 64 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
Select one of the following:		4
MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	

### VII. Complete One Of The Following Tracks

#### General Social Science Track

ECON 111	History of Economic Thought	4
ECON 161	Computer Applications in Economics	4
ECON Electives (4 additional courses ECON 071 or higher, excluding ECON 101L, ECON 103L & ECON 191)		16

#### Political Economy Track

ECON 111	History of Economic Thought	4
ECON 171	Political Economy	4
POLS 011	Introduction to Political Science	4
POLS 132	Modern to Contemporary Political Theory	4
ECON Electives (2 additional courses ECON 071 or higher, excluding ECON 101L, ECON 103L & ECON 191)		8
POLS Electives (2 approved Political Science electives)		8

#### International Track

ECON 111	History of Economic Thought	4
ECON 121	International Trade	4
ECON 123	International Finance	4
ECON 125	Economic Development	4

ECON 161	Computer Applications in Economics	4
Select two of the following international courses:		
BUSI 163	International Financial Management	8
ECON 118	Globalization History: Economic, Environmental, and Demographic Interactions	
INTL 174	Global Environmental Policy	
POLS 164	International Political Economy	
LANG 025	Intermediate Language, 4th Sem (Four (4) semesters of one (1) non-English language, or proven competence at the 4th semester level.)	4

**Note: 1)** Other international electives can be approved by the Economics Department.

## Bachelor of Science Major in Economics

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 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:

- Reading
- Writing
- Quantitative analysis

### IV. Breadth Requirement

Students must complete 64 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
Select one of the following:		
MATH 037	Introduction to Statistics and Probability	4
MATH 039	Probability with Applications to Statistics	4

### VI. Complete One Of The Following Tracks:

#### Social Science Track

ECON 111	History of Economic Thought	4
ECON 190	Econometrics	4
ECON Electives (6 additional courses ECON 071 or higher, excluding ECON 101L, ECON 103L & ECON 191)		
Select one of the following groups:		
4-12		

Group A		
MATH 033	Elements of Calculus	
Group B		
MATH 051	Calculus I	
MATH 053	Calculus II	
MATH 055	Calculus III	

#### Applied Economics Track

Select one of the following:		
ECON 161	Computer Applications in Economics	4
ECON 190	Econometrics	
Select one of the following:		
4		
MATH 033	Elements of Calculus	
MATH 045	Introduction to Finite Mathematics and Calculus	
ECON Electives (Four additional courses numbered ECON 071 or higher, excluding ECON 101L, ECON 103L & ECON 191)		
BUSI 031	Principles of Financial Accounting	4
BUSI 053	The Legal and Ethical Environment of Business	4
BUSI Elective (one 4-unit BUSI course beyond the required BUSI 031 and BUSI 053)		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 (Two additional courses numbered ECON 071 or higher excluding ECON 191)		
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
Select one of the following:		
MATH 072	Operations Research Models	4
MATH 074	Discrete and Combinatorial Mathematics	4
Select one of the following:		
MATH 141	Linear Algebra	4

MATH Elective (Two 4-unit MATH courses MATH 049 or higher) \* 8

\* Math electives must be beyond the required MATH 051, MATH 053, MATH 055, MATH 072 or MATH 074, and MATH 141 or MATH 145, but not including MATH 161, MATH 162 and MATH 166.

## Bachelor of Science Major in Computing and Applied Economics

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 computing and applied 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:

- Reading
- Writing
- Quantitative analysis

### IV. Breadth Requirement

Students must complete 64 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 161	Computer Applications in Economics	4
ECON 190	Econometrics	4
Select one of the following:		4
MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
COMP 047	Discrete Math for Computer Science	4
COMP 051	Introduction to Computer Science	4
COMP 053	Data Structures	4
COMP 101	Application Development	4
COMP 157	Design and Analysis of Algorithms	4
ECPE 170	Computer Systems and Networks	4
ECON Electives (Two courses ECON 071 or higher)		8
COMP Electives (Two courses, COMP 041, COMP 127 or higher)		8

## 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

Students must complete a minimum of 6 courses at Pacific with a Pacific minor grade point average of 2.0 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 (Four additional courses numbered ECON 071 or higher excluding ECON 101L, and ECON 191)		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 a wide variety of current and/or controversial economic issues. This course is ideal for students who are unlikely to take another economics course; however, for students choosing to major or minor in economics after taking this course, ECON 051 may substitute for the ECON 055 requirement. Students can receive departmental credit for ECON 051 only if it is taken prior to both ECON 053 and ECON 055.

#### **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 Reading requirement and algebra skills as evidenced by a passing score on the General Education quantitative skills examination or the equivalent SAT Subject Test in Math, or MATH 005 or MATH 007 or MATH 033 or MATH 041 or MATH 045 or MATH 051 or MATH 053 or MATH 055, or a 4 or higher on the AP Calculus AB or BC examination.

#### **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 Reading requirement and algebra skills as evidenced by a passing score on the General Education quantitative skills examination or the equivalent SAT Subject Test in Math, or MATH 005 or MATH 007 or MATH 033 or MATH 041 or MATH 045 or MATH 051 or MATH 053 or MATH 055, or a 4 or higher on the AP Calculus AB or BC examination.

#### **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.

#### **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 118. Globalization History: Economic, Environmental, and Demographic Interactions. 4 Units.**

'Globalization' is conveniently considered a recent, even post-World War II, phenomenon. This conventional notion is challenged in this course, where we analyze new research that states that deep worldwide connections have existed for many centuries. The course is divided into three sections. Part I examines geographical and environmental factors that determined living standards in specific regions throughout the world during the past 13,000 years. Part II focuses on the birth of global trade beginning in the 16th century. Dynamics within China played a crucial role, while Europeans were middlemen (rather than prime movers) in this process. In Part III of the course, the Industrial revolution in Europe is compared with industrial condition within China, Japan, and elsewhere simultaneously. A debate is discussed concerning whether industrialization occurred first in northwest Europe because of internal conditions within a European core, versus a view that environmental constraints at a global level played a key role in determining why industrialization first appeared within northwest Europe. 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.

**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 and 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 150. Wealth and Debt. 4 Units.**

The purpose of ECON 150 "Wealth and Debt" is threefold. First, present a new economic theory, the Unified Theory of Prices, a set of models used throughout the course for analysis of Wealth and Debt issues. Second, compare and contrast the Unified Theory of Prices with conventional Microeconomic Theory, as well as with conventional Macroeconomic Theory. Third, use tools of the Unified Theory of Prices for student research projects that focus on aspects of Wealth and/or Debts. Discussion and research topics include the current global financial crisis, student debts, household debts, corporate debts, government debts, fiscal policies, monetary policies, wealth creation, wealth transfers, wealth destruction, and wealth distribution. Classical economists prior to the 20th century focused on issues connected to wealth (Adam Smith's famous book was named the Wealth of Nations...); so-called Neoclassical economists subsequently focused on issues connected to income flows. The Unified Theory of Prices returns focus to wealth stocks, but in the context of flows that influence stocks of wealth; in this sense, the Unified Theory of Prices can be seen as a call to return to Classical roots. The Unified Theory of Prices aspires to provide tools for improved analysis of Wealth and Debt issues that currently confound economists and non-economists worldwide. Prerequisites: ECON 053 and ECON 055 with a "D" or better or permission of the 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.

**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 033 or permission of instructor.

**ECON 161. Computer Applications in Economics. 4 Units.**

A quantitative analysis of a variety of micro- and macroeconomic problems by means of the computer. The emphasis is upon the application of economic and statistical models, e.g., input-output, linear programming and linear regression. These models and their computer analogues are used to evaluate economic changes due to such phenomena as the energy, pollution, defense spending and inflation/unemployment problems. Prerequisites: ECON 053 and ECON 055; MATH 037 or MATH 039 or MATH 130 or MATH 131 or permission of instructor. Recommended: some familiarity with computer programming.

**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 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.

### 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 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 051 or ECON 055; MATH 037 or MATH 039 or MATH 130 or MATH 131.

### 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.

## English

Eric Sonstroem, Chair

### Degrees Offered

Bachelor of Arts

### Majors Offered

English

### Minors Offered

English

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

Creative Writing

Professional Writing

English Literature

American Literature

World Literature

Film Studies

Interdisciplinary Studies

Language and Critical Theory

Gender Studies

### Degrees in English

Undergraduate majors may focus their elective courses to emphasize writing, literature, language, or film studies, with additional concentrations listed above. These concentrations are optional and encouraged. 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.

### English Faculty

Eric A. Sonstroem, Associate Professor and Chair, 2001, BA, Westeyan University, 1988; MA, Indiana University, 1990; PhD, 1999.

Diane M. Borden, Professor and Film Studies Program Director, 1971, BA, Lone Mountain College, 1964; MA, San Francisco State University, 1966; PhD, University of California, Santa Cruz, 1971.

Andreea D. Boboc, Associate Professor, 2009, BA, Ludwig-Maximilians University, 1997; MA, 1998; PhD, University of Michigan, Ann Arbor, 2006.

Cynthia Dobbs, Associate Professor, 1998, BA, Pomona College, 1987; PhD, University of California, Berkeley, 1998. Member, Phi Beta Kappa.

Jeffrey Hole, Assistant Professor, 2009, BA, Aquinas College, 1995; MA, University of Pittsburgh, 1999; PhD, University of Pittsburgh, 2007.

Courtney Lehmann, Professor, 1998, BA, University of North Carolina at Chapel Hill, 1991; MA, Indiana University, 1994; PhD, 1998. Member, Phi Beta Kappa.

John Lessard, Associate Professor, 2006, BA, Rice University, 1997; MA, University of Pennsylvania 1999; PhD, 2006.

Camille Norton, Professor, 1994, BA, University of Massachusetts, 1983; MA, Harvard University, 1987; PhD, 1992.

Amy Elizabeth Smith, Associate Professor, 1999, BA, West Virginia University, 1986; MA, The Pennsylvania State University, 1991; PhD, 1998.

Xiaojing Zhou, Professor, 2002, BA, College of Foreign Languages and Literature, Shandong University, China, 1974; MA, University of Regina, Saskatchewan, Canada, 1989; PhD, Memorial University of Newfoundland, St. John's, Canada, 1995.

## 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 124 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:

Reading

Writing

Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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 11 courses, adding up to at least 40 units that includes:

### Lower Division Core Courses

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

Five ENGL electives (Four additional upper-division courses numbered above 100); one elective may be a lower division survey course or ENGL 031 16-20

## VII. Concentration Requirements (Optional)

Students complete a minimum of three courses for a concentration. These courses satisfy ENGL electives above.

### Creative Writing

Select three of the following:

ENGL 107	Creative Writing: Nonfiction	
ENGL 111	Creative Writing: Fiction and Drama	
ENGL 113	Creative Writing: Poetry	
ENGL 115	Screenwriting	

### Professional Writing

Select three of the following:

ENGL 082	How English Works	
ENGL 106	Content Engineering	
ENGL 109	Professional Communications	
ENGL 182	History of the English Language	

### English Literature

ENGL 043	British Literature after 1800	4
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Select two of the following:

ENGL 130	Chaucer and His Age	
ENGL 131	Shakespeare	
ENGL 133	Major British Authors	
ENGL 134	Jane Austen	
ENGL 141	Topics in British Literature Pre-1800	
ENGL 143	Topics in British Literature after 1800	

### American Literature

Select one of the following:

ENGL 051	American Literature before 1865	
ENGL 053	American Literature after 1865	

Select two of the following:

ENGL 135	Major American Authors	
ENGL 151	Topics in American Literature before 1865	
ENGL 153	Topics in American Literature after 1865	
ENGL 161	Topics in American Ethnic Literature	

### World Literature

ENGL 063	Masterpieces of World Literature	4
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Select two of the following:

ENGL 122	Literature and Psychology	
ENGL 123	Film, Literature, and the Arts	
ENGL 125	Critical Colloquium	
ENGL 126	Literature and the Environment	
ENGL 127	Contemporary Critical Issues	
ENGL 128	Science and Literature	
ENGL 163	Topics in Transnational Literatures	
ENGL 164	WAR	
ENGL 166	Literature and the Law	

### Film Studies

Select three of the following:

ENGL 031	Aesthetics of Film	
ENGL 115	Screenwriting	
ENGL 117	Film Production	
ENGL 121	Major Filmmakers	
ENGL 122	Literature and Psychology	
ENGL 123	Film, Literature, and the Arts	

### Interdisciplinary Studies

Select three of the following:

ENGL 122	Literature and Psychology	
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ENGL 123	Film, Literature, and the Arts
ENGL 125	Critical Colloquium
ENGL 126	Literature and the Environment
ENGL 127	Contemporary Critical Issues
ENGL 128	Science and Literature
ENGL 164	WAR

### Language and Critical Theory

Select three of the following:

ENGL 082	How English Works
ENGL 122	Literature and Psychology
ENGL 125	Critical Colloquium
ENGL 127	Contemporary Critical Issues
ENGL 182	History of the English Language

### 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.

## Minor in English

Students must complete a minimum of six courses (22 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 (Three additional courses numbered 100 or above)		10

### English Courses

#### 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.

#### 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.

#### 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.

#### 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.

#### 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.

#### 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.

#### 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.

#### 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 an 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.

#### 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. 3 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 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 and Drama. 4 Units.**

ENGL 111 emphasizes steady, productive writing of stories and plays. Practical advice is offered in fictional and dramatic 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.

**ENGL 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.

**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.

**ENGL 122. Literature and Psychology. 4 Units.**

Students study the psychoanalytical methods in the interpretation of literary texts through a close investigation of language, narrative, structure, symbol and archetypal patterns. This course considers such phenomena as family romance, primal scene, return of the repressed, and schizophrenic experience as related to film, to the literary work and the creative process.

**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.

**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.

**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.

**ENGL 126. Literature and the Environment. 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.

**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.

**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.

**ENGL 130. Chaucer and His Age. 4 Units.**

This course focuses on Chaucer as the central figure of the medieval period, with in-depth study of *The Canterbury Tales*, *The Book of the Duchess*, *The House of Fame*, *The Parliament of Fowls*, and Chaucer's romance, *Troilus and Criseyde*. Students are introduced to historical and cultural frameworks for the medieval world.

**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.

**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.

**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.

**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 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 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.

**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 milieu, 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?

**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 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.

## Ethnic Studies Program

Zhou Xiaojing, 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.

## Ethnic Studies Program Faculty

### Minor in Ethnic Studies

Students must complete a minimum of 20 units and 6 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 (Five additional courses from Ethnic Studies course offerings)		16-20

**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.

<b>Optional</b>		<b>4</b>
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.

##### 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.

##### 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.

**ANTH 054. Antropología Cultural. 4 Units.**

Cultural Anthropology (ANTH 053) is taught in Spanish. See course description above.

**ANTH 112. Physical Anthropology. 4 Units.**

Students examine human origins and an evaluation of humanity's place in the natural world. This course examines processes and principles of human evolution from an anthropological perspective which emphasize the interaction between biology and culture. Major topics include reproduction and genetics, human variation, primate studies, and the fossil record. After reviewing the basic tenets of the "anthropological perspective" and evolutionary science, the course examines micro and macro level processes of evolution, that focus on the origins and dispersal of our own species, *Homo sapiens*. Finally, the course evaluates the current state of human biocultural evolution, the significance of human diversity, and the role of humans in ongoing planetary processes of change and interaction. General Education IIIC.

**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.

**COMM 143. Intercultural Communication. 4 Units.**

This course analyzes the major variables affecting interpersonal communication between persons of different cultural backgrounds.

**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.

**EDUC 129. Seminar: Cultural Basis of Conflict in Education. 3 Units.**

Analysis of cultural diversity in American classrooms. Not open to doctoral students.

**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.

**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.

**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.

**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.

**EDUC 229. Seminar: Cultural Basis Conflicts in Education. 3 Units.**

This seminar analyzes cultural diversity in American classrooms. It is not open to doctoral students.

**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.

**ENGL 126. Literature and the Environment. 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.



**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.

**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.

**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.

**ETHN 191A. Independent Study. 1-4 Units.****ETHN 193. Special Topics. 2-4 Units.****ETHN 193A. Special Topics. 1-4 Units.****ETHN 193B. Special Topics. 1-4 Units.****ETHN 193C. Special Topics. 1-4 Units.****ETHN 197A. Undergraduate Research. 2-4 Units.****ETHN 197B. Undergraduate Research. 2-4 Units.****ETHN 197C. Undergraduate Research. 2-4 Units.****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.

**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.

**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.

**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.

**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.

**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.

**HIST 134. African-American History. 4 Units.**

The course examines the social, economic, cultural, and political history of African-Americans and the development of concepts of race and racism. The course begins with the origins of slavery in colonial times, then on to the Civil War and Reconstruction, the Great Migration to the North and West, World War II and the civil rights era and continues to the present day.

**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.

**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.

**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.

**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.

**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.

**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.

**PSYC 129. Developmental Psychology. 4 Units.**

Students compare major models and specific theories of the development of behavior and examine an overview of research methodology that includes those methods particularly appropriate to the study of developmental phenomena. The major emphasis is on current empirical theory and data about child development. Field observation of children and/or adolescents is required. Prerequisite: PSYC 105 or permission of the instructor.

**PSYC 155. Couples and Family Therapy. 4 Units.**

This course is an introduction to couples and family therapy, theory, and practice. Behavioral psychology is used as the foundation, and students learn a broad systems perspective. Students are familiarized with the history of family therapy, as well as current family therapy strategies. Sophomore standing.

**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.

**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 an problematic while deflecting attention from their own practices. This course focuses predominantly on the US, but also engages in comparative analysis with other countries.

**SOCI 061. 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.

**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.

**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.

**SOCI 123. Sex and Gender. 4 Units.**

The course material explores how various social institutions in contemporary society shape our understanding of gender, sex and sexuality. Although grounded in sociological analysis, the class is interdisciplinary and intersectional in nature as many of the course texts are drawn from a range of social science disciplines. The lectures, assigned reading, and activities address how sex and gender are intricately linked to other social statuses such as race, class and age. Prerequisite: a course in sociology or permission of instructor.

### **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.

### **SOCI 127. Family and Marriage. 4 Units.**

This course explores the social dynamics of human intimacy within families. Family life is examined through a historical, cultural and political lens to place the social institution in a broad societal context. The evolution of the family is studied both historically and comparatively. Special attention is given to the sociological significance of sexuality, changing roles of men and women, intimacy, marriage and divorce, domestic violence, parenthood, childhood and aging, and alternative ways of living together. The course texts examine family life across race and ethnic groups, social class, religion and geographic location. Prerequisite: a course in sociology or permission of instructor.

### **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.

### **SOCI 141. Prejudice and Racism. 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, with an emphasis on prejudice against African Americans, 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.

### **SOCI 172. Social Inequality. 4 Units.**

Are some more equal than others? 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. Prerequisite: SOCI 071 or permission of instructor. Recommended: SOCI 171.

### **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.

### **SPTS 141. Sport in America. 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 & gender, sport & race, global sports worlds, drugs and violence in sport, sport & 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.

## **Film Studies**

Diane Borden, Director

### **Majors Offered**

#### **Film Studies**

### **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.

### **Degrees in Film**

The goals of the Film Studies major are as follows:

- Place Film Studies in the context of the Liberal Arts where students analyze the elements of film such as narrative, image, theme and persuasive communication techniques
- Provide hands-on experience with film production in a variety of capacities including, camera, editing, screenwriting, acting, music scoring, and direction
- Provide students with the ability to think critically and communicate effectively, recognizing the central role of film and narrative in civic society
- Locate film as a cultural artifact that both represents and constructs historical, socio-economic, political and psychological meaning
- Focus on film aesthetics, international cinemas, individual major filmmakers, film genres, film history and key events in the technological and cultural evolution of cinema
- Develop visual literacy for readings of individual films with attention to editing, camera, shot composition, lighting and sound

### **Film Studies Faculty**

## **Bachelor of Arts Major in Film Studies**

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 film 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 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:

- Reading
- Writing
- Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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

ENGL 031	Aesthetics of Film	4
ENGL 124	Film History	4
Select at least two production courses from different departments:		7-8
ARTS 045	Digital Photography	
ARTS 095	Time Based Media: Video	
ARTS 141	Photography II	
ARTS 143	Photography III	
COMM 131	Media Production	
COMM 193	Documentary Film Making	
ENGL 115	Screenwriting	
ENGL 117	Film Production	
ENGL 197	Advanced Film Production	
MCOM 019	Music and Computer Technology	
MCOM 111	Advanced Computer Music	
MCOM 127	Music, Sound, and Film	
MMGT 096	Sound Recording Fundamentals	
THEA 031	Stage Makeup Fundamentals	

THEA 033	Theatrical Design Fundamentals	
THEA 037A	Costume Construction and Technology	
THEA 037C	Scenery	
THEA 071	Beginning Acting	
THEA 137	Lighting Technology	
THEA 171	Intermediate Acting	
THEA 193	Acting for the Camera	
Select two of the following critical studies courses:		8
ARTH 114	20th Century Art and Film	
ARTH 116	Contemporary World Art 1945 to Present	
ARTH 118	Art in the United States: 1865-1945	
ARTH 124	Sex, Gender and the Arts	
COMM 133	Documentary Film as Persuasive Communication	
ENGL 121	Major Filmmakers	
ENGL 122	Literature and Psychology	
ENGL 123	Film, Literature, and the Arts	
ENGL 127	Contemporary Critical Issues	
Select two of the following international cinema courses:		8
ASIA 120	Asian Cinemas	
FREN 120	Le Cinema Francais/French Cinema in English	
RUSS 120	Contemporary Russian Film	
SPAN 114	Cine hispano/Hispanic Film	
Select one of the following or an additional course from any of the above areas:		3-4
ENGL 131	Shakespeare	
ENGL 193A	Special Topics	
HIST 119	History Goes to Hollywood	
Four units of Internship/Undergraduate Research/Film Creation:		4
FILM 195	Independent Capstone	

## 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 191. Undergrad Independent Study. 1-4 Units.

### 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.

### FILM 197. Undergraduate Research. 1-4 Units.

Other Film 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.

**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.

**ARTH 118. Art in the United States: 1865-1945. 4 Units.**

This course explores major painters, sculptures, architects, and film makers in the U.S., 1865-1945. Topics such as depictions of race and immigration, the impact of technology upon visual representation, art and politics, and the impact of gender on art are discussed. Expatriate art, the Ash Can School, the Stieglitz Group, the New Deal art projects and other significant styles are also examined.

**ARTH 124. Sex, Gender and the Arts. 4 Units.**

Students explore the construction of masculinity and femininity in Western art from the Renaissance to the present. The art is analyzed in the context of literary, philosophical, medical and legal discourses. Students examine how gender is encoded in visual representation, and often serves as prescriptions rather than descriptions of human behavior.

**ARTS 045. 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.

**ARTS 095. Time Based Media: Video. 3 Units.**

Time Based Media: Video 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.

**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.

**ARTS 143. Photography III. 3 Units.**

This course is open to advanced students, and it emphasizes conceptual and portfolio development for publication and preparation for internships and/or exhibition. The course emphasizes a thematic project from pre-selected topics in photography. A laptop computer, preferably Mac, is required. Prerequisite: ARTS 141.

**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.

**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.

**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.

**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.

**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.

**ENGL 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.

**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.

**ENGL 122. Literature and Psychology. 4 Units.**

Students study the psychoanalytical methods in the interpretation of literary texts through a close investigation of language, narrative, structure, symbol and archetypal patterns. This course considers such phenomena as family romance, primal scene, return of the repressed, and schizophrenic experience as related to film, to the literary work and the creative process.

**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.

**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.

**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.

**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.

**FILM 191. Undergrad Independent Study. 1-4 Units.****FILM 191A. Undergrad Independent Study. 1-4 Units.****FILM 191B. Undergrad Independent Study. 1-4 Units.****FILM 191C. Undergrad Independent Study. 1-4 Units.****FILM 193A. Special Topics. 1-4 Units.****FILM 193B. Special Topics. 1-4 Units.****FILM 193C. Special Topics. 1-4 Units.****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.

**FILM 197. Undergraduate Research. 1-4 Units.****FILM 197A. Undergraduate Research. 1-4 Units.****FILM 197B. Undergraduate Research. 1-4 Units.****FILM 197C. Undergraduate Research. 1-4 Units.****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.

**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.

**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.

**MCOM 111. Advanced Computer Music. 3 Units.**

This course is taught in the Conservatory Computer Studio for Music Composition, and it focuses on digital synthesis, sampling/sound design, digital audio editing/mixing and a composing environment, live performance with computers, video creation, and intermedia composition. Students develop creative projects with Pro Tools HD, Max/MSP/Jitter, Cecilia/Csound, Final Cut Studio, and other software packages. As a project oriented study students complete several compositions during the process of the course. Prerequisite: MCOM 019 or permission of instructor.

**MCOM 127. Music, Sound, and Film. 1 Unit.**

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 019.

**MMGT 096. 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.

**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.

**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.

**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.

### 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.

### 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 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.

### 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 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.

### 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.

### 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.

## Gender Studies

Jeffrey Becker, Director

### 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.

### Gender Studies Faculty

## 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.

#### GEND 191. Independent Study. 2-4 Units.

#### GEND 197. Undergraduate Research. 1-4 Units.

#### Other Gender Studies Courses

#### 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.

#### 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.

#### 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.

#### ARTH 118. Art in the United States: 1865-1945. 4 Units.

This course explores major painters, sculptures, architects, and film makers in the U.S., 1865-1945. Topics such as depictions of race and immigration, the impact of technology upon visual representation, art and politics, and the impact of gender on art are discussed. Expatriate art, the Ash Can School, the Stieglitz Group, the New Deal art projects and other significant styles are also examined.



**ARTH 124. Sex, Gender and the Arts. 4 Units.**

Students explore the construction of masculinity and femininity in Western art from the Renaissance to the present. The art is analyzed in the context of literary, philosophical, medical and legal discourses. Students examine how gender is encoded in visual representation, and often serves as prescriptions rather than descriptions of human behavior.

**CLAS 120. Sexuality in Greek Society. 4 Units.**

This course is an introductory survey of the sexual attitudes and gender roles of women and men in ancient Greek society. The course focuses on the suppression of female sexuality and the channeling of male sexuality, in the different places and times of ancient Greece from the Homeric heroes and their women to the heirs of Alexander the Great.

**CLAS 122. Sexuality in Roman Society. 4 Units.**

This course is an introductory survey of the sexual attitudes and gender roles of women and men in ancient Roman society. The course focuses on the subordination, exploitation, and suppression of male and female sexuality from the charter society of Aeneas to the politics and economy of the Roman Republic, as well as the philosophies and religions of the Roman Empire.

**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.

**ENGL 122. Literature and Psychology. 4 Units.**

Students study the psychoanalytical methods in the interpretation of literary texts through a close investigation of language, narrative, structure, symbol and archetypal patterns. This course considers such phenomena as family romance, primal scene, return of the repressed, and schizophrenic experience as related to film, to the literary work and the creative process.

**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.

**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.

**ENGL 126. Literature and the Environment. 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.

**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.

**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.

**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.

**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.

**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.

**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 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.

**GEND 191. Independent Study. 2-4 Units.****GEND 191A. Independent Study. 2-4 Units.****GEND 191B. Independent Study. 2-4 Units.****GEND 193A. Special Topics. 4 Units.****GEND 193B. Special Topics. 4 Units.****GEND 197. Undergraduate Research. 1-4 Units.****GEND 197A. Undergraduate Study. 1-4 Units.****GEND 197B. Undergraduate Study. 1-4 Units.****GEND 197C. Undergraduate Study. 1-4 Units.**



**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**PSYC 140. Psychology of Gender. 4 Units.**

This course introduces students to psychological research on the experiences, behaviors, and abilities of men and women. A comparative approach is used to examine historical, contemporary, and cultural differences. Topics include gender differences and similarities in mental abilities, social behavior, mental health issues, and experiences of men and women in the workplace. Sophomore standing.

**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.

**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.

**SOCI 123. Sex and Gender. 4 Units.**

The course material explores how various social institutions in contemporary society shape our understanding of gender, sex and sexuality. Although grounded in sociological analysis, the class is interdisciplinary and intersectional in nature as many of the course texts are drawn from a range of social science disciplines. The lectures, assigned reading, and activities address how sex and gender are intricately linked to other social statuses such as race, class and age. Prerequisite: a course in sociology or permission of instructor.

**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.

**SOCI 127. Family and Marriage. 4 Units.**

This course explores the social dynamics of human intimacy within families. Family life is examined through a historical, cultural and political lens to place the social institution in a broad societal context. The evolution of the family is studied both historically and comparatively. Special attention is given to the sociological significant of sexuality, changing roles of men and women, intimacy, marriage and divorce, domestic violence, parenthood, childhood and aging, and alternative ways of living together. The course texts examine family life across race and ethnic groups, social class, religion and geographic location. Prerequisite: a course in sociology or permission of instructor.

**SOCI 172. Social Inequality. 4 Units.**

Are some more equal than others? 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. Prerequisite: SOCI 071 or permission of instructor. Recommended: SOCI 171.

**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.

**SPTS 141. Sport in America. 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 & gender, sport & race, global sports worlds, drugs and violence in sport, sport & 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.

## Health, Exercise and Sport Sciences

Pete Schroeder, Chair

### Degrees Offered

**Bachelor of Arts**

**Bachelor of Science**

**Master of Arts** (see Graduate Catalog for information)

### Majors Offered

**Health, Exercise and Sport Sciences (BA)**

- Sport Pedagogy
- Health and Exercise Science
- Sport Management

**Athletic Training (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 wide variety of careers in the fields grounded in human movement.

A set of required core courses provides students with a common base of knowledge and understanding about the concepts within the discipline. In addition to the core, Health, Exercise and Sport Sciences majors must successfully complete one of the following concentrations: sport pedagogy, health and exercise science, or sport management. Athletic Training majors must successfully complete the required coursework for the Commission on Accreditation of Athletic Training Education (CAATE) accredited program. 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: read, select and interpret important information from health, exercise and 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: Baun Fitness Center, a Kinesiology laboratory, an Exercise Physiology laboratory, an Athletic Training laboratory, The Pacific Fatigue Laboratory, Main Gymnasium, and a computer lab.

## 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, Exercise and Sport Sciences Faculty

Peter J. Schroeder, Associate Professor and Chair, 2007, BS, Truman State University, 1996; MA University of the Pacific, 1998; EdD University of Missouri, 2003.

Jodi Baker, Clinical Assistant Professor and Program Director, Athletic Training Education Program, 2006, BS Whitworth University, 1997; MA San Diego State University, 2002; EdD University of the Pacific, 2012.

Margaret E. (Peg) Ciccolella, Professor, 1985, BA, University of Colorado, 1970; MS, Brigham Young University, 1972; EdD, 1978; JD, Humphreys College of Law, 1993.

Lara Killick, Assistant Professor, 2009, BA, Durham University, 2000; MA, University of Leicester, 2005; PhD, Loughborough University, 2009.

Virgil Darrin Kitchen, Assistant Professor, 2005, BA, California State University, Chico, 1996; MA, 1997; EdD, University of the Pacific, 2006.

Linda Koehler, Associate Professor, 1989, BA, Purdue University, 1971; MS, University of New Mexico, 1975; PhD, University of Illinois, 1982.

Brian D. Moore, Assistant Professor, 2011, BA, Loyola Marymount University, 1998; MEd, University of Virginia, 2000; PhD University of California-Davis, 2012

Christopher Snell, Professor, 1990, BA, Bedford College, 1987; MS, University of Oregon, 1990; PhD, 1993.

J. Mark VanNess, Associate Professor, 1999, BS, Wheaton College, 1990; MS, California State University, Sacramento, 1993; PhD, Florida State University, 1997.

## Bachelor of Arts Major in Health, Exercise and Sport Sciences Concentration in Sport Pedagogy

The Sport Pedagogy Concentration provides an opportunity to study aspects of human movement and human performance as a reflection of personal values and as an expression of an individual’s physical, psychological and social nature. In addition to successfully completing the Sport Sciences Core, the sport pedagogy student must complete a series of courses that culminate with options to qualify for a teaching credential, coaching certification, or advanced study. Degree requirements for this concentration also include the demonstration of a variety of motor skill proficiencies.

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 health, exercise and sport sciences with a concentration in sport 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 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:

Reading

Writing

Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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 50 units that include:

HESP 100	Introduction to Research in Health, Exercise and Sport Sciences	3
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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 127	History and Philosophy of Sport and PE	3
HESP 129	Principles of Exercise Physiology	4
HESP 131	Assessment and Evaluation	4
HESP 133	Kinesiology	4
HESP 139	Exercise Physiology	4
HESP 141	Sport, Culture and U.S. Society	4
HESP 151	Elementary Physical Education	3
HESP 152	Secondary Physical Education	4
HESP 153	Equity and Inclusion in Physical Education	4
HESP 155	Motor Learning	3
HESP 159	Educator in Preparation	3
HESP 187D	Sport Pedagogy Internship I	2
HESP 187E	Sport Pedagogy Internship II	4
EDUC 130	Technology Enhanced Learning Environments	2

## Motor Skill Proficiencies

Health, Exercise and Sport Sciences majors who complete the Sport Pedagogy Concentration must also demonstrate 10 proficiencies over six areas: aquatics (1); gymnastics and tumbling (1); combatives and/or martial arts (1); dance (1); individual sports (3); and team sports (3). The ten proficiencies must include a minimum of two advanced, four intermediate and four beginning skills. Proficiencies may be met by successfully completing HESP 121 and HESP 123 and/or successfully completing appropriate activity classes.

## Career Options for Sport Pedagogy

Completion of the Sport Pedagogy Concentration and subsequent single-subject teaching credential requirement permits students to pursue careers in a variety of education settings. This is true of the regular credential program in physical education as well as the more specialized coaching concentration. The coaching concentration is not only recommended for sport pedagogy students but also for other teaching majors who may be interested in coaching. For all teaching credential candidates, the University of the Pacific Office of Career Services provides a personalized approach to teacher employment placement.

## 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 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 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 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:

- Reading
- Writing
- Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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 100	Introduction to Research in Health, Exercise and Sport Sciences	3
HESP 129	Principles of Exercise Physiology	4
HESP 133	Kinesiology	4
HESP 157	The Clinician in Health and Exercise Science	4
BIOL 051	Principles of Biology	4
BIOL 061	Principles of Biology	4
BIOL 071	Human Anatomy	4



BIOL 081	Human Physiology	4
CHEM 025	General Chemistry	5
PHYS 023	General Physics I	5
Five HESP Electives (Five additional courses excluding HESP 023, 15-20 HESP 025)		
Select one of the following:		4
HESP 139	Exercise Physiology	
HESP 141	Sport, Culture and U.S. Society	

## Career Options for Health and Exercise Science

Employment opportunities following completion of the sports medicine concentration include fitness directorship, cardiac disease prevention-rehabilitation, work toward advanced degrees in allied health sciences such as 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:

CHEM 027	General Chemistry	5
MATH 035	Elementary Statistical Inference (or similar course)	4
PHYS 025	General Physics II	5
PSYC 031	Introduction to Psychology	4
PSYC 111	Abnormal Psychology	4
HESP 061	Medical Terminology	4
HESP 147	Exercise Physiology I	4
HESP 182	Exercise Testing and Prescription	4

Students are strongly advised to check with individual graduate programs for specific requirements.

## 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 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 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:

- Reading
- Writing
- Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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 100	Introduction to Research in Health, Exercise and Sport Sciences	3
HESP 129	Principles of Exercise Physiology	4
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 187A	Internship: Sport Management	4
HESP 187B	Internship: Sport Management	4
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:		4
HESP 139	Exercise Physiology	4
HESP 141	Sport, Culture and U.S. Society	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 through sport, community recreation centers, resorts, health and fitness centers, collegiate sport, casinos, stadiums and arenas.

The concentration also prepares students for graduate study in business, communications, sport management, and law.

## Bachelor of Science Major in Athletic Training

The Bachelor of Science in Athletic Training is designed to prepare students in the application of scientific techniques to prevent, recognize, manage, and rehabilitate injuries to the active population. The program is specifically designed to provide the theoretical and practical learning experience requisite to certification by the Board of Certification (BOC). Students who select the Athletic Training Major must complete a series of courses within the department, adjunct courses from the natural sciences, and four consecutive semesters of clinical education.

During the clinical education portion of the program, athletic training students must accumulate a minimum of 800 hours (200 hours/semester) of clinical experience under the direct supervision of a Certified Athletic Trainer (ATC) or other allied health care professional. Students must also demonstrate proficiency in entry-level athletic training skills in the presence of an Approved Clinical Instructor (ACI). Students are required to meet prerequisite criteria and submit application materials before beginning the clinical education program. A limited number of students are admitted into the program each fall semester. Please visit the program's website for more specific information about admission criteria, technical standards, and application materials. The program's website is <http://web.pacific.edu/x16883.xml>

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 athletic training.

### 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:

Reading

Writing

Quantitative analysis

### IV. Breadth Requirement

Students must complete 64 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 65 units that include:

HESP 089B	Practicum: Athletic Training I	2
HESP 089K	Practicum: Athletic Training II	2
HESP 100	Introduction to Research in Health, Exercise and Sport Sciences	3
HESP 129	Principles of Exercise Physiology	4
HESP 133	Kinesiology	4
HESP 139	Exercise Physiology	4
HESP 143	Prevention and Acute Care of Injury and Illness	4
HESP 145	Therapeutic Modalities	4
HESP 146	Health, Disease, and Pharmacology	4
HESP 149	Clinical Evaluation and Diagnosis I	3
HESP 150	Clinical Evaluation and Diagnosis II	3
HESP 163	Therapeutic Exercise	4
HESP 173	Health Care Management and Professional Development	4
HESP 189B	Practicum: Athletic Training III	2
HESP 189K	Practicum: Athletic Training IV	2
BIOL 061	Principles of Biology	4
BIOL 071	Human Anatomy	4
BIOL 081	Human Physiology	4
Select one of the following:		4

HESP 045	Nutrition for Health
HESP 135	Sports Nutrition

## Career Options for Athletic Training

Employment opportunities following completion of the Athletic Training Major and passing the BOC Examination include athletic training at the secondary school and collegiate levels, professional athletic training, athletic training in clinical or industrial settings, athletic training in hospitals and clinics, and work toward advanced degrees in areas related to Athletic Training and Health and Exercise Science.

## Minor in Sport Sciences

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 sport sciences.

### Minor Requirements:

HESP 127	History and Philosophy of Sport and PE	3
HESP 147	Exercise Physiology I	4
Select one of the following:		4
HESP 139	Exercise Physiology	
HESP 141	Sport, Culture and U.S. Society	
Three HESP Electives (Nine additional units excluding ACTY 001-099, HESP 025)		9

**Note:** 1) Student should work closely with their advisor in selecting electives. 2) These elective units would be selected on the basis of the specific area of Health, Exercise and Sport Sciences (e.g., Exercise Psychology, Athletic Training, Sport Management, Coaching, Sport Pedagogy, Health and Exercise Science) in which the student is interested.

### 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.**

Health, Exercise Sport Science Courses

**HESP 023. First Aid. 1 Unit.**

This course is designated to help the student achieve Red Cross certification in Standard First Aid and CPR. In addition to developing safety awareness, the student obtains a body of knowledge and practice skills that relate to proper medical emergency responses. Lab fee is required.

**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. Heart, Exercise and Nutrition. 4 Units.**

This course is an introduction to the acute and chronic effects of exercise on the cardiovascular and musculo-skeletal systems. An individually prescribed exercise program based upon class discussion and laboratory assessment of aerobic capacity, blood lipids, and nutritional habits is offered as well as CPR certification. Lab fee is required.

**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.

**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 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. 2 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. Intermediate 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 089B. Grading is Pass/No Credit only.

**HESP 100. Introduction to Research in Health, Exercise and Sport Sciences. 3 Units.**

This class is designed to develop research skills specific to the fields within health, exercise and sport sciences. Students learn to collect, review, synthesize and critically analyze scholarly research. Students are also able to create research questions and establish hypotheses, and they are supposed to a variety of data collection methods. In addition, students learn to apply appropriate techniques to interpret data and apply the results in health, exercise, and sport settings. The intention of this course is to develop analytical skills to enable the student to conduct and evaluate ethical research in your chosen field.

**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 127. History and Philosophy of Sport and PE. 3 Units.**

The course is designed to explore the development of sports and physical education from Ancient Greece to the present day. Students examine the organization, purpose and goals of sports and PE programs and critically evaluate a range of topics including but not limited to: performance-enhancing practices, equity and inclusion and health-related trends. The intention is to develop the students' understanding of the historical and philosophical foundations of sports and PE and examine the implications of these for goals, scope and components of sport and PE programs in America.

**HESP 129. Principles of Exercise Physiology. 4 Units.**

A course designed to meet the broad needs of Sports Sciences majors, utilizing a practical approach based on underlying physiological principles as guidelines for exercise practices, as found in physical education, athletics, adult exercise prescription and other settings. Outside laboratory assignments are carried out for the purpose of demonstrating basic physiological responses and the resulting principles that are drawn from them for application in exercise and testing settings. 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. Sports Nutrition. 4 Units.**

This course provides a thorough study of the principles of nutrition as they relate to individuals who participate in sports or physical activity. Topics include calculating energy balance and the role of carbohydrates, fat, 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.

**HESP 137. Psycho-Social Aspects of Sport. 3 Units.**

Students study the manner in which psychological factors influence sport performance and the manner in which sport participation can influence the human psyche. Theories concerning the relationship between human cognition, behavior and sport performance are covered. Particular emphasis is given to the practical application of these theories.

**HESP 139. Exercise Physiology. 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.

**HESP 142. Sport and Globalization. 4 Units.**

This course examines the interaction between sport and globalization. The foundation of the course is to provide a basic understanding of globalization and its underlying forces will provide a foundation for the course. The main focus of the course is the reciprocal nature of sport and globalization with special attention given to sport economic, cultural, and political issues. This course explores sport tourism and the Olympics as the two main intersections of 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. Exercise Physiology I. 4 Units.**

This course is primarily designed to familiarize students with the theoretical background and hands-on skills to competently assess levels of wellness/fitness in a healthy, active, adult population. The topics and skills in the class encompass the latest information on the structure and function of body systems, training adaptations, testing and evaluation, exercise techniques, and program design. These skills are 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 successfully completing the National Strength and Conditioning Association's Certified Strength and Conditioning Specialist (CSCS) examination. 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. Students may take this course independent of HESP 149. Prerequisite: 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. Equity and Inclusion in Physical Education. 4 Units.**

This course is designed to provide students with the theoretical and practical tools necessary to teach PE within a diverse classroom. Students learn a wide range of teaching skills that facilitate their ability to create a quality inclusive learning environment in Physical Education. Particular attention is paid to the following diversity categories: disabilities, gender, ethnicity and social class. Students explore a variety of adapted PE activities, federal/state legislative mandates and related policies, effective teaching 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. The course encourages the students to engage in reflexive teaching practices, develop inclusive PE lessons sensitive to diversity issues and maximize student involvement and enjoyment in PE.

**HESP 155. Motor 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.

**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. Educator in Preparation. 3 Units.**

This course is designed for the future physical education instructor to deliver an effective, meaningful physical education experience to diverse students and help them sustain it through the knowledge to conceive and plan meaningful curricula, the administrative skill to produce an organizational structure within school time that optimizes the impact of the program, and the creative energy to link the school program to opportunities for children and youths outside of school. Prerequisites: HESP 131 and HESP 151.

**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. 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: 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.

**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 177. Exercise Physiology II. 4 Units.**

This course seeks to fulfill two main objectives: 1) To establish a foundational understanding of clinical exercise testing to examine cardiac, metabolic and respiratory pathology. 2) To provide a more in-depth examination of several basic exercise physiology concepts introduced in HESP 129. These include lactate kinetics, oxygen dynamics, pulmonary function and cardiovascular function during exercise and in response to training. 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 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 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. 2 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. 2 Units.**

This clinical education course is in the field of athletic training. It incorporates an experiential learning environment designed to prepare students for a career in athletic training. The focus of this course is mastery of all entry-level skills encountered within the daily operations of the athletic training room and in the care of the athletes. Students go through final preparations for the NATABOC examination. 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

Gregory Rohlf, Chair

### Degrees Offered

Bachelor of Arts

### Majors Offered

History

Social Sciences

### 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 from the options shown 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 Faculty

### History

Gesine Gerhard, Associate Professor, Associate Dean of the College and Director of General Education, 1999, BA, Free University of Berlin, 1991; MA, Technical University of Berlin, 1994; PhD, University of Iowa, 1999.

Gregory Rohlf, Associate Professor and Chair, 2001, BA, Luther College, 1988; MA University of Michigan, 1993; Ph.D. University of Iowa, 1999

Kenneth Albala, Professor, 1994, BA, George Washington University, 1986; MA, Yale University, 1987; MPhil, Columbia University, 1990; PhD, 1993. Member, Phi Beta Kappa.

Caroline Cox, Professor, 1998, BA, University of California, Berkeley, 1990; MA, 1993; PhD, 1997. Member, Phi Beta Kappa.

Jennifer Helgren, Assistant Professor, 2010, BA, University of California at Los Angeles, 1994; MA, Ph.D., Claremont Graduate University, 2005. Member Phi Beta Kappa

Tomomi Kinukawa, Assistant Professor, 2006, BA, University of Tokyo, 1989; MA, University of Wisconsin-Madison, 1993; PhD, 2001.

Marisela J. Ramos, Assistant Professor, 2007, BA, Brown University, 1999; MA, University of Connecticut, 2001; MA, Brown University, 2002, PhD, Brown University, 2008.

Edith Sparks, Associate Professor, 1999, BA University of California, Berkeley, 1991; MA, Ph.D., University of California, Los Angeles, 1999

William Swagerty, Professor, 2001, BA, The Colorado College, 1973; PhD, University of California at Santa Barbara, 1981. Member, Phi Beta Kappa.

Andreas Agocs, Visiting Assistant Professor, 2012, MA Heinrich Heine University, Dusseldorf, 1996; PhD University of California, Davis, 2009, aagocs@pacific.edu

## Bachelor of Arts Major in History

Students must complete a minimum of 124 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:

- Reading
- Writing
- Quantitative analysis

### V. Breadth Requirement

Students must complete 64 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 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	
HIST 105	History of Ancient Greece	
HIST 106	History of Ancient Rome	
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	
HIST 119	History Goes to Hollywood	
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 130	History of California	
HIST 132	American Immigration	
HIST 133	Women in United States History	
HIST 134	African-American History	
HIST 135	Women in Time and Place	
HIST 137	Hispanic 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, it is recommended that students take:		
HIST 001	Chair's Seminar	1
When sophomores, students must take:		
HIST 070	Historical Imagination	4
When seniors, students must take:		
HIST 160	The Capstone (Pacific History Seminar)	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.

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. A minimum

of 48 semester units, distributed as follows. History: six courses that include one course in California history, two courses in the history of Western Civilization or World History, two courses in U.S. history and one course in the history of a non-U.S., non-European country or region. Political Science: three courses that include one course in U.S. national government, one course in U.S. state and local 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. Geography: one course in world geography. 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. It is recommended (but not required) that freshmen and newly declared majors take HIST 001 Chair's Seminar.

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 social 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 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:

Reading

Writing

Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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 051	Economic Principles and Problems	3
HIST 020	United States History I	4
HIST 021	United States History II	4
HIST 130	History of California	4
INTL 113	World Geography for the Social Sciences	4
POLS 041	U.S. Government and Politics	4
Select one of the following groups of World History courses:		8
Group A		
HIST 010	Western Civilization I	
HIST 011	Western Civilization II	
Group B		
HIST 050	World History I	
HIST 051	World History II	
Select one of the following non-U.S., non-European courses:		4
HIST 030	East Asian Civilization I	
HIST 031	East Asian Civilization II	
HIST 040	Colonialism in Latin America	
HIST 041	The Problem with Latin America	
HIST 151	People's History of Mexico	
Select one of the following basic sociology courses:		4
SOCI 021	Culture and Society	
SOCI 031	Deviant Behavior	
SOCI 051	Introduction to Sociology	
SOCI 071	Foundations of Sociology	
Select one of the following analysis courses:		4
ANTH 053	Cultural Anthropology	
SOCI 079	Social Psychology	
SOCI 093	Environment and Society	
SOCI 108	Food, Culture and Society	
SOCI 123	Sex and Gender	
SOCI 125	Sociology of Health and Illness	
SOCI 141	Prejudice and Racism	
Select one of the following local government courses:		4
POLS 104	Urban Government	
POLS 106	California Government and Politics	
Select one of the following:		4
POLS 051	International Politics	
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	
Select one of the following psychology courses:		4
PSYC 031	Introduction to Psychology	
PSYC 131	Adolescence and Young Adulthood	

## 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 105	History of Ancient Greece	
HIST 106	History of Ancient Rome	
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 134	African-American 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	Introduction to Public History and Museum Studies	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 134 African-American History

HIST 135 Women in Time and Place

HIST 136 American Environmental History

HIST 137 His-panic<sup>®</sup> 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 Foundation Courses

### 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.

### 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.

### 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 as minority cultures and dissent.

### 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 Regan 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.

### 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.

### 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.

### 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.

**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.

**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.

**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.

History Global Transnational

**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.

**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.

**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.

**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.

**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.

History Environment Science

**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.

**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.

**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.



**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.

History Pre-Mod Europe/Classic

**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.

**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 105. History of Ancient Greece. 4 Units.**

(Religious and Classical Studies Dept.).

**HIST 106. History of Ancient Rome. 4 Units.**

(Religious and Classical Studies Dept.).

History 20th Cent Europe Crses

**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.

**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.

**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.

**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.

History Early North America

**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.

**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.

**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.

**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.

## History United States Courses

### **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.

### **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.

### **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.

### **HIST 134. African-American History. 4 Units.**

The course examines the social, economic, cultural, and political history of African-Americans and the development of concepts of race and racism. The course begins with the origins of slavery in colonial times, then on to the Civil War and Reconstruction, the Great Migration to the North and West, World War II and the civil rights era and continues to the present day.

### **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.

### **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.

### **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.

## History Asia Courses

### **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.

### **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.

History Latin America Courses

**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.

History Required 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 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 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.

History Special Studies Crses

**HIST 080. Introduction to Public History and Museum Studies. 4 Units.**

This course is an introductory seminar in public history focusing on local and national history. Through readings, discussions, guest lectures, and museum visits, students learn about various types of public history and deepen their knowledge of historical methods. The course's experiential learning component gives students the opportunity to talk with people who do public history and try their hand at public history work.

**HIST 093. Special Topics. 4 Units.****HIST 187. Internship. 2-4 Units.**

This is an experiential learning opportunity. This may not be substituted for an upper level course.

**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.**

## Jacoby Center for Public Service and Civic Leadership

Vacant, Director

### Minors Offered

**Civic Leadership**  
**Helping Professions**  
**Public Affairs**

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.

## Jacoby Center for Public Service and Civic Leadership Faculty

### 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	Equity and Inclusion in Physical Education
HESP 155	Motor Learning
MTHR 011	Music as Therapy: A Survey of Clinical Applications
MTHR 018	Basic Skills for Music Therapists and Allied Professionals
PSYC 053	Behavior Change
PSYC 111	Abnormal Psychology
PSYC 133	Adulthood and Aging
PSYC 154	Child Mental Health
PSYC 155	Couples and Family Therapy
PSYC 156	Behavioral Medicine/Health Psychology
RELI 145	Biomedical Ethics
SLPA 051	Introduction to Communication Disorders
SLPA 127	Audiology
SOCI 061	Urban Society
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.**

### 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:

Select two of the following introduction to field courses:	8
POLS 104	Urban Government
POLS 106	California Government and Politics
SOCI 061	Urban Society
Select one of the following methods courses:	4
COMM 160	Communication Research Methods
ECON 161	Computer Applications in Economics
ECON 190	Econometrics
POLS 133	Political Science Research
HESP 100	Introduction to Research in Health, Exercise and Sport Sciences
SOCI 171	Social Research Studies
Select two of the following:	8
COMM 143	Intercultural Communication
ECON 131	Public Finance
ECON 151	Urban Economics
ECON 193	Special Topics
HESP 141	Sport, Culture and U.S. Society
Select one of the following experiential/independent learning courses:	1-4
JCTR 187	Community Affairs Internship
JCTR 191	Independent Study
JCTR 197	Undergraduate Research

**Note: 1) 16 units must be completed at Pacific.**



## 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 course 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 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 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**

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 Faculty**

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.

## **Mathematics**

Dennis Parker, Chair

### **Degrees Offered**

**Bachelor of Arts**

**Bachelor of Science**

### **Majors Offered**

**Mathematics (BA, BS)**

**Applied Mathematics (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.

### **Mathematics Faculty**

Dennis K. Parker, Associate Professor and Chair, 1985, BSE, University of Oklahoma, 1974; MNS, 1978; PhD, 1985.

Aleksei I. Beltukov, Associate Professor, 2004, BS, Mendeleyev University, 1994; MS, Mendeleyev University, 1996; MS, Tufts University, 1996; PhD, 2004.

Mouchumi Bhattacharyya, Associate Professor, 2000, BS, Cotton College, 1988; MS, Delhi University, 1990; MPhil, 1992; PhD, University of Wisconsin, Milwaukee, 1999.

Jialing Dai, Associate Professor, 2006, BS, Southwestern Normal University (China), 1985; MS, Jilin University of Technology (China), 1987; MS, University of Arizona, 1998; PhD, 2000.

Alex Dugas, Assistant Professor, 2010, BS, Stanford University, 2000; PhD, University of California, Berkeley, 2006.

Christopher Goff, Associate Professor, 2002, BS, BA, University of Texas, Austin, 1993; MA, University of California, Santa Cruz, 1995; PhD, 1999. Member, Phi Beta Kappa.

Larry Langley, Associate Professor, 2001, BS, U.C. Santa Cruz, 1988; AM Dartmouth College, 1990; PhD, Dartmouth College, 1993.

Sebastian Marotta, Assistant Professor, 2008, BS, Hydraulic and Civil Engineering, Universidad Nacional de La Plata, 1999; PhD, Boston University, 2008.

John Mayberry, Assistant Professor, 2010, BA, California State University, Fullerton, 2003; MA, University of Southern California, 2004; PhD, University of Southern California, 2008.

Sarah Merz, Professor, 1995, BA, Whitman College, 1991; MS University of Colorado at Denver, 1994; PhD, 1995. Member, Phi Beta Kappa

Keith E. Whittington, Professor, 1987, BS, University of California, Riverside, 1975; PhD, University of Texas, 1980.

## 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 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 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:

Reading

Writing

Quantitative analysis

### V. Breadth Requirement

Students complete 64 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 055	Calculus III	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 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 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:

- Reading
- Writing
- Quantitative analysis

## IV. Breadth Requirement

Students complete 64 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 141	Linear Algebra	4
MATH 143	Abstract Algebra I	4

MATH 155	Real Analysis I	4
MATH Electives (Three courses with any number, excluding MATH 005, MATH 033, MATH 035, MATH 041, MATH 045, MATH 161 and MATH 162, minimum 3 units each)		9-12
MATH Upper Division Electives (Three courses numbered MATH 1109-12 or higher excluding MATH 161, and MATH 162, minimum 3 units each)		

## 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.

- 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

- 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 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 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
  - IIC. 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:

- Reading
- Writing
- Quantitative analysis

### IV. Breadth Requirement

Students complete 64 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 145	Applied Linear Algebra	4
Select one of the following:		4

MATH 049	Introduction to Abstract Mathematics	
MATH 057	Applied Differential Equations I: ODEs	
Select four of the following (minimum 3 units per course):		12-16

MATH 039	Probability with Applications to Statistics	
MATH 072	Operations Research Models	
MATH 074	Discrete and Combinatorial Mathematics	
MATH 110	Numerical Analysis	
MATH 130	Topics in Applied Statistics	
MATH 131	Probability and Mathematical Statistics I	
MATH 132	Probability and Mathematical 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)** One elective may be chosen from the following experiences: independent study, undergraduate research, internship, and practicum. **3)** Credit not granted for both MATH 072 and MATH 074.

Choose either 1 or 2, 12-16 units

- Students take four 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 three 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).

### 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 141	Linear Algebra	4
Select one of the following:		4
MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	
MATH 055	Calculus III	
MATH 057	Applied Differential Equations I: ODEs	
MATH 072	Operations Research Models	
MATH 074	Discrete and Combinatorial Mathematics	
Select one of the following:		3-4
MATH 110	Numerical Analysis	
MATH 131	Probability and Mathematical Statistics I	
MATH 132	Probability and Mathematical Statistics II	
MATH 143	Abstract Algebra I	
MATH 148	Cryptography	
MATH 152	Vector Analysis	
MATH 154	Topology	
MATH 155	Real Analysis I	
MATH 157	Applied Differential Equations II	
MATH 164	Topics in History of Mathematics	
MATH 166	Mathematical Concepts for Secondary Education	
MATH 168	Modern Geometries	
MATH 174	Graph Theory	

MATH 039, 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 and Lab. 3 Units.**

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 or any higher level placement test. This course is taught using a Personalized System of Instruction. 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. Students who complete MATH 005 and MATH 007 with a "C-" or better may enroll in MATH 051. Prerequisite: MATH 003 with a "C-" or better or an appropriate test score or permission of instructor.

##### **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 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.

## 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 27 units with a Pacific minor grade point average of 2.0 in order to earn a minor in applied mathematics.

### Minor Requirements:

Select one of the following:		4
MATH 037	Introduction to Statistics and Probability	
MATH 039	Probability with Applications to Statistics	
MATH 131	Probability and Mathematical Statistics I	
MATH 051	Calculus I	4
MATH 053	Calculus II	4
MATH 145	Applied Linear Algebra	4
Select one of the following:		4
MATH 074	Discrete and Combinatorial Mathematics	
MATH 174	Graph Theory	
Two MATH Electives (see notes below)		7-8

*Note: 1) Electives are to be chosen in consultation of a minor advisor. 2) Units earned for MATH 033, MATH 035, MATH 037,*

**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 signal 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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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 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.

**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 093. Special Topics. 3 or 4 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 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 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 141. Linear Algebra. 4 Units.**

This is a first course in linear algebra emphasizing theory and proof. Topics covered include systems of linear equations, vector spaces, subspaces, linear independence, bases, dimension, linear transformations, matrices, determinants, eigenvalues, and eigenvectors. Computational techniques are included. Students do not receive credit for both MATH 141 and MATH 145. Prerequisite: MATH 049 with a "C-" or better or permission of instructor.

**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 course focuses on matrix algebra. The course covers systems of linear equations. Euclidean spaces and subspaces, bases and dimension, Determinants, linear transformations, coordinates and coordinate transformations. Topics also include eigenvalues and eigenvectors, diagonalization, symmetric, orthogonal and other special matrices, linear models and applications from the physical sciences, economics and other fields. Calculators or computer software are used. Students do not receive credit for both MATH 141 and MATH 145. Prerequisite: MATH 053 with a "C-" or better or permission of instructor.

**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.**

## Modern Language and Literature

Susan Giraldez, 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

#### Russian Area Studies

#### 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.

This requirement can be met entirely, or in part, by students that complete coursework at the College, at approved colleges and universities, or by a placement test in the languages offered in the department. A placement test may be taken only once. Students who complete coursework fulfill the requirement with a grade of C- or better at Pacific or a grade of C or better at an approved college and university where the grade is obtained in the second semester (011B) course. Courses taken to fulfill the requirement must be taken for a letter grade. 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. Individual departments may choose to increase, but not to decrease, the level of proficiency required.

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 Antigua, Guatemala, Assisi, Italy and Shanghai, 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 China program, a joint program with the School of Business, offers Chinese language courses at all levels and Business in China.

## Modern Language and Literature Faculty

Susan C. Giráldez, Chair and Associate Professor, 1994, BA, University of the Pacific, 1980; MA, Middlebury College, 1982; PhD, University of California, Santa Barbara, 1992.

Martín Camps, Associate Professor, 2005, BA, Instituto de Comunicacion y Filosofia, Mexico City, 1997; MFA, University of Texas, El Paso, 1999; PhD, University of California, Riverside, 2003.

Zeljko Cipris, Associate Professor, 2000, MA, Columbia University, 1987; MPhil, 1987; PhD, 1994.

Cosana Eram, Assistant Professor, 2012, Ph.D, Stanford University, 2010; MA University of Bucharest, Romania, 1998, BA University of Bucharest, Romania (1993).

Arturo Giraldez, Professor, 1990, BA, Universidad Complutense de Madrid, 1976; MA, 1979; PhD, University of California, Santa Barbara, 1990; PhD, Amsterdam University, 1999.

Katherine Golsan, Professor, 1994, BA, Colgate University, 1976; MA, University of North Carolina, 1980; PhD University of Michigan, 1988. Member, Phi Beta Kappa.

Jie Lu, Professor of Chinese and Film Studies, 1996, BA, Beijing Second Foreign Language Institute, Beijing, 1982; MA, University of Massachusetts, Amherst, 1990; PhD, Stanford University, 1996.

Traci Roberts-Camps, Associate Professor, 2005, BA, Willamette University, 1999; MA, University of California, Riverside, 2001; PhD, 2004.

## 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 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 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:

- Reading
- Writing
- Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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 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 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:

- Reading
- Writing
- Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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 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 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:

- Reading
- Writing
- Quantitative analysis

### IV. Breadth Requirement

Students must complete 64 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 36 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	
Two SPAN Electives (Two additional upper division classes)		8

**Note: 1)** 16 of these units must be completed at Pacific.

## Bachelor of Arts Major in Spanish Concentration in Spanish Pedagogy

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 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 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:

Reading  
Writing  
Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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 42 units and 11 courses 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 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 Spanish and a concentration in *Cultura y civilización*.

## 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:

Reading  
Writing  
Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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	
ANTH 054	Antropología Cultural	4
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 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 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:

- Reading
- Writing
- Quantitative analysis

### IV. Breadth Requirement

Students must complete 64 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 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 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:

- Reading
- Writing
- Quantitative analysis

## IV. Breadth Requirement

Students must complete 64 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 Russian Area Studies

Students must complete a minimum of 20 units and 4 - 5 courses with a Pacific minor grade point average of 2.0 in order to earn a minor in Russian Area Studies.

### Minor Requirements:

Russian Language		8
RUSS 023	Intermediate Russian, Third Semester	
RUSS 025	Intermediate Russian, Fourth Semester	
Select one of the following:		4
RUSS 073	Russian Culture and Civilization	
RUSS 120	Contemporary Russian Film	
RUSS 191	Independent Study	2-4
Select one of the following:		4
POLS 051	International Politics	
ECON 071	Global Economic Issues	
RUSS 193	Special Topics	

OR an alternative course selected from those listed above, or a summer or semester of studying in Russia on a program approved by the Office of International Programs or by the minor advisor

**Note: 1)** A minimum of 12 units must be completed in the Department of Modern Language. **2)** Study abroad courses may substitute minor requirements with the approval of the Department of Modern Language and Literature.

## 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
ANTH 054	Antropología Cultural	
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.



**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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, 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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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 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.

**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.

**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.

**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.

**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 3.7 GPA, 1300 SAT (or equivalent standardized test), a strong personal statement, 12 Advanced Placement Units, and a declared major in one of the following subjects: English, Film, Theatre, Art, Art History, Graphic Design, Philosophy, Religion and Classical Studies, Modern Languages, or Film 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 two 1-unit cohort seminars in the first year, as well as a capstone course



in their third year. Pacific Humanities Scholars enroll in Honors sections of relevant GE courses and must maintain a 3.5 or better to remain in the Program.

## Pacific Humanities Program Faculty

### 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 with a Pacific cumulative and major/program grade point average of 3.5 in order to complete the Pacific Humanities program.

PHUM 010	Expressing the Humanities	1
PHUM 100	Collective Expression, Expressing the Collective	1
PHUM 110	How the Humanities Help Our Communities	2
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 the 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.

##### PHUM 110. How the Humanities Help Our Communities. 2 Units.

The two-unit senior capstone is a community-based learning course for Pacific Humanities Scholars. This experiential and collaborative project takes students on a "listening tour" of a particular Stockton community and challenges them to articulate that community's "story." Students work with their constituents toward creating a shared platform for learning and demonstrate the value of the Humanities in that process. Prerequisite: Admission to Pacific Humanities Scholars Program.

##### PHUM 191. Undergrad Independent Study. 1-4 Units.

##### PHUM 197. Independent Research. 1-4 Units.

## Pacific Legal Scholars Program

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, an upper-division law course, and a number of off-campus law-related activities 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):

BUSI 127	Legal Aspects of Real Estate	
BUSI 157	Commercial Law	
BUSI 159	Employment Law	
HESP 165	Legal Aspects of Health, Exercise and Sport	
INTL 167	Advanced Model United Nations (MUN II)	
MMGT 153	Entertainment Law	
POLS 122	Constitutional Law	
POLS 124	Constitutional Law: Civil Liberties	
POLS 126	Criminal Law	

## Pacific Legal Scholars Program Faculty

#### Political Science Courses

##### POLS 011. Introduction to Political Science. 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.

##### 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 of the constitutional structure of the federal government and its function as well as the political processes involved. Not open to students who have completed POLS 031 or equivalent. This course satisfies the state requirement on the U.S. Constitution.

##### POLS 051. International Politics. 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.

##### 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 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.

**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.

**POLS 120. The Judicial Process. 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.

**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.

**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.

**POLS 126. Criminal Law. 4 Units.**

This course focuses on the concepts, principles and problems of substantive criminal law.

**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.

**POLS 131. Approaches to Political Theory. 4 Units.**

This course examines how writers and practitioners conduct and study political theory. Introduces students to 1) thinking about politics theoretically, 2) the variety of approaches to the study of political theory within political science, and 3) applications of these approaches to works of political theory, and questions of politics. Students analyze the developing ideas of political theory that comprise contemporary politics, and address ideas such as democracy, freedom, the responsibilities of political power, the role of the state, justice, and the place of political theory within the discipline of political science. 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.

**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.

**POLS 133. Political Science Research. 4 Units.**

This course develops skills needed for conducting and understanding research in political science. The course includes research design, critical statistical techniques and computer applications. 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 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.

**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.

**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.

**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 Junior or Senior standing and an overall GPA of 3.0, or permission of the instructor. This course must be taken in the summer after the Junior year (regardless of whether a student is in the 3+3 or 4+3 program).

**POLS 187C. Pre-Law Internship. 1-4 Units.**

This course is a supervised experience in an approved legal or judicial setting that is contracted on an individual basis. Prerequisite: POLS 041. 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 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

Ray Rennard, 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 Faculty

Ray Rennard, Associate Professor and Chair, 2005, BA, University of Pittsburgh, 1992; PhD, Johns Hopkins University, 2003.

Lou Matz, Professor and Assistant Provost of University-Wide Academic Programs, 1999, BA, University of the Redlands, 1984; MA, University of California, San Diego, 1987; PhD, 1992. Member, Phi Beta Kappa.

James Heffernan, Professor, 1972, BA, Fordham University, 1964; MA, 1967; PhD, University of Notre Dame, 1976.

Ty Raterman, Associate Professor, 2006, BA, Northwestern University, 1999; MA, University of North Carolina at Chapel Hill, 2001; PhD, 2006.

Eleanor Wittrup, Assistant Professor, 1996, BA, Wellesley College, 1986; MTS, Harvard University Divinity School, 1989; PhD, University of California, San Diego, 1994.

## Bachelor of Arts Major in Philosophy

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 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:

- Reading
- Writing
- Quantitative analysis

### V. Breadth Requirement

Students must complete 64 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
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 106	Philosophy of Law	
PHIL 121	Philosophy of Mind	
PHIL 122	Philosophy of Language	
PHIL 124	Philosophy of Religion	
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 and 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?

#### 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.

#### 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?

#### 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.

#### 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?

#### 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.

#### 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.

#### 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, Sceptics), 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?

**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?

**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.

**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.

**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.

**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.

**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.

**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

James Hetrick, Chair

### Degrees Offered

Bachelor of Arts  
Bachelor of Science

## Majors Offered

Physics (BA)

Physics (BS)

- Standard Track
- Computational Physics
- Astrophysics
- Mathematical Physics

Engineering Physics (BS)

## Minors Offered

Physics

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 offices, laboratories and classrooms of the Physics Department occupy Olson Hall. Labs are equipped with modern facilities for courses in optics solid state physics, advanced experiments, as well as for the Introductory Physics, Music, and Astronomy courses, including a 2.3 meter radio telescope for student use. The department has two computer labs with PCs, and a scientific computing (unix) lab.

## Recommended High School Preparation

Physics majors study enough mathematics in high school so that they are prepared to take calculus in their first semester at Pacific. They also take high school physics and chemistry. Some experience with computer programming is also very 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.

## 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.

## Physics Faculty

James E. Hetrick, Professor and Chair, 1997, BS, Case Western Reserve University, 1982; PhD, University of Minnesota, 1990.

Joseph F. Alward, Assistant Professor, 1979, BA, California State University, Sacramento, 1968; MA, University of California, Davis, 1973; PhD, 1976.

Sayandeb Basu, Visiting Lecturer, B.Sc. Calcutta University, 1993; M. Sc. Indian Institute of Technology, 1993; M. Phil. University of Cambridge, 1997; Ph.D. University of California, Davis, 2005

Kieran Holland, Associate Professor, 2006, BSc, University College Cork, 1994; M.Sc., 1995; PhD, Massachusetts Institute of Technology, 1999.

Keisuke J. Juge, Assistant Professor, 2007, BSc, University of Toronto, 1993; MS, University of California, San Diego, 1995; PhD, 1998.

## Bachelor of Arts Major in Physics

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 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. 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:

Reading

Writing

Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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 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 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.

\*\* Students take the Chemistry Placement Exam during orientation to determine which course is appropriate.

### III. Fundamental Skills

Students demonstrate competence in:

Reading

Writing

Quantitative analysis

### IV. Breadth Requirement

Students must complete 64 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

## 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 (p. ) 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

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.

#### 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.

#### 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.

#### 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.

#### 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.

**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.

**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.

**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 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 Physics. 4 Units.**

Crystal structure and the quantum-mechanical basis for the electronic structure of atoms, molecules and solids are examined. The course includes a thorough study of the properties of semiconductors, including extensive investigation of the physics of a number of crystalline and amorphous solid state devices, as well as junctions, transistors, charge-coupled devices, photovoltaic devices, microelectronic circuits, lasers and optical fibers. The course includes laboratory work. Prerequisites: PHYS 055 and MATH 055.

**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

Brian Klunk, Chair

Cynthia Ostberg, Director of Pre-law and Legal Scholars programs

## Degrees Offered

Bachelor of Arts

## Majors Offered

Political Science

## Minors Offered

Political Science

Pre-Law

Political Science seeks to understand, to explain, and - sometimes - 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, India and San Francisco, 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 it a well-grounded liberal education that focuses on the knowledge and skills necessary to understand the public realities of their world. They look in depth at 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 to provide government. They also become familiar with the contributions to their understanding that they can gain from closely-related social sciences, such as economics, history, anthropology, psychology and the like. In acquiring this knowledge, Political Science majors are challenged to extend their analytical and research skills, to polish their talents for 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.

## Political Science Faculty

Brian E. Klunk, Associate Professor and Chair, 1987, BA, Pennsylvania State University, 1977; MA, University of Virginia, 1980; PhD, 1985.

Jeffrey Becker, Associate Professor, 2006, BA, University of California, Santa Cruz, 1991; MA, Rutgers University, 1996; PhD, 2004. Member, Phi Beta Kappa.

Robert B. Benedetti, Professor Emeritus, 1989, BA, Amherst College, 1964; MA University of Pennsylvania, 1967; PhD, 1975; Member, Phi Beta Kappa

Michael T. Hatch, Professor, 1985, BA, Utah State University, 1970; MA, Johns Hopkins University, 1973; PhD, University of California, Berkeley, 1983.

Cynthia Ostberg, Professor, 1994, BA, University of California, Berkeley, 1985; MA, Northern Illinois University, 1991; PhD, 1995.

Susan Sample, Associate Professor, 1999, BA, University of Missouri, 1991; PhD, Vanderbilt University, 1996. Member, Phi Beta Kappa.

Keith W. Smith, Assistant Professor, 2008, BA, Pepperdine University, 1997, MPM, University of Maryland, 1999; MA University of California, Berkeley, 2000; PhD, 2005.

Dari Sylvester, Associate Professor, 2005, BA, Trinity College, 1998; MA State University of New York, Stony Brook, 2002; PhD, 2006. Member, Phi Beta Kappa.

## Bachelor of Arts Major in Political 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 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:

Reading

Writing

Quantitative analysis

### V. Breadth Requirement

Students must complete 64 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 12 courses that include:

POLS 041	U.S. Government and Politics	4
POLS 051	International Politics	4
POLS 119	Government in Action: Public Policy Analysis	4
POLS 131	Approaches to Political Theory	4
POLS 133	Political Science Research	4
POLS 151	Principles of Comparative Politics	4
Minimum 2 units from one of the following orientation courses:		
INTL 151	Cross-Cultural Training I *	
POLS 081	Career and Internship Preparation	
Minimum 3 units from the following internship or research courses:		
POLS 187A	Political Science Internship	3-4
POLS 187C	Pre-Law Internship	
POLS 197	Undergraduate Research	
JCTR 187	Community Affairs Internship	
JCTR 197A/197B	Community Independent Research	
WASH 187	Washington Semester Internship	
POLS Electives - 3 additional courses at the 100-level or from:		
INTL 174	Global Environmental Policy	12
PHIL 106	Philosophy of Law	
PHIL 135	Political Philosophy	
POLS 189	Capstone Seminar	4

\* Only students who participate in an approved study-abroad program may take INTL 151—Cross-Cultural Training I

### 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 Political Science	4
POLS 041	U.S. Government and Politics	4
POLS 051	International Politics	4
POLS Electives - 3 additional courses at the 100-level or from:		
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:		
POLS 122	Constitutional Law	4
POLS 124	Constitutional Law: Civil Liberties	
POLS 126	Criminal Law	
Select one of the following law courses:		
BUSI 053	The Legal and Ethical Environment of Business	4
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	
Select one of the following communication courses:		
COMM 027	Public Speaking	4
COMM 114	Argumentation and Advocacy	
ENGL 025	English 25	
Select one of the following philosophy courses:		
PHIL 021	Moral Problems	4
PHIL 027	Fundamentals of Ethics	
PHIL 037	Introduction to Logic	
PHIL 106	Philosophy of Law	
Select one of the following business administration/statistics courses:		
BUSI 031	Principles of Financial Accounting	4
ECON 190	Econometrics	
ECON 161	Computer Applications in Economics	
INTL 101	International Research Methods	
MATH 035	Elementary Statistical Inference	
MATH 037	Introduction to Statistics and Probability	
POLS 133	Political Science Research	
SOCI 171	Social Research Studies	
Select one of the following social sciences courses:		
BUSI 157	Commercial Law	4
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	The Judicial Process	
POLS 162	International Organization	
PSYC 031	Introduction to Psychology	
PSYC 111	Abnormal 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.

Political Science Courses

#### POLS 011. Introduction to Political Science. 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.

#### 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 of the constitutional structure of the federal government and its function as well as the political processes involved. Not open to students who have completed POLS 031 or equivalent. This course satisfies the state requirement on the U.S. Constitution.



**POLS 051. International Politics. 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.

**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 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.

**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.

**POLS 120. The Judicial Process. 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.

**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.

**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.

**POLS 126. Criminal Law. 4 Units.**

This course focuses on the concepts, principles and problems of substantive criminal law.

**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.

**POLS 131. Approaches to Political Theory. 4 Units.**

This course examines how writers and practitioners conduct and study political theory. Introduces students to 1) thinking about politics theoretically, 2) the variety of approaches to the study of political theory within political science, and 3) applications of these approaches to works of political theory, and questions of politics. Students analyze the developing ideas of political theory that comprise contemporary politics, and address ideas such as democracy, freedom, the responsibilities of political power, the role of the state, justice, and the place of political theory within the discipline of political science. 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.

**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.

**POLS 133. Political Science Research. 4 Units.**

This course develops skills needed for conducting and understanding research in political science. The course includes research design, critical statistical techniques and computer applications. 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 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.

**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.

**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.

**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 Junior or Senior standing and an overall GPA of 3.0, or permission of the instructor. This course must be taken in the summer after the Junior year (regardless of whether a student is in the 3+3 or 4+3 program).

**POLS 187C. Pre-Law Internship. 1-4 Units.**

This course is a supervised experience in an approved legal or judicial setting that is contracted on an individual basis. Prerequisite: POLS 041. 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 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.

**BUSI 053. The Legal and Ethical Environment of Business. 4 Units.**

This course is an introduction to law as related to court systems and jurisdiction, litigation and other methods of resolving disputes, ethical decision-making, the Constitution and business, lawmaking and regulation by administrative agencies, international law, business organizations, antitrust law, consumer protection, employment law, contract law, and product liability.

**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.

**BUSI 157. Commercial Law. 4 Units.**

Students study the basic principles of commercial and trade law and business organizations that include agency partnerships and corporations. The course covers contracts and the Uniform Commercial Code, real and personal property, securities regulation, secured transactions, bankruptcy, professional liability and negotiable instruments. Prerequisite: BUSI 053 with a "C" or better. Junior standing.

**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.

**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.

**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.

**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 Reading requirement and algebra skills as evidenced by a passing score on the General Education quantitative skills examination or the equivalent SAT Subject Test in Math, or MATH 005 or MATH 007 or MATH 033 or MATH 041 or MATH 045 or MATH 051 or MATH 053 or MATH 055, or a 4 or higher on the AP Calculus AB or BC examination.

**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 Reading requirement and algebra skills as evidenced by a passing score on the General Education quantitative skills examination or the equivalent SAT Subject Test in Math, or MATH 005 or MATH 007 or MATH 033 or MATH 041 or MATH 045 or MATH 051 or MATH 053 or MATH 055, or a 4 or higher on the AP Calculus AB or BC examination.

**ECON 161. Computer Applications in Economics. 4 Units.**

A quantitative analysis of a variety of micro- and macroeconomic problems by means of the computer. The emphasis is upon the application of economic and statistical models, e.g., input-output, linear programming and linear regression. These models and their computer analogues are used to evaluate economic changes due to such phenomena as the energy, pollution, defense spending and inflation/unemployment problems. Prerequisites: ECON 053 and ECON 055; MATH 037 or MATH 039 or MATH 130 or MATH 131 or permission of instructor. Recommended: some familiarity with computer programming.

**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 051 or ECON 055; MATH 037 or MATH 039 or MATH 130 or MATH 131.

**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.

**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.

**INTL 101. International Research Methods. 4 Units.**

Students are introduced to how research is conducted in the social sciences, with emphasis on the problems that occur in international studies research. 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.

**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.

**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 signal 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.

**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.



**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 MGMT 011 or permission of instructor. Junior standing.

**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.

**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.

**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.

**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.

**POLS 041. U.S. Government and Politics. 4 Units.**

Students analyze of the constitutional structure of the federal government and its function as well as the political processes involved. Not open to students who have completed POLS 031 or equivalent. This course satisfies the state requirement on the U.S. Constitution.

**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.

**POLS 120. The Judicial Process. 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.

**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.

**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.

**POLS 126. Criminal Law. 4 Units.**

This course focuses on the concepts, principles and problems of substantive criminal law.

**POLS 133. Political Science Research. 4 Units.**

This course develops skills needed for conducting and understanding research in political science. The course includes research design, critical statistical techniques and computer applications. 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 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.

**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. This is required for psychology majors; it is recommended for freshman year.

**PSYC 111. Abnormal Psychology. 4 Units.**

Students study of the causes, classification and treatment of abnormal behavior. The class is of interest to any student who is curious about people and what they do, especially the unusual things that people do. The class addresses the distinction between being different and having a mental disorder, what we can change and what we cannot change, psychological testing, the DSM classification system, the role of genetic factors in abnormal behavior as well as the current status of empirically validated psychosocial and pharmacological treatments for mental disorders. The class is highly recommended for any student who aspires to go into clinical psychology, marriage family counseling, child psychology, forensic psychology, social work, or pharmacy.

**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.

**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.

**SOCI 171. Social Research Studies. 4 Units.**

How do we study society? This course reviews and examines the various methods most used in social science research to design research projects and gather and analyze data. Students study the ethical issues involved in the use of such methods. Consideration of the interrelationships between the development of social theory and methodologies of data collection include experiments, observation, interviews, surveys and content analysis. Student designed research projects are a central part of this course. Prerequisite: SOCI 071 or permission of instructor.



## SPTS 165. Sports Law. 4 Units.

This course addresses legal issues and responsibilities relevant to professionals in the areas of sports medicine, 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. Junior standing or permission of instructor is required.

## Psychology

Scott Jensen, Chair

### Degrees Offered

**Bachelor of Arts**

**Master of Arts** (see Graduate Catalog for information)

### Majors Offered

**Psychology**

### Minors Offered

**Psychology**

**Child Psychology**

**Lifespan Development**

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.

### Psychology Faculty

Scott A. Jensen, Associate Professor and Chair, 2006, BS, Brigham Young University, 1998; MS, Colorado State University, Fort Collins, 2003; PhD, 2004.

Paul Bulakowski, Assistant Professor, 2011, BA, Fairfield University 2003; PhD, University of California, Davis, 2009

Jessica Grady, Assistant Professor, 2013, B.S., Lebanon Valley College, 2006; Ph.D., West Virginia University, 2011

Elizabeth Graham, Assistant Professor, 2012, B.S., Biology, Cornell University, 1995; M.S. Exercise Science, Smith College, 1999; Ph.D. Psychology, Claremont Graduate University, 2011

Carolynn S. Kohn, Associate Professor, 2004, BA, University of California at Santa Barbara, 1991; MA, Hahnemann University, 1996; PhD, MCP-Hahnemann University, 2000.

Matthew P. Normand, Associate Professor, 2007, BA, Western New England College, 1997; MA, Western Michigan University, 1999; MS, Florida State University, 2002; PhD, 2003.

### Bachelor of Arts Major in Psychology

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 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. 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:

Reading

Writing

Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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 45 units and 11 letter-graded courses that include:

PSYC 031 Introduction to Psychology 4

PSYC 053 Behavior Change 4

PSYC 105 Experimental Psychology 5

PSYC 125 History and Systems of Psychology 4

Select one of the following: 4

PSYC 103 Statistical Inference in Behavioral Sciences (Preferred)

MATH 035 Elementary Statistical Inference

MATH 037 Introduction to Statistics and Probability

Select three of the following (PSYC 105 is a prerequisite for all of these): 12

PSYC 107 Psychology of Learning

PSYC 109 Biological Psychology

PSYC 115 Cognitive Psychology

PSYC 129 Developmental Psychology

PSYC 169 Social Psychology

Three PSYC Electives (Three additional 100-level courses) 12

**Note: 1)** Elective courses that count toward the major are selected according to the interests of the student in consultation with an advisor in the department. **2)** Psychology majors are also strongly encouraged to take one course in PSYC 197 – *Independent Research*, PSYC 087/PSYC 187 – *Internship or*

PSYC 089/PSYC 189 – *Practicum*. **3)** PSYC 103 or MATH 035 or MATH 037 *must be taken prior to taking PSYC 105*. **4)** All courses must be graded “C-” or better to count towards the major.

## Academic Structure of Options Within the Major

### Increased Understanding of Your Own and Others’ Behavior

In addition to the eight courses specified for the major, three other psychology courses are selected according to the interests of the student and in consultation with an advisor in the department. The liberal arts student may concentrate in such subfields of psychology as behavioral, biological, cognitive, developmental, and social psychology.

### Career Preparation - Applied Behavior Analysis

Students who select the applied behavior analysis program are required to complete the courses specified for the major, plus advised to complete the following: PSYC 107, PSYC 156, and PSYC 158. The behavior analysis program trains the student in four skill areas:

1. academic mastery of the content of behavior analysis;
2. learning how to apply behavioral techniques such as observation, reinforcement and data analysis;
3. developing and implementing behavior analysis programs; and
4. interacting effectively with community and social service agencies.

### Career Preparation - Applications in Business

A student interested in the applications of psychology in business settings must complete all requirements for a psychology major. In addition, a selection of six courses in business is recommended. The specific courses are selected in consultation with an advisor. Relevant courses from which to select include the following (see course listings under Eberhardt School of Business for prerequisites required for each course):

BUSI 031	Principles of Financial Accounting	4
BUSI 107	Marketing Management	4
BUSI 109	Management and Organizational Behavior	4
BUSI 134	Conflict Management	4
BUSI 141	Marketing Research	4
BUSI 147	Consumer Behavior	4
BUSI 170	Human Resources Management	4
BUSI 175	Leadership and Change	4

Note, this is not equivalent to a minor in business. See the appropriate catalog section if you wish to obtain a minor in business or management.

## 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 24 units and 6 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
PSYC 053	Behavior Change	4
PSYC 103	Statistical Inference in Behavioral Sciences	4
PSYC Electives (3 additional 100-level courses excluding PSYC 185A, PSYC 185B, PSYC 187, PSYC 189)		12

**Note: 1) These electives must be taken at Pacific. 2) All courses must be graded "C-" or better to count towards the minor.**

## Minor in Child 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 child psychology.

### Minor Requirements:

PSYC 029	Child Development	4
PSYC 053	Behavior Change	4
PSYC 131	Adolescence and Young Adulthood	4
Select two of the following:		8
PSYC 087	Internship	
PSYC 154	Child Mental Health	
PSYC 155	Couples and Family Therapy	
PSYC 187	Internship	
SPED 123	The Exceptional Child	

**Note: 1) If selected, PSYC 087 and PSYC 187 must be taken for a total of 4 units. 2) All courses must be graded "C-" or better to count towards the minor.**

## Minor in Lifespan Development

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 lifespan development.

### Minor Requirements:

PSYC 029	Child Development	4
PSYC 131	Adolescence and Young Adulthood	4
PSYC 133	Adulthood and Aging	4
Select two of the following:		8
ANTH 053	Cultural Anthropology	
PSYC 031	Introduction to Psychology	
PSYC 066	Human Sexuality	
PSYC 087	Internship	
PSYC 187	Internship	
SOCI 127	Family and Marriage	

**Note: 1) If selected, PSYC 087 and PSYC 187 must be taken for a total of 4 units. 2) All courses must be graded "C-" or better to count towards the minor.**

Psychology Courses

### PSYC 029. Child Development. 4 Units.

This course is an introduction to and an overview of human structural and behavioral change from conception through adolescence. The emphasis is on normal processes and patterns of development, research-based information about these patterns and processes, associated theories of human development which focus on infant and child behavior and the continuities between child and adult behaviors. Practical application of principles is stressed. Limited field observations of young children are required. Recommended for sophomores. Does not count toward major.

### 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. This is required for psychology majors; it is recommended for freshman year.

### PSYC 053. Behavior Change. 4 Units.

This course is an introduction to science and the application of behavioral principles that stress the application of behavior change principles to oneself and to a variety of problems and populations. Students are taught to observe and measure behavior and to implement and evaluate behavior change interventions. Supervision of undergraduate students is provided by the instructor and graduate students. Recommended for freshmen. Psychology Major, Psychology Minor, Child Psychology Minor, Helping Professions Minor or permission of instructor is required. This course is recommended for freshmen.

### 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.

### 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 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 103. Statistical Inference in Behavioral Sciences. 4 Units.

Students examine the applications and limitations of statistical methods of inference in behavioral research. Topics include measurement, data collection, parameter estimation and confidence intervals, hypothesis testing, Type I and Type II errors and power. Parametric and non-parametric data analysis techniques and graphic analysis are studied and include chi square, t-test and analysis of variance. Students learn how to use "eyeball" estimation procedures to facilitate understanding of statistical concepts, and learn how to use spread sheet and statistical computer programs for data analysis. Prerequisite: MATH 003 or appropriate score on the Mathematics Placement Test. PSYC 103 (or MATH 035 or MATH 037) with a grade of C- or better is required for psychology majors. Sophomore standing.

**PSYC 105. Experimental Psychology. 5 Units.**

This course introduces to research methodology in the field of psychology. The course covers experimental design and statistical analysis appropriate to various designs and includes conducting reviews of research literature, writing research proposals and reports, and research ethics. All students use word processing and statistical analysis computer programs. All students complete an individual experimental research project. This course is required for psychology majors. Prerequisite: PSYC 103 or MATH 035 or MATH 037 with a grade of C- or better. Recommended: PSYC 031 and/or PSYC 053 taken in sophomore year. Sophomore standing.

**PSYC 107. Psychology of Learning. 4 Units.**

This course focuses on the scientific investigation of learning and behavior. Both experimental and related theoretical developments are considered, as well as applications of the basic principles of learning to issues of social significance. Prerequisite: PSYC 105 or permission of instructor.

**PSYC 109. Biological Psychology. 4 Units.**

This course investigates the relationship of the nervous system to mental processes and behavior. Lecture and laboratory exercises introduce current research and methodology, clinical application, and hands-on demonstration of this rapidly developing field. Topics include the evolution and development of the human brain, neuroanatomy and neural transmission, biological rhythms, sensory and motor systems, sleep, emotional control, brain damage and disease, and many others. Prerequisite: PSYC 105 with a "C-" or better, or permission of instructor.

**PSYC 110. Psychoactive Drugs and Behavior. 4 Units.**

This course is an intensive study of how drugs affect psychological processes and behavior. The course covers neuroanatomy, neuron physiology, basic psychopharmacological terminology, commonly used and recreational drugs, major psychotherapeutic drugs and the interaction between drug treatments and various psychotherapeutic and behavior change techniques. Prerequisite: sophomore standing or above is required.

**PSYC 111. Abnormal Psychology. 4 Units.**

Students study of the causes, classification and treatment of abnormal behavior. The class is of interest to any student who is curious about people and what they do, especially the unusual things that people do. The class addresses the distinction between being different and having a mental disorder, what we can change and what we cannot change, psychological testing, the DSM classification system, the role of genetic factors in abnormal behavior as well as the current status of empirically validated psychosocial and pharmacological treatments for mental disorders. The class is highly recommended for any student who aspires to go into clinical psychology, marriage family counseling, child psychology, forensic psychology, social work, or pharmacy.

**PSYC 115. Cognitive Psychology. 4 Units.**

PSYC 115 is an introduction to the field of cognitive psychology that focuses on the mental processes that underlie thinking, remembering/forgetting, perception, attention, knowledge, language, and problem solving. Lecture and laboratory activities emphasize the current research on cognition, as well as applications of research findings. Prerequisite: PSYC 105 or permission of instructor.

**PSYC 125. History and Systems of Psychology. 4 Units.**

This senior capstone 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. Prerequisites: PSYC 105 and or permission of instructor. Junior standing. The course is required for psychology majors and it is recommended for the senior year.

**PSYC 129. Developmental Psychology. 4 Units.**

Students compare major models and specific theories of the development of behavior and examine an overview of research methodology that includes those methods particularly appropriate to the study of developmental phenomena. The major emphasis is on current empirical theory and data about child development. Field observation of children and/or adolescents is required. Prerequisite: PSYC 105 or permission of the instructor.

**PSYC 131. Adolescence and Young Adulthood. 4 Units.**

This course is the psychosocial examination of the transition from childhood to adulthood. Topics include conceptual issues and moral development, sexual and personality changes, role conflicts and problems unique to adolescence. The material is selected to interest both majors who plan to work with adolescents and to students who want to better understand their own life cycle phase or their future role as parents of adolescents. Prerequisites: sophomore standing is required.

**PSYC 133. Adulthood and Aging. 4 Units.**

This course provides an overview of developmental issues that occur in the adult and aging population. Topics include developmental theories, research techniques, and the biological, psychological, and sociological aspects of aging. Some emphasis is placed on providing psychological services to the aging population. Some field experiences in nursing homes will be part of the course. Sophomore standing is required.

**PSYC 140. Psychology of Gender. 4 Units.**

This course introduces students to psychological research on the experiences, behaviors, and abilities of men and women. A comparative approach is used to examine historical, contemporary, and cultural differences. Topics include gender differences and similarities in mental abilities, social behavior, mental health issues, and experiences of men and women in the workplace. Sophomore standing.

**PSYC 144. Psychological Assessment. 4 Units.**

An overview of the statistical underpinnings of psychological tests which include reliability, validity, and test creation as well as an overview of the most commonly administered psychological tests and their appropriate applications and use. The ethics of test creation and administration as well as practical application of various assessment techniques are discussed. This class is recommended for students who plan to pursue graduate training in clinical psychology. Prerequisite: PSYC 103.

**PSYC 149. 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.

**PSYC 152. Parenting. 4 Units.**

This course discusses the role of parents in society as well as what is effective parenting. The course explores the available research on effective parenting as well as discussing and experiencing effective interventions to improve parenting skills. The course is intended to focus on both personal application as well as larger scale societal issues and interventions for others. Prerequisite: Sophomore standing.

**PSYC 154. Child Mental Health. 4 Units.**

Students study the casual factors that relate to the development of mental health problems in children. The emphasis is on the environmental issues associated with specific disorders that include behavioral learning histories, cognitive behavioral patterns, and family/parenting issues. Socio-cultural contributions to mental health are presented in addition to discussion of Evidence-Based Treatments for commonly diagnosed disorders and problems in childhood. Sophomore standing.



**PSYC 155. Couples and Family Therapy. 4 Units.**

This course is an introduction to couples and family therapy, theory, and practice. Behavioral psychology is used as the foundation, and students learn a broad systems perspective. Students are familiarized with the history of family therapy, as well as current family therapy strategies. Sophomore standing.

**PSYC 156. Behavioral Medicine/Health Psychology. 4 Units.**

Students examine the overlapping fields of behavioral medicine and health psychology. The course focuses on a biopsychosocial model of illness, how this model compares to a more traditional biomedical model of illness, and the applications of a biopsychosocial model to the treatment and prevention of chronic illnesses. Topics include health promotion and medical compliance. This course may interest any student who aspires to become a health care professional in health psychology, clinical psychology, medicine, pharmacy, physical therapy, or nursing. Prerequisite: PSYC 053. Junior or Senior standing recommended.

**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 166. Psychology of Personality. 4 Units.**

This course is a survey of contemporary personality theories and research. The course focuses on the study of individual difference and how these differences are explained and measured using different personality assessment devices. This course is recommended for students who aspire to enroll in graduate study of clinical psychology, school psychology, marriage and family counseling, child development, or social work. It may interest those who want to learn more about themselves and the diversity of the species. Junior or Senior standing recommended.

**PSYC 167. Psychology and the Law. 4 Units.**

The course examines the contribution of psychology to the judicial system. Students explore both the role of forensic psychologists in criminal cases and applied psychological research designed to assist police and courts in their functions. Case studies illustrate forensic issues, such as examining serial killers and the uses and abuses of police interrogation in criminal cases. Topics include insanity and incompetency of defendants; psychopathy; problems with eyewitness testimony; issues involved with sentencing (including the death penalty); the mistreatment of children and adolescents by the justice system; and false confessions. Students visit actual course trials early in the semester. Not recommended for first-year students.

**PSYC 169. Social Psychology. 4 Units.**

Students study the interaction of social and psychological factors (how psychological factors affect group behavior and how social factors affect individual behavior). This course is primarily for psychology majors and is taught with an emphasis on research methods in social psychology. Prerequisite: PSYC 105 or permission of the instructor.

**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. 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. 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 191. Independent Study. 1-4 Units.****PSYC 195. Seminar. 4 Units.****PSYC 197. Independent Research. 1-4 Units.**

## Religious & Classical Studies

George Randels, Chair

Martha Bowsky, Director of Liberal Studies

### Degrees Offered

Bachelor of Arts

### Majors Offered

Religious Studies

Liberal Studies Major

### Minors Offered

Religious Studies

Classical Studies

Ancient Studies

The Department of Religious & Classical Studies offers students the opportunity to study belief systems, texts, and languages in both modern and ancient contexts. Some courses focus on the role of religion in human history, experience, thought, and action, while others focus on the cultures of Ancient Greece and Rome, and their lasting effects on the modern world. Religion has been and continues to be a major factor in the development of cultures and institutions, and is significant to individuals as they examine ultimate questions and how they should live. Citizen-leaders need an understanding of religion, and of the origins of Western civilization. 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 ministry or a church-related vocation, teaching, journalism, publishing, film, law, government, business, non-profit organizations, social work, nursing, and medicine. A minor in Religious Studies, Classical Studies, or Ancient Studies can also provide groundwork for these careers while it supplements a student's major field of study.

### Religious & Classical Studies Faculty

George D. Randels, Jr., Professor and Chair, 1996, BA, University of Iowa, 1984; MAR, Yale University, 1987; PhD, University of Virginia, 1994. Member, Phi Beta Kappa.

Martha W. Bowsky, Professor, 1984, BA, University of North Carolina, 1972; MA, 1974; PhD, University of Michigan, 1983. Member, Phi Beta Kappa.

Alan Lenzi, Associate Professor, 2006, BA, Central Bible College, 1993; MAR, Westminster Theological Seminary, 1997; MA, Brandeis University, 2002; PhD, 2006.

Caroline T. Schroeder, Associate Professor, 2007, AB, Brown University, 1993; MA, Duke University, 1998; PhD, 2002. Member, Phi Beta Kappa.

Tanya Storch, Associate Professor, 2000, BA, MA, University of St. Petersburg, 1988; PhD, University of Pennsylvania, 1995.

## Bachelor of Arts Major in Religious Studies

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 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.

### 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:

- Reading
- Writing
- Quantitative analysis

### V. Breadth Requirement

Students must complete 64 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 40 units that include:

CLAS 051	Classical Mythology	4
RELI 034	Introduction to Religion	4
RELI 196	Religious Studies Seminar	4
Select one of the following:		4
RELI 023	Hebrew Bible	
RELI 025	New Testament and Christian Origins	

#### Electives

Five Additional Departmental Courses	20
Select one of the following collateral courses:	4

ANTH 053	Cultural Anthropology
ARTH 108	Renaissance Art and Architecture
ARTH 110	17th Century Art: Age of Rembrandt
ARTH 120	Chinese Art History
ARTH 122	Japanese Art History
ENGL 141	Topics in British Literature Pre-1800
ENGL 151	Topics in American Literature before 1865
HIST 060	A History of Medicine
HIST 100	Renaissance and Reformation
HIST 101	Tudor and Stuart England
HIST 102	The Spanish Empire
HIST 112	History of the Holocaust
HIST 141	Pre-Modern China to 1840
PHIL 035	Environmental Ethics
PHIL 053	Ancient and Medieval Philosophy
PHIL 124	Philosophy of Religion
PHIL 180	Metaphysics
PHIL 184	Meta-Ethics: What is Morality?
POLS 130	Ancient to Medieval Political Theory
POLS 148	Politics of the Middle East
SOCI 114	Social and Cultural Change
SOCI 123	Sex and Gender
SOCI 127	Family and Marriage

**Note: 1)** See department for a current list of approved collateral courses. **2)** Electives to be chosen in consultation with an advisor.

## Bachelor of Arts Major in Liberal Studies

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 liberal 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.  
**2)** Not all the courses that satisfy the subdivisions above satisfy the General Education requirements for the Liberal Studies major. Choose courses to satisfy the General Education requirements in consultation with an advisor.

## 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:

- Reading
- Writing
- Quantitative analysis

## V. Breadth Requirement

Students must complete 64 units outside the primary discipline of the first major, regardless of the department which offers the course(s) in that discipline. (Courses include general education courses, transfer courses, CPCE/EXTN units, internships, etc.)

## VI. Major Requirements

Minimum 82 units and 23 courses that include:

### Area I: Language Arts

Minimum 18 units and 5 courses that include:

- A course in composition or PACS 001
- A course in literary analysis
- A course in language and language acquisition
- A course in communication
- A language arts elective

### Area II: Mathematics/Science

Minimum 16 units and 4 courses that include:

- A course in college mathematics
- A course in life science
- A course in physical science
- A mathematics/science elective

## Area III: Humanities/Social Studies

Minimum 23 units and 7 courses that include:

- A course in the development of civilization
- A course in American history and institutions
- A course in global/intercultural studies or PACS 002
- A course in multicultural/ethnic/gender studies
- A humanities elective or course in intercultural /international studies
- A course in individual/interpersonal behavior
- A humanities/social science elective

## Area IV: Performing Arts

Minimum 11 units and 3 courses that include:

- A course in visual arts
- A course in music
- A course in performing arts

## Area V: Pacific Seminar

Minimum 3 units and 1 course that include:

- PACS 003 or another ethics course

## Area VI: Concentration

Minimum 11 units and 3 courses

**Note: 1)** Choose a concentration in consultation with an advisor.

## 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
RELI 134	World Religions	4
Select one of the following:		4
RELI 023	Hebrew Bible	
RELI 025	New Testament and Christian Origins	
Two RELI Electives		8

**Note: 1)** 16 of these units must be completed at Pacific.

## Minor in Classical 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 classical studies.

### Minor Requirements:

Select one of the following language courses:		4
GREK 011A	First-Year Ancient Greek, First Semester	
GREK 011B	First-Year Ancient Greek, Second Semester	
GREK 023	Intermediate Greek, Third Semester	
GREK 025	Intermediate Greek, Fourth Semester	
GREK 127	Advanced Greek	
LATN 011A	First-Year Latin, First Semester	
LATN 011B	First-Year Latin, Second Semester	
LATN 023	Intermediate Latin, Third Semester	
LATN 025	Intermediate Latin, Fourth Semester	
LATN 127	Advanced Latin	
Select one of the following classical mythology courses:		4
CLAS 051	Classical Mythology	
CLAS 115	Topics in Mythology and Religion	
Select three of the following:		12
CLAS 100	History of Ancient Greece	

CLAS 102	History of Ancient Rome
CLAS 110	Reading Greek Literature in English
CLAS 112	Reading Roman Literature in English
CLAS 120	Sexuality in Greek Society
CLAS 122	Sexuality in Roman Society
CLAS 130	Greek Art and Architecture
CLAS 132	Roman Art and Architecture
CLAS 191	Independent Study
CLAS 193	Special Topics
GREK 191	Independent Study
LATN 191	Independent Study
GREK/LATN (One course in Greek or Latin)	

## 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:

Select one of the following classical mythology courses: 4

CLAS 051	Classical Mythology
CLAS 115	Topics in Mythology and Religion

Select one of the following ancient history courses: 4

CLAS 100	History of Ancient Greece
CLAS 102	History of Ancient Rome
RELI 102	History of Ancient Egypt and the Near East
RELI 126	Ancient Israel in Its Historical Context

Select one of the following ancient literature courses: 4

CLAS 110	Reading Greek Literature in English
CLAS 112	Reading Roman Literature in English
RELI 023	Hebrew Bible
RELI 025	New Testament and Christian Origins

Or another course by permission of the department chair

Two Electives from CLAS, GREK, HBRW, LATN, RELI, and/or MATH 164 8

**Note:** 1) Electives are chosen in consultation with the advisor. 2) 16 of these units must be completed at Pacific.

### Classics Courses

#### CLAS 051. Classical Mythology. 4 Units.

This course is an introductory survey of the Greek and Roman myths of major importance in Western literature, art and music. The focus includes Greek mythology against the background of Roman, or Roman mythology against the background of Greek.

#### CLAS 100. History of Ancient Greece. 4 Units.

This course is an introductory survey of the social, economic, political and military history of ancient Greece, from the very first Greeks and the age of the Homeric heroes to the legacy of Alexander the Great. The course focus is on Greece and the Greeks as the mainstream culture, with marginal groups--such as women, slaves, non-citizens, and other ethnic groups as they --provide the context for the development of an exclusively Greek cultural identity.

#### CLAS 102. History of Ancient Rome. 4 Units.

Students are introduced to the social, economic, political and military history of ancient Rome, from the legendary founder hero Aeneas to the height of Rome under the emperors. The course focuses on Rome and the Romans as the mainstream culture, with marginal groups - such as women, slaves, non-citizens, and other ethnic groups -as they provide the context for the development of an exclusively Roman cultural identity.

#### CLAS 110. Reading Greek Literature in English. 4 Units.

An Introductory survey of the literature of the ancient Greeks, read in English translation. Works studies are representative of the lasting literary achievements of the Greeks in genres as epic, tragedy, comedy, personal poetry, history, philosophical dialogue. Attention is given to what we learn about the ancient Greeks from their own literature.

#### CLAS 112. Reading Roman Literature in English. 4 Units.

An introductory survey of the literature of the ancient Romans, read in English translation. Works studied are representative of the lasting achievements of the Romans in such genres of comedy, rhetoric, personal poetry and prose, satire, epic, history, and the novel. Attention is given to what we learn about the ancient Romans from their literature.

#### CLAS 115. Topics in Mythology and Religion. 4 Units.

This course is a depth study of particular aspects of ancient mythology and religion. Students are expected to write about and discuss various topics, relevant to the ways that mythology and religion informed ancient life and/or continues to influence modern culture. Prerequisite: CLAS 051 or permission of instructor.

#### CLAS 120. Sexuality in Greek Society. 4 Units.

This course is an introductory survey of the sexual attitudes and gender roles of women and men in ancient Greek society. The course focuses on the suppression of female sexuality and the channeling of male sexuality, in the different places and times of ancient Greece from the Homeric heroes and their women to the heirs of Alexander the Great.

#### CLAS 122. Sexuality in Roman Society. 4 Units.

This course is an introductory survey of the sexual attitudes and gender roles of women and men in ancient Roman society. The course focuses on the subordination, exploitation, and suppression of male and female sexuality from the charter society of Aeneas to the politics and economy of the Roman Republic, as well as the philosophies and religions of the Roman Empire.

#### CLAS 130. Greek Art and Architecture. 4 Units.

This course is 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 they examine what this art can tell us about the ancient Greeks and how extensively it has influenced our world.

#### CLAS 132. Roman Art and Architecture. 4 Units.

This course is an introductory survey of the art and architecture of ancient Etruria and Rome from 600 B.C. to the 4th century A.D. We will 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.

#### CLAS 191. Independent Study. 2-4 Units.

#### CLAS 193. Special Topics. 4 Units.

#### CLAS 197. Senior Research Project. 4 Units.

Students select a topic of personal interest with the supervision of faculty experienced in that area of study. Students learn about traditional and current research methods and produce an original work that demonstrates the student's ability to formulate a relevant question, conduct necessary research, synthesize information, think critically and communicate these results in a manner appropriate to a graduate.

### 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.



**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 include: 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.

**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 an 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?

**RELI 030. Western Religious Traditions. 4 Units.**

This course surveys Western religious traditions broadly conceived. The Abrahamic traditions (Judaism, Islam, and Christianity) comprise the core of the course. Other content varies by instructor and/or semester but may include Mesopotamian, Egyptian, or Greek religion, Zoroastrianism, European Paganism, Native American religion, or New Religious Movements.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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 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.

**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.

**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.

**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.

**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

Alison Alkon, Co-Chair

### Degrees Offered

Bachelor of Arts

### Majors Offered

Sociology

### Minors Offered

Sociology

Sociology offers students an understanding of social structure and interaction and an appreciation of the complexities of human societies, large and small. The program provides a groundwork for careers in areas as diverse as criminal justice, law, journalism, social services, urban planning, government, education and business. Specialized courses prepare students who seek a professional career in sociology to pursue graduate studies. Students are encouraged to work closely with the faculty in developing programs best suited to their career goals. Whatever their concentrations may be, all students of sociology should acquire an appreciation of the manifestations of the human spirit and its milieu.

### Mission Statement

It is the mission of the Department to graduate students educated in the discipline of sociology, and to contribute to the liberal arts mission of the College of the Pacific. In sociology, students will develop a sociological imagination that places individual life experiences in the context of the social and cultural structures that shape them. The department of sociology emphasizes the role of social inequalities in shaping social interactions and institutions, leading to both constraints and opportunities for individuals and groups. The program provides students with the fundamental knowledge of basic sociological concepts, research methods and theoretical perspectives and fosters development of their analytic skills. Additionally, it emphasizes intellectually rigorous experiential and service learning, providing students with a solid foundation to be engaged, well-informed citizens who can address social justice issues and systematic inequalities in a complex and diverse society. (*developed and adopted by department, Fall 2009*)

## Career Opportunities

Undergraduate study in sociology leads to employment in a very wide variety of careers. Many take positions in the social services or social work, education, governmental administration and planning, the criminal justice system or public health. Others have gone into the business world or international affairs. Study in sociology provides an excellent base for further study in law, business administration, government, public health, urban planning and similar fields.

## Typical First-Year Program

Students who major in Sociology should use their freshman year to build a strong liberal arts background. The major program is developed so that it can be completed within a minimum period of two years. Students who want to explore interests in a sociology major may want to take any of several sociology courses that are in the general education program.

## Goals

1. **Critical, Conceptual and Analytical:** Students should be able to analyze and understand contemporary and historical social events and policies, both micro and macro, by using key concepts from Foundations of Sociology; Social Psychology; Social Inequality; and Social Theory.
2. **Inquiry and Evidence:** Students should be able to define, design and implement significant and ethically appropriate research projects in sociology. They should also be able to critically evaluate the published research of others.
3. **Communication Competence:** Students should be able to make clear and effective presentations of their work in writing and orally, in public presentations.
4. **Experiential and Service Learning:** Students should be able to effectively interact in off-campus social settings and be able to meet the responsibilities and expectations inherent in these settings. Students should be able to sociologically describe and analyze these social settings and their own experiences research within them. Students should also be able to engage with sociological knowledge to develop and execute independent research projects.
5. **Informed Citizenship, Social Inequality and Justice:** Students should be aware of, and understand the social and cultural issues raised by the facts of diversity and inequality in society, including significant variations by race, class, gender, age and sexuality, and be engaged as citizens in addressing these issues in a sociologically informed manner.

## Sociology Faculty

Alison H. Alkon, Assistant Professor and Co-Chair, 2008, BA, Emory University, 1999; MA, U.C. Davis, 2003; PhD, University of California, Davis, 2008.

Marcia Hernandez, Associate Professor, 2005, BA, University of California, Santa Barbara, 1994; PhD, State University of New York, Albany, 2007.

George H. Lewis, Professor, 1970, BA, Bowdoin College, 1965; MA, University of Oregon, 1968; PhD, 1970. Member of Phi Beta Kappa

Ethel G. Nicdao, Assistant Professor, 2007, BA, University of California, Davis, 1994; MA, California State University, Hayward, 2001; PhD, University of New Mexico, 2006.

## Bachelor of Arts Major in Sociology

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 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:

- Reading
- Writing
- Quantitative analysis

## V. Breadth Requirement

Students must complete 64 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:

SOCI 071	Foundations of Sociology *	4
SOCI 079	Social Psychology *	4
SOCI 171	Social Research Studies	4
SOCI 172	Social Inequality	4
SOCI 177	Theories of Society and Culture	4
SOCI 179	Capstone Seminar *	4

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 experiential learning courses:		4
COOP 092	Co-op Internship	
COOP 192	Co-op Internship	
JCTR 187	Community Affairs Internship	
SOCI 187A	Fieldwork	
SOCI 187B	Fieldwork	
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 071	Foundations of Sociology	4
SOCI 171	Social Research Studies	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.

##### **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.

##### **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 an problematic while deflecting attention from their own practices. This course focuses predominantly on the US, but also engages in comparative analysis with other countries.

##### **SOCI 051. Introduction to Sociology. 4 Units.**

This course is an introduction to the field of sociology with an emphasis upon study of the basic concepts of sociological analysis, their use in the understanding of major institutions and the trends and problems associated with the urban, industrial and political developments in contemporary society.

##### **SOCI 061. 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.

##### **SOCI 071. Foundations of Sociology. 4 Units.**

What are the basics of a study of society? Students explore fundamental concepts, theoretical approaches, empirical methods and fields of inquiry of concern to sociologists. Students examine various social issues, develop an understanding of how our social world functions, and how our society is shaped by social institutions. The course introduces sociological concepts, theories, and methodologies to build on students’ understanding of the discipline. This course is required as the first course in the core sequence for students who intend to major or minor in sociology.

##### **SOCI 079. Social Psychology. 3 or 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 sociological social psychology. Sociological social psychology investigates how our understandings of our individual selves and the wider social world are shaped through social interaction. Topics include the nature and scope of social psychology, 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 071 or permission of instructor.



**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.

**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.

**SOCI 114. Social and Cultural Change. 4 Units.**

Why do some social movements fail to produce social change, while others succeed? The goal of this course is to introduce students to sociological theories of social movements, analyzing the reasons they emerge at particular historical moments, and the types of political and cultural changes they can produce. Through a review of case studies that include the women's, gay rights, abortion, civil rights, environmental, and peace movements, the course identifies key analytical questions and research strategies for studying contemporary social movements in depth. This course focuses largely on US examples, though cross-cultural comparisons add depth to the discussions. Prerequisite: a course in sociology or permission of instructor.

**SOCI 123. Sex and Gender. 4 Units.**

The course material explores how various social institutions in contemporary society shape our understanding of gender, sex and sexuality. Although grounded in sociological analysis, the class is interdisciplinary and intersectional in nature as many of the course texts are drawn from a range of social science disciplines. The lectures, assigned reading, and activities address how sex and gender are intricately linked to other social statuses such as race, class and age. Prerequisite: a course in sociology or permission of instructor.

**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.

**SOCI 127. Family and Marriage. 4 Units.**

This course explores the social dynamics of human intimacy within families. Family life is examined through a historical, cultural and political lens to place the social institution in a broad societal context. The evolution of the family is studied both historically and comparatively. Special attention is given to the sociological significance of sexuality, changing roles of men and women, intimacy, marriage and divorce, domestic violence, parenthood, childhood and aging, and alternative ways of living together. The course texts examine family life across race and ethnic groups, social class, religion and geographic location. Prerequisite: a course in sociology or permission of instructor.

**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.

**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.

**SOCI 141. Prejudice and Racism. 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, with an emphasis on prejudice against African Americans, 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.

**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 Studies. 4 Units.**

How do we study society? This course reviews and examines the various methods most used in social science research to design research projects and gather and analyze data. Students study the ethical issues involved in the use of such methods. Consideration of the interrelationships between the development of social theory and methodologies of data collection include experiments, observation, interviews, surveys and content analysis. Student designed research projects are a central part of this course. Prerequisite: SOCI 071 or permission of instructor.

**SOCI 172. Social Inequality. 4 Units.**

Are some more equal than others? 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. Prerequisite: SOCI 071 or permission of instructor. Recommended: SOCI 171.

### **SOCI 177. Theories of Society and Culture. 4 Units.**

How does theory help us to understand society? 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. Recommended: SOCI 071 and SOCI 172.

### **SOCI 179. Capstone Seminar. 4 Units.**

How good is your sociological imagination? The capstone seminar allows students to develop and put into practice links between their sociological education and their social worlds. Students consider the major, reflecting on the sociological imagination they have developed, and explore the role that sociology can play in their wider personal, professional and civic goals. Students present ideas and data to their peers, as well as to broader audiences. They also participate in the assessment of the major program. Prerequisite: a major in sociology or permission of instructor. Senior standing.

### **SOCI 187A. Fieldwork. 2 or 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 help students to develop their ethnographic research and writing skills. This course results in the production of a publishable or presentation quality piece of original ethnographic research that draws upon thick description and analysis of the research site to extend and/or challenge sociological theory. (Note: The course may be repeated for credit, but applies toward major requirements only once. SOCI 187 is a letter-graded course.) Prerequisites: SOCI 071 and SOCI 171. 2.0 GPA in major or permission of instructor is required.

### **SOCI 191. Independent Study. 2-4 Units.**

## **Theatre Arts**

Lisa A. Tromovitch, Chair

### **Degrees Offered**

Bachelor of Arts

### **Majors Offered**

Theatre Arts

### **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.
3. A vital experience in the arts and crafts of the theatre so that faculty and students learn together and enrich themselves and connect the University with our immediate and wider community through theatre productions 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 presentations of the dramatic and musical stage.
5. To encourage experiments and innovations with the integration of the lively arts of drama, dance, and design.
6. To strive for the highest standards of training and production that our talent and resources allow.
7. To help our students to fulfill their vocational or avocational interests in the various arts and crafts of theatre.

## **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. Courses range from acting and directing, to scenery, costume and makeup, to dramatic literature, theatre history and business management. We also provide classes in acting and make up for the camera, and dance instruction in ballet, modern, jazz, and tap.

## **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

## **Theatre Arts Faculty**

Gary Armagnac, Associate Professor, 2001, BA, Speech and Theatre, Iona College, 1974; MFA, Acting and Directing, California State University, Long Beach, 1993, garmagnac@pacific.edu, 209-946-9462, Theatre Arts Building 1050

Tara Colt, Dance Instructor, 2008, BS, California State University, Sacramento; MA, University of the Pacific, in progress, tcolt@pacific.edu, 209-946-2116, Dance Studio

Randall A. Enlow, Associate Professor, 2003, BA, University of Akron, 1987; MFA, Case Western Reserve University, 1993, renlow@pacific.edu, 209-946-2050, Theatre Arts Building 1050

Macelle Mahala, Assistant Professor, 2007, BA, Macalester College, 2001; MA, University of Minnesota, 2004; PhD, 2007, mmahala@pacific.edu, 209-946-2055, Theatre Arts Building 1050

Cathie McClellan, Associate Professor, 2002, BA, Brigham Young University, 1975; MFA, University of Arizona, 1989, cmcclellan@pacific.edu, 209-946-2051, Theatre Arts Building 1050

Michael Wayne Rice, Lecturer, 2012, BA Cal State University-Northridge, 1998; MFA, University of Missouri at Kansas City, 2001, mrice@pacific.edu, 209-946-2116, MichaelWayneRice.com, Theatre Arts Building 1050

Lisa A. Tromovitch, Associate Professor, 2005, BA Dartmouth College, 1983; MFA Southern Methodist University. Member Phi Beta Kappa, ltromovitch@pacific.edu, 209-946-2117, www.LivermoreShakes.org, Theatre Arts Building 1050, Room 3

## Bachelor of Arts Major in Theatre Arts

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 Theatre Arts.

### 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:

Reading

Writing

Quantitative analysis

### V. Breadth Requirement

Students must complete 64 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, transfer courses, CPCE/EXTN units, internships, etc.)

### VI. Major Requirements

Minimum 43 units that include:

#### Core Courses

THEA 105	Career Workshop	2
THEA 109	Theatre Arts Capstone	2
THEA 111	Script Analysis	3
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

#### Performance Component

THEA 071	Beginning Acting	3
Select one of the following Fundamental Skills:		2-3
THEA 075	Expressive Movement	
THEA 077	The Expressive Voice: Vocal Skills for Actors, Teachers and Presenters	

#### Design/Technology Component

THEA 003	Stage Works	1
THEA 031	Stage Makeup Fundamentals	2
THEA 033	Theatrical Design Fundamentals	4
THEA 035B	Stage Management Practice	2
Select one of the following:		2
THEA 037A	Costume Construction and Technology	
THEA 037C	Scenery	
THEA 137	Lighting Technology	

#### Experiential Component

THEA 005I-P (repeat for two units)	2	
Two experiential courses from the following:		2-4
THEA 005A-H Theatre: On Stage		
THEA 005I-P Theatre: Back Stage		
THEA 089A-D Practicum: Performance		
THEA 089E-H Practicum: Production		
THEA 189A-D Practicum: Performance		
THEA 189E-H Practicum: Production		

#### Electives

Electives - three elective theater courses, or two courses plus three one-unit dance classes 8

### Minor in Theatre Arts

Students must complete a minimum of 25-26 units with a Pacific minor grade point average of 2.0 in order to earn a minor in Theatre Arts with a focus in acting, design/technology, directing/playwriting/stage management or dance.

## Core Courses

THEA 003	Stage Works	1
THEA 005	Theatre: Backstage	2
THEA 111	Script Analysis	3
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

## Acting Track

THEA 031	Stage Makeup Fundamentals	2
THEA 071	Beginning Acting	3
THEA 171	Intermediate Acting	3
Select seven units from the following:		7
THEA 005 Theatre: On Stage		
THEA 075	Expressive Movement	
THEA 077	The Expressive Voice: Vocal Skills for Actors, Teachers and Presenters	
THEA 171	Intermediate Acting	
THEA 173A	Advanced Acting: Classical Styles	
THEA 173B	Advanced Acting: Actor's Repertoire	
THEA 193	Special Topics	

## Design/Technology Track

THEA 033	Theatrical Design Fundamentals	4
Select one of the following:		2-3
THEA 005 Theatre: On Stage		
THEA 071 Beginning Acting		
Select two of the following:		4
THEA 031 Stage Makeup Fundamentals		
THEA 037A Costume Construction and Technology		
THEA 037C Scenery		
THEA 137 Lighting Technology		
Select three to four units from the following:		3-4
THEA 005 Theatre: Backstage		
THEA 089 Practicum: Production		

## Directing/Playwriting/Stage Management Track

THEA 035B	Stage Management Practice	2
THEA 071	Beginning Acting	3
Select one of the following:		2-4
THEA 037A Costume Construction and Technology		
THEA 037C Scenery		
THEA 112 Playwriting		
THEA 137 Lighting Technology		
THEA 172 Directing		
Select four units from the following:		4
THEA 005 Theatre: On Stage		
THEA 005 Theatre: Backstage		
THEA 089 Practicum: Performance		
THEA 089 Practicum: Production		

## Dance Track

THEA 031	Stage Makeup Fundamentals	2
THEA 051A	Ballet (repeat for 3 units)	3
THEA 051B	Jazz (repeat for 2 units)	2
THEA 051C	Modern Dance (repeat for 2 units)	2
THEA 051D	Tap (repeat for 2 units)	2
Select one of the following:		1-3
THEA 005 Theatre: On Stage		
THEA 071 Beginning Acting		

## 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 subsection.

### 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 subsection.

### 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 subsection.

### 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 subsection.

### 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 subsection.

### 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 subsection.

### 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 subsection.

### 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 subsection.



**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 005O. 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. 3 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.

**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.

**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 035A. Stage Management Theory. 1 Unit.**

This is an introductory course in the theories, techniques and practices of stage-managing a production from its initial stages to the conclusion of the run. This course meets during the first half of the Spring semester. Prerequisite: THEA 033 or permission of instructor. Prerequisite: THEA 033 with a "C-" or better or permission of instructor. 201381.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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 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.

**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.

**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.

**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.

**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.

**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.

**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.

**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. 2-4 Units.**

## Visual Arts

Trent Burkett, Chair

### Degrees Offered

Bachelor of Arts

Bachelor of Fine Arts

### Majors Offered

Art (BA)

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 Arts degree in Art or 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 BA or BFA degree programs requires filing a declaration of major form and consulting with a department advisor in the chosen discipline.

## Visual Arts Faculty

Trent Burkett, Professor and Co-Chair, 2002, BA, California State University, Sacramento 1993; MFA University of Minnesota, Twin Cities, MN, 2000, tburkett@pacific.edu, (209) 946-3100, Ceramic Studio

Brett DeBoer, Associate Professor, 1999, BFA, University of Northern Colorado, 1977; MS, Parsons School of Design, 1985; MFA, Rochester Institute of Technology, 1989, bdeboer@pacific.edu, (209) 946-3097, ART 112

Daniel Kasser, Professor, 1984, BA, Humboldt State University, 1980; MFA, University of New Mexico, 1991, dkasser@pacific.edu, (209) 946-3101, ART 113

Lucinda Kasser, Associate Professor, 1995, BA, Humboldt State University, 1979; MA, California State University, Sacramento, 1989, lkasser@pacific.edu, (209) 946-2242, ART 108

Marie Ana Lee, Assistant Professor, 2009, BA, Michigan State University, 2000; BFA, Colorado State University, 2002; MFA, Colorado State University, 2005, mlee2@pacific.edu, (209) 946-7323, ART 120

Jennifer Little, Associate Professor, 2005, BFA, Washington University, 2001; MFA, University of Texas, Austin, 2005, jlittle@pacific.edu, (209) 946-3175, ART 111

Monika Meler, Assistant Professor, 2010, BFA, Milwaukee Institute of Art and Design, 2003; MA, Purdue University, 2005; MFA Tyler School of Art, 2007, mmeler@pacific.edu, (209) 946-2864, ART 101

Merrill Schleier, Professor, 1982, BA, The City College of New York, 1973; MA, University of California, Berkeley, 1976; PhD, 1983. Member, Phi Beta Kappa, mschleie@pacific.edu, (209) 946-3103, ART 202

## Bachelor of Arts Major in Art

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 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. 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:

Reading

Writing

Quantitative analysis

### V. Breadth Requirement

Students must complete 64 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

Minimum 59 units that include:



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 023	Painting I	3
Select one of the following:		3
ARTS 035	Ceramics	
ARTS 037	Sculpture	
ARTS 045	Digital Photography	3
ARTS 059	Printmaking I	3
ARTS 073	Freshman Seminar	1
ARTS 095	Time Based Media: Video	3
ARTS 105	Time Based Media: Web Design	3
ARTS 183	Studio Art Seminar II	3
ARTS 185	Studio Art Seminar III	4
Select two of the following concentrations: (Only one required if Visual Arts Teaching Credential is chosen)		

**A) Drawing**

ARTS 021	Life Drawing I	3
Select one of the following:		3
ARTS 121	Life Drawing II	
ARTS 127	Illustration	

**B) Painting**

ARTS 123	Painting II	3
Select one of the following:		3
ARTS 125	Painting III	
ARTS 057	Watercolor Painting	
ARTS 127	Illustration	

**C) Photography**

ARTS 141	Photography II	3
ARTS 143	Photography III	3

**D) Printmaking**

ARTS 151	Printmaking II	3
ARTS 153	Printmaking III	3

**E) Three Dimensional Media**

ARTS 133	3-D Studio I	3
ARTS 135	3-D Studio II	3

**F) Visual Arts Teaching Credential**

ARTS 021	Life Drawing I	3
EDUC 142	Visual Arts in Education	3
Select one of the following:		3
ARTS 057	Watercolor Painting	
ARTS 123	Painting II	
Select one of the following:		3
ARTS 141	Photography II	
ARTS 151	Printmaking II	

## Bachelor of Fine Arts Major in Studio Art

Students must complete a minimum of 136 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:

Reading
Writing
Quantitative analysis

## IV. Breadth Requirement

For the BFA students must complete a minimum of 53 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

Minimum 83 units that include:

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 021	Life Drawing I	3
ARTS 023	Painting I	3
ARTS 035	Ceramics	3
ARTS 037	Sculpture	3
ARTS 045	Digital Photography	3
ARTS 073	Freshman Seminar	1
ARTS 095	Time Based Media: Video	3

ARTS 059	Printmaking I	3
ARTS 105	Time Based Media: Web Design	3
ARTS 181	Studio Art Seminar I	3
ARTS 183	Studio Art Seminar II	3
ARTS 185	Studio Art Seminar III	4

Select two of the following concentrations: (Only one required if Visual Arts Teaching Credential is chosen)

#### A) Photography

ARTS 141	Photography II	3
ARTS 143	Photography III	3

Select one of the following: 3-4

ARTS 091	Print Media Graphics	
ARTS 089	Practicum	
ARTS 189	Practicum	
ARTS 191	Independent Study	
ARTS 197	Undergraduate Research	

#### B) Printmaking

ARTS 151	Printmaking II	3
ARTS 153	Printmaking III	3

Select one of the following: 3-4

ARTS 089	Practicum	
ARTS 189	Practicum	
ARTS 191	Independent Study	
ARTS 197	Undergraduate Research	

#### C) Drawing

ARTS 121	Life Drawing II	3
ARTS 127	Illustration	3

Select one of the following: 3-4

ARTS 089	Practicum	
ARTS 189	Practicum	
ARTS 191	Independent Study	
ARTS 197	Undergraduate Research	

#### D) Painting

ARTS 123	Painting II	3
ARTS 125	Painting III	3

Select one of the following: 3-4

ARTS 057	Watercolor Painting	
ARTS 127	Illustration	
ARTS 191	Independent Study	
ARTS 197	Undergraduate Research	

#### E) Three Dimensional Media

ARTS 133	3-D Studio I	3
ARTS 135	3-D Studio II	3

Select one of the following: 3-4

ARTS 197	Undergraduate Research	
ARTS 087/089	Internship	
ARTS 187/189	Internship	
ARTS 191	Independent Study	

#### F) Visual Arts Teaching Credential

ARTS 121	Life Drawing II	3
EDUC 142	Visual Arts in Education	4

Select one of the following (not selected above): 3

ARTS 035	Ceramics	
ARTS 037	Sculpture	

Select one of the following: 3

ARTS 057	Watercolor Painting	
ARTS 123	Painting II	

Select one of the following: 3

ARTS 141	Photography II	
ARTS 151	Printmaking II	

## VI. Advanced Practice

Select three of the following courses: 9

ARTS 075	Graphic Design I	3
ARTS 087	Internship	1-4
ARTS 187	Internship	2-4
ARTS 089	Practicum	1-4
ARTS 189	Practicum	1-4
ARTS 091	Print Media Graphics	3
ARTH 101	History of Graphic Design	4
ARTS 123	Painting II	3
ARTS 125	Painting III	3
ARTS 127	Illustration	3
ARTS 133	3-D Studio I	3
ARTS 135	3-D Studio II	3
ARTS 141	Photography II	3
ARTS 143	Photography III	3
ARTS 151	Printmaking II	3
ARTS 153	Printmaking III	3
ARTS 191	Independent Study	2-4
ARTS 193	Special Topics	2-4
ARTS 197	Undergraduate Research	2-4
ARTH 112	19th Century European Art	4
ARTH 114	20th Century Art and Film	4
ARTH 118	Art in the United States: 1865-1945	4
ARTH 124	Sex, Gender and the Arts	4
EDUC 142	Visual Arts in Education	3
THEA 033	Theatrical Design Fundamentals	4
THEA 037A	Costume Construction and Technology	2
THEA 037C	Scenery	2

## Bachelor of Fine Arts Major in Graphic Design

Students must complete a minimum of 136 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:

Reading

Writing

Quantitative analysis

## IV. Breadth Requirement

For the BFA students must complete a minimum of 53 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 83 units that include:

ARTH 101	History of Graphic Design	4
ARTH 114	20th Century Art and Film	4
ARTS 005	Drawing	3
ARTS 007	Principles of 2-D Design and Color	3
ARTS 009	Principles of 3-D Design	3
ARTS 021	Life Drawing I	3
ARTS 045	Digital Photography	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 091	Print Media Graphics	3
ARTS 095	Time Based Media: Video	3
ARTS 103	Graphic Production	3
ARTS 105	Time Based Media: Web Design	3
ARTS 115	Time Based Media: Motion Graphics	3
ARTS 127	Illustration	3
ARTS 141	Photography II	3
ARTS 171	Graphic Design III	3
ARTS 173	Graphic Design Seminar	3
ARTS 175	Senior Graphic Design Seminar	4
Select one of the following:		3
ARTS 023	Painting I	
ARTS 057	Watercolor Painting	
Select one of the following:		3
ARTS 087	Internship	
ARTS 089	Practicum	

Select one of the following: 4

ARTH 116 Contemporary World Art 1945 to Present

ARTH 124 Sex, Gender and the Arts

## VI. Advanced Practice

Select two courses from one of the following courses: 6

ARTS 059	Printmaking I	3
ARTS 121	Life Drawing II	3
ARTS 123	Painting II	3
ARTS 125	Painting III	3
ARTS 143	Photography III	3
ARTS 151	Printmaking II	3
ARTS 153	Printmaking III	3
ARTS 187	Internship	2-4
ARTS 189	Practicum	1-4
ARTS 191	Independent Study	2-4
ARTS 193	Special Topics	2-4
ARTS 197	Undergraduate Research	2-4

## 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	Time Based Media: Motion Graphics	
Select one of the following:		3
ARTH 101	History of Graphic Design	
ARTS 103	Graphic Production	
Select one additional elective from the following:		3
ARTS 045	Digital Photography	
ARTS 095	Time Based Media: Video	
ARTS 105	Time Based Media: 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 ceramics, drawing, painting, photography, printmaking, or sculpture. 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.

##### **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.

##### **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. History of Graphic Design. 4 Units.**

A survey of the development of graphic communication introduced by formal analysis of major works of graphic design within the context of their time and influence on later works. This course highlights significant events in communication and graphic design from 1450 to the present. Prerequisite: ARTS 075 or permission of instructor.

##### **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.

##### **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.

##### **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.

##### **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.

##### **ARTH 118. Art in the United States: 1865-1945. 4 Units.**

This course explores major painters, sculptures, architects, and film makers in the U.S., 1865-1945. Topics such as depictions of race and immigration, the impact of technology upon visual representation, art and politics, and the impact of gender on art are discussed. Expatriate art, the Ash Can School, the Stieglitz Group, the New Deal art projects and other significant styles are also examined.

##### **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.

##### **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.

##### **ARTH 124. Sex, Gender and the Arts. 4 Units.**

Students explore the construction of masculinity and femininity in Western art from the Renaissance to the present. The art is analyzed in the context of literary, philosophical, medical and legal discourses. Students examine how gender is encoded in visual representation, and often serves as prescriptions rather than descriptions of human behavior.



**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.**

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.

**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.

**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.

**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.

**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 foundational level hands-on course introduces the concepts, methods and materials of oil painting. Practical exercises in skill development, conceptual directions in art and personal imagery are emphasized. Prerequisites: ARTS 005 and ARTS 007.

**ARTS 035. Ceramics. 3 Units.**

This introductory hands-on course explores ceramic materials, processes and their creative potential. Students explore a variety of problems using the potter's wheel and hand-building techniques to discover the potential of clay.

**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.

**ARTS 045. 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.

**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. Prerequisites: ARTS 005 and ARTS 007.

**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. Prerequisites: ARTS 005 and ARTS 007 or permission of instructor.

**ARTS 077. Graphic Design II. 3 Units.**

This intermediate level course expands on the skills and knowledge acquired in Graphic Design I. The course emphasizes practical assignments that examine applied problem solving and professional solutions for graphic designers. Specific themes/topics for the course include visual grouping and hierarchy, 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 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. Time Based Media: Video. 3 Units.**

Time Based Media: Video 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.

**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 and ARTS 091 or permission of instructor.

**ARTS 105. Time Based Media: 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. Prerequisites: ARTS 045 and ARTS 091 or permission of instructor.

**ARTS 115. Time Based Media: Motion Graphics. 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. Prerequisites: ARTS 045 and 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 125. Painting III. 3 Units.**

This course is open to the advanced painting student. This course emphasizes conceptual development, setting and achieving personal goals. Emphasis is placed upon portfolio development and exhibition. Prerequisite: ARTS 123.

**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 and 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 135. 3-D Studio II. 3 Units.**

This course is open to the advanced studio art major. This course emphasizes advanced conceptual, project and portfolio development for the 3-D artist. Studio management is an integral component of this course. Prerequisite: ARTS 133.

**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.

**ARTS 143. Photography III. 3 Units.**

This course is open to advanced students, and it emphasizes conceptual and portfolio development for publication and preparation for internships and/or exhibition. The course emphasizes a thematic project from pre-selected topics in photography. A laptop computer, preferably Mac, is required. Prerequisite: ARTS 141.

**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 153. Printmaking III. 3 Units.**

This course is designed to provide foundational work for students who consider graduate studies in printmaking and related processes. Emphasis is placed upon working closely with faculty and studio management and portfolio development. Prerequisites: ARTS 059 and ARTS 151.

**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 and ARTS 081 or permission of instructor.

**ARTS 173. Graphic Design Seminar. 3 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 181. Studio Art Seminar I. 3 Units.**

This course is the first level of three studio art seminars that prepares Bachelors 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 identity, self-promotion, in addition to legal and business practices for artists.

**ARTS 183. Studio Art Seminar II. 3 Units.**

This course is the second level of three courses that prepares Bachelors and Bachelors 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 identity, self-promotion, legal and business practices for artists. Prerequisite: ARTS 181 or permission of instructor.

**ARTS 185. Studio Art Seminar III. 4 Units.**

This course is the third level of three studio seminar courses for the BA and BFA candidates in the Studio Arts. This course involves intensive studio work in a chosen concentration and it includes research, critiques and field trips 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 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.

## 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 such as liberal studies 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

### Environmental Science Major (BS)

Lydia Fox, Chair

The Bachelor of Science in Environmental Science is offered through the Department of Earth & Environmental Science with the cooperation of several departments in the College and prepares students with the practical skills and knowledge required to critically evaluate environmental problems and issues and provide applied solutions.

See Earth & Environmental Science department (p. 75) for degree requirements.

### Environmental Studies Major (BA)

Lydia Fox, Director

The environmental studies major is a liberal arts degree program that provides a multi-disciplinary approach to the environmental issues and concerns that are a hallmark of the early 21<sup>st</sup> century. It may be especially useful to students who are already pursuing a major in one of the contributing fields, but it may also appeal to students who simply wish to consider the environment and its problems from a variety of perspectives.

See Earth & Environmental Science department (p. 75) for degree requirements.

### Chemistry - Biology Major (BS)

Andreas H. Franz and C. Michael McCallum, Directors

The department of Chemistry offers an interdisciplinary program leading to the Bachelor of Science degree. This major is recommended for students interested in a career in health related fields and graduate work in biological chemistry and chemical systems. It is also tailored to meet the needs of students considering a career in biomedical research.

See the chemistry department 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. 95) for minor requirements.

### Gender Studies Minor

Traci Roberts-Camps, 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. 103) for minor requirements.

### Liberal Studies Major (BA)

Martha Bowsky, Director

The Department of Religious and Classical Studies offers the Liberal Studies major, which is designed for students who seek a diversified major program within College of the Pacific. It includes a breadth requirement, core major requirements, and a disciplinary or interdisciplinary concentration.

See religious and classical studies department for degree requirements.

### Chemistry Major with a Concentration in Medicinal Chemistry (BS)

Andreas H. Franz and C. Michael McCallum, Directors

The Bachelor of Science in Medicinal Chemistry is offered with the cooperation and support of the Thomas J. Long School of Pharmacy and Health Sciences and is designed to prepare the student for employment in the pharmaceutical industry or for graduate studies in health science and related fields.

See chemistry department for degree 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.pacific.edu/Academics/Majors-and-Programs/Special-Academic-Programs/Pacific-Legal-Scholars-Program.html>

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, and a number of off-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, Assistant 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 Senior Associate Dean of the College.

See the College Academic Affairs Office (WPC 111) for degree requirements.

## Thematic Minor

Marcia Hernandez, Assistant 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 111) 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 Sport Sciences); Social Sciences (see History) and Music Education. CSET examinations in these fields are required. The Department of Music Education 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 subject matter test preparation for a credential. Information is available at the CSET website.

Information about curriculum courses in the School of Education required for teacher preparation as well as state requirements are available in room 102, Department of Curriculum and Instruction, and Room 108, Credentials office, in the School of Education building. See also the section in the catalogue for the Benerd School of Education Department of Curriculum and Instruction.

## Social Sciences Major (BA)

Gregory Rohlf, 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: M. McCallum (Chemistry), D. Maxwell (Biology), L. Wrischnik (Biology), E. Thomas (Biology), J. Lin-Cereghino (Biology), G. Lin-Cereghino (Biology), C. Vierra (Biology), K. Land (Biology), S. Luthy (Biology), D. Weiser (Biology), M. Gridi-Papp (Biology).

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.

## Cross-Disciplinary Majors and Programs Faculty

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.

# Conservatory of Music

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Giulio Maria Ongaro, Dean

## Degrees Offered

**Bachelor of Arts**

**Bachelor of Music**

**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 Management** (BM)

**Music Therapy** (BM, MA)

**Performance** (BM)

- Woodwinds, Brass, and Percussion
- Voice
- Strings
- Piano

**Bachelor of Arts in Jazz Studies** (Honors, General)

- Brubeck Institute Fellowship

**Music** (BA)

- General
- Music Management

## Minors Offered

**Music**

**Music History**

**Music Theory**

**Music Management**

*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

Six 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 usually leads to graduate study in composition or a related area.

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.

## 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.

## The Brubeck Institute

The Brubeck Institute is named for the legendary musician and University of the Pacific alumnus, Dave Brubeck, and is a component of the Conservatory of Music. The mission of the Institute is to build on Dave Brubeck's legacy – quintessentially American in origin, international in scope, and unique in its breadth. Its philosophy of musical styles is inclusive, and it reflects the exploratory spirit and social values of the Institute's namesake, to involve jazz, contemporary classical music, and interdisciplinary education in subject areas such as ethnic studies, philosophy, and sociology. At the heart of it all is a leaven of the humanities, civil rights, and social justice, values to which Dave Brubeck has dedicated his life.

The Brubeck Institute Fellowship Program is a performance program for exceptional jazz performers, ages 18-19, who comprise the Brubeck Institute Ensemble. Enrollment is limited to 5 to 7 students who are admitted by audition and interview. Internationally known jazz artists and clinicians serve as the faculty for the Institute. The program is designed to provide intensive instruction in jazz performance with numerous performance opportunities in Northern California and beyond. For

more information, contact the Institute at 209.946.3970 or visit <http://www.pacific.edu/brubeck>.

The University is also home to the Brubeck Collection, one of the largest jazz collections in the world. Held in the Holt-Atherton Special Collections Department of the University of the Pacific Library, it contains hundreds of compositions, manuscripts, recordings, photos, writings, and memorabilia. This collection is available for study by students and scholars.

## Pacific Music Camp/Brubeck Institute Jazz Camp

Pacific Music Camp and the Brubeck Institute Jazz Camp are summer programs of musical study and performance for junior and senior high school musicians. Daily activities include concert band, orchestra, chorus and piano along with master classes, electives and chamber ensembles. Students have the opportunity to work with top music educators, professional musicians and Conservatory faculty. One-week sessions are offered in the summer for junior high school band and orchestra and senior high school band, orchestra, chorus, jazz and piano. Each week concludes with public performances in the Faye Spanos Concert Hall. For more information, contact:

Pacific Music Camp  
Conservatory of Music  
University of the Pacific  
3601 Pacific Ave.  
Stockton, CA 95211  
Phone: (209) 946.2416  
[www.pacific.edu/musiccamp](http://www.pacific.edu/musiccamp)

## Accreditation

The Conservatory is accredited by the National Association of Schools of Music and 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 946-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 120 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, a conference room, the Music Technology Lab, 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, and 30 student practice rooms.

The Conservatory Computer Studio for Music Composition features a fully digital environment for the composition of music that uses computers and new technology. Centered around a digital audio workstation running a Pro Tools HD2 system, the facility includes extensive software for sound design, detailed audio editing capabilities, fully digital automated mixing, and hardware to support the composition of music for film.

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 Studio, Final Cut Studio, Pro Tools LE, Dreamweaver, 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 1991 J. W. Walker tracker-action 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. or B.M. degree in the conservatory, with certain exceptions (e.g. study abroad, student teaching, the honors track for the B.A. 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.
4. Lessons in applied music (principal instrument or voice) must be taken each semester of full-time residency according to major field specifications with the exception of the BA in Music Management degree. 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.
5. 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.
6. All undergraduate music majors must enroll in MPER 050 (Solo Class) and remain enrolled according to major field specifications.
7. 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 017 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.

8. 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.

## 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. 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:

1. Pass/No Credit (P/NC) is used only in , MGMT 010 and MGMT 187, and MTHR 187, MTHR 245, and MTHR 299. Pass/Fail is used only in MPER 050.
2. 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.
3. 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.

## Conservatory Of Music Faculty

Giulio Maria Ongaro, Dean, 2009, BM, University of Iowa, 1978; MA, University of North Carolina, 1981; PhD, University of North Carolina, 1986.

David Chase, Assistant Dean, Instructor in Music Management, 2001, BM, Trumpet Performance, University of the Pacific, 1994; MA, 2001.

Ruth V. Brittin, Professor of Music Education, Chair, Department of Music Education, 1197, PhD, Florida State University, 1989; MME, Texas Tech University, 1985; BME, Texas Tech University, 1983. Editor. Publishes and presents research for the International Society for Music Education, Music Educators National Conference, and state music education organizations. Active music education clinician, brass adjudicator, and performer on French horn. Former Chair of Music Education at Syracuse University, 1989-1997.

Robert Coburn, Professor of Music Composition and Theory. Director, Conservatory Computer Studio for Music Composition; Artistic Director, SoundImageSound; Chair, Department of Music Studies, 1993, PhD, University of Victoria (Canada), 1995; MA, University of California, Berkeley, 1974; BM, University of the Pacific, 1972. Selected Commissions and Performances: San Francisco New Music Ensemble; Royal Conservatory of Music (Stockholm, Sweden); Victoria International Festival (Victoria, B.C., Canada); Electronic Music Plus Festival ; Roulette Festival of New Music (N.Y.); International Saxophone Festival Palmela (Portugal). Permanent Sound Environment Installations: 39 Bells (Philadelphia), 1996; Bell Circles II (Oregon Convention Center, Oregon Public Art Program), 1991. Selected compositions: TranquilTurmoil Dreaming (2003) for computer and video; In Stillness (2005) for violin, computer, and video; Fragile Horizon (2007) for viola, speaking voice. computer and video; emptiness [reflection] (2010) for alto saxophone, computer and video.

Edward Cetto, Assistant Professor of Music, Director of Choral Activities, 1994, MM, Boston Conservatory of Music, 1992; BMus Ed, Hart School of Music (U. of Hartford), 1981; Certificate, Kodaly Musical Training Institute (Hungary), 1980.

Eric Hammer, Professor of Music, Director of Band Activities, Professor of Music Education, 1993, BM, University of the Pacific, 1973; MM, University of Oregon, 1990; DMA, University of Oregon, 1994.

Keith N. Hatschek, Associate Professor of Music Management; Program Director, Music Management Program, 2001, BA, University of California Berkeley, 1973; Certificate in Marketing, University of California Berkeley, 1993. Principal and founder of Keith Hatschek & Associates, consultant to the recording technology and entertainment industries. Author, "How to Get a Job in the Music and Recording Industry" (2007) Berklee Press, "The Golden Moment: Recording Secrets of the Pros"(2005) Backbeat Books, regular contributor to various print and online music industry journals. Voting member National Academy of Recording Arts and Sciences, Associate Member-Audio Engineering Society, Faculty advisor-NAMM-Affiliated Music Business Institutions member, Music and Entertainment Industry Educators Association (MEIEA).

Patrick Langham, Associate Professor and Director of Jazz Studies, 2003, Holds both the Bachelor of Music with a concentration in jazz studies and the Master of Music with a concentration in jazz studies from the University of Tennessee in Knoxville. He has taught at the University of South Carolina – Spartanburg and Tusculum College in Knoxville. As a saxophonist and director Professor Langham has performed with distinguished jazz artists and on numerous jazz festivals throughout the southern United States. He has developed and taught courses in jazz history, theory, improvisation, and performance, and has created and operated a highly successful jazz camp at USC Spartanburg.

Stephen Perdicas, Lecturer in Trombone, Director, Pacific Music Camp, Director, Brubeck Institute Jazz Camp, Operations Manager, Conservatory of Music, 1993, BM, University of North Texas, 1981; Associate with



Honors, Royal College of Music, London, 1990. Numerous recordings with Sir Simon Rattle and the City of Birmingham Symphony (England) on EMI. Currently a member of the Sacramento Philharmonic. Clinician, Selmer Corporation.

Patricia Shands, Professor of Clarinet, Director of Chamber Music, 1995, 1995, DMA, Rice University, 2001; MM, University of Southern California, 1985; BM Peabody Conservatory of Music, 1981. Student of David Shifrin, Mitchel Lurie, and David Peck. Prizewinner in the International Concert Artist Guild competition. Featured at music festivals of Spoleto, Chautauqua, Round Top, Tucson Winter Chamber Music Festival and frequent live performances nationally on NPR "Performance Today". Recordings featured on "Art of the States" are broadcast internationally. Solo and chamber music recordings on Centaur, Onossa, Albany and Plum labels. Current member of the Ariel Ensemble, Stockton Symphony, Sacramento Philharmonic, and the Pacific Arts Woodwind Quintet.

Nicholas Waldvogel, Associate Professor of Orchestra; Director - University Symphony Orchestra, BA in Music, Harvard, 1989; MA, in Music, Harvard, 1989; MM, in Conducting, Peabody Conservatory of Music, 1993; Graduate Performance Diploma in Conducting, Peabody Conservatory, 1994; PhD, in Music History, Yale University, 1992. Formerly with the Orchestre de la Suisse-Romande (Switzerland), and the State Philharmonic "Dinu Lipatti" (Romania).

Sarah Clemmens Waltz, Assistant Professor of Music History; Program Director of Music History and the BA in Music, PhD, in Music History, MPhil, Yale University, 2007; BM in Music History with High Honors, Oberlin Conservatory, 2000; BA in Physics, Oberlin College, 2000. Recent works: PhD, diss., *The Highland Muse in Romantic German Music*, 2007; "In Defense of Moonlight," *Beethoven Forum* (Spring 2007). Presentations at national and international conferences. Member: American Musicological Society, American Beethoven Society, North American British Music Studies Association, Society for Eighteenth-Century Music.

Jennie Blomster, Lecturer in Horn, BM, University of Denver; MA, CSU Fresno. Studied with Thomas Hiebert, Richard Seraphinoff, David Krehbiel, David Kappy, John Keene, and David Kaslow. Member of the Pacific Arts Woodwind Quintet, Winds of the San Joaquin, and Fresno Brass Quintet. Principal horn Gold Country Chamber Orchestra, Merced Symphony Orchestra, Moment Musical Chamber Ensemble. Frequently plays with Fresno Philharmonic Orchestra, Stockton Symphony Orchestra, Stockton Opera.

K. Allen Brown, Visiting Lecturer of Percussion, 1981, BM, University of Oregon, 1969; MM, Western Michigan University, 1972; Doctoral study at the University of Illinois. Percussion student of David Shrader, Robert Tilles and Thomas Siwe. Wide range of experience in all areas of percussion performance. Author of articles in professional journals and composer of several published percussion works.

Rex Cooper, Professor of Piano, 1973, BM, Oberlin College Conservatory of Music, 1969; MS, Juilliard School of Music, 1970; MusD, Indiana University, 1987; Student of Adele Marcus, Konrad Wolff, Leon Fleisher, Howard Aibel (Accademia Chigiana, Siena), Gyorgy Sebok and Vlado Perlemuter (Paris). Former member, American Symphony Orchestra; concert tours, Japan; recordings CRI; London debut recital, 1977; New Era International Artists Management.

John Cozza, Visiting Lecturer, Applied Piano and Accompanying, 2004, BM, MM, University of Southern California, diploma in piano performance and in chamber music from the Hochschule fur Musik in Vienna, Austria; DM in solo performance, chamber music and accompanying from Northwestern University. Studied with Daniel Pollack in Los Angeles, David Kaiserman in Chicago, and Hans Graf and George Ebert in Vienna. Member of Pi Kappa Lambda, Phi Mu Alpha, American Liszt Society, and the Franz Schmidt Society in Austria.

Jeffrey Crawford, Lecturer in Music Theory and Technology, 2001, Audio production consultant who directs, records, masters, and produces custom music CDs; analyzes, enhances, and restores audio; composes and produces music for theater, film and video; creates multimedia projects;

photographs and produces cover-art, layout inserts and labels for projects; and engineers and produces programs for radio broadcast. Former Engineer and Producer for Fingers Audio Productions and Engineer for Tonos Electracoustic Music Studio.

Thomas Derthick, Lecturer in Double Bass, BM, California State University, Sacramento. Graduate study, California State University, Long Beach. Studied with Murray Grodner, Stuart Sankey and Abe Luboff. Principal Bass with the Sacramento Symphony and Chamber Orchestra.

Daniel Ebbers, Assistant Professor of Voice, 2004, BM, University of Wisconsin-Stevens Point; MM, University of Southern California; artist training at Universita per Stranieri, Italy, Utah Festival Opera Young Artist Program, Glimmerglass Opera Young American Artists Program, Britten-Pears School for Advanced Musical Studies, resident artist, Los Angeles Music Center Opera.

Nina Flyer, Lecturer in Cello, 1997, BM, University of Southern California, 1973. Principal cellist, Women's Philharmonic and Classical Philharmonic. Has performed with San Diego Symphony, San Francisco Symphony, Jerusalem Symphony, Iceland Symphony. Recordings: cello/piano and cello/harp suites by Lou Harrison, to be released in 1998; Cello concerto by Shulamit Ran with ECO, on KOCH International, 1995 (nominated for 2 Grammys).

James Haffner, Associate Professor of Opera, 1999, BA degree in theatre from Baldwin-Wallace College, an Artists' Diploma in opera stage directing and a Master of Fine Arts in directing from the University of Cincinnati College-Conservatory of Music. Member of the Lincoln Center Theatre Directors' Lab National Opera Association, and Opera America. He has taught at Die Technische Universitat, Berlin, the University of Kentucky, Miami University of Ohio, Webster University and Cal State Fullerton.

David Henderson, Lecturer in Saxophone, 2007, BM, University of Michigan; MM, The Juilliard School. Awarded first prize in saxophone from the Conservatoire de Bordeaux, where he studied on a Fulbright-ITT grant. Student of William Fread, Larry Teal, Donald Sinta, Joe Allard and Jean-Marie Londeix. Performs with the San Francisco Symphony, Opera and Ballet orchestras; member of the San Francisco Saxophone Quartet.

Feilin Hsiao, Assistant Professor of Music Therapy, 2006, PhD, University of Iowa, 2006; MA, New York University, 1994; Certified Music Therapist, 1994; BA, Chinese Cultural University (Taipei, Taiwan), 1986; Board Certified Music Therapist, 2001; Teaching Credential in Music Education (1996) and Special Education (1999). Lecturer at National Taipei University of Education, Taipei Municipal University of Education, and Shih Chien University; Past-president of the Music Therapy Association of Taiwan; Recipient of the T. Anne Cleary International Dissertation Research Fellowship.

Mathew T. Krejci, Lecturer in Flute, 1989, MM, Indiana University, 1978; BMed, Indiana University, 1973. Principal Flutist in the Festival Orchestra, 1978-83. Presently performs as a member of the Sacramento Philharmonic. Performed with Music Now, President of the Board of the Chamber Music Society of Sacramento. Principal Flute of the Bear Valley Music Festival, recordings with the VUTAE, Albion, and Klavier labels.

Nicolasa Kuster, Assistant Professor of Bassoon, 2008, BM and BA, Oberlin College and Conservatory, 1993. Former Principal Bassoonist of the Wichita Symphony Orchestra and bassoonist with the Lieurance Woodwind Quintet. Positions in the Tulsa Philharmonic Orchestra, the Rhode Island Philharmonic, the Virginia Symphony, and the Civic Orchestra of Chicago, and has performed as a soloist in the U.S., Panama, Italy, and Kazakhstan. Guest artist at the Anchorage Music Festival, Ameropa Chamber Music Festival and Solo Course in Prague, Czech Republic; recordings on the Chandos label with the Spoleto Festival Orchestra.

Sonia Leong, Lecturer in Piano, 2001, BM, University of British Columbia, 1992; MM, Peabody Conservatory of Music, 1994; Concert Recital Diploma, Guildhall School of Music, 1995; DMus, University of Montreal, 1998. Member of New Pacific Trio. Concerto performances with Filarmonica de Stat Dinu Lipatti (Romania) and Banff Festival Chamber

Orchestra (Canada). Performances in Canada, the US, England, Romania, Switzerland, and Hong Kong. Former faculty member of the University of Puget Sound.

Ann Miller, Assistant Professor of Violin, 2008, BM summa cum laude, Rice University, 2003; MM, The Juilliard School, 2005; DMA, The Juilliard School, 2010.. Student of Ronald Copes and Kathleen Winkler. Chamber appearances in Ukraine, Mongolia, and throughout the U.S. Member of the New Pacific Trio.

Brook Moes, Lecturer in Music Education, 2005, BM, University of the Pacific; MM, University of Maryland; MBA, Herriot-Watt University in Scotland. Student of James Stern, Ronda Cole, Arnold Steinhardt, John Dalley, and William Preucil; pedagogy studies with Ronda Cole and John Kendall, chamber music studies with the Guarneri Quartet. Recitals in Scandinavia, Romania, and the U. S.

Thomas F. Nugent, Lecturer in Oboe, 1990, BM, San Francisco Conservatory of Music, 1984. Student of Marc Lifschey. Attended Tanglewood, Spoleto and Colorado Philharmonic Music Festivals. Has performed with San Francisco Symphony, Opera and Ballet Orchestras. Also performs with the Sacramento Philharmonic, Stockton Symphony, California Symphony, San Francisco Contemporary Music Players, Sierra Chamber Society and Sonus Imaginorem. Member, Pacific Arts Woodwind Quintet.

Leonard Ott, Lecturer in Trumpet, 1998, BA in Music, California State University, Hayward, 1987. Member of Oakland East Bay Symphony, Modesto Symphony Orchestra, and Carmel Bach Festival Orchestra. Also freelances regularly with Santa Rosa Symphony, Napa Symphony, Stockton Symphony, Sacramento Symphony, and many other Bay Area groups.

Margaret Perry, Lecturer in Class Piano and Piano Pedagogy, 2004, BM, MM, Brigham Young University; DMA, University of Arizona. Ensemble Artist Pianist with the Utah Symphony and Opera. Member, Music Teachers National Association, College Music Society, and Phi Kappa Phi.

Burr Cochran Phillips, Assistant Professor of Voice, 2007, BM, University of North Texas 1982; MM, Texas Christian University, Fort Worth, TX, 1994. Performances with opera companies include Dallas Opera, Santa Fe Opera, Houston Grand Opera, Chautauqua Opera, Tulsa Opera, Fort Worth Opera and San Antonio Opera Theater. Orchestral performances include Dallas Symphony, Fort Worth Chamber Orchestra, Tulsa Philharmonic, Chautauqua Symphony, Amarillo Symphony, Phoenix Symphony, Honolulu Symphony, Ars Nova Orchestra of Buffalo, Carmel Bach Festival, Oklahoma Philharmonic, San Antonio Symphony and Corpus Christi Symphony. Previous faculty positions include The University of Texas at Arlington, Arlington TX, Southern Methodist University, Dallas TX and Northern Arizona University, Flagstaff AZ. Member of The National Association of Teachers of Singing and Phi Mu Alpha Sinfonia.

François Rose, Professor of Composition and Theory, 1997, BM, McGill University, 1986; MM, 1991; Certificate from the Institut de Recherche et de Coördination Acoustique et Musique (IRCAM), 1991; PhD, University of California San Diego, 1997. Award winner in the 5th Edvard Grieg International Competition for Composers in Norway, 2001; in the 3rd International Composers' Competition "Kazimieri Serocki" in Poland, 1990; and in the SDE/PRO Canada Composers' Competition in 1986, 1987 and 1988. Selected Commissions and Performances: San Francisco NME (San Francisco, Windsor) 2006; Sax quartet Quasar (Montréal) 2005; Trio Strata (Interlochen) 2004. Selected presentations: "Computerized Orchestration Tool:LabOrch" (Paris, Warsaw, Krakow, San Sebastian, Santa Cruz) 2007.

Matthew J. Tropman, Lecturer of Tuba/Euphonium, 2010, DMA, University of Michigan, 2009; MM, Arizona State University, 2007; BM, University of Michigan, 1995.

Igor Veligan, Lecturer of Violin/Viola and Chamber Music, 2006, MA, Odessa State Conservatory. Student of Zoja Istomina and Galina Gritzenko, chamber music studies with Oleg Shkarpitnuy and Natalya

Buzanova; master classes with Zakhar Bron, Liana Isakadze, and Igor Frolov. Performances with the L'Estro Armonico String Quartet, the Arlekin String Quartet, Argenta Trio, Chamber Music Society of Sacramento; concertmaster of the San Francisco Choral Society Orchestra, principal viola of the Reno Philharmonic Orchestra, principal violist of the Lake Tahoe Summer Festival, member of the Monterey Symphony.

Frank H. Wiens, Professor of Piano, 1976, BM, University of Michigan, 1970; MM, 1970; Student of Benning Dexter, Gyorgy Sandor, Harald Logan and John Perry. New York recitals at Carnegie Recital Hall in 1984 and 1991; London recital at Purcell Room, 1986; soloist with Atlanta, Denver and Detroit Symphonies and Yaroslavl Philharmonic in Soviet Union; concert tours in Asia and Europe, and annually in the United States; compact disc recording of Rachmaninoff Third Piano Concerto with Slovakia National Orchestra released in 1995 on Fanfare-Intersound label. Eberhardt Teacher-Scholar Award, Faculty Research-Lecturer Award, Distinguished Faculty Award.

Lynelle Frankforter Wiens, Professor of Voice, 1978, BM, University of Nebraska, 1975 (Phi Beta Kappa); MM, with Distinction, Indiana University, 1978; MusD with High Distinction, Indiana University, 1988. Student of Eileen Farrell, Margaret Harshaw, Lynn Wickham. MTNA National Winner, 1971; Van Lawrence Fellow (awarded by National NATS and the Voice Foundation), 1993. Served as a faculty member at the Symposium on the Care of the Professional Voice (Philadelphia) and the Pacific Voice Conference (San Francisco.)

Eric Wood, Lecturer in Music Composition and Theory, 1998, DMA, Boston University, 1994; MM, University of Oregon, 1986; BM, 1984. Numerous commissions and performances, several published articles and lectures. Studied with Lukas Foss, Monte Tubb, Charles Fussell and Derek Healey.

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
MCOM 011	Music Theory and Aural Perception II	
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/MCOM 011 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 who pursue any music major. Composition, Performance, and Music Education majors can explore more research-oriented courses through the music history minor. The requirements include four upper-division music history courses, two semesters of a foreign language, and a semester of individualized research.

## 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 12 must be taken from the following: \*

MHIS 152	Music in Baroque	
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 111	Advanced Computer Music	3
MCOM 113	Advanced Analysis	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	2-4
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 081	How to Run an Independent Record Label	
MMGT 096	Sound Recording Fundamentals	
MMGT 097	Performing Arts Administration	
MMGT 098	Artist Management	
MMGT 140	Music Products Management	
MMGT 160	Recording Studio Production	
MMGT 193	Special Topics in Music Management or other MMGT courses offered	

## Music Composition

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 composition.

### Music Composition Faculty

## Bachelor of Music Major in Music Composition

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 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:

- Reading
- Writing
- Quantitative analysis

## IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
One MHIS Elective (150 or above)		3
MPER 151	Principles of Conducting	2
Four of one or a combination of the following courses: *		4
MAPP 001D	Class Piano	
MAPP 005N	Applied Music: Piano	
MCOM 019	Music and Computer Technology	3
MCOM 024	Composition (Lower Division, 4 Semesters)	8
MCOM 026	New Resources in Pitch	1
MCOM 027	New Resources in Rhythm	1
MCOM 108	Counterpoint	3
MCOM 109	Advanced Orchestration	3
MCOM 111	Advanced Computer Music	3
MCOM 113	Advanced Analysis	3
MCOM 124	Composition, Upper-Division (4 Semesters)	8
MCOM 126	New Performance Techniques	1
MCOM 127	Music, Sound, and Film	1

MCOM 128	New Approaches to Form	1
MCOM 129	Non-Western Composing Techniques	1
MCOM 194	Composition Senior Recital	0
Two Semesters of Major Choral Ensemble **		2
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
Eight units from the following courses:		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	
MAPP 010 Applied Music ***		8
MPER 050	Solo Class ****	0

\* This is not required for piano students.

\*\* These courses are not required for voice students.

\*\*\* Students repeat MAPP 010 in order to have a total of 8 units from this one course.

\*\*\*\* Students take MPER 050 every semester.

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. Fundamental Structures. 3 Units.

This course covers music fundamentals, music reading and harmonization of simple melodies. All theoretical skills are applied at the piano keyboard.

### 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 011. Music Theory and Aural Perception II. 4 Units.

Students study diatonic and chromatic harmony that cover non-harmonic tones, tonicization, modulation, cadence, phrase structure and simple forms which are accomplished through the development of aural and sight singing skills. Students also complete written exercises, and analyze musical scores. Prerequisite: MCOM 010.

### 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 015. Music Theory IV: Twentieth Century. 2 Units.**

Students study twentieth century music through the analysis and composition of a variety of theoretical approaches that include Impressionism, Expressionism, 12-tone composition, the rhythmic developments of Stravinsky, Carter, and Messiaen, durational structures and indeterminacy of John Cage as well as modality and spectral music, minimalism, and computer music. Prerequisites: MCOM 012, MCOM 013 and MCOM 014. Prerequisites, may be taken concurrently: MCOM 016 and MCOM 017.

**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.

**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 012.

**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, Polyrythm, Metric Modulation and Complex ratio. Prerequisite: MCOM 011.

**MCOM 108. Counterpoint. 3 Units.**

This course is the study of Palestrina's and Lassus' contrapuntal techniques that are accomplished through written exercises and analysis. Prerequisites: MCOM 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016 and MCOM 017.

**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 010-017.

**MCOM 111. Advanced Computer Music. 3 Units.**

This course is taught in the Conservatory Computer Studio for Music Composition, and it focuses on digital synthesis, sampling/sound design, digital audio editing/mixing and a composing environment, live performance with computers, video creation, and intermedia composition. Students develop creative projects with Pro Tools HD, Max/MSP/Jitter, Cecilia/Csound, Final Cut Studio, and other software packages. As a project oriented study students complete several compositions during the process of the course. Prerequisite: MCOM 019 or permission of instructor.

**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 010-017.

**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 015.

**MCOM 127. Music, Sound, and Film. 1 Unit.**

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 019.

**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 017.

**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 015.

**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 and music therapy.

## Music Performance Faculty

### 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:

- Reading
- Writing
- Quantitative analysis

#### IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1

MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 151	Principles of Conducting	2
Four units of one or a combination of the following courses:		4
MAPP 001D	Class Piano	
MAPP 005N	Applied Music: Piano	
Eight units of the following:		8
MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	
MPER 060	Chamber Ensemble *	8
Two Semesters of Major Choral Ensemble:		2
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
MPER 153	Instrumental Conducting	2
MHIS 140	Symphonic Literature	3
MHIS 142	Chamber Music Literature	3
MCOM 113	Advanced Analysis	3
Select one of the following:		3
MCOM 108	Counterpoint	
MCOM 109	Advanced Orchestration	
Two courses MHIS 150 or above to be determined with consultation of advisor.		6
MAPP 012	Applied Music **	8
MAPP 112	Advanced Applied Music **	16
MPER 050	Solo Class ****	0
Half recital during the Junior year.		
Full recital during the Senior year.		

\* Students take MPER 060 every semester.

\*\* Students repeat MAPP 012 in order to have a total of 8 units from this one course.

\*\*\* Students repeat MAPP 112 in order to have a total of 16 units from this one course.

\*\*\*\* Students take MPER 050 every semester.

### 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:

- Reading
- Writing
- Quantitative analysis

## IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 020	Introduction to Lyric Diction	2
MPER 021	Introduction to Lyric Diction	2
MPER 120	Lyric Diction	2
MPER 121	Lyric Diction	2
MPER 141	Pedagogy of Voice	2
MPER 151	Principles of Conducting	2
MPER 152	Choral Conducting	2

Select a minimum of four to eight units of one or a combination of the following courses: 4-8

- MAPP 001D Class Piano
- MAPP 005N Applied Music: Piano

Piano studies for Voice Performance majors are continued unless the piano skills examination is passed.

Four units from the following ensemble courses that are determined in consultation with an advisor during the freshman and sophomore years: 4

MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	

Four units from the following ensemble courses that are determined in consultation with an advisor during the junior and senior years: \*

MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	

Elective MHIS or MCOM elective (100 level)		3
Elective MHIS elective (150 or above)		3
MHIS 144	Vocal Literature	3
MPER 069	Opera Theatre Workshop **	2
MPER 169	Advanced Opera Workshop **	1
GERM 011A	First-Year German, First Semester	4
GERM 011B	First-Year German, Second Semester	4
FREN 011A	First-Year French, First Semester	4
FREN 011B	First-Year French, Second Semester	4
MAPP 012	Applied Music ***	8
MAPP 112	Advanced Applied Music ****	12
MPER 050	Solo Class +	0

Half recital during the Junior year.

Full recital during the Senior year.

Senior examinations are taken in Vocal Terms and Pedagogy.

\* During the junior and senior years voice majors must have one year of Opera Production and one year of a major choral ensemble.

\*\* Three units of THEA can substitute for MPER 069 and MPER 169.

\*\*\* Students repeat MAPP 012 in order to have a total of 8 units from this one course.

\*\*\*\* Students repeat MAPP 112 in order to have a total of 12 units from this one course.

+ Students take MPER 050 every semester.

## 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:

Reading

Writing

Quantitative analysis

## IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 151	Principles of Conducting	2
Four units of one or a combination of the following courses:		4
MAPP 001D	Class Piano	
MAPP 005N	Applied Music: Piano	
MPER 060	Chamber Ensemble *	1-2
MPER 070	University Symphony Orchestra **	1
Two semesters of Major Choral Ensemble		2
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
MPER 153	Instrumental Conducting	2
MCOM 108	Counterpoint	3
MCOM 113	Advanced Analysis	3
MHIS 140	Symphonic Literature	3
MHIS 142	Chamber Music Literature	3
Two MHIS Elective (150 or above)		6
MAPP 012 Applied Music ***		8
MAPP 112 Advanced Applied Music ****		16
MPER 050	Solo Class +	0

Half recital during the Junior year.

Full recital during the Senior year.

\* Students repeat MPER 060 until 8 units in this one course is complete.

\*\* Students repeat MPER 070 until 8 units in this one course is complete.

\*\*\* Students repeat MAPP 012 in order to have a total of 8 units from this one course.

\*\*\*\* Students repeat MAPP 112 in order to have a total of 16 units from this one course.

+ Students take MPER 050 every semester.

## 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:

Reading

Writing

Quantitative analysis



## IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 151	Principles of Conducting	2
MPER 060	Chamber Ensemble	1-2
MPER 130	Accompanying	4
MPER 140	Pedagogy of Piano	2
Select one of the following:		2
MPER 152	Choral Conducting	
MPER 153	Instrumental Conducting	
MHIS 142	Chamber Music Literature	3
MHIS 143A	Keyboard Literature I	3
MHIS 143B	Keyboard Literature II	3
Two Electives (Six additional units in MCOM or MHIS courses (100 level))		6
One MHIS Course (150 or above)		3
Eight units from the following courses:		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	
MAPP 012N	Applied Music: Performance (Piano) *	8
MAPP 112N	Advanced Applied Music: Performance (Piano) **	16
MPER 050	Solo Class ***	0
Half recital during the Junior year.		
Full recital during the Senior year.		

\* Students repeat MAPP 012N in order to have a total of 8 units from this one course.

\*\* Students repeat MAPP 112N in order to have a total of 16 units from this one course

\*\*\* Students take MPER 050 every semester.

### Music Performance Courses

#### MPER 020. Introduction to Lyric Diction. 2 Units.

This course introduces fundamentals in technique of articulation and pronunciation. Students examine drills in acquiring maximum activity, fluency and flexibility of speech organs that involve diction, the study of the International Phonetic Alphabet, rules of pronunciation in English, Italian, German and French.

#### MPER 021. Introduction to Lyric Diction. 2 Units.

This course introduce students to fundamentals in technique of articulation and pronunciation. Students examine drills in acquiring maximum activity, fluency and flexibility of speech organs that involve diction, the study of the International Phonetic Alphabet, rules of pronunciation in English, Italian, German and French. Prerequisite: MPER 020.

#### MPER 050. Solo Class. 0 Units.

MPER 050 offers weekly performance recitals for all music majors. Graded Pass/Fail.

#### MPER 060. Chamber Ensemble. 1-2 Units.

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.

#### 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 070. University Symphony Orchestra. 1 Unit.

Open to all students by audition. Major ensemble.

#### MPER 072. Symphonic Wind Ensemble. 1 Unit.

Major ensemble. Open to all students by audition.

#### MPER 073. Concert Band. 1 Unit.

Major ensemble. Open to all students by audition.

#### MPER 080. Opera Production. 1 Unit.

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.

#### MPER 083. University Chorus. 1 Unit.

Major ensemble. Average or two concerts per semester. Open to all students by audition.

#### MPER 084. Pacific Singers. 1 Unit.

Major ensemble. Students performs an average of three concerts per semester. Audition is required for enrollment.

#### 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 011, MCOM 012, MCOM 013, MCOM 014.

### 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. Music Education majors not working toward a teaching credential may substitute free elective courses to complete the required 124 units for the Bachelor of Music degree.
5. Students who take Video Microrehearsal Techniques as part of student teaching may substitute electives for the student teaching in the fourth year.
6. Major Ensembles must relate to the student's proposed teaching area as specified by advisors.
7. Residency requirements in Solo Class, Major Ensemble and Lab Ensemble may be waived when in conflict with student teaching.

## Music Education Faculty

### 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:

- 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:

- Reading
- Writing
- Quantitative analysis

## IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
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
One MHIS Elective (150 or above)		3
MPER 151	Principles of Conducting	2
One MUJZ Elective		2
MAPP 001A	Beginning Guitar Class *	1
Four to eight units from the following courses: **		4-8
MAPP 001D	Class Piano	
MAPP 005N	Applied Music: Piano	
MAPP 011 Applied Music: Music Education ***		8-10
MAPP 111 Advanced Applied Music: Music Education ****		6-8
MPER 050	Solo Class +	0
Six units from the following:		6
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 111	Choral Development	2
Select one of the following:		2
MEDU 110	Band Development	
MEDU 112	Orchestra Development	
MEDU 113	Laboratory Ensemble ++	0.5
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
MHIS 006	Music of the World's People	3
Eight units from the following courses:		8
MPER 070	University Symphony Orchestra	
MPER 072	Symphonic Wind Ensemble	
MPER 073	Concert Band	
MPER 153	Instrumental Conducting	2
Two semesters of Major Choral Ensemble		2
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
EDUC 140	Transformational Teaching and Learning	4
EDUC 156	Content and Disciplinary Literacy Development in Secondary Schools	3
EDUC 163	Teaching English Learners	4
EDUC 171	Professional Practice Music	2-10

The following are required for the credential, not for the degree:

SPED 125X	Teaching Exceptional Learners	2
EDUC 171	Professional Practice Music	2-10
EDUC 172	Professional Practice Seminar	2-10

\* Proficiency in guitar must be met.

\*\* 1. Proficiency in piano must be met.

2. If the student is a pianist, substitute voice lessons for piano.

\*\*\* Students repeat MAPP 011 in order to have a total of 8 units from this one course.

\*\*\*\* A minimum of 6 units of MAPP 111 is required; MAPP 111 is repeated to have a total of 6 to 8 units; 16 units total of the combination of MAPP 011/MAPP 111 are required. Half a recital and a piano exam are also required.

+ Students take MPER 050 every semester.

++ Students take MEDU 113 for four semesters, two units total.

**Note: 1)** MPER 050, MAPP 111, *Major Ensemble*, and MEDU 113 may be waived during the last year if they conflict with student teaching.

## 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:

Reading

Writing

Quantitative analysis

### IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
One MHIS Elective (150 or above)		3
MPER 151	Principles of Conducting	2
MAPP 001A	Beginning Guitar Class	1
Four units of one or a combination of the following courses: *		4
MAPP 001D	Class Piano	
MAPP 005N	Applied Music: Piano	
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 111	Choral Development	2
Select one of the following:		2
MEDU 110	Band Development	
MEDU 112	Orchestra Development	
MEDU 113	Laboratory Ensemble	0.5
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
MHIS 006	Music of the World's People	3
MPER 020	Introduction to Lyric Diction	2
MPER 021	Introduction to Lyric Diction	2
Eight units from the following courses:		8
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
MPER 152	Choral Conducting	2
One MUJZ Elective		2
MAPP 011 Applied Music: Music Education **		8-10
MAPP 111 Advanced Applied Music: Music Education ***		6-8
MPER 050	Solo Class ****	0
EDUC 156	Content and Disciplinary Literacy Development in Secondary Schools	3

EDUC 140	Transformational Teaching and Learning	4
EDUC 163	Teaching English Learners	4
EDUC 171	Professional Practice Music	4
The following are required for the credential, not for the degree:		
EDUC 171	Professional Practice Music	6
EDUC 172	Professional Practice Seminar	2
SPED 125X	Teaching Exceptional Learners	2

\* 1. Proficiency in piano must be met.

2. If the student is a pianist, substitute voice lessons for piano.

\*\* Students repeat MAPP 011 in order to have a total of 8 units from this one course.

\*\*\* A minimum of 6 units of MAPP 111 is required; MAPP 111 is repeated to have a total of 6 to 8 units; 16 units total of the combination of MAPP 011/MAPP 111 are required. Half a recital and piano exam are also required.

\*\*\*\* MPER 050 is to be taken every semester.

**Note: 1)** MPER 050, MAPP 111, *Major Ensemble*, and MEDU 113 may be waived during the last year if they conflict with student teaching.

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. 2 Units.**

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. 2 Units.**

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 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.

### Music History Faculty

## 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:

- Reading
- Writing
- Quantitative analysis

## IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
MPER 151	Principles of Conducting	2

Four of one or a combination of the following courses: ++ 4

MAPP 001D	Class Piano	
MAPP 005N	Applied Music: Piano	

Eight units from the following courses: 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	

Select one of the following: 2

MCOM 108	Counterpoint	
MCOM 113	Advanced Analysis	

GERM 011A	First-Year German, First Semester	4
GERM 011B	First-Year German, Second Semester	4

Twelve units of liberal arts electives +

MAPP 010	Applied Music **	8
MPER 050	Solo Class ***	0

**Minimum 24 units, including: 24**

No more than 6 units from MHIS 140 - MHIS 149

12 units in MHIS 150 and higher

Three units in non-European music from the following:

MHIS 006	Music of the World's People	
MHIS 158	Advanced History of Jazz	
MHIS 160	American Music	

Or appropriate other course (MHIS 193) as approved by department

3-6 units (1-2 semesters) of MHIS 197

- \* See program worksheet for appropriate courses.
- \*\* Students repeat MAPP 010 in order to have a total of 8 units from this one course.
- \*\*\* Student take MPER 050 every semester.
- + GERM 011B may count among these units. Students must complete 16 units from: GERM 011A, GERM 011B, and liberal arts electives.
- ++ If any portion of class piano is waived on examination, applied piano must be taken to make a total of 4 units. The piano requirement is waived if piano is the principle instrument.

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.

**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.

**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.

**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 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017; MHIS 011, MHIS 012, MHIS 013 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 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017, MHIS 011, MHIS 012, MHIS 013 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 010-007, MHIS 011, 012 and 013 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 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017, MHIS 011, MHIS 012, MHIS 013 or permission of instructor.

**MHIS 143B. Keyboard Literature II. 3 Units.**

Students examine keyboard music from 1825 to present. Prerequisites: MCOM 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017, MHIS 011, MHIS 012, MHIS 013 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 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017, MHIS 011, MHIS 012, MHIS 013 or permission of instructor.

**MHIS 152. Music in Baroque. 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 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017, 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 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017, 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. Prerequisite: MCOM 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017, MHIS 011, MHIS 012 or permission of instructor.

**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. Prerequisite: MCOM 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017, MHIS 011, MHIS 012 or permission of instructor.

**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. Prerequisite: MCOM 011.

**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. Prerequisite: MCOM 010, MCOM 011, MCOM 012, MCOM 013, MCOM 014, MCOM 015, MCOM 016, MCOM 017, MHIS 011, MHIS 012 or permission of the instructor.

**MHIS 191. Independent Study. 1-3 Units.**

**MHIS 197. Research in Music History. 1-4 Units.**

Permission of instructor. Senior standing.

# 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.

## Music Management Faculty

### 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 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:

- Reading
- Writing
- Quantitative analysis

#### IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
One MHIS Elective (150 or above)		3
MPER 151	Principles of Conducting	2
Select one of the following:		4
MAPP 001D	Class Piano	
MAPP 005N	Applied Music: Piano	
MMGT 010	Freshman Seminar- Music Management	1
MMGT 011	Music, Entertainment in U.S. Society	4
MMGT 096	Sound Recording Fundamentals	3
MMGT 111	Music Industry Analysis	4
MMGT 153	Entertainment Law	4
MMGT 187	Music Management Internship *	2-4
MMGT 196	Senior Seminar in Music Management	2
MMGT 199	Exit Examination	0
ECON 053	Introductory Microeconomics	4
BUSI 031	Principles of Financial Accounting	4
BUSI 053	The Legal and Ethical Environment of Business	4
BUSI 107	Marketing Management	4
BUSI 109	Management and Organizational Behavior	4
MATH 035	Elementary Statistical Inference	4
Eight units from the following courses:		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	
MAPP 010 Applied Music **		8
MPER 050 Solo Class ***		0

\* Students are strongly encouraged to pursue an internship in the music business. Those who do not are required to take business or music management elective that total 4 units.

\*\* Students repeat MAPP 010 in order to have a total of 8 units from this one course.

\*\*\* MPER 050 is taken every semester.

#### Music Management Courses

##### MMGT 010. Freshman Seminar- Music Management. 1 Unit.

This freshman 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, profession orientation and career planning, writing and research, styles of learning, computer skills assessment, and beginning a student portfolio. This course is required of all freshman in Music Management.

**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.

**MMGT 081. How to Run an Independent Record Label. 3 Units.**

This hands-on course provides students with the opportunity to operate a start up record label through one album cycle. Students are responsible for all aspects of company operations, fund raising, marketing, management, budget control and artist relations. Students create and market a commercial record in the immediate campus region.

**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 096. 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.

**MMGT 097. 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 098. Artist Management. 3 Units.**

This course introduce 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 "manager" 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 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.

**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.

**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 repeated for credit. Prerequisite: MMGT 096 with a grade of "B" or better or permission of instructor.

**MMGT 187. Music Management Internship. 2-4 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 191. Independent Study. 1-2 Units.****MMGT 196. Senior Seminar in Music Management. 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 organizational firms. Senior standing in MMGT of School of Business Arts and Entertainment emphasis.

**MMGT 197. Undergraduate Research. 1-4 Units.****MMGT 199. Exit Examination. 0 Units.**

This course is an exit examination that provides assessment at the completion of all relevant course work in the Music Management. Students demonstrate mastery of skills required of professional music business practitioners. Test measures performance in areas of critical thinking, music industry analysis, current affairs in the industry and oral expression. A passing grade is required for all graduates in Music Management. N.B. Class offered 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 is earned at the completion of four years of coursework plus 6 months of clinical internship (MTHR 187). Students are eligible for the Board Certification Examination upon the completion of the six-month 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.



## Music Therapy Faculty

### 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:

- Reading
- Writing
- Quantitative analysis

#### IV. Major Requirements

Students must obtain a grade of B- or better in all Music Therapy courses.

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2

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
One MHIS Elective (150 or above)		3
MPER 151	Principles of Conducting	2
Two Semesters of Major Choral Ensemble from the following:		2
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	

#### Piano, Guitar, and Vocal Proficiencies

Four to eight units of the following: 4-8

MAPP 001D	Class Piano	
MAPP 005N	Applied Music: Piano	
MAPP 001B	Functional Guitar Class	1
MAPP 001B	Functional Guitar Class (Advanced)	1
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 140	Psychology of Music	3
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
MEDU 105	Percussion Instruments	1
MHIS 006	Music of the World's People	3

#### Behavioral Health / Natural Science Courses

Minimum 20 units, including:

BIOL 011	Human Anatomy and Physiology	4
SPED 123	The Exceptional Child	3
PSYC 111	Abnormal Psychology	4

Three Behavioral/Health/Natural Science Electives \*\*\*\* 9

Eight units from the following courses: 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	

MAPP 010 Applied Music + 8

MPER 050 Solo Class ++ 0

\* 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.

\*\*\*\* See elective list for appropriate courses.

- + MAPP 010 is to be repeated to have a total of 8 units from this one course.
- ++ MPER 050 is to be taken every semester.

#### 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 practice implementation of standardized and therapist-constructed assessments to appropriately measure and monitor progress and evaluate effectiveness of music therapy interventions for children and adults. The course includes fieldwork assignments in observation, data collection, and assessment. Prerequisites: MTHR 011 and MTHR 018.

#### **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 140. Psychology of Music. 3 Units.**

This course introduces the psychological foundations of music that include the study of acoustics, perception of sound, and physical and psychosocial responses to music. Students survey current research in music/music therapy and develop skills in applied research methodology. The course is open to non-majors. Prerequisite: MCOM 002 or permission of the instructor.

#### **MTHR 141. Music Therapy in Mental Health and Social Services. 3 Units.**

MTHR 141 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 111 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.**

## 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. In addition, students must enroll in solo class each semester for a total of 8 semesters.

### Bachelor of Arts Faculty

## 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:

Reading

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 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MCOM 012	Music Theory III: Chromaticism	2
MCOM 013	Aural Perception III	1
MCOM 014	Introduction to Orchestration	2
MCOM 015	Music Theory IV: Twentieth Century	2
MCOM 016	Aural Perception IV	1
MCOM 017	Form and Process in Music	2
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
	Elective select one additional MCOM or MHIS course (100 level)	3
	Elective select one MHIS Course (150 or higher)	3
	Select 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	
MAPP 010 Applied Music **		8
MPER 050 Solo Class ***		0

\* A Major Ensemble is required every semester for a total of 8 units.

\*\* Students repeat MAPP 010 to have a total of 8 units from this one course.

\*\*\* Students take MPER 050 every semester.

## Music Concentration in Music Management

The Bachelor of Arts with a major in Music - Concentration in Music Management offers students the option to pursue a degree that prepares them for a range of contemporary music careers in the areas of record company operations, music products management, arts administration, and recording technology. Students who pursue the BA in Music with a concentration in Music Management also gain additional knowledge as they choose a number of elective courses to complement their music studies.

### Music Concentration in Music Management Faculty

## Bachelor of Arts Major in Music, Concentration 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 arts degree with a major in music and a concentration 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)** 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:

Reading

Writing

Quantitative analysis

### IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
Select six units from the following courses:		6
MCOM 012	Music Theory III: Chromaticism	
MCOM 013	Aural Perception III	
MCOM 014	Introduction to Orchestration	
MCOM 019	Music and Computer Technology	
MCOM 111	Advanced Computer Music	
MUJZ 021	Jazz Style and Analysis	
MUJZ 030	Jazz Improvisation I	
MUJZ 031	Jazz Improvisation II	
Select nine units from the following music history, or repertoire courses: *		9
MHIS 006	Music of the World's People	
MHIS 011	Survey of Music History I	
MHIS 012	Survey of Music History II	
MUJZ 008	Introduction to Jazz	
Elective MHIS Course 150 or Above (permission of instructor)		
MMGT 010	Freshman Seminar- Music Management	1
MMGT 011	Music, Entertainment in U.S. Society	4
MMGT 096	Sound Recording Fundamentals	3
MMGT 111	Music Industry Analysis	4
MMGT 153	Entertainment Law	4
MMGT 187	Music Management Internship	4
MMGT 196	Senior Seminar in Music Management	2
MMGT 199	Exit Examination	0
Select six elective units from the following courses: **		6
MMGT 081	How to Run an Independent Record Label	
MMGT 097	Performing Arts Administration	
MMGT 098	Artist Management	
MMGT 140	Music Products Management	
MMGT 160	Recording Studio Production	
MMGT 191	Independent Study	
MMGT 193	Special Topics in Music Management	
MMGT 197	Undergraduate Research	
Select eight units from the following courses:		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	
MAPP 010	Applied Music ***	6
MPER 050	Solo Class ****	0
BUSI 031	Principles of Financial Accounting	4
BUSI 053	The Legal and Ethical Environment of Business	4

BUSI 107	Marketing Management	4
BUSI 109	Management and Organizational Behavior	4
ENGL 109	Professional Communications	4
ECON 053	Introductory Microeconomics	4
MATH 035	Elementary Statistical Inference	4
Select 3-4 elective units in Art or Culture Studies +		3-4
Select three Units in non-Western Culture **		3
Music Studies Elective		4
Free Electives ***		5

\* MHIS 005 does not count toward this requirement.

\*\* Other MGMT courses in the student's area of interest can be substituted with approval.

\*\*\* Students repeat MAPP 010 in order to have a total of 6 units from this one course.

\*\*\*\* Students take MPER 050 four times.

+ Students take studies in the areas of Art History, Studio Art, Theater Arts, Film Studies, and cultural studies in Sociology as approved by an advisor.

++ Students take studies of non-western cultures in Religious Studies, Philosophy, World Music, Film Studies or Art History as approved by an advisor.

++ Electives in Music Studies and and free electives are determined in

+ consultation with the Music Management Program Director.

Music Management Courses

**MMGT 010. Freshman Seminar- Music Management. 1 Unit.**

This freshman 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, profession orientation and career planning, writing and research, styles of learning, computer skills assessment, and beginning a student portfolio. This course is required of all freshman in Music Management.

**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.

**MMGT 081. How to Run an Independent Record Label. 3 Units.**

This hands-on course provides students with the opportunity to operate a start up record label through one album cycle. Students are responsible for all aspects of company operations, fund raising, marketing, management, budget control and artist relations. Students create and market a commercial record in the immediate campus region.

**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 096. 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.



### MMGT 097. 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 098. 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 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.

### 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.

### 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 repeated for credit. Prerequisite: MMGT 096 with a grade of "B" or better or permission of instructor.

### MMGT 187. Music Management Internship. 2-4 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 191. Independent Study. 1-2 Units.

### MMGT 196. Senior Seminar in Music Management. 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 organizational firms. Senior standing in MMGT of School of Business Arts and Entertainment emphasis.

### MMGT 197. Undergraduate Research. 1-4 Units.

### MMGT 199. Exit Examination. 0 Units.

This course is an exit examination that provides assessment at the completion of all relevant course work in the Music Management. Students demonstrate mastery of skills required of professional music business practitioners. Test measures performance in areas of critical thinking, music industry analysis, current affairs in the industry and oral expression. A passing grade is required for all graduates in Music Management. N.B. Class offered on a Pass/No Credit basis only.

## Jazz Studies

The Bachelor of Arts 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.

### Jazz Studies Faculty

## Bachelor of Arts 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 arts 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:

- Reading
- Writing
- Quantitative analysis

## IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
Elective select one MHIS Course (150 or above)		3
MUJZ 008	Introduction to Jazz	3
MUJZ 010	Jazz Piano I	1
MUJZ 011	Jazz Piano II	1
MUJZ 020	Jazz Theory and Aural Training	3
MUJZ 021	Jazz Style and Analysis	3
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 161	Jazz Seminar and Perspectives I	3
MUJZ 162	Jazz Seminar and Perspectives II	3
MUJZ 163	Jazz Seminar and Perspectives III	3
MUJZ 164	Jazz Seminar and Perspectives IV	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	
Two Semesters of Major Choral Ensemble from the following:		2
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	
MPER 084	Pacific Singers	
MAPP 010 Applied Music **		4
MPER 050	Solo Class ***	0

\* Students must enroll in either MPER 066 or MPER 067 each semester of residence.

\*\* Students repeat MAPP 010 in order to have a total of 4 units from this one course.

\*\*\* Students take MPER 050 every semester.

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 fourth year, each student completes a full jazz recital during the senior year.

### 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.

#### 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 010 and MCOM 011 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 010, MCOM 011, MUJZ 030 or permission of 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 010 and MCOM 011 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 010, MCOM 011, 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 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 010, MCOM011, MUJZ 030, MUJZ 031 or permission of 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 010 and MCOM 011; MUJZ 030 and MUJZ 031 or permission of instructor.

**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 011.

**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. Prerequisite: MUJZ 021 or permission of program director.

**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. Prerequisites: MUJZ 021 and MUJZ 171 or permission of program director.

**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. Prerequisites: MUJZ 021, MUJZ 171, MUJZ 172 or permission of program director.

**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. Prerequisites: MUJZ 021, MUJZ 171, MUJZ 172, MUJZ 173 or permission of program director.

**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.

### Jazz Studies (Honors) Faculty

## Bachelor of Arts 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 arts 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:

- I.A. Language and Literature
- I.B. Worldviews and Ethics
- I.C. 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:

- Reading
- Writing
- Quantitative analysis

## IV. Major Requirements

MCOM 009	Introduction to Music Technology	1
MCOM 010	Music Theory and Aural Perception I	4
MCOM 011	Music Theory and Aural Perception II	4
MHIS 011	Survey of Music History I	3
MHIS 012	Survey of Music History II	3
Elective select one MHIS Course (150 or above)		3
MUJZ 008	Introduction to Jazz	3
MUJZ 010	Jazz Piano I	1
MUJZ 011	Jazz Piano II	1
MUJZ 020	Jazz Theory and Aural Training	3
MUJZ 021	Jazz Style and Analysis	3
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 161	Jazz Seminar and Perspectives I	3
MUJZ 162	Jazz Seminar and Perspectives II	3
MUJZ 163	Jazz Seminar and Perspectives III	3
MUJZ 164	Jazz Seminar and Perspectives IV	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	
Two Semesters of Major Choral Ensemble		2
MPER 080	Opera Production	
MPER 082	The Oriana Choir (Women's Chorus)	
MPER 083	University Chorus	

MPER 084	Pacific Singers	
MAPP 010	Applied Music **	4
MPER 050	Solo Class ***	0
MUBI 150	Brubeck Fellows Seminar (every semester)	18

\* Students must enroll in either MPER 066 or MPER 067 each semester of residence.

\*\* Students repeat MAPP 010 in order to have a total of 4 units from this one course.

\*\*\* Students take MPER 050 every semester.

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 fourth year, each student completes a full jazz recital during the senior year.

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.

### 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 010 and MCOM 011 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 010, MCOM 011, MUJZ 030 or permission of 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 010 and MCOM 011 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 010, MCOM 011, 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 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 010, MCOM011, MUJZ 030, MUJZ 031 or permission of 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 010 and MCOM 011; MUJZ 030 and MUJZ 031 or permission of instructor.

**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 011.

**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. Prerequisite: MUJZ 021 or permission of program director.

**MUJZ 172. Jazz Applied II. 1-2 Units.**

This course is or 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. Prerequisites: MUJZ 021 and MUJZ 171 or permission of program director.

**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. Prerequisites: MUJZ 021, MUJZ 171, MUJZ 172 or permission of program director.

**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. Prerequisites: MUJZ 021, MUJZ 171, MUJZ 172, MUJZ 173 or permission of program director.

**MUJZ 191. Independent Study. 1-4 Units.**

Brubeck Institute Courses

**MUBI 150. Brubeck Fellows Seminar. 3 Units.**

A comprehensive study of jazz styles, repertoire and composition through exposure to select jazz artists (i.e. Louis Armstrong, Duke Ellington, Charlie Parker, Miles Davis, Dave Brubeck, John Coltrane etc.). Students will be immersed in the music of these artists through projects in transcription, composition and ensemble playing. Prerequisite: Students must be accepted by audition to the Brubeck Concentration within the Bachelor of Arts Jazz Studies degree.

## Applied Music

### Applied Music Faculty

Applied Music Courses













**MAPP 112P. 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 112Q. Advanced Applied Music: Performance (Bass). 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 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

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Lewis R. Gale, Dean  
Ray Sylvester, Associate Dean of Undergraduate Programs  
Cynthia Firey Eakin, Associate Dean for Graduate Programs

## Undergraduate Degree Programs Offered

### Bachelor of Science in Business Administration

- Accounting
- Arts & Entertainment Management
- Business Law
- Economics
- Entrepreneurship
- Finance
- General Business
- 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 Business Administration (MBA)  
Master of Accounting  
Bachelor of Science in Accounting/Master of Accounting Blended Program  
JD/MBA  
PharmD/MBA  
Peace Corps MBA

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 marketing, finance, human resource management and accounting, with a solid foundation in mathematics, language and the arts and sciences. In particular, business leaders emphasize the importance of acquiring people 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. 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

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.

Further clarification of these (or other) policies may be obtained from the Eberhardt School of Business Student Affairs 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 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 complete courses in expository writing, computer science, public speaking and the humanities. It is strongly advised that students who do plan to transfer contact the Eberhardt School of Business with specific questions regarding transfer credit.

## 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.

## Eberhardt School Of Business Faculty

Lewis R. Gale, Dean and Professor of Business, 2010, BA, California State University, Fresno. 1989; M.S., Arizona State University, 1994. Ph.D., Arizona State University, 1994.

Cynthia Eakin, Associate Dean for Graduate Programs, 1996, BS, Florida State University, 1986; MA, 1988; PhD, 1993.

Ray Sylvester, Associate Dean, Professor, 1972, BA, Gettysburg College, 1962; MBA, University of Michigan, 1963; PhD, 1972.

Thomas E. Brierton, Associate Professor, 1989, BBA, University of Wisconsin, 1978; JD, Northern Illinois University, College of Law, 1983.

Michael L. Canniff, Lecturer, 2003, BA, University of Minnesota, 1985; MS, Syracuse University, 1990.

Julia Dare, Assistant Professor, 2012, BBA, Southern Methodist University, 1992; MBA, Wharton School of Business, 1996; PhD, University of Southern California, 2011.

Joel Herche, Associate Professor, 1994, BA, Central Washington University, 1979; MBA, Golden Gate University, 1986; PhD, University of Oregon, 1989.

Peter E. Hilsenrath, Professor, 2009, BA, University of California, Santa Cruz, 1978; PhD, University of Texas, Austin, 1985.

Ronald Hoverstad, Associate Professor, 1990, BA, Augsburg College, 1974; MBA, St. Cloud State University, 1981; PhD, University of Minnesota, 1986.

Hsinchih Huang, Associate Professor, 1998, BS, National Chiao-Tung University (Taiwan), 1986; MBA, Rochester Institute of Technology, 1990; PhD, University of North Texas, 1996.

Sacha M. Joseph, Associate Professor, 2006, BA, University of the West Indies (Jamaica), 1998; MS, Florida State University, 2004; PhD, Florida State University, 2006.

Unro Lee, Professor, 1990, BA, University of Southern California, 1977; MA, Indiana University, 1981; PhD, Purdue University, 1986.

Jeffrey A. Miles, Professor, 1990, BA, Ohio State University, 1984; M.P.S., Cornell University, 1986; MLHR, Ohio State University, 1992; PhD, 1993.

Stefanie E. Naumann, Professor, 1999, BS, Tulane University, 1993; PhD, Louisiana State, 1998.

Wenjing Ouyang, Assistant Professor, 2012, BS, Shanghai Institute of Foreign Trade, 2001; MS, Shanghai Institute of Foreign Trade, 2004; PhD, Drexel University, 2012.

Gerald V. Post, Professor, 1999, BA, University of Wisconsin-Eau Claire, 1978; PhD, Iowa State University, 1983.

Willard T. Price, Professor, 1980, BS, University of California, Berkeley, 1961; M.P.W.A., University of Pittsburgh, 1969; PhD, 1973.

Chris Sablynski, Associate Professor, 2009, BS, University of Florida, 1986; MS, San Francisco State University, 1996; PhD, University of Washington, 2002.

Dara M. Szyliowicz, Associate Professor, 2006, BA, Columbia University, 1988; MA, University of California, Berkeley, 1990; PhD, University of Illinois, 1998.

Eric W. Typpo, Associate Professor, 1998, BS, University of Missouri, 1986; MA, 1990; PhD, Florida State University, 1994.

R. Daniel Wadhvani, Associate Professor, 2006, BA, Yale University, 1991; PhD, University of Pennsylvania, 2003.

Suzanne B. Walchli, Associate Professor, 2000, BA, Duke University, 1975; MBA, Wharton Graduate Division, University of Pennsylvania, 1978; PhD, Northwestern University, 1996.

Cynthia K. Wagner Weick, Professor, 1990, BS, Ohio State University, 1979; MS, 1980; PhD, University of Pennsylvania, 1986.

PengCheng Zhu, Assistant Professor of Finance, 2009, BBA, Shanghai Institute of Foreign Trade, 2002; MBA, Carleton University, 2004; PhD, Carleton University, 2009.

## 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:

- Reading
- 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

- MATH 045 Introduction to Finite Mathematics and Calculus \* 4
- MATH 037 Introduction to Statistics and Probability 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.

## 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 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
  - ECON 118 Globalization History: Economic, Environmental, and Demographic Interactions

### Finance

- BUSI 121 Financial Markets 4
- BUSI 123 Investment Analysis 4
- BUSI 125 Intermediate Financial Management 4
- BUSI 163 International Financial Management 4

### International Business

- BUSI 163 International Financial Management 4
- BUSI 165 International Marketing 4
- BUSI 169 International Management 4
- BUSI 178 International Commercial Law 4

### Marketing

- BUSI 141 Marketing Research 4
- BUSI 165 International Marketing 4
- Select two of the following: 8
  - BUSI 143 Product Innovation
  - BUSI 147 Consumer Behavior
  - BUSI 148 Promotions Management
  - BUSI 149 Strategic Marketing

### Management Information Systems \*\*

- Select one of the following: 4
  - COMP 051 Introduction to Computer Science
  - BUSI 136 Business Programming
  - BUSI 137 Database Management Systems 4
  - BUSI 138 Networking and Telecommunications Management 4
  - BUSI 139 Electronic Commerce Project 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	Work Group Dynamics	
BUSI 175	Leadership and Change	

### General Business

Select three BUSI Electives from any ESB concentrations ***		12
Select one of the following:		4
BUSI 163	International Financial Management	
BUSI 165	International Marketing	
BUSI 178	International Commercial Law	
BUSI 169	International Management	

\* Each student who concentrates in international business is strongly advised to study and/or do an internship abroad for a semester or summer and engage in the study of a foreign language.

\*\* MIS students are strongly encouraged to purchase an up-to-date laptop computer for use in MIS classes.

\*\*\* Excluding BUSI 183

### 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.

#### Entrepreneurship

BUSI 172	Entrepreneurship	4
Select two of the following:		8
BUSI 124	Entrepreneurial Finance	
BUSI 134	Conflict Management	
BUSI 143	Product Innovation	
BUSI 176	Managing Small Businesses	
Select one of the following:		4
BUSI 163	International Financial Management	
BUSI 165	International Marketing	
BUSI 178	International Commercial Law	
BUSI 169	International Management	

#### 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):

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:

- Reading
- 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
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## Mathematics

MATH 045	Introduction to Finite Mathematics and Calculus *	4
MATH 037	Introduction to Statistics and Probability	4

## Computer Literacy

COMP 025	Computers and Information Processing *	4
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## 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.

## 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 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 112	Computer Skills for Accountants	1
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

## 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):

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:

Reading

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

MATH 045 Introduction to Finite Mathematics and Calculus \* 4

MATH 037 Introduction to Statistics and Probability 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.

## 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 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 112	Computer Skills for Accountants	1
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 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 219	Graduate Auditing Seminar	3
BUSI 226	Financial Statement Analysis	3
BUSI 274	Managing Quality/Productivity	3
BUSI 279	Leadership	2
BUSI 281	Strategic Management	3

## 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
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

## 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.

#### 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 an introduction to law as related to court systems and jurisdiction, litigation and other methods of resolving disputes, ethical decision-making, the Constitution and business, lawmaking and regulation by administrative agencies, international law, business organizations, antitrust law, consumer protection, employment law, contract law, and product liability.

**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: BUSI 031, BUSI 033, ECON 053, ECON 055, MATH 037, MATH 045 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: BUSI 031, ECON 053, ECON 055, MATH 037, MATH 045. 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 109. Management and Organizational Behavior. 4 Units.**

BUSI 109 applies the concepts of organizational behavior and structure theories to the managerial processes, and emphasizes how organizational efficiency and effectiveness are developed. Junior standing.

**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 112. Computer Skills for Accountants. 1 Unit.**

This course is a hands-on laboratory course that continues the study of spreadsheet applications and other accounting software programs, with an emphasis on projects especially important to accountants. This course emphasizes the more advanced accounting situations that spreadsheet applications and other programs make easier. Prerequisites: COMP 025, BUSI 031, BUSI 033, BUSI 100 with a "C" or better. Co-requisite: BUSI 111.

**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.**

Students study federal tax laws and 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 and BUSI 033 both with a "C" or better; MATH 037. 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.

**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 136. Business Programming. 4 Units.**

This course introduces students to programming logic and design. Visual Basic is used to emphasize the development of business applications. Students also study Windows design elements, forms, and events. 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 with a "C" or better and MATH 037. Junior standing.

**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 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.**

Students study all aspects of the legal relationships and rights problems in films, television, music and records. This course is also offered as MGMT 153. Prerequisite: BUSI 053 with a "C" or better. Junior standing.

**BUSI 157. Commercial Law. 4 Units.**

Students study the basic principles of commercial and trade law and business organizations that include agency partnerships and corporations. The course covers contracts and the Uniform Commercial Code, real and personal property, securities regulation, secured transactions, bankruptcy, professional liability and negotiable instruments. Prerequisite: BUSI 053 with a "C" or better. Junior standing.

**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.

**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.

**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.

**BUSI 172. Entrepreneurship. 4 Units.**

This course covers the new creation process from the venture idea phase to the capital search and acquisition, through the new venture start-up and operations. Theories and techniques are applied to the planning and development of an actual new enterprise. New ventures include the traditional small business or a high growth venture, or the formation of a new business entity or a new venture within an existing organization. Prerequisites: BUSI 031, BUSI 033, BUSI 107 all with a "C" or better. Junior standing.

**BUSI 174. Work Group Dynamics. 4 Units.**

The purpose of the course is to provide students with an understanding of group dynamics that enable them to develop skills to participate in and lead groups in the workplace. Because the focus is on groups, 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 176. Managing Small Businesses. 4 Units.**

The focus of the course is on the decisions owner-managers make in choosing opportunities, allocating resources, motivating employees and maintaining control while not stifling entrepreneurial activities that cause a business to grow. Topics include managing under adversity, management of the family business, professionalizing the growing business, corporate entrepreneurship, financial planning, control, accountability and the changing role of the board of directors. A field study and a research paper that involves the applications of the concepts in a specific firm are required. Prerequisites: BUSI 031 and BUSI 109 both with a "C" or better. Junior standing.

**BUSI 177. International Trade Law. 4 Units.**

International Trade Law provides students with the opportunity to study legal aspects associated with international trade agreements. The primary emphasis of the course is on the global trading system as represented by the General Agreement on Tariffs and Trade and the World Trade Organization and regional trading systems such as the European Union and the North American Free Trade Agreement. The course also examines agreements ancillary to these trading regimes as well as relevant national laws. The emphasis of the course will be 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 178. International Commercial Law. 4 Units.**

International Commercial Law provides students with the opportunity to study the law that governs international contracts. The course examines ethical considerations in international contracting, commercial dispute resolutions, and import and export transactions. Several different types of contracts are examined including those that relate to the sale of goods, services, transportation, insurance and intellectual property rights. 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 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

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Lynn G. Beck, 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, caring, and collaborative professionals for service to diverse populations. The School of Education directs its efforts toward researching the present and future needs of schools and the community fostering intellectual and ethical growth, and developing compassion and collegiality through personalized learning experiences. Undergraduate, graduate degree, and professional preparation programs are developed in accordance with state and national accreditation standards and guidelines to ensure that students who complete these programs represent the best professional practice in their positions of future leadership in schools and the community.

## Core Values of the School of Education

The core values of the School of Education include scholarship, integrity and ethical conduct, diversity, social and community responsibility, collegiality, and teaching and learning.

## 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 has been conferred through the year 2018 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 for teachers and other educational personnel are offered by the Department of Curriculum and Instruction. Graduate programs through the doctorate for educational administrators are offered by the Department of Educational Administration and Leadership. Graduate programs through the doctorate for school psychologists are offered by the Department of Educational and School Psychology. Detailed requirements for a Master of Education (MEd), Master of Arts in Education (MA), Educational Specialist (EdS), Doctor of Education (EdD), and Doctor of Philosophy (PhD) 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 and the Music Education Student Association (MESA).

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 Department of Curriculum and Instruction.

## 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. The GRE General Examination scores are required for application for the EdD and PhD degrees and advanced degrees in the Department of Educational and School Psychology.

## 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 is 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 MEd) These are discussed in the Graduate Catalog. Information about all programs is available in the Curriculum and Instruction office.

## 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 MEd) These are discussed in the Graduate Catalog. Information about all programs is available in the Curriculum and Instruction office.

## 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 or M. Ed) is available as well. Students should consult with a School of Education advisor for appropriate education courses.

The Department of Curriculum and Instruction 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	Teaching English Learners	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: 12 units

EDUC 170	Professional Practice	2-10
EDUC 172	Professional Practice Seminar	2-10

Normally, EDUC 170 and EDUC 172 total to 12 units.

Completion of the following course:

SPED 125X Teaching Exceptional Learners

2

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 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 the Performance Assessment for California Teachers (PACT), the 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 the Department of Curriculum and Instruction, Room 102, School of Education Building. Students are required to meet with a department 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, MEd, MA, or internship programs. Details regarding these options are available in the Department of Curriculum and Instruction. Details regarding the MEd or MA program are also available in the Graduate Catalog (<http://catalog.pacific.edu/graduate/schoolofeducation/curriculumandinstruction>).

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 in the Department of Curriculum and Instruction.

## Gladys L. Benerd School of Education Faculty

Lynn G. Beck, Dean and Professor of Education, 2005, BA, Belhaven College, 1974; MA, University of Mississippi, 1976; PhD, Vanderbilt University, 1991.

Marilyn E. Draheim, Assistant Dean and Associate Professor of Education, 1986, BA, Luther College, 1972; MA, University of Iowa, 1974; EdS, 1974; PhD, University of California, Berkeley, 1986.

Tenisha Tevis, Director of the Educational Resource Center, Assistant Professor, 2009, BA, California State University, Sacramento, 1997; MA, 2002; PhD, The Pennsylvania State University, 2007.

Teresa Vail, Director of Field Experiences, Assistant Professor, 2013, BA, California State University at Sacramento, 1994; M.S., University of the Pacific, 2007; Ed.D., 2011.

Harriett Arnold, Associate Professor of Education, 1994, BA, San Francisco State College, 1968; MA, San Jose State University, 1974; EdD, University of San Francisco, 1984.

Ruth V. Brittin, Professor of Music Education, 1998, PhD, Florida State University, 1989.

Kellie Cain, Co-Coordinator of Teacher Credential Program, Assistant Professor, 2002, BA, University of California, Davis, 1987; MA, University of the Pacific, 1999; EdD, 2005.

Michael Elium, Associate Professor of Education, 2004, BA, Appalachian State University, 1975; MA, 1975; EdD, University of Alabama, Tuscaloosa, 1983.

Scott Evans, Instructor of Education, 1990, BA, California State University, Sonoma, 1976; MA, University of California, Davis, 1980.

Rachelle Hackett, Associate Professor of Education, 1994, BA, California State University, Fresno, 1982; MS, Stanford University, 1986; PhD, 1994.

Ronald Hallett, Assistant Professor, 2009, BA, University of Nebraska, Lincoln, 1999; MA, The George Washington University, 2003; PhD, University of Southern California, 2009.

Mary Little, Instructor of Education, 2009, BA, California State University, Stanislaus, 1986; MA, 1988.

Justin Low, Assistant Professor, 2010, BA, Brigham Young University, Provo, UT, 2003; MA, The University of Texas at Austin, 2008; PhD, 2010.

Delores E. McNair, Assistant Professor, 2006, BA, Holy Names College, 1988; MPA, University of Southern California, 1988; EdD, Oregon State University, 2002.

Elaine Mo, Assistant Professor, 2011, BA, University of California, Los Angeles, 1994; EdM, Harvard Graduate School of Education, 2003; EdD, 2010.

Thomas G. Nelson, Associate Professor of Education, 1995, BA, California State University, Northridge, 1975; MA, California State University, Sacramento, 1988; PhD, University of Arizona, 1993.

Robert Oprandy, Professor of Education, 2002, BA, Rutgers University, 1969; MA, Teachers College, Columbia University, 1977; MEd, 1979; EdD, 1988.

Andrew Pitcher, Instructor of Education, 2003, BS, University of the Pacific, 2000; MA, University of California, Davis, 2002.

Gregory R. Potter, Co-Coordinator of Teacher Credential Program, Assistant Professor of Education, 2002, AB, University of California, Davis, 1992; MS, 1996; PhD, 2000.

Amy Scott, Assistant Professor, 2007, BA, University of California, Berkeley, 2000; MA, Arizona State University, Tempe, 2002; PhD, 2006.

Antonio Serna, Assistant Professor, 2006, BA, California State University, Fresno, 1974; MA, Stanford University, 1978; EdD University of the Pacific, 1990.

Linda Skrla, Professor, 2012, BBA, Sam Houston State University, Huntsville, 1979; MEd, 1991; PhD, The University of Texas at Austin, 1997.

Heidi J. Stevenson, Associate Professor of Education, 2004, BA, University of California, Davis, 1995; MA, Chapman University, 2001; EdD, University of California, Santa Barbara, 2004.

Linda Webster, Associate Professor of Education, 1996, BA, California State University, Fresno, 1981; MA, University of California, Berkeley, 1984; PhD, 1988.

## Bachelor of Arts in Liberal Studies Major Diversified Liberal Studies

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 in liberal studies degree with a major in diversified. (Please note – a 2.5 GPA is required 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:

Reading

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
COMM 143	Intercultural Communication	4

### IV. History (World, United States, California)

HIST 020	United States History I	4
HIST 021	United States History II	4
HIST 130	History of California	4
Select one of the following:		4
HIST 010	Western Civilization I	
HIST 050	World History I	

### 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

BIOL 041	Introduction to Biology	4
GEOS 057	Earth Systems Science	4
PHYS 017	Concepts of Physics	4

## VII. Visual and Performing Arts

EDUC 142	Visual Arts in Education	3
MEDU 100	Music for Children	3
THEA 011	Introduction to the Theatre	3

## VIII. Physical Education and Child Development

PSYC 029	Child Development	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

- Teaching English to Speakers of Other Languages
- Mathematics
- Sciences
- Human Development, with emphasis in Special Education
- Evening Program Concentration for EdPro2 students
- Other areas: History and Social Sciences, Visual/Performing Arts, or Physical Education are available in consultation with an advisor in the Diversified Major.

**Note: 1)** These concentrations are described in advisement materials found in the Curriculum and Instruction Department, Room 102. **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

## 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
SPED 195E	Positive Behavioral Support in the Classroom	3

OR

EDUC 161	Literacy Development (Multiple Subject)	4
EDUC 162	Literacy Assessment (Multiple Subject)	2
EDUC 163	Teaching English Learners	4



### XIII. Directed Teaching: 12 units

EDUC 170	Professional Practice	2-10
EDUC 172	Professional Practice Seminar	2-10
SPED 125X	Teaching Exceptional Learners	2

**Note:** Normally, EDUC 170 and EDUC 172 total 12 units.

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 the Performance Assessment for California Teachers (PACT)
- 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 Department of Curriculum and Instruction, Room 102, School of Education Building. Students are required to meet with a department 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 Department of Curriculum and Instruction.
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, Level One 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 Education Specialist Level One program:

#### 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 Human Development:

SPED 123	The Exceptional Child	3
SPED 166	Building Family-Professional Partnerships	3
SPED 124	Assessment of Special Education Students	3

Select one of the following:

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:

SPED 128M	Advanced Programming for Students with Mild/Moderate Disabilities	3
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SPED 128S	Advanced Programming for Students with Moderate/Severe Disabilities	
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Select one of the following:

3

SPED 142M	Curriculum and Instruction for Students with Mild/Moderate Disabilities (already completed in the concentration) *	
SPED 142S	Curriculum and Instruction for Students with Moderate/Severe Disabilities	
SPED 193	Evidence Based Practices in Autism **	
SPED 195E	Positive Behavioral Support in the Classroom	3
EDUC 150	Teaching and Assessment	4
EDUC 161	Literacy Development (Multiple Subject)	4
Evidence Based Practices in Autism		

\* Units taken in the concentration also fulfill credential course requirements. Units count only once.

\*\* That course number and title will change.

#### 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 Level I 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 the Performance Assessment for California Teachers (PACT), 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 Educational Specialist Level I/Preliminary Credential must complete requirements for a Level II/Clear Credential through a CTC-approved Level II Clear Program provided by California colleges or universities or district programs.

Advising materials for the Educational Specialist Credential programs are available in the Department of Curriculum and Instruction, Room 102, School of Education Building. Students must meet with a department 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	Teaching and Assessment	4
EDUC 161	Literacy Development (Multiple Subject)	4
EDUC 163	Teaching English Learners	4
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	
SPED 128S/228S	Advanced Programming for Students with Moderate/Severe Disabilities	
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 193/293	Evidence Based Practices in Autism *	3
SPED 195E/295E	Positive Behavioral Support in the Classroom	3

\* Course title & number will change

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 Coordinator of 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 Level One 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	Teaching English Learners	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.

#### EDUC 129. Seminar: Cultural Basis of Conflict in Education. 3 Units.

Analysis of cultural diversity in American classrooms. Not open to doctoral students.

#### 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.



**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 151. Teaching Science (Multiple Subject). 2 Units.**

Students study methods and curriculum for teaching science in self-contained classrooms. Topics include state-adopted content standards and curriculum frameworks, essential life, physical, and earth science themes, concepts, and skills, instructional planning and diverse and appropriate teaching strategies for meeting the needs of diverse learners, which include mainstreamed and culturally, linguistically, economically, and ethnically diverse learners. The course also examines the principles and practices that evaluate students' learning. Ten hours of fieldwork is required. This course is taken prior to directed teaching. Prerequisites: admission to Teacher Education as well as fingerprint and TB test clearance.

**EDUC 152. Teaching Mathematics (Multiple Subject). 2 Units.**

Students study methods and curriculum for teaching mathematics in self-contained classrooms. Topics include state-adopted content standards and curriculum frameworks, essential mathematics themes, concepts, and skills. The course also covers instructional planning and diverse and appropriate teaching strategies for meeting the needs of diverse learners which include mainstreamed and culturally, linguistically, economically, and ethnically diverse learners. The principles and practices that evaluate students' learning are also addressed. Ten hours of fieldwork is required. Prerequisite: admission to Teacher Education.

**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 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.



**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.

**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 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, EDUC172 (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.

**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 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 waiver 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 test, 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 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.

Educational Resource Center

**ESL 003. Intermediate ESL: Vocabulary Development. 2 Units.**

This course is an introduction to a broad, cross-disciplinary academic vocabulary with special attention to correct word formation, multiple meanings, commonly used phrases, and word families used in reading material typical to a general education curriculum. Placement in this course is on the basis of ESL testing.

**ESL 005. Intermediate ESL: Reading/Grammar Development. 5 Units.**

**ESL 007. Intermediate ESL: Writing and Grammar. 2 Units.**

**ESL 009. Intermediate ESL: Pronunciation, Speaking and Listening. 3 Units.**

Intermediate level skills in speaking and listening comprehension is the focus of this course. Topics include improvement of pronunciation, rhythms, stress and intonation. Audio tapes of short talks on academic topics are used as material for listening, note-taking and discussion.

**ESL 010. Intermediate ESL: Writing and Grammar. 3 Units.**

This course leads students from writing simple paragraphs to longer, more complex compositions using chronology, enumeration, comparison/contrast, definition, and cause and effect as patterns of organizing content. The English tense and aspect system is reviewed with other basic concepts of English grammar. More advanced concepts, such as modals and clause structure, writing paragraphs, compositions, and journal entries are introduced. Placement in this course is on the basis of ESL testing. Pass/No credit (P/NC) grading option is not allowed for this course.

**ESL 011. Advanced ESL Vocabulary Development. 2 Units.**

**ESL 013. Advanced ESL: Reading and Grammar Development. 3 Units.**

This course covers reading for comprehension, related study skills and vocabulary expansion with particular attention paid to grammatical forms used in readings. Selections help prepare students for textbook and journal article reading at the college level. A variety of topics common to a general education curriculum are covered. Pass/No credit (P/NC) grading option is not allowed for this course.

**ESL 015. Advanced ESL: Writing and Grammar Development. 3 Units.**

This is an advanced ESL course that provides training in a variety of academic forms: note-taking, outlining, summaries, paraphrasing, reports, a short term paper, essays and journal writing. Complex grammatical patterns are studied and integrated into the writing assignments. These patterns include verb phrase forms, indirect speech, conditionals, clauses, gerunds and infinitives, and the passive voice. Attention is also paid to correct word formation. Placement in this course is on the basis of ESL testing or prerequisite of ESL 010 or equivalent. Pass/No credit (P/NC) grading option is not allowed for this course.

**ESL 017. Writing from Cultural Perspec.. 3 Units.**

This writing course concentrates on word formation and sentence level grammar in the English language that are used in composing short essays typical of college writing. Pass/No credit (P/NC) grading option is not allowed for this course. Prerequisite: an appropriate test score or permission of instructor.

**ESL 019. Basic Writing. 3 Units.**

Students concentrate on the practical applications of writing theory to develop confidence and competence in written composition skills. Neither the course credit or course grade applies towards graduation. Prerequisite: a grade of C- or better in WRIT 017, an appropriate test score or permission of instructor.

**ESL 021. Writing for College. 3 Units.**

Students are introduced to the types of written assignments required in college courses, that include the research paper, expository writing and argumentation, weekly writing assignments and individual conferences with instructor. 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 writing. Prerequisites: a passing grade (equivalent to C- or better) in WRIT 019, and an appropriate test score or permission of instructor.

**ESL 023. Advanced ESL: Speaking and Pronunciation. 2 Units.**

The pronunciation, rhythm, stress and intonation of American English is studied and practiced, as well as skills needed for academic discussion. Students receive help in improving pronunciation of sounds.

**ESL 025. Advanced ESL: Listening. 2 Units.**

The understanding of college-level lectures and peer discussions is stressed. Both audio and video materials are presented for practice in listening, note-taking and comprehension.

**ESL 031. Reading for College. 2 Units.**

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**ESL 051. Reading Efficiency Development. 2 Units.**

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**ESL 061. Study Efficiency. 2 Units.**

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**ESL 091. Individually Prescribed Study. 1-3 Units.****ESL 093. Special Projects. 1-3 Units.****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 and Lab. 3 Units.**

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 or any higher level placement test. This course is taught using a Personalized System of Instruction. 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. Students who complete MATH 005 and MATH 007 with a "C-" or better may enroll in MATH 051. Prerequisite: MATH 003 with a "C-" or better or an appropriate test score or permission of instructor.

**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.

**READ 031. Reading for College. 2 Units.**

Students examine the nature of the reading process and of techniques used by successful readers through the development of vocabulary, comprehension, concentration, memory and fluency skills. 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 reading. Prerequisite: an appropriate test score or permission of instructor.

**READ 051. Reading Efficiency Development. 2 Units.**

Students learn to increase reading efficiency through the use of rhythmic eye movements, analyzing text organization and reading for specific purposes. Development of sophisticated analytical, critical and aesthetic reading strategies are examined.

**READ 061. Study Efficiency. 2 Units.**

Students develop skills inherent in effective college learning, such as time management, study strategies, research techniques, preparing for and taking exams and self-management (decision-making, goal-setting, accomplishing goals). This course is offered spring semester.

**READ 086. Tutoring Strategies Level I. 1 Unit.**

This course is a College Reading Language Association (CRLA) online tutoring training course which concentrates on multiple tutoring strategies and techniques. Emphasis is on the following: peer tutoring, learning methods, personal learning and communication styles, modeling leadership and scholarship, and an understanding of sensitivity to diverse students and their unique learning needs. Three meetings in person are scheduled during the semester. Students practice tutorial skills in individual and small group sessions under the supervision of the Instructor and the Education Resource Center's Tutorial Coordinator. Collaborative/interactive approaches to learning in a variety of settings are emphasized. Pass/No Credit grading option is not allowed for the course. A grade of B+ or better is required to satisfy the University's Tutorial Program in tutoring. Second semester freshman standing is required.

**WRIT 017. Writing from Cultural Perspectives. 3 Units.**

Concentrates on word formation and sentence level grammar in the English language used in composing short essays typical of college writing. Pass/No credit (P/NC) grading option is not allowed for this course. Prerequisite: An appropriate test score or permission of instructor.

**WRIT 019. Basic Writing. 3 Units.**

Students concentrate on the practical applications of writing theory to develop confidence and competence in written composition skills. Neither the course credit or course grade applies towards graduation. Prerequisite: WRIT 017 with a "C-" or better or an appropriate test score or permission of instructor.

**WRIT 021. Writing for College. 3 Units.**

Introduction to the types of written assignments required in college courses, including the research paper, expository writing and argumentation, weekly writing assignments and individual conferences with instructor. 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 writing. Prerequisite: A passing grade (equivalent to C- or better) in WRIT 019, an appropriate test score or permission of the instructor.



# School of Engineering and Computer Science

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Ravi Jain, Dean

## Degrees Offered

**Bachelor of Science in Bioengineering**  
**Bachelor of Science in Civil Engineering**  
**Bachelor of Science in Computer Engineering**  
**Bachelor of Science in Electrical Engineering**  
**Bachelor of Science in Engineering Management**  
**Bachelor of Science in Engineering Physics**  
**Bachelor of Science in Mechanical Engineering**  
**Bachelor of Science**  
**Master of Science in Engineering Science**

## Majors Offered

### Computer Science

- **Networking and Computer Security**
- **Games and Simulation**
- **Software Engineering**

### Computing and Applied Economics

## Minors

**Computer Science**  
**Engineering Management**  
**International Engineering**  
**Project Management** (for non-engineering majors)  
**Sustainability**  
**Technology** (for non-engineering majors)

## 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. The major 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 electives selected according to the student's chosen area of concentration.

## Degrees in Engineering and Computer Science

The School of Engineering and Computer Science offers eight undergraduate 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 essentially the same for all engineering majors. The upper-division combines courses in the major area with work experience through the Co-op Program.

The Computer Science Department offers a BS degree with a major in Computer Science. A minor program is also available. The curriculum for the Computer Science major 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, Games and Simulation, and Software Engineering.

The School of Engineering and Computer Science offers a Master of Science in Engineering Science (MSES) degree with concentrations in:

1. Civil Engineering
2. Computer Engineering, Electrical Engineering, Computer Science
3. Mechanical Engineering

The MSES 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 if 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

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 BS degree with a major in Computer Science is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>.

## Engineering Industry Fellowship Program (EIF)

The Engineering Industry Fellowship Program (EIF) is a partnership between industry and the Pacific School of Engineering and Computer Science. It provides student fellows with a quality education, optimal training for success in the workplace, and relevant work experience with a major industry. It also provides industry with a means of establishing a four or five-year mentoring/employment relationship with a top-notch student, the opportunity to groom a possible long-term future employee, and increased visibility on campus.

EIF's are based on good-faith agreements between industry, the University, and student fellows while they pursue their degrees at Pacific. Student fellows receive paid summer internships, one or two paid co-op assignments, \$2,000 per year in additional scholarship funding, and an industry mentor from their sponsoring company. The student fellow agrees to maintain high academic achievement and to perform satisfactorily on the job.

## Engineering Tuition

Most of the Engineering curricula at Pacific include a mandatory 32-unit Cooperative Education component. During the first two years of the program, the student's fee structure is identical to the University's. Overall tuition costs as shown elsewhere in this General Catalog apply, plus any additional costs of summer school tuition. The Engineering program at Pacific is classified by the State of California as a five-year program. Students can therefore qualify for most financial aid for a five-year period.

During the last two years of the program, the students are required to complete a seven-month summer-fall or spring-summer cooperative education assignment. The number of units of co-op credit is a function of the time on the job. Commonly, students receive sixteen units of credit for the fall, spring and/or summer term. The tuition rate for fall or spring semesters of co-op is one half the normal rate. There is no tuition charge for the summer of co-op when coupled with a fall or spring co-op. Further, for each fall and spring semester that students are on co-op, they are entitled to a summer of courses free of tuition up to a maximum of 20 units. Any units over 20 are charged at the prevailing summer rate. (See Cooperative Education Schedule). Students complete the application for summer tuition remission at the earliest possible date. Applications are available in the Co-op Office.

## Computer Science Tuition

Computer Science at Pacific is a four-year program with a mandatory senior project component. A cooperative education component is strongly encouraged and is available in any term including the summer. Students who elect to take a Cooperative Education component during a Fall or Spring term work with their advisor to ensure that progress in their

academic program is not impacted. The student's fee structure follows University guidelines.

## 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)

**Campus Clubs and Organizations**

**Associated Engineering Students** (AES)

**Associated Students of Engineering Management** (ASEM)

**Biomedical Engineering Society** (BMES)

**Engineers Without Borders**

**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 3,000 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.

All students must take Pacific Seminar 3 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

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 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, Mathematics, and Reading) prior to enrolling in any upper-division engineering or computer science courses.

## Graduation Requirements (Engineering Majors)

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 Majors)

1. Successful completion of at least 120 units.
2. Successful completion of all courses required in the student's major.
3. A GPA of at least 2.0 on all letter-graded work completed at Pacific.
4. A GPA of at least 2.0 for all engineering and computer science courses completed at Pacific.
5. 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:

1. 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.
2. The pursuit of a double major is not a valid reason for waiving any SOECS or University requirements.

## School of Engineering and Computer Science Faculty

Ravi K. Jain, Dean and Professor, 2000, BS, California State University, Sacramento, 1961; MS, 1968; PhD, Texas Tech University, 1971; MPA, Management and Public Policy, Harvard University, 1980.

Gary R. Martin, Assistant Dean of Administration and Professor of Cooperative Education, 1983, BA, University of California, Davis, 1981; MS, California State University, Hayward, 1982; EdD, University of the Pacific, 1987. Educational counseling and psychology, Pupil Personnel Services Credential.

Louise Stark, Associate Dean and Professor of Electrical and Computer Engineering, 1992, BSCpE, University of South Florida, 1986; MSCpE, 1987; PhD, Computer Science and Engineering, 1990. Computer vision, artificial intelligence, digital design, computer graphics, iris biometrics.

William H. Ford, Professor and Chair of Computer Science, 1974, BS, Massachusetts Institute of Technology, 1967; PhD, University of Illinois, 1972. Numerical linear algebra, discrete mathematics.

Gary M. Litton, Professor and Chair of Civil Engineering, 1993, BS, University of California, Irvine, 1980; MS, 1990; PhD, 1993. Registered Professional Engineer. Environmental engineering, water quality, and modeling.

Jennifer Ross, Associate Professor and Chair of Electrical and Computer Engineering, 1993, BS in Electrical Engineering University of Illinois, 1988; MS in Electrical Engineering, University of California Berkeley, 1990. PhD in Electrical Engineering University of California Berkeley, 1993; Solid state, short wavelength lasers, analog circuits and devices.

Brian L. Weick, Chair and Professor of Mechanical Engineering, 1995, BSME, Union College, 1986; MSME, Virginia Polytechnic Institute and State University, 1990; PhD, Materials Engineering Science, 1993. Manufacturing processes, materials science, design, tribology and viscoelasticity.

Jeffrey S. Burmeister, Program Director and Associate Professor of Bioengineering, 2002, BS, Mechanical Engineering, University of Delaware, 1988; PhD, Biomedical Engineering, Duke University, 1995. Biomaterials, cell adhesion.

Zendgi Cui, Assistant and Assistant Director, Pacific Resources Research Center, 2008, BS in Hydrogeology & Engineering Geology, Geology at China University of Mining & Technology, 1990; BS in Computer Science, University of Windsor, 2000; MBA, Shandong University of Science & Technology, 1995; MS in Computer Science, Wayne State University, 2002; PhD in Circulation Economy & Sustainable Development at Shandong University of Science & Technology, 2010; Project-based software engineering, database management systems, cyclic economy and sustainable development, technology transfer and marketing strategy.

Abel A. Fernandez, Professor of Civil Engineering and Director of Engineering Management, 2000, BS, Electric Power Engineering, Rensselaer Polytechnic Institute, 1974; ME, Electric Power Engineering, 1976; MBA, 1976; PhD, Industrial Engineering, University of Central Florida, 1995. Registered Professional Engineer. Project management, systems engineering, resource management, risk analysis and management, modeling and simulation, optimization.

Maria Garcia-Sheets, Director of MESA (Mathematics, Engineering and Science Achievement) Schools Program and the MESA Engineering Program, 1995, BA, University of California, Davis, 1991; MA, Communication, University of the Pacific, 1999, Doctor of Education, Educational Administration and Leadership, 2008.

William Stringfellow, Professor and Director of the Ecological Engineering Research Program, 2009, BS Environmental Health, University of Georgia, 1980; MS Microbiology, Virginia Polytechnic Institute, 1984; PhD Environmental Sciences and Engineering, University of North Carolina, 1994.

Dr. Henghu (Henry) Sun, Professor and Director, Pacific Resources Research Center, 2008, 2008 Professor, PCSP Program, TjL Pharmacy School, University of the Pacific; 2002-2008, Professor, Tsinghua University; 1988, PhD China University of Mining and Technology.

Elizabeth Basha, Assistant Professor of Electrical and Computer Engineering, 2010, BS in Computer Engineering, University of the Pacific, 2003; SM in Electrical Engineering and Computer Science, Massachusetts Institute of Technology, 2005; PhD in Electrical Engineering and Computer Science, Massachusetts Institute of Technology, 2010. Sensor networks, autonomous robotics, international development.

Emma Bowring, Assistant Professor of Computer Science, 2007, BS, University of Southern California, 2003; PhD, University of Southern California, 2007. Artificial Intelligence, multi-agent systems, computer science education.

Ashland O. Brown, Professor of Mechanical Engineering, 1991, BSME, Purdue University, 1966; MSME, University of Connecticut, 1968; PhD, 1974. Licensed Professional Engineer. Fluid mechanics, thermal sciences and finite element analysis.

Mary Kay Camarillo, Assistant Professor of Civil Engineering, 2009, BS, University of Washington, 1996; MS, University of California, Davis, 2004; PhD, 2009; Registered Professional Engineer. Environmental engineering, physical and chemical treatment of water and wastewater.

Cathy Carlson, Visiting Assistant Professor of Computer Science, 2008, BS, University of the Pacific, 2004; MBA, University of the Pacific, 2005. Business application training and implementation; lead tracking, generation and analytic software; website design.

Calvin P Chen, Assistant Professor and Coordinator of Cooperative Education, 2006, BSCE, Rice University, 2000; MBA, Rice University, 2005.

Daniel Cliburn, Associate Professor of Computer Science, 2006, BS, Illinois College, 1997; MS, University of Kansas, 1999; PhD, University of Kansas, 2001. Computer graphics, visualization, virtual reality, computer science education.

Michael Doherty, Associate Professor of Computer Science, 1998, BS, University of Florida, 1983; MS, University of Rhode Island, 1992; PhD University of Colorado at Boulder, 1998. Simulation, video game technology, database applications, computer graphics.

Hector Estrada, Professor of Civil Engineering, 2006, BS, University of Illinois, 1993; MS, 1994; PhD, 1997. Registered Professional Engineer. Structural engineering and engineering mechanics.

Jinzhong Gao, Associate Professor of Computer Science, 2008, BS Computer Science and Engineering, Huazhong University of Science and Technology, 1995; MS Mechanical Engineering, Huazhong University of Science and Technology, 1998; PhD Computer and Information Science, Ohio State University, 2004. Scientific visualization, computer graphics, large scale data management, data analysis and visualization, data-intensive computing, remote visualization, Web-based applications.

Shelly Gulati, Assistant Professor of Bioengineering, 2010, BS, Chemical Engineering, Johns Hopkins University, 2000; PhD, Bioengineering, University of California, Berkeley and San Francisco, 2006. Microfluidics, biological fluid flow.



Kenneth F. Hughes, Associate Professor of Electrical and Computer Engineering, 1993, BS, Information and Computer Science, Georgia Institute of Technology, 1985; MS, Computer Science, University of South Florida, 1989; PhD, Computer Science and Engineering, University of South Florida, 1994. Robotics, sensors and sensor fusion, computer vision, artificial intelligence, embedded systems, microprocessors and microcontrollers, digital systems.

Rahim Khoie, Professor of Electrical and Computer Engineering, 2002, BSEE, 1977, Abadan Institute of Technology, Abadan, Iran; MS, 1980, University of Pittsburgh,; PhD, 1986, University of Pittsburgh. High speed electron devices, Quantum effect devices, Solid state physics, Renewable energy, Analog and digital electronics, and Embedded Systems.

Scott Larwood, Assistant Professor of Mechanical Engineering, 2009, BS, Aeronautical Engineering, California Polytechnic State University, San Luis Obispo, 1988; MS, Aeronautics and Astronautics, Stanford University, 1993; PhD, Mechanical and Aeronautical Engineering, University of California at Davis, 2009. Licensed Professional Engineer. Wind energy, fluid mechanics, vibrations, dynamics.

Chi-Wook Lee, Professor of Mechanical Engineering, 1998, BSME, Hanyang University (Korea), 1981; MSME, University of Wisconsin-Madison, 1984; PhD, Mechanical Engineering, University of Florida, 1991. Mechatronics, systems dynamics, and bio-mechanics.

Luke Lee, Associate Professor of Civil Engineering, 2008, BS, University of California, Los Angeles, 1997; MS, University of California, Berkeley, 1998; PhD, University of California, San Diego, 2005; Registered Professional Engineer. Structural engineering and rehabilitation and monitoring of infrastructure systems.

Jiancheng Liu, Associate Professor of Mechanical Engineering, 2006, BS, Taiyuan University of Technology (China), 1984; MS, 1987; PhD, Himeji Institute of Technology, now named University of Hyogo (Japan), 1996. Manufacturing, machine design.

Cherian Mathews, Professor of Electrical and Computer Engineering, 2005, BE in Electrical Engineering, Anna University, Chennai, India, 1987; MS in Electrical Engineering, Purdue University, 1989; PhD in Electrical Engineering, Purdue University, 1993; Statistical signal processing, Array signal processing, Real-time digital signal processing using DSP processors, power systems.

Scott M. Merry, Associate Professor of Civil Engineering, 2010, BS, University of Arizona, 1991; MS, Purdue University, 1993; PhD University of CA, Berkeley, 1995; Registered Professional Civil and Geotechnical Engineer; Geotechnical engineering, levees and slope stability; engineering management.

Camilla M. Saviz, Associate Professor of Civil Engineering, 1999, BSME, Clarkson University, 1987; MSME, 1989; MBA, New York Institute of Technology, 1991; PhD, Civil and Environmental Engineering, University of California, Davis, 2003. Registered Professional Engineer. Environmental engineering, water resources, hydrodynamic and water quality modeling, fluid mechanics.

Cathi Schuler-Sawyer, Assistant Visiting Professor in Computer Science, 1993, BA, University of California, Santa Barbara, 1974; MSW, California State University, Sacramento, 1976. Business software consulting and training, technical writing, Web development.

Jeffrey Shafer, Assistant Professor of Electrical and Computer Engineering, 2010, BS, Computer Engineering, University of Dayton, 2002; MS, Electrical Engineering, University of Dayton, 2004; PhD, Electrical and Computer Engineering, Rice University, 2010; Computer architecture, Network systems architecture, Data-intensive computing, Cloud computing, Virtualization.

Kyle A. Watson, Associate Professor of Mechanical Engineering, 2003, BSME, Villanova University, 1995; MS, North Carolina State University, 1997; PhD, 2002. Thermal sciences, fluid mechanics, combustion.

Cynthia Wagner Weick, Professor, 1990, BS, Crop Physiology, Ohio State University, 1979; MS, Crop Physiology, 1980; PhD, Business

Administration, University of Pennsylvania, 1986. International technology and innovation, strategic management in R&D based organizations.

Anahita Zarei, Assistant Professor of Electrical and Computer Engineering, 2007, BS, Electrical Engineering, 2001, University of Washington; MS, Electrical Engineering, 2002, University of Washington; MS Applied Mathematics, 2007, University of Washington; PhD, Electrical Engineering, 2007, University of Washington. Computational Intelligence, Signal Processing, Probability and Statistics.

## 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
COMP 101	Application Development	4
One upper division COMP course		3-4
Select two of the following: *		6-8
Any COMP course		
Any ECPE course		
BUSI 137	Database Management Systems	
BUSI 138	Networking and Telecommunications Management	
BUSI 139	Electronic Commerce Project	

\* One of these courses must be an upper division course.

**Note: 1) Electives are to be chosen in consultation with an advisor. 2) All courses must be at least three units. Substitution of multiple courses of less than three units for one of the listed courses may be allowed with approval of the minor advisor.**

## Minor in International Engineering

Our "global village" is becoming increasingly integrated and international communications are now almost instantaneous. Thus, the professional who can operate in a multinational setting is a step ahead. With this in mind, the School of Engineering and Computer Science offers an International Engineering Minor.

Students who take this minor must fulfill all of the requirements for a major in one of the engineering disciplines. They must also complete 15 units in internationally oriented courses, drawn from fields such as political science, economics and business. Students can minimize the extra time required to complete the minor by making sure some of this "international" work satisfies their general education component.

To obtain the minor, students must also have proficiency in a foreign language at the second semester level, perform one of their Co-op assignments overseas, and maintain a minimum GPA of 2.5.

### Minor in International Engineering Requirements

Students must complete a minimum of 15 units from internationally oriented courses with a Pacific grade point average of 2.5 in order to earn a minor in international engineering. They must also have proficiency in a foreign language at the second semester level and perform one of their Co-op assignments overseas.

## 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	Engineering Administration	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	Engineering Administration	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
GEOS 103	Global Change
INTL 077	Contemporary World Issues
INTL 165	Development, Modernization, and Cultural Change
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	Literature and the Environment
GEOS 043	Environmental Science for Informed Citizens
GEOS 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.

## 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.

The Technology Minor provides an introduction to various aspects of engineering and technology which strengthens a student's employment qualifications. The University offers a number of engineering and technology-related courses which are basic enough in their content that non-engineering students can enjoy enrollment without intimidation.

Phrases like "The Age of Technology" and "Information Era" reflect the demand for professionals with more knowledge about engineering and technology. The student who takes advantage of this structured approach to additional studies often enjoys much greater job and salary recognition upon college graduation.

## 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 approved by the minor advisor 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" (COMP).

Technology Minor Application: To complete a minor, a student submits a minor worksheet proposal to the advisor. The Registrar must receive an approved copy of the worksheet before a notation of completion of a minor can be placed on the student's transcript.

## Approved Courses for the Technology Minor

### Engineering Classes

CIVL 015	Civil Engineering Graphics	3
CIVL 022	Surveying	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	Engineering Administration	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	1-18

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.*

Bioengineering Courses

### BENG 005. Introduction to Bioengineering. 1 Unit.

This course introduces students to the various sub-disciplines (biomedical, electrical, and mechanical) of bioengineering. Prerequisite: 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. Prerequisite: Fundamental Skills Reading requirement.



**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. Prerequisite: Fundamental Skills Reading requirement.

**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; ENGR 045; BIOL 061 or BENG 063 with a "C-" or better.

**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 focuses on the application of engineering mechanics to anatomical and medical applications with emphasis on tissue mechanics. Examples of engineering concepts used include statics, dynamics, optimization theory, composite beam theory, viscoelasticity, beam-on-elastic-foundation theory, Hertz contact theory, and materials analyses. The course is ideal for those interested in biomechanical engineering, including those wishing to further develop technical skills in mechanical engineering, and those interested in addressing contemporary engineering design and analysis problems of medical relevance. Aspiring students towards the health science professions are strongly encouraged enroll in this course. Prerequisite: Completion of all Fundamental Skills and ENGR 121 with a "C-" or better.

**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 195. Senior Project. 4 Units.**

Students apply basic sciences, mathematics and engineering topics to meet a stated objective. Students also establish design objectives and criteria, and analyze solution alternatives, synthesize a problem, implement a solution, then evaluate design performance. Design documentation and demonstration are required. The course includes both written and oral reports and presentations. 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.

**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. Surveying. 3 Units.**

Students are introduced to plane and topographic surveying that includes laboratory work. Additional coverage includes the principles of geometric design. 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; and MATH 051 with a "C-" or better.

**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, 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.**

Students study groundwater hydraulics in confined and unconfined aquifers. Topics include the processes controlling that control the transport and fate of minerals and contaminants in subsurface environments, computer simulation of groundwater flow and contaminant movement, and strategies for removing and controlling contaminant plumes in aquifers. Prerequisites: Completion of all Fundamental Skills; CIVL 061, CIVL 130; MATH 057 all 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 161. Matrix Analysis of Engineering Systems. 4 Units.**

Students analyze structures by matrix methods, that include the direct stiffness method for trusses and frames. The course introduces students to the finite element method for plane stress and plane strain. Prerequisites: Completion of all Fundamental Skills and CIVL 160 with a "C-" or better. Recommended: MATH 110.

**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 167. Earthquake Engineering. 4 Units.**

Students study the determination of loads on structures due to earthquakes. Topics include an overview of seismology, methods of estimating equivalent static lateral forces, response spectrum and time history analysis, and concepts of mass, damping and stiffness for typical structures. Other topics include design for inelastic behavior, numerical solutions, and code requirements. Prerequisites: Completion of all Fundamental Skills and 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.

**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 023. Computer Concepts and Applications. 3 Units.**

This general introduction course to computers focuses on applications in word processing and spreadsheets. The students also study the basic concepts of computer architecture, the internet, and network communications. Students explore graphical design concepts with Web pages and PowerPoint presentations. The course may not be taken by students who have completed COMP 025. Prerequisite: Fundamental Math Skills requirement.

**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.

**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.

**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).

**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. Prerequisite: Fundamental Math Skills requirement.

**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 with a "C-" or better.

**COMP 093. Special Topics. 3 or 4 Units.****COMP 101. 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 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 101 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. (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, compilers 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, intractability. Prerequisites: Completion of all Fundamental Skills; COMP 047 or ECPE 071 with a "C-" or better. (Fall, every year).

**COMP 151. Artificial Intelligence. 3 Units.**

Students study basic Concepts, techniques and tools used in Artificial Intelligence. Topics include knowledge representation, search techniques, and problem solving strategies. Also listed as ECPE 151. Prerequisites: Completion of all Fundamental Skills and COMP 051 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 use 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 COMP 053; MATH 053 with a "C-" or better or permission of instructor. (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 101 with a "C-" or better. (Fall, odd years).

**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 look 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 101 with a "C-" or better. (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 is considered 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 101 and ENGR 025 with a "C-" or better. Grading is Pass/No Credit only.

**COMP 188. Senior Project I. 2 Units.**

Students establish design objectives and criteria, analyze solution alternatives and evaluate design performance for a medium scale software application. Results include analysis and design documents and a presentation of the system design. Prerequisite: Completion of all Fundamental Skills. Senior standing.

**COMP 189. Senior Project II. 2 Units.**

This course is a continuation of Senior Project I. Students implement, test, and evaluate their software application. Results include final design documents, test reports and a presentation and demonstration of the project. Prerequisite: Completion of all Fundamental Skills and COMP 188 with a "C-" or better.

**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 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.

Electrl 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. Prerequisite: PHYS 053 with a "C-" or better. Prerequisites, may be taken concurrently: MATH 055; COMP 051 or ENGR 019 with a "C-" or better. 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. Systems Analysis. 4 Units.**

Students analyze the continuous and discrete time systems in the time and frequency domains. Topics include Fourier, Laplace, and z-transforms, convolution, difference equations, Zero-input and zero-state components. Prerequisites: Completion of all Fundamental Skills and ECPE 041 with a "C-" or better. Prerequisite, may be taken concurrently: MATH 057 with a "C-" or better.

**ECPE 126. Digital Signal Processing. 4 Units.**

Analysis of discrete-time signals and systems using z transforms and Fourier transforms. Digital filter design and real-time implementation. Applications to areas such as communications, radar, image processing. Includes laboratory. Prerequisites: ECPE 071, ECPE 071L, 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 examine random signals in the time and frequency domains, linear systems with random inputs, and noise sources and modeling of noisy networks. Prerequisite: Completion of all Fundamental Skills. Prerequisite, may be taken concurrently: ECPE 121 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. 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; ECPE 041 and ECPE 041L; MATH 055, PHYS 055, and the Fundamental Chemistry Skills requirement or completion of CHEM 023 with a "C-" or better. Corequisite: ECPE 131.

**ECPE 132. Advanced Electronics. 4 Units.**

Students study multistage amplifiers. Topics include amplifier design to meet gain and bandwidth specifications, feedback and stability of electronic systems, operational amplifier circuits, active filters, oscillators and wave shaping circuits, analog to digital converters and design uses off-the-shelf IC components. The course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 121, ECPE 131, ECPE 131L with a "C-" or better. (Fall).

**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 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. Prerequisites: Completion of all Fundamental Skills; PHYS 055, MATH 057, ECPE 041 with a "C-" or better.

**ECPE 151. Artificial Intelligence. 3 Units.**

Students study basic concepts, techniques and tools used in Artificial Intelligence. Topics include knowledge representation, search techniques, and problem solving strategies. Also listed as COMP 151. Prerequisites: Completion of all Fundamental Skills and COMP 051 with a "C-" or better.

**ECPE 153. Computer Graphics. 3 Units.**

this course introduces students to two and three dimensional computer graphics. Topics include basic representations and mathematical concepts, object modeling, viewing, lighting and shading. Programming that uses OpenGL and other computer graphics applications are examined. Also listed as COMP 153. Prerequisites: Completion of all Fundamental Skills and COMP 053 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 071, ECPE 071L, ECPE 170 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 194. Core Assessment Exam (CAE). 0 Units.**

Each student in the ECPE department is required to take the Core Assessment Exam (CAE). The CAE tests students knowledge of the material covered in the core courses and in basic math. Prerequisites: Completion of all Fundamental Skills; ECPE 041, ECPE 041L, ECPE 071, ECPE 071L, MATH 055, PHYS 055, COMP 051 with a "C-" or better.

**ECPE 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 communications skills. Prerequisites: Completion of all Fundamental Skills; ECPE 071, ECPE 071L, ECPE 121, ECPE 131, ECPE 131L with a "C-" or better. Prerequisite, may be taken concurrently: ECPE 194 with a "C-" or better.

**ECPE 196. Senior Project II. 2 Units.**

This capstone design course integrates earlier studies, including ECPE 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. Prerequisites: Completion of all Fundamental Skills; ECPE 194 and 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 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 ENGR 019 with a "C-" or better.

**EMGT 170. Engineering Administration. 4 Units.**

This course examines decision-making based upon engineering economy studies. This area covers techniques for economic evaluation of alternatives that include time value of money, risk cost, 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 business management within an engineering context. This area covers the engineering procurement process, project management and project scheduling. Prerequisites: Completion of all Fundamental Skills.

**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 039 and 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 Ethics and 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.

**ENGR 045. Materials Science- Properties and Measurements. 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 and 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 and ideal gases. Students are also introduced to cycles for power and refrigeration. Prerequisites: Completion of all Fundamental Skills; CHEM 024 or CHEM 025 or CHEM 027; PHYS 053 with a "C-" or better.

**ENGR 181. 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 182. 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 183. 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 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 continue to examine of topics in Thermodynamics I which include availability, chemical reactions, combustion, and fuels. Students also study processes involving air and water mixtures relating that relate to heating, cooling and ventilating for human comfort. The course also introduces to the thermodynamics of the flow of ideal gases. 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.

## **Cooperative Education**

### **Cooperative Education for Engineering Programs**

Cooperative Education is an integral part of the engineering curriculum at University of the Pacific. Engineering students alternate between terms in the classroom and in the workplace on full-time, paid professional practice. The co-op program is coordinated through the School of Engineering and Computer Science Office of Cooperative Education. Faculty coordinators keep in close contact with students and their employers during the work periods.

Cooperative Education (co-op) employment enhances an engineering degree program by relating theory to practice. During co-op, the students apply what they have learned in the classroom to real life workplace scenarios. 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 look for and embark on co-op opportunities.

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 prior work experience in engineering may file a petition for equivalent co-op credit 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.

Students are in residence at Pacific for one semester immediately prior to their first co-op experience. Students on academic probation are generally not eligible to participate in the co-op program until they eliminate their academic deficiency. Successful co-op placements depend on many factors: Students are expected to be willing to accept co-op employment in a wide range of geographical locations and to work aggressively with the co-op coordinators in preparing resumes, developing interviewing skills and seeking appropriate placement.

All lower-division courses, as well as fundamental skills requirements, are to be completed before a student begins their co-op assignment. 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 final co-op experience. At least three of these seven units must be from their major area. While on their co-op, students do not take academic courses, whether at Pacific or at another institution, or whether 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 strongly 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 placement(s). The co-op program is coordinated through the School of Engineering and Computer Science Office of Cooperative Education. Faculty coordinators keep in close contact with students and their employers during the work periods.

Students should be in residence at Pacific for one semester immediately prior to their first co-op experience. Students on academic probation are generally not eligible to participate in the co-op program until they eliminate their academic deficiency. Successful co-op placements depend on many factors. Students are expected to work aggressively with the co-op coordinators in preparing resumes, developing interviewing skills and seeking appropriate placement.

All lower-division core courses, as well as fundamental skills requirements are completed before a student is eligible for the co-op program. All students must complete their co-op requirement prior to the final semester of courses. A minimum of seven units must be completed after the final co-op experience. At least three of the seven units must be from their major area.

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.



# Bioengineering

Jeff Burmeister, Program Director

## Degrees Offered

### Bachelor of Science in Bioengineering

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.

## Educational Objectives

1. Our graduates will have a thorough foundation in engineering, and relevant knowledge of life sciences and ethical issues, that enables successful careers in providing services and developing technologies to improve human health.
2. Our graduates will have a breadth and depth of opportunities, both academic and extracurricular, to enable them to develop their leadership skills, including the ability to communicate effectively to diverse audiences.
3. Through a variety of opportunities including senior project, lab work and/or co-op in industry, government or academia, our graduates are well prepared to continue to acquire practical skills and experience.
4. Our graduates will be qualified to practice as an engineer and/or pursue advanced study in bioengineering and related fields (e.g. MS, PhD, MD, DDS).

## Bioengineering Faculty

Jeffrey S. Burmeister, Program Director and Associate Professor of Bioengineering, 2002, BS, Mechanical Engineering, University of Delaware, 1988; PhD, Biomedical Engineering, Duke University, 1995. Biomaterials, cell adhesion.

Shelly Gulati, Assistant Professor of Bioengineering, 2010, BS, Chemical Engineering, Johns Hopkins University, 2000; PhD, Bioengineering, University of California, Berkeley and San Francisco, 2006. Microfluidics, biological fluid flow.

Eric O. Thomas, Associate Professor, 1993, BS, University of California, Riverside, 1984; MA, 1987; PhD, University of California, Berkeley, 1991.

J. Mark VanNess, Associate Professor, 1999, BS, Wheaton College, 1990; MS, California State University, Sacramento, 1993; PhD, Florida State University, 1997.

## 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. Bioelectrical and Biomechanical Career Paths require 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 subdivision (A, B, or C). 2) No more than 2 courses from a single department may be applied to meet the breadth program requirements.**

## 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 diversity course prior to graduation. 2) Courses may be used also to meet general education and/or major/minor requirements. 3) As of summer 2011, ENGR 030 satisfies the diversity requirement.**

## III. Fundamental Skills

Students must demonstrate competence in:

Reading

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

BENG 053	General Biology with Applications for Engineers I	3
BENG 063	General Biology with Applications for Engineers II	4
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 019	Computer Applications in Engineering	3
ENGR 020	Engineering Mechanics I (Statics)	3
ENGR 025	Professional Practice Seminar	1
ENGR 045	Materials Science- Properties and Measurements	4
ENGR 110	Instrumentation and Experimental Methods	3
ENGR 121	Mechanics of Materials	4
MECH 015	Mechanical Engineering Graphics	3

### Bioengineering Core

BENG 005	Introduction to Bioengineering	1
BENG 103	Biomaterials	4

BENG 108	Engineering Physiology	4
BENG 124	Biomechanics	4
BENG 171	Bioelectricity	4
BENG 195	Senior Project	4
ECPE 041	Circuits	3
ECPE 041L	Circuits Laboratory	1
ENGL 106	Content Engineering	4

#### Career Path Electives

Select one career path below: 6-10

##### Bioelectrical Career Path

ECPE 071	Digital Design
ECPE 071L	Digital Design Lab
ECPE 121	Systems Analysis

##### Biomechanical Career Path

ENGR 120	Engineering Mechanics II (Dynamics)
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and one of the following groups:

##### A.

ENGR 122	Thermodynamics I
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##### B.

CIVL 130	Fluid Mechanics I
CIVL 130L	Fluid Mechanics I Lab

##### Biomedical Career Path \*

CHEM 121	Organic Chemistry
CHEM 123	Organic Chemistry

#### Cooperative Education \*\*

ENGR 181	Professional Practice	14-18
ENGR 182	Professional Practice	14-18
ENGR 183	Professional Practice	14-18

\* Bioengineering students interested in applying to professional schools, e.g. medical school, should seek the advice of the pre-medical advisor. MCAT preparation may require additional courses outside the degree program requirements, for example: BIOL 101 and BIOL 153.

\*\* Cooperative Education is optional for biomedical career path.

#### Bioengineering Courses

##### BENG 005. Introduction to Bioengineering. 1 Unit.

This course introduces students to the various sub-disciplines (biomedical, electrical, and mechanical) of bioengineering. Prerequisite: 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. Prerequisite: Fundamental Skills Reading requirement.

##### 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. Prerequisite: Fundamental Skills Reading requirement.

##### 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; ENGR 045; BIOL 061 or BENG 063 with a "C-" or better.

##### 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 focuses on the application of engineering mechanics to anatomical and medical applications with emphasis on tissue mechanics. Examples of engineering concepts used include statics, dynamics, optimization theory, composite beam theory, viscoelasticity, beam-on-elastic-foundation theory, Hertz contact theory, and materials analyses. The course is ideal for those interested in biomechanical engineering, including those wishing to further develop technical skills in mechanical engineering, and those interested in addressing contemporary engineering design and analysis problems of medical relevance. Aspiring students towards the health science professions are strongly encouraged enroll in this course. Prerequisite: Completion of all Fundamental Skills and ENGR 121 with a "C-" or better.

##### 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 195. Senior Project. 4 Units.

Students apply basic sciences, mathematics and engineering topics to meet a stated objective. Students also establish design objectives and criteria, and analyze solution alternatives, synthesize a problem, implement a solution, then evaluate design performance. Design documentation and demonstration are required. The course includes both written and oral reports and presentations. 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.

# Department of Civil Engineering

## Degrees Offered

### Bachelor of Science in Civil Engineering

## Educational Objectives

The Civil Engineering program at the University of the Pacific prepares engineers to:

- Plan, design, construct, 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

## Department of Civil Engineering Faculty

Gary M. Litton, Professor and Chair of Civil Engineering, 1993, BS, University of California, Irvine, 1980; MS, 1990; PhD, 1993. Registered Professional Engineer. Environmental engineering, water quality, and modeling.

Abel A. Fernandez, Professor of Civil Engineering and Director of Engineering Management, 2000, BS, Electric Power Engineering, Rensselaer Polytechnic Institute, 1974; ME, Electric Power Engineering, 1976; MBA, 1976; PhD, Industrial Engineering, University of Central Florida, 1995. Registered Professional Engineer. Project management, systems engineering, resource management, risk analysis and management, modeling and simulation, optimization.

Mary Kay Camarillo, Assistant Professor of Civil Engineering, 2009, BS, University of Washington, 1996; MS, University of California, Davis, 2004; PhD, 2009; Registered Professional Engineer. Environmental engineering, physical and chemical treatment of water and wastewater.

Hector Estrada, Professor of Civil Engineering, 2006, BS, University of Illinois, 1993; MS, 1994; PhD, 1997. Registered Professional Engineer. Structural engineering and engineering mechanics.

Luke Lee, Associate Professor of Civil Engineering, 2008, BS, University of California, Los Angeles, 1997; MS, University of California, Berkeley, 1998; PhD, University of California, San Diego, 2005; Registered Professional Engineer. Structural engineering and rehabilitation and monitoring of infrastructure systems.

Scott M. Merry, Associate Professor of Civil Engineering, 2010, BS, University of Arizona, 1991; MS, Purdue University, 1993; PhD University of CA, Berkeley, 1995; Registered Professional Civil and Geotechnical Engineer; Geotechnical engineering, levees and slope stability; engineering management.

Camilla M. Saviz, Associate Professor of Civil Engineering, 1999, BSME, Clarkson University, 1987; MSME, 1989; MBA, New York Institute of Technology, 1991; PhD, Civil and Environmental Engineering, University of California, Davis, 2003. Registered Professional Engineer. Environmental engineering, water resources, hydrodynamic and water quality modeling, fluid mechanics.

William Stringfellow, Professor and Dir. of the Ecological Engineering Research Program, 2009, BS Environmental Health, University of Georgia, 1980; MS Microbiology, Virginia Polytechnic Institute, 1984; PhD Environmental Sciences and Engineering, University of North Carolina, 1994.

Dr. Henghu (Henry) Sun, Professor and Dir., Pacific Resources Research Center, 2008, 2008 Professor, PCSP Program, TJL Pharmacy School, University of the Pacific; 2002-2008, Professor, Tsinghua University; 1988, PhD China University of Mining and Technology.

# 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 in civil engineering degree.

## 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 subdivision (A, B, or C). **2)** No more than 2 courses from a single department may be applied to meet the breadth program requirements.

## 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 diversity course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements. **3)** As of summer 2011, ENGR 030 satisfies the diversity requirement.

## III. Fundamental Skills

Students must demonstrate competence in:

Reading

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)

CHEM 024	Fundamentals of Chem	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
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 Science- Properties and Measurements	4
ENGR 120	Engineering Mechanics II (Dynamics)	3
ENGR 121	Mechanics of Materials	4
Select one of the following:		
ECPE 041	Circuits	3
ENGR 122	Thermodynamics I	

**Professional Practice (minimum 32 units)**

ENGR 181	Professional Practice	1-18
ENGR 182	Professional Practice	1-18
ENGR 183	Professional Practice	1-18

**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	Engineering Administration	4

Select four of the following from a and b: 12

a. Civil Engineering Analysis Electives

CIVL 022	Surveying	
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 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. Surveying. 3 Units.**

Students are introduced to plane and topographic surveying that includes laboratory work. Additional coverage includes the principles of geometric design. 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; and MATH 051 with a "C-" or better.

**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, 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.**

Students study groundwater hydraulics in confined and unconfined aquifers. Topics include the processes controlling that control the transport and fate of minerals and contaminants in subsurface environments, computer simulation of groundwater flow and contaminant movement, and strategies for removing and controlling contaminant plumes in aquifers. Prerequisites: Completion of all Fundamental Skills; CIVL 061, CIVL 130; MATH 057 all 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 161. Matrix Analysis of Engineering Systems. 4 Units.**

Students analyze structures by matrix methods, that include the direct stiffness method for trusses and frames. The course introduces students to the finite element method for plane stress and plane strain. Prerequisites: Completion of all Fundamental Skills and CIVL 160 with a "C-" or better. Recommended: MATH 110.

**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 167. Earthquake Engineering. 4 Units.**

Students study the determination of loads on structures due to earthquakes. Topics include an overview of seismology, methods of estimating equivalent static lateral forces, response spectrum and time history analysis, and concepts of mass, damping and stiffness for typical structures. Other topics include design for inelastic behavior, numerical solutions, and code requirements. Prerequisites: Completion of all Fundamental Skills and 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.

**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.

## Department of Electrical and 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>), Electrical Engineering (<http://www.pacific.edu/Academics/Schools-and-Colleges/School-of-Engineering-and-Computer-Science/Academics-/Majors/Electrical-Engineering-.html>), 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 Computer Engineering

Bachelor of Science in Electrical Engineering

Bachelor of Science in Engineering Physics

## Computer Engineering Program Educational Objectives

The Computer Engineering Program at the University of the Pacific seeks to graduate engineers ready to enter professional practice or pursue graduate level studies. The Program Educational Objectives of the BSCpE degree program are to graduate engineers that are:

- Prepared to build a successful career in computer engineering,
- Prepared to sustain a successful career, and
- Actively engaged in life-long learning.

BSCpE graduates are expected to demonstrate attainment of the program objectives within a few years of earning their degree.

## Electrical Engineering Program Educational Objectives

The Electrical Engineering Program at the University of the Pacific seeks to graduate engineers ready to enter professional practice or pursue graduate level studies. The Program Educational Objectives of the BSEE degree program are to graduate engineers that are:

- Prepared to build a successful career in electrical engineering,
- Prepared to sustain a successful career, and
- Actively engaged in life-long learning.

BSEE graduates are expected to demonstrate attainment of the program objectives within a few years of earning their degree.

## 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, and the student has an academic advisor in both schools. 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.

## Engineering Physics Program Educational Objectives

The Engineering Physics Program at the University of the Pacific seeks to graduate engineers ready to enter professional practice or pursue graduate level studies. The Program Educational Objectives of the Engineering Physics degree program are to graduate engineers that are:

- Prepared to build a successful career in engineering and science,
- Prepared to sustain a successful career, and
- Actively engaged in life-long learning.

Engineering Physics graduates are expected to demonstrate attainment of the program objectives within a few years of earning their degree.

## Department of Electrical and Computer Engineering Faculty

Louise Stark, Associate Dean and Professor of Electrical and Computer Engineering, 1992, BSCpE, University of South Florida, 1986; MSCpE, 1987; PhD, Computer Science and Engineering, 1990. Computer vision, artificial intelligence, digital design, computer graphics, iris biometrics.

Jennifer Ross, Associate Professor and Chair of Electrical and Computer Engineering, 1993, BS in Electrical Engineering University of Illinois, 1988; MS in Electrical Engineering, University of California Berkeley, 1990. PhD

in Electrical Engineering University of California Berkeley, 1993; Solid state, short wavelength lasers, analog circuits and devices.

Elizabeth Basha, Assistant Professor of Electrical and Computer Engineering, 2010, BS in Computer Engineering, University of the Pacific, 2003; SM in Electrical Engineering and Computer Science, Massachusetts Institute of Technology, 2005; PhD in Electrical Engineering and Computer Science, Massachusetts Institute of Technology, 2010. Sensor networks, autonomous robotics, international development.

Kenneth F. Hughes, Associate Professor of Electrical and Computer Engineering, 1993, BS, Information and Computer Science, Georgia Institute of Technology, 1985; MS, Computer Science, University of South Florida, 1989; PhD, Computer Science and Engineering, University of South Florida, 1994. Robotics, sensors and sensor fusion, computer vision, artificial intelligence, embedded systems, microprocessors and microcontrollers, digital systems.

Rahim Khoie, Professor of Electrical and Computer Engineering, 2002, BSEE, 1977, Abadan Institute of Technology, Abadan, Iran; MS, 1980, University of Pittsburgh,; PhD, 1986, University of Pittsburgh. High speed electron devices, Quantum effect devices, Solid state physics, Renewable energy, Analog and digital electronics, and Embedded Systems.

Cherian Mathews, Professor of Electrical and Computer Engineering, 2005, BE in Electrical Engineering, Anna University, Chennai, India, 1987; MS in Electrical Engineering, Purdue University, 1989; PhD in Electrical Engineering, Purdue University, 1993; Statistical signal processing, Array signal processing, Real-time digital signal processing using DSP processors, power systems.

Jeffrey Shafer, Assistant Professor of Electrical and Computer Engineering, 2010, BS, Computer Engineering, University of Dayton, 2002; MS, Electrical Engineering, University of Dayton, 2004; PhD, Electrical and Computer Engineering, Rice University, 2010; Computer architecture, Network systems architecture, Data-intensive computing, Cloud computing, Virtualization.

Anahita Zarei, Assistant Professor of Electrical and Computer Engineering, 2007, BS, Electrical Engineering, 2001, University of Washington; MS, Electrical Engineering, 2002, University of Washington; MS Applied Mathematics, 2007, University of Washington; PhD, Electrical Engineering, 2007, University of Washington. Computational Intelligence, Signal Processing, Probability and Statistics.

## 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 subdivision (A, B, or C). **2)** No more than 2 courses from a single department may be applied to meet the breadth program requirements.

## 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 diversity course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements. **3)** As of summer 2011, ENGR 030 satisfies the diversity requirement.

## III. Fundamental Skills

Students must demonstrate competence in:

Reading

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)

COMP 047	Discrete Math for 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
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	

### 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
COMP 101	Application Development	4
ECPE 121	Systems Analysis	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 194	Core Assessment Exam (CAE)	0
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 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 one of the following: 3-4

ECPE 126	Digital Signal Processing	
ECPE 132	Advanced Electronics	
ECPE 135	Power Electronics	
ECPE 136	VLSI Design	
ECPE 151	Artificial Intelligence	
ECPE 153	Computer Graphics	
ECPE 155	Autonomous Robotics	
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 225	Digital Signal Processing with Applications	
ECPE 233	Quantum and Nano Devices	
ECPE 263	Recent Topics in Renewable Energy	

### ECPE or COMP Elective

Select one course from ECPE or COMP electives listed above 3-4

### Other Elective

Select one of the following: 3-4

BIOL 035	Environment: Concepts and Issues	
BIOL 041	Introduction to Biology	
BUSI 107	Marketing Management	
BUSI 143	Product Innovation	
CIVL 015	Civil Engineering Graphics	
EMGT 170	Engineering Administration	
EMGT 172	Engineering Economy	
ENGR 020	Engineering Mechanics I (Statics)	
ENGR 110	Instrumentation and Experimental Methods	
ENGR 122	Thermodynamics I	

GEOS 051	Dynamic Planet
GEOS 053	Earth and Life Through Time
GEOS 057	Earth Systems Science
MECH 015	Mechanical Engineering Graphics
PHYS 057	Modern Physics
PHYS 101	Electricity and Magnetism
PHYS 105	Optics
PHYS 127	Computational Physics
PHYS 137	Mathematical Physics
PHYS 141	Cosmology
PHYS 151	Advanced Physics Laboratory
PHYS 161	Thermal Physics
PHYS 170	Solid State Physics
PHYS 181	Classical Mechanics
PHYS 191	Independent Study
PHYS 197	Undergraduate Research

#### Cooperative Education (Minimum 32 units to include)

ENGR 181	Professional Practice	14-18
ENGR 182	Professional Practice	14-18
ENGR 183	Professional Practice	14-18

## 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 subdivision (A, B, or C). **2)** No more than 2 courses from a single department may be applied to meet the breadth program requirements.

### 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 diversity course prior to graduation. **2)** Courses may be used also to meet general education and/or major/minor requirements. **3)** As of summer 2011, ENGR 030 satisfies the diversity requirement.

### III. Fundamental Skills

Students must demonstrate competence in:

Reading

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: 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 math courses: 4

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

#### Engineering Science

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
ENGR 010	Dean's Seminar	1

#### Electrical Engineering Core

COMP 051	Introduction to Computer Science	4
COMP 053	Data Structures	4
ECPE 121	Systems Analysis	4
ECPE 127	Random Signals	3
ECPE 131	Electronics	3
ECPE 131L	Electronics Lab	1
ECPE 172	Microcontrollers	4
ECPE 174	Advanced Digital Design	4
ECPE 194	Core Assessment Exam (CAE)	0
ECPE 195	Senior Project I	2
ECPE 196	Senior Project II	2
ENGR 025	Professional Practice Seminar	1
PHYS 101	Electricity and Magnetism	4

#### Technical Electives

Select five of the following Electrical Engineering electives: 15-20

(No more than two courses may be from the computers area)

ECPE 126 Digital Signal Processing



# 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 subdivision (A, B, or C). **2)** No more than 2 courses from a single department may be applied to meet the breadth program requirements.

## 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 diversity course prior to graduation. **2)** Courses are also used to meet general education and/or major/minor requirements. **3)** As of summer 2011, ENGR 030 satisfies the diversity requirement.

## III. Fundamental Skills

Students must demonstrate competence in:

- Reading
- 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 051	Calculus I	4
MATH 053	Calculus II	4
MATH 055	Calculus III	4
MATH 057	Applied Differential Equations I: ODEs	4
MATH 039	Probability with Applications to Statistics	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

ECPE 132	Advanced Electronics
ECPE 135	Power Electronics
ECPE 136	VLSI Design
ECPE 155	Autonomous Robotics
ECPE 162	Communication Systems
ECPE 163	Energy Conversion
ECPE 165	Power System Analysis
ECPE 225	Digital Signal Processing with Applications
ECPE 233	Quantum and Nano Devices
ECPE 263	Recent Topics in Renewable Energy
MECH 175	Systems Analysis and Control

### EE Electives (Computers): No more than 2 courses from this group

ECPE 151	Artificial Intelligence
ECPE 153	Computer Graphics
ECPE 170	Computer Systems and Networks
ECPE 173	Computer Organization and Arch
ECPE 177	Computer Networking
ECPE 178	Computer Network Security

### Other EE electives: A minimum of 3 and a maximum of 4 units can count towards EE elective requirement

ECPE 191	Independent Study
ECPE 197	Undergraduate Research

### Breadth Elective: 1 Course 3-4

BENG 171	Bioelectricity
CIVL 015	Civil Engineering Graphics
COMP 101	Application Development
COMP 137	Parallel Computing
COMP 141	Programming Languages
COMP 147	Computing Theory
COMP 155	Computer Simulation
COMP 157	Design and Analysis of Algorithms
COMP 175	System Administration and Security
EMGT 170	Engineering Administration
EMGT 172	Engineering Economy
COMP 173	Operating Systems
EMGT 174	Engineering Project Management
ENGR 020	Engineering Mechanics I (Statics)
ENGR 045	Materials Science- Properties and Measurements
ENGR 110	Instrumentation and Experimental Methods
ENGR 122	Thermodynamics I
MECH 015	Mechanical Engineering Graphics
MECH 104	Introduction to Mechatronics
PHYS 057	Modern Physics
PHYS 127	Computational Physics
PHYS 141	Cosmology
PHYS 151	Advanced Physics Laboratory
PHYS 161	Thermal Physics
PHYS 170	Solid State Physics
PHYS 181	Classical Mechanics
PHYS 191	Independent Study
PHYS 197	Undergraduate Research

### 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

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 Science- Properties and Measurements 4

### Engineering Core

CIVL 130 Fluid Mechanics I 3

CIVL 130L Fluid Mechanics I Lab 1

ECPE 121 Systems Analysis 4

ECPE 131 Electronics 3

ECPE 131L Electronics Lab 1

ECPE 194 Core Assessment Exam (CAE) 0

ECPE 195 Senior Project I 2

ECPE 196 Senior Project II 2

ENGR 025 Professional Practice Seminar 1

ENGR 120 Engineering Mechanics II (Dynamics) 3

### Physics Core

PHYS 057 Modern Physics 4

PHYS 101 Electricity and Magnetism 4

Select one of the following:

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 Physics

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 126 Digital Signal Processing

ECPE 132 Advanced Electronics

ECPE 135 Power Electronics

ECPE 136 VLSI Design

ECPE 151 Artificial Intelligence

ECPE 153 Computer Graphics

ECPE 155 Autonomous Robotics

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 Engineering Administration

EMGT 172 Engineering Economy

EMGT 174 Engineering Project Management

MECH 100 Manufacturing Processes

MECH 104 Introduction to Mechatronics

MECH 150 Heat Transfer

MECH 151 Applied Heat Transfer

MECH 155 Solar Energy Engineering

MECH 158 Air Conditioning

MECH 175 Systems Analysis and Control

MECH 157 Thermodynamics II

MECH 160 Fluid Dynamics

MECH 178 Finite Element Methods

### Math Elective

Select one of the following:

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 14-18

ENGR 182 Professional Practice 14-18

ENGR 183 Professional Practice 14-18

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. Prerequisite: PHYS 053 with a "C-" or better. Prerequisites, may be taken concurrently: MATH 055; COMP 051 or ENGR 019 with a "C-" or better. 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. Systems Analysis. 4 Units.**

Students analyze the continuous and discrete time systems in the time and frequency domains. Topics include Fourier, Laplace, and z-transforms, convolution, difference equations, Zero-input and zero-state components. Prerequisites: Completion of all Fundamental Skills and ECPE 041 with a "C-" or better. Prerequisite, may be taken concurrently: MATH 057 with a "C-" or better.

**ECPE 126. Digital Signal Processing. 4 Units.**

Analysis of discrete-time signals and systems using z transforms and Fourier transforms. Digital filter design and real-time implementation. Applications to areas such as communications, radar, image processing. Includes laboratory. Prerequisites: ECPE 071, ECPE 071L, 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 examine random signals in the time and frequency domains, linear systems with random inputs, and noise sources and modeling of noisy networks. Prerequisite: Completion of all Fundamental Skills. Prerequisite, may be taken concurrently: ECPE 121 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. 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; ECPE 041 and ECPE 041L; MATH 055, PHYS 055, and the Fundamental Chemistry Skills requirement or completion of CHEM 023 with a "C-" or better. Corequisite: ECPE 131.

**ECPE 132. Advanced Electronics. 4 Units.**

Students study multistage amplifiers. Topics include amplifier design to meet gain and bandwidth specifications, feedback and stability of electronic systems, operational amplifier circuits, active filters, oscillators and wave shaping circuits, analog to digital converters and design uses off-the-shelf IC components. The course includes a laboratory. Prerequisites: Completion of all Fundamental Skills; ECPE 121, ECPE 131, ECPE 131L with a "C-" or better. (Fall).

**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 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. Prerequisites: Completion of all Fundamental Skills; PHYS 055, MATH 057, ECPE 041 with a "C-" or better.

**ECPE 151. Artificial Intelligence. 3 Units.**

Students study basic concepts, techniques and tools used in Artificial Intelligence. Topics include knowledge representation, search techniques, and problem solving strategies. Also listed as COMP 151. Prerequisites: Completion of all Fundamental Skills and COMP 051 with a "C-" or better.

**ECPE 153. Computer Graphics. 3 Units.**

this course introduces students to two and three dimensional computer graphics. Topics include basic representations and mathematical concepts, object modeling, viewing, lighting and shading. Programming that uses OpenGL and other computer graphics applications are examined. Also listed as COMP 153. Prerequisites: Completion of all Fundamental Skills and COMP 053 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 071, ECPE 071L, ECPE 170 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 194. Core Assessment Exam (CAE). 0 Units.**

Each student in the ECPE department is required to take the Core Assessment Exam (CAE). The CAE tests students knowledge of the material covered in the core courses and in basic math. Prerequisites: Completion of all Fundamental Skills; ECPE 041, ECPE 041L, ECPE 071, ECPE 071L, MATH 055, PHYS 055, COMP 051 with a "C-" or better.

**ECPE 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 communications skills. Prerequisites: Completion of all Fundamental Skills; ECPE 071, ECPE 071L, ECPE 121, ECPE 131, ECPE 131L with a "C-" or better. Prerequisite, may be taken concurrently: ECPE 194 with a "C-" or better.

**ECPE 196. Senior Project II. 2 Units.**

This capstone design course integrates earlier studies, including ECPE 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. Prerequisites: Completion of all Fundamental Skills; ECPE 194 and 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.

## Mechanical Engineering

### 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 involvement in local, national, and/or global activities.

### Mechanical Engineering Faculty

Brian L. Weick, Chair and Professor of Mechanical Engineering, 1995, BSME, Union College, 1986; MSME, Virginia Polytechnic Institute and State University, 1990; PhD, Materials Engineering Science, 1993. Manufacturing processes, materials science, design, tribology and viscoelasticity.

Jeffrey S. Burmeister, Program Director and Associate Professor of Bioengineering, 2002, BS, Mechanical Engineering, University of Delaware, 1988; PhD, Biomedical Engineering, Duke University, 1995. Biomaterials, cell adhesion.

Ashland O. Brown, Professor of Mechanical Engineering, 1991, BSME, Purdue University, 1966; MSME, University of Connecticut, 1968; PhD, 1974. Licensed Professional Engineer. Fluid mechanics, thermal sciences and finite element analysis.

Shelly Gulati, Assistant Professor of Bioengineering, 2010, BS, Chemical Engineering, Johns Hopkins University, 2000; PhD, Bioengineering,



University of California, Berkeley and San Francisco, 2006. Microfluidics, biological fluid flow.

Scott Larwood, Assistant Professor of Mechanical Engineering, 2009, BS, Aeronautical Engineering, California Polytechnic State University, San Luis Obispo, 1988; MS, Aeronautics and Astronautics, Stanford University, 1993; PhD, Mechanical and Aeronautical Engineering, University of California at Davis, 2009. Licensed Professional Engineer. Wind energy, fluid mechanics, vibrations, dynamics.

Chi-Wook Lee, Professor of Mechanical Engineering, 1998, BSME, Hanyang University (Korea), 1981; MSME, University of Wisconsin-Madison, 1984; PhD, Mechanical Engineering, University of Florida, 1991. Mechatronics, systems dynamics, and bio-mechanics.

Jiancheng Liu, Associate Professor of Mechanical Engineering, 2006, BS, Taiyuan University of Technology (China), 1984; MS, 1987; PhD, Himeji Institute of Technology, now named University of Hyogo (Japan), 1996. Manufacturing, machine design.

Kyle A. Watson, Associate Professor of Mechanical Engineering, 2003, BSME, Villanova University, 1995; MS, North Carolina State University, 1997; PhD, 2002. Thermal sciences, fluid mechanics, combustion.

## 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 subdivision (A, B, or C). **2)** No more than 2 courses from a single department are applied to meet the breadth program requirements.

### 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 diversity course prior to graduation. **2)** Courses are also used to meet general education and/or major/minor requirements. **3)** As of summer 2011, ENGR 030 satisfies the diversity requirement.

### III. Fundamental Skills

Students must demonstrate competence in:

Reading

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:		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

### 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 Science- Properties and Measurements	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
MECH Electives (Two additional courses from approved list)		6
Engineering Elective (One additional engineering course from approved list)		3-4

### 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 Ethics and 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.

**ENGR 045. Materials Science- Properties and Measurements. 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 and 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 and ideal gases. Students are also introduced to cycles for power and refrigeration. Prerequisites: Completion of all Fundamental Skills; CHEM 024 or CHEM 025 or CHEM 027; PHYS 053 with a "C-" or better.

**ENGR 181. 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 182. 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 183. 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 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 continue to examine of topics in Thermodynamics I which include availability, chemical reactions, combustion, and fuels. Students also study processes involving air and water mixtures relating that relate to heating, cooling and ventilating for human comfort. The course also introduces to the thermodynamics of the flow of ideal gases. 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.

## Engineering Management

### 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.

### Engineering Management Faculty

Abel A. Fernandez, Professor of Civil Engineering and Director of Engineering Management, 2000, BS, Electric Power Engineering, Rensselaer Polytechnic Institute, 1974; ME, Electric Power Engineering, 1976; MBA, 1976; PhD, Industrial Engineering, University of Central Florida, 1995. Registered Professional Engineer. Project management, systems engineering, resource management, risk analysis and management, modeling and simulation, optimization.

Gary M. Litton, Professor and Ch. of Civil Engineering, 1993, BS, University of California, Irvine, 1980; MS, 1990; PhD, 1993. Registered Professional Engineer. Environmental engineering, water quality, engineering mechanics.

Scott M. Merry, Associate Professor of Civil Engineering, 2010, BS, University of Arizona, 1991; MS, Purdue University, 1993; PhD University of CA, Berkeley, 1995; Registered Professional Civil and Geotechnical Engineer; Geotechnical engineering, levees and slope stability; engineering management.

## 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
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One course from the following categories:

IIA. Language and Literature
IIC. Visual and Performing Arts

**Note: 1) Only one course can come from each subdivision (A, B, or C). 2) No more than 2 courses from a single department may be applied to meet the breadth program requirements.**

## 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 diversity course prior to graduation. 2) Courses are also used to meet general education and/or major/minor requirements. 3) As of summer 2011, ENGR 030 satisfies the diversity requirement.**

## III. Fundamental Skills

Students must demonstrate competence in:

Reading
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 (32 units minimum)

BUSI 031	Principles of Financial Accounting	4
BUSI 033	Principles of Managerial Accounting	4
Two approved electives		8
EMGT 170	Engineering Administration	4



EMGT 174	Engineering Project Management	3
EMGT 176	Systems Engineering Management	4
One Engineering Management elective		4
ENGR 025	Professional Practice Seminar	1
<b>Engineering Discipline Electives (27 units minimum)</b>		
EMGT 195	Engineering Management Synthesis	4
Engineering Discipline Electives *		23
<b>Cooperative Education (minimum 32 units)</b>		
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 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 ENGR 019 with a "C-" or better.

##### **EMGT 170. Engineering Administration. 4 Units.**

This course examines decision-making based upon engineering economy studies. This area covers techniques for economic evaluation of alternatives that include time value of money, risk cost, 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 business management within an engineering context. This area covers the engineering procurement process, project management and project scheduling. Prerequisites: Completion of all Fundamental Skills.

##### **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 039 and 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.

## Computer Science

### Degrees Offered

Bachelor of Science

### Majors Offered

Computer Science  
Computing and Applied Economics

### Concentrations Offered

(for computer science majors)

Software Engineering  
Networking and Computer Security  
Graphics and Simulation

## Computer Science Program (BS)

### Objectives

- Graduates employ design skills and technical knowledge that contribute to building or utilizing computing systems.
- Graduates have motivation and skills to apply computing technology 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.
- Graduates are good citizens who contribute to society and behave in an ethical manner.

The computer science major provides a strong core of computer science and concentrations which deal with current and emerging technologies. The core gives students a solid understanding of fundamental computer science. The concentrations offer courses of study around a theme and promote a student's specific interests and post-graduate plans.

### 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 some. Check with your program in advance.

## Co-op/Internship

No more than four units of Cooperative Education (ENGR 181) or Internship (COMP 187) may be applied to the units required for a baccalaureate degree.

## Computer Science Faculty

Michael Doherty, Associate Professor and Chair of Computer Science, 1998, BS, University of Florida, 1983; MS, University of Rhode Island, 1992; PhD University of Colorado at Boulder, 1998. Computer animation, simulation, video game technology, database management systems, programming languages, computer science education.

Emma Bowring, Assistant Professor of Computer Science, 2007, BS, University of Southern California, 2003; PhD, University of Southern California, 2007. Artificial Intelligence, multi-agent systems, computer science education.

Cathy Carlson, Visiting Assistant Professor of Computer Science, 2008, BS, University of the Pacific, 2004; MBA, University of the Pacific, 2005. Business application training and implementation; lead tracking, generation and analytic software; website design.

Daniel Cliburn, Associate Professor of Computer Science, 2006, BS, Illinois College, 1997; MS, University of Kansas, 1999; PhD, University of Kansas, 2001. Computer graphics, visualization, virtual reality, computer science education.

Zengdi Cui, Assistant Professor of Computer Science, 2008, BS in Hydrogeology & Engineering Geology, Geology at China University of Mining & Technology, 1990; BS in Computer Science, University of Windsor, 2000; MBA, Shandong University of Science & Technology, 1995; MS in Computer Science, Wayne State University, 2002; PhD in Circulation Economy & Sustainable Development at Shandong University of Science & Technology, 2010; Project-based software engineering, database management systems, cyclic economy and sustainable development, technology transfer and marketing strategy.

William H. Ford, Professor of Computer Science, 1974, BS, Massachusetts Institute of Technology, 1967; PhD, University of Illinois, 1972. Numerical linear algebra.

Jinzhao Gao, Associate Professor of Computer Science, 2008, BS Computer Science and Engineering, Huazhong University of Science and Technology, 1995; MS Mechanical Engineering, Huazhong University of Science and Technology, 1998; PhD Computer and Information Science, Ohio State University, 2004. Scientific visualization, computer graphics, large scale data management, data analysis and visualization, data-intensive computing, remote visualization, Web-based applications.

## Bachelor of Science Major 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 with a major 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 subdivision (A, B, or C).* **2)** *No more than 2 courses from a single department may be applied to meet the breadth program requirements.*

## 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 diversity course prior to graduation.* **2)** *Courses may be used also to meet general education and/or major/minor requirements.* **3)** *As of summer 2011, ENGR 030 satisfies the diversity requirement.*

## III. Fundamental Skills

Students must demonstrate competence in:

Reading

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 and must include a minimum of 15 units in mathematics

COMP 047 Discrete Math for Computer Science 4

COMP 147 Computing Theory 4

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 from General Education Category IIIA 8

Additional mathematics and science courses (Mathematics courses 4-6 must be MATH 049 or MATH 053 or above. Science courses must be from General Education Category IIIA)

### Computer Science Core (minimum 27 units)

COMP 051 Introduction to Computer Science 4

COMP 053 Data Structures 4

COMP 101 Application Development 4

COMP 141 Programming Languages 4

COMP 157 Design and Analysis of Algorithms 4

COMP 173 Operating Systems 4

COMP 188 Senior Project I 2

COMP 189 Senior Project II 2

ECPE 071 Digital Design \* 3

ECPE 170 Computer Systems and Networks 4

ENGR 010 Dean's Seminar 1

ENGR 025 Professional Practice Seminar 1

\* It is recommended that a student also take ECPE 071L.

## CS Electives and Areas of Concentration

17 units

Students complete their degree with 17 additional units of computer science courses, beyond the core courses. These courses must include the specified courses in each concentration and other courses approved by the advisor. Areas of concentration are selected by students to allow them to specialize in an area appropriate for their post-graduation plans.

### Networking and Computer Security

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 Engineering

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

Career options: Game engine developer, simulation, 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

## Bachelor of Science Major in Computing and Applied Economics

For information and program requirements for the bachelor of science degree with a major in computing and applied economics, please see the College of the Pacific, Department of Economics (p. ) portion of the general catalog.

Computer Science Courses

#### COMP 023. Computer Concepts and Applications. 3 Units.

This general introduction course to computers focuses on applications in word processing and spreadsheets. The students also study the basic concepts of computer architecture, the internet, and network communications. Students explore graphical design concepts with Web pages and PowerPoint presentations. The course may not be taken by students who have completed COMP 025. Prerequisite: Fundamental Math Skills requirement.

#### 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.

#### 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.

#### 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).

#### 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. Prerequisite: Fundamental Math Skills requirement.

#### 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 with a "C-" or better.

#### COMP 093. Special Topics. 3 or 4 Units.

#### COMP 101. 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 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 101 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. (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, compilers 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, intractability. Prerequisites: Completion of all Fundamental Skills; COMP 047 or ECPE 071 with a "C-" or better. (Fall, every year).

**COMP 151. Artificial Intelligence. 3 Units.**

Students study basic Concepts, techniques and tools used in Artificial Intelligence. Topics include knowledge representation, search techniques, and problem solving strategies. Also listed as ECPE 151. Prerequisites: Completion of all Fundamental Skills and COMP 051 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 use 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 COMP 053; MATH 053 with a "C-" or better or permission of instructor. (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 101 with a "C-" or better. (Fall, odd years).

**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 look 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 101 with a "C-" or better. (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 is considered 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 101 and ENGR 025 with a "C-" or better. Grading is Pass/No Credit only.

**COMP 188. Senior Project I. 2 Units.**

Students establish design objectives and criteria, analyze solution alternatives and evaluate design performance for a medium scale software application. Results include analysis and design documents and a presentation of the system design. Prerequisite: Completion of all Fundamental Skills. Senior standing.

**COMP 189. Senior Project II. 2 Units.**

This course is a continuation of Senior Project I. Students implement, test, and evaluate their software application. Results include final design documents, test reports and a presentation and demonstration of the project. Prerequisite: Completion of all Fundamental Skills and COMP 188 with a "C-" or better.

**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 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.

# School of International Studies

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Bill Herrin, Director  
email: DirectorSIS@pacific.edu

Mary-Lou Tyler, Academic Adviser  
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Katrina Alison Jaggears, Associate Director, Graduate Program in Intercultural Relations  
e-mail: kjaggears@pacific.edu

## Undergraduate Degree Programs Offered

**International Relations (BA)**

**Global Studies (BA)**

**Development and Cultural Change (BA)**

**International Affairs and Commerce (BA)**

**Applied International Economics (BA/MS)** accelerated program (see Cooperative Programs Offered below)

## Minors Offered

**International Studies**

Diverse Academic Track

Foreign Language Track

Study Abroad Track

**Anthropology**

## Graduate Degree Programs Offered

**Intercultural Relations (MA)** (see Graduate Catalog for more information)

## Cooperative Programs Offered

**5-year BA/MS in Applied International Economics** (traditional 4-year BA at Pacific followed by 1-year MS at Marquette University, Milwaukee, Wisconsin)

*A professional school devoted to the interdisciplinary study of international affairs, offering students four undergraduate majors including one or two semesters of study abroad, and graduate studies in a master's of intercultural relations and an accelerated BA/MBA in international commerce .*

## 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.

Since 2001 SIS has also offered a master's degree in Intercultural Relations (MAIR), in partnership with the Intercultural Communications

Institute (ICI), based in Portland, Oregon. MAIR is a limited residency program that targets adult professionals who wish to earn an advanced credential related to intercultural competence while they maintain employment or other commitments. Students develop knowledge and skills in the principles of intercultural relations, leadership and managing change across cultures, problem solving in intercultural settings, adult learning in a cultural context, culture in the organization, and research and analysis. Courses and advising are provided by a highly qualified and experienced faculty drawn from the world of intercultural consulting as well as universities across the U.S. and abroad.

## School of International Studies Faculty

William E. Herrin, Director and Professor of Economics, 1985, BS, Wilkes College, 1980; MA, Binghamton University, State University of New York, 1982; PhD, 1985.

Laura Bathurst, Assistant Professor of Anthropology, 2005, BA, Kansas State University, 1997; MA, University of California, Berkeley, 1999; PhD, 2005.

Arturo Giraldez, Professor, 1990, BA, Universidad Com-plutense de Madrid, 1976; MA, 1979; PhD, Spanish and Portuguese, University of California, Santa Barbara, 1990; PhD, History, University of Amsterdam, 1999.

Gerald J. Hewitt, Professor Emeritus, 1969, BA, University of Notre Dame, 1963; MA, University of Chicago, 1966; PhD, 1973.

Leonard A. Humphreys, Professor Emeritus, 1970, BS, United States Military Academy, 1945; MA, Stanford University, 1960; PhD, 1975.

Ahmed Kanna, Assistant Professor of Anthropology, 2009, BS, James Madison University, 1997; AM, Harvard University, 2000; PhD, Harvard University, 2006.

David Keefe, Associate Professor Emeritus, 1978, BS, Cornell University, 1965; PhD, University of California, Berkeley, 1980.

Yong Kyun Kim, Assistant Professor of Political Science, 2009, BS, Seoul National University, 1998; MA, Seoul National University, 2001; PhD, University of North Carolina at Chapel Hill, 2009.

Bruce W. LaBrack, Professor Emeritus, 1975, BA, University of Arizona, 1967; MA, 1969; MPhil, Syracuse University, 1975; PhD, 1979.

Sarah M. Mathis, Assistant Professor of Anthropology, 2008, BS, Principia College, 1997; MA, University of Notre Dame, 1999; PhD, Emory University, 2008.

Daniel O'Neill, Assistant Professor of Political Science, 2010, BA, University of Texas at Austin, 1987; MA, Washington University in St. Louis, 2005; PhD, Washington University in St. Louis, 2010.

Analiese M. Richard, Associate Professor of Anthropology, 2006, BA, Southwestern University, 1999; MA, University of California, Berkeley, 2001; PhD, University of California, Berkeley, 2005.

Susan G. Sample, Associate Professor of Political Science, 1999, BA, University of Missouri, 1991; PhD, Vanderbilt University, 1996.

Elena Savelieva, Instructor, Area Studies in Russian, 1992, BA, Leningrad State University, 1969; MA, 1971.

Cortlandt B. Smith, Professor Emeritus, 1970, BA, University of California, Berkeley, 1968; MA, 1969; PhD, 1975.

Niru Yadav, Assistant Professor of Economics, 2011, BA, Randolph-Macon Woman's College, 2001; MA, Indiana University, 2003; PhD, 2007.

Howard Moseley, Instructor, 2005, BA, University of the Pacific, 1989; JD, University of the Pacific, McGeorge School of Law, 1996.

# 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, 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 128 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:

### Social and Behavioral Sciences

- IA. Individual and Interpersonal Behavior (ECON 053\*)
- IB. U.S. Studies (ECON 055\*)
- IC. Global Studies (ANTH 053 or ANTH 054\*)

### 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 (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 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:

- Reading
- Writing
- Quantitative analysis

## IV. Core Requirements

ECON 053	Introductory Microeconomics	4
INTL 010	Dean's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	International Research Methods	4

Select one of the following:

INTL 113	World Geography for the Social Sciences	
INTL 115	Pacific Rim Geography	
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

ANTH 053	Cultural Anthropology	
ANTH 054	Antropología Cultural	

Select one of the following:

POLS 011	Introduction to Political Science	
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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\* 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. 3) Seniors with a 3.0 GPA or above may choose to complete a four unit senior thesis/independent research project (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

POLS 051	International Politics	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
ECON 071	Global Economic Issues	4

Select one of the following 4

ECON 190	Econometrics	
MATH 037	Introduction to Statistics and Probability	
MATH 051	Calculus I	

Select four of the following: 16

INTL 174	Global Environmental Policy	
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	
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

\* Cannot double count this course as a requirement in the International Relations major

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:

Reading

Writing

Quantitative analysis

## Bachelor of Arts Major in Global Studies

The Global Studies major is designed for students who seek a more general global education. In addition to the CORE Requirements, students are required to take a course on globalization and spend a second semester abroad. Their further upper division international studies coursework may be in any discipline that offers relevant courses; the program of study is decided upon by the student in consultation with his or her advisor.

Students must complete a minimum of 128 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 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 or ANTH 054\*)

#### 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 (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 units or more transfer units prior to fall 2011 are encouraged but not required to complete a

### IV. Core Requirements

ECON 053	Introductory Microeconomics	4
INTL 010	Dean's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	International Research Methods	4

Select one of the following:

INTL 113	World Geography for the Social Sciences	
INTL 115	Pacific Rim Geography	
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

ANTH 053	Cultural Anthropology	
ANTH 054	Antropologia Cultural	

Select one of the following:

POLS 011	Introduction to Political Science	
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 (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

INTL 105	Globalization, the U.S. and the World	4
SABD 000	Overseas Study	12-18

Select four 100 level international affairs courses from the following: 12-16

ANTH 132	Modern Middle East	
ANTH 134	Anthropology of Africa	
ANTH 153	Language and Culture	
ANTH 164	Anthropology of Food	
ANTH 170	Culture and Economy	
ANTH 172	Culture and Power	
ANTH 188	Anthropology Theory	
ARTH 112	19th Century European Art	
ARTH 114	20th Century Art and Film	
ARTH 116	Contemporary World Art 1945 to Present	
ARTH 120	Chinese Art History	
ARTH 122	Japanese Art History	
ASIA 120	Asian Cinemas	
ASIA 124	Society, Gender and Culture in East Asia	
ASIA 130	East Asian Literature	



BUSI 163	International Financial Management
BUSI 165	International Marketing
BUSI 169	International Management
BUSI 177	International Trade Law
BUSI 178	International Commercial Law
ECON 118	Globalization History: Economic, Environmental, and Demographic Interactions
ECON 121	International Trade
ECON 123	International Finance
ECON 125	Economic Development
ENGL 043	British Literature after 1800
ENGL 063	Masterpieces of World Literature
ENGL 163	Topics in Transnational Literatures
FREN 118	Littérature Française B
FREN 120	Le Cinema Francais/French Cinema in English
FREN 122	La Francophonie
FREN 124	Individu et Societe
HIST 011	Western Civilization II
HIST 031	East Asian Civilization II
HIST 041	The Problem with Latin America
HIST 111	Europe in Turmoil 1900-1945
HIST 112	History of the Holocaust
HIST 113	Europe Since 1945
HIST 114	Modern Germany
HIST 139	Borderlands
HIST 140	Southeast Asia and the West
HIST 142	Modern Chinese History
HIST 143	Japan in War and Peace
HIST 151	People's History of Mexico
INTL 123	Literature Across Cultures
INTL 174	Global Environmental Policy
JAPN 180	Modern Japanese Fiction
MHIS 006	Music of the World's People
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
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
RELI 135	Asian Religious Traditions
RUSS 073	Russian Culture and Civilization
RUSS 120	Contemporary Russian Film
SPAN 114	Cine hispano/Hispanic Film
SPAN 122	Literatura mexicana
SPAN 126	Poesía hispánica
SPAN 128	Teatro hispánico
SPAN 135	Literatura del boom latinoamericano

## Bachelor of Arts Major in Development and Cultural Change

The Development and Cultural Change major is designed for students with a particular interest in international development issues. In addition to the CORE Requirements, students take some additional coursework in Economics, as well as courses focusing on questions of development from a range of disciplinary perspectives. This major focuses on preparing students for careers and graduate work in development and international aid.

Students must complete a minimum of 128 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of arts degree in development and cultural change.

### 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 or ANTH 054\*)

#### 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 (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 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:

Reading  
 Writing  
 Quantitative analysis

**Note:** A student in this major is strongly encouraged to complete a study abroad program in a developing country.

#### IV. Core Requirements

ECON 053	Introductory Microeconomics	4
INTL 010	Dean's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	International Research Methods	4

Select one of the following:

INTL 113	World Geography for the Social Sciences	
INTL 115	Pacific Rim Geography	
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

ANTH 053	Cultural Anthropology	
ANTH 054	Antropologia Cultural	

Select one of the following:

POLS 011	Introduction to Political Science	
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 (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

INTL 105	Globalization, the U.S. and the World	4
ECON 055	Introductory Macroeconomics: Theory and Policy	4
ECON 071	Global Economic Issues	4

Select one of the following: 4

MATH 037	Introduction to Statistics and Probability	
MATH 051	Calculus I	

Select three of the following: 12

ECON 125	Economic Development	
POLS 150	Political Development	
INTL 165	Development, Modernization, and Cultural Change	
ANTH 134	Anthropology of Africa *	
ANTH 164	Anthropology of Food *	
ANTH 170	Culture and Economy *	
ANTH 172	Culture and Power *	

ANTH Upper Division Anthropology Course (to be approved by the advisor) \*

INTL/ANTH 197	Independent Research (in development (to be approved by the advisor))	
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\* A maximum of one Anthropology elective may count toward this requirement.

### 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, students take further coursework in economics, as well as a two-course business sequence. The major prepares students for careers in business and economics, as well as for graduate school.

Students must complete a minimum of 128 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 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 or ANTH 054\*)

#### 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 (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 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:

Reading

Writing

Quantitative analysis

### IV. Core Requirements

ECON 053	Introductory Microeconomics	4
INTL 010	Dean's Seminar	1
INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
INTL 101	International Research Methods	4

Select one of the following:

INTL 113	World Geography for the Social Sciences	
INTL 115	Pacific Rim Geography	
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

ANTH 053	Cultural Anthropology	
ANTH 054	Antropologia Cultural	

Select one of the following:

POLS 011	Introduction to Political Science	
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 (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

ECON 055	Introductory Macroeconomics: Theory and Policy	4
ECON 121	International Trade	4
ECON 123	International Finance	4
BUSI 031	Principles of Financial Accounting	4

Select one of the following: 4

ECON 190	Econometrics	
MATH 037	Introduction to Statistics and Probability	
MATH 051	Calculus I	

Select one of the following two-course sequences: 8

A)		
BUSI 053	The Legal and Ethical Environment of Business	
BUSI 177	International Trade Law	

B)		
BUSI 053	The Legal and Ethical Environment of Business	
BUSI 178	International Commercial Law	

C)		
BUSI 105	Financial Management	
BUSI 163	International Financial Management	

D)		
BUSI 107	Marketing Management	

BUSI 165 International Marketing

E)

BUSI 109 Management and Organizational Behavior

BUSI 169 International Management

## Accelerated Master of Science in Applied International Economics at Marquette University, Milwaukee, Wisconsin

The School of International Studies, 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) (<http://business.marquette.edu/academics/msae>) at Marquette with six possible specializations including International Economics. This accelerated degree is designed to be completed within 5 years of entering Pacific, which is 1 year sooner than the usual time required to complete undergraduate and masters degrees.

Interested students would earn their BA degree at Pacific's School of International Studies 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 055,
- ECON 101,
- ECON 103,
- ECON 190, and
- Two upper-division economics courses (with a grade of "B" or better) specifically 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.

### 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 10 units of the minor must come from courses taken at Pacific or through an approved study abroad program **2)** At least three courses taken in the School of International Studies must be taken at Pacific as specified below.

Select one of the following: 4

ANTH 053 Cultural Anthropology

ANTH 054 Antropologia Cultural

Select one of the following:	4	INTL 077	Contemporary World Issues	4
ANTH 112	Physical Anthropology	INTL 151	Cross-Cultural Training I	2
Approved ANTH Course		INTL 161	Cross-Cultural Training II	2
Select two of the following advanced anthropology electives:	8	SABD 000	Overseas Study	
ANTH 132	Modern Middle East	Select 12 units from the following Electives:		12
ANTH 134	Anthropology of Africa	100 level courses selected from SIS Core and/or		
ANTH 153	Language and Culture	International Electives from two different disciplines		
ANTH 164	Anthropology of Food			
ANTH 170	Culture and Economy			
ANTH 172	Culture and Power			
ANTH 188	Anthropology Theory			
Approved ANTH Course				

Select one of the following groups:	4-14
A)	
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 Director of Student Affairs 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.

**Note: 1)** *At least 10 units of the minor must come from courses taken at Pacific or through an approved study abroad program.*

## Diverse Academic Track

(Minimum 20 units)

INTL 077	Contemporary World Issues	4
INTL 081	Perspectives on World History	4
Select 12 units from the following Electives:		12
100 level courses selected from SIS Core		
Modern Language & Literature courses (8 units maximum) and/or		
International Electives from two different disciplines		

## Foreign Language Track

(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
Select 12 units from the following Electives:		12
100 level courses selected from SIS Core and/or		
Additional International Electives from two different disciplines		

**Note: 1)** *This language may not be the same one used to complete a major in the Department of Modern Language and Literature.*

## Study Abroad Track

(Minimum 20 units)

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.

### ANTH 054. Antropología Cultural. 4 Units.

Cultural Anthropology (ANTH 053) is taught in Spanish. See course description above.

### 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 112. Physical Anthropology. 4 Units.

Students examine human origins and an evaluation of humanity's place in the natural world. This course examines processes and principles of human evolution from an anthropological perspective which emphasize the interaction between biology and culture. Major topics include reproduction and genetics, human variation, primate studies, and the fossil record. After reviewing the basic tenets of the "anthropological perspective" and evolutionary science, the course examines micro and macro level processes of evolution, that focus on the origins and dispersal of our own species, Homo sapiens. Finally, the course evaluates the current state of human biocultural evolution, the significance of human diversity, and the role of humans in ongoing planetary processes of change and interaction. General Education IIIC.

### 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.

**ANTH 164. Anthropology of Food. 4 Units.**

The anthropological study of food examines human foodways within a bio-cultural and cross-cultural context. Anthropologists study humans and human culture across space and evolutionary time; this includes the examination of cultural patterns and social institutions. Food requires hunting, gathering, growing, storage, distribution, preparation, display, serving, and disposal, all of which are social and cultural activities. This course explores the important role of food production, preparation, and eating in different cultures, as well as the symbolism and economic importance of food. Students focus on the current transformations of the world food system, through processes of globalization, the growth of new technologies, human migration and fast food. The counter-movement for localization and 'slow food' are also explored. Students can expect to take part in some cooking and eating as well. Prerequisite: ANTH 053 or ANTH 054.

**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.

**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. Dean's Seminar. 1 Unit.**

A general introduction to making a successful transition to college. Emphasis on styles of learning, research, writing and presentation skills, collaborative learning, critical thinking and self-assessment. Required for all SIS first year students.

**INTL 061. The UN System. 2 Units.**

An in-depth examination of the formation, development and organization of the United Nations with special emphasis on its missions, priorities and activities on the international stage.

**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 069. Introduction to International Law. 4 Units.**

This course offers an in-depth examination of the intersection between international relations, economic globalization and national security – an intersection that has given rise to international law. In particular, the course addresses the growing cadre of actors (international as well as regional, inter-governmental and non-governmental) in this field.

**INTL 071. Cross Cultural for International Students. 1 Unit.**

Cross Cultural for International Students engages the theory and practice of living and studying in cultures other than your home culture. It delivers culture general frameworks for understanding cultural similarities and differences, and focuses specifically on the skills and knowledge necessary to integrate successfully into the United States and the American university context.

**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.

**INTL 093D. Special Topics. 18 Units.****INTL 093E. Special Topics. 18 Units.****INTL 093F. Special Topics. 18 Units.****INTL 093G. Special Topics. 18 Units.****INTL 093H. Special Topics. 18 Units.****INTL 093I. Special Topics. 18 Units.****INTL 093J. Special Topics. 18 Units.****INTL 093K. Special Topics. 18 Units.****INTL 093L. Special Topics. 18 Units.****INTL 093M. Special Topics. 18 Units.****INTL 093N. Special Topics. 18 Units.****INTL 093O. Special Topics. 18 Units.****INTL 093P. Special Topics. 18 Units.****INTL 101. International Research Methods. 4 Units.**

Students are introduced to how research is conducted in the social sciences, with emphasis on the problems that occur in international studies research. 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.

**INTL 105. Globalization, the U.S. and the World. 4 Units.**

This interdisciplinary course surveys the changing nature of global relations that focus on political, economic, and cultural aspects of globalization and the US role in global affairs. Students study US governance (which includes the institutions of government) in comparative perspective in order to better understand the country's position in the world. The course also addresses the meaning and implications of globalization: what impact does it have on democracy in the world, the global environment, etc. Prerequisites: INTL 077 and ECON 053.

**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 113L. Video Lab for World Geography. 2 Units.**

Complementing INTL 113 (World Geography), this course offers documentary videos which bring to life geographical concepts. Each video focuses on a different society that show insights into the way that geography influences the economy, politics, and culture of a society. The discussion of each video gives a deeper appreciation of human geography – the similarities and differences among people and societies around the world. The discussion also shows the importance of geography in understanding the current international news. Prerequisite, may be taken concurrently: INTL 113 or permission of instructor.

**INTL 115. Pacific Rim Geography. 4 Units.**

This course covers the geography of the Americas, East Asia, and Southeast Asia. The physical geography of each region is explored followed by an examination of the economic, political, social/cultural, and environmental patterns and issues in each of these regions of the world. Emphasis is placed on the countries with the largest populations in the regions that surround the Pacific Rim which includes China, the US, Indonesia, Brazil, Japan, and Mexico. Prerequisites: ECON 051 or ECON 053 or ECON 055. 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. Prerequisites: Completion of all Fundamental Skills.

**INTL 152. Inter-American Cross-Cultural Training. 2 Units.**

Inter-American Cross Cultural Training deals with the theory and practice of living and working in US Latino and Latin American cultures. It is intended to prepare students to operate successfully in a professional context either abroad in a Spanish-speaking country or in Hispanic communities within the United States. Through course work leads up to an internship that requires experiential learning. Students will increase their understanding of the general character of the cross-cultural experience, explore learning and coping strategies to maximize that experience, amplify their understanding of themselves as cultural beings so that they can better understand others, and gain basic cultural knowledge necessary for them to operate successfully in bilingual (English/Spanish) professional settings. It is designed to build both culture-general skills as well as culture-specific ones. That is, students learn skills that serve them in intercultural encounters with people from all over the world, but emerge with particular preparation to productively engage across difference in Latin America and with US Latinos. Permission of instructor.

**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).

**INTL 165. Development, Modernization, and Cultural Change. 4 Units.**

The purpose of this course is to examine what we know about defining and measuring sustainable human development in the areas of: economic development, political development (governance, democracy and civil society), human development (health, population, nutrition and gender issues), health, education, environmentally-sustainable development, and the areas of disasters and failed states. This course is interdisciplinary and problem-oriented. It uses databases that are made available, and students undertake country and context specific analyses and case studies. The successful completion of this course equips students with an interdisciplinary and holistic understanding of sustainable human development. Finally the emphasis placed on comparative analysis to help the student gain a deeper understanding of a country in a broader regional and international context. Prerequisites: POLS 011 or POLS 051; ANTH 053; ECON 053 or permission of instructor.

**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.

**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.

**INTL 175. SIS Mentor III: Ethics Across Cultures. 4 Units.**

This interdisciplinary course helps students become aware of how they think about ethics. It puts students' experiences in more than one culture into an ethical framework, and prepares students for ethical action in their professional lives. The students look at philosophical and religious bases for ethical decision making in different cultures, and they use case studies to show applications of different ways of approaching ethical dilemmas. As a capstone course for international studies students, it explores ethical issues associated with human rights, development, the environment, sovereignty, war, refugees, and international business practices. Students prepare an ethical biography of a significant person who has spent considerable time in two different cultures. Students also prepare their own ethical autobiographies. Prerequisites: INTL 151 and a semester of study abroad, or a bi-cultural background (and with permission of instructor).

**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 193W. Special Topics-Business. 18 Units.****INTL 193X. Special Topics-Business. 18 Units.****INTL 193Y. Special Topics-Business. 18 Units.****INTL 193Z. Special Topics-Business. 18 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.

**SIS National Courses****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.

**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.

**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.

**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.

**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.

**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 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, 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.

**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, Voltaire, 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.

**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.

**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 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 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.

**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.

**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.

**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 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 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.

## SIS Regional Courses

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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 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.

**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.

**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.

**SIS Comparing World Religions****ANTH 164. Anthropology of Food. 4 Units.**

The anthropological study of food examines human foodways within a bio-cultural and cross-cultural context. Anthropologists study humans and human culture across space and evolutionary time; this includes the examination of cultural patterns and social institutions. Food requires hunting, gathering, growing, storage, distribution, preparation, display, serving, and disposal, all of which are social and cultural activities. This course explores the important role of food production, preparation, and eating in different cultures, as well as the symbolism and economic importance of food. Students focus on the current transformations of the world food system, through processes of globalization, the growth of new technologies, human migration and fast food. The counter-movement for localization and 'slow food' are also explored. Students can expect to take part in some cooking and eating as well. Prerequisite: ANTH 053 or ANTH 054.

**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.

**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.

**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.

**COMM 143. Intercultural Communication. 4 Units.**

This course analyzes the major variables affecting interpersonal communication between persons of different cultural backgrounds.

**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.

**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.

**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.

**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 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.

**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.

**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.

**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.

**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.

**SOCI 114. Social and Cultural Change. 4 Units.**

Why do some social movements fail to produce social change, while others succeed? The goal of this course is to introduce students to sociological theories of social movements, analyzing the reasons they emerge at particular historical moments, and the types of political and cultural changes they can produce. Through a review of case studies that include the women's, gay rights, abortion, civil rights, environmental, and peace movements, the course identifies key analytical questions and research strategies for studying contemporary social movements in depth. This course focuses largely on US examples, though cross-cultural comparisons add depth to the discussions. Prerequisite: a course in sociology or permission of instructor.

SIS Global Int'l Interaction

**ANTH 164. Anthropology of Food. 4 Units.**

The anthropological study of food examines human foodways within a bio-cultural and cross-cultural context. Anthropologists study humans and human culture across space and evolutionary time; this includes the examination of cultural patterns and social institutions. Food requires hunting, gathering, growing, storage, distribution, preparation, display, serving, and disposal, all of which are social and cultural activities. This course explores the important role of food production, preparation, and eating in different cultures, as well as the symbolism and economic importance of food. Students focus on the current transformations of the world food system, through processes of globalization, the growth of new technologies, human migration and fast food. The counter-movement for localization and 'slow food' are also explored. Students can expect to take part in some cooking and eating as well. Prerequisite: ANTH 053 or ANTH 054.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**POLS 051. International Politics. 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.

**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.

**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 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.

SIS Comparative Politics

**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.

**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 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.

SIS Foreign Policy Courses

**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.

SIS Int'l Politics Courses

**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.

**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.

**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.

SIS Global Economic Relations

**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.

**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.

**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.

**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.

**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.

**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.

# The Thomas J. Long School of Pharmacy and Health Sciences

Phillip R. Oppenheimer, Dean  
Eric G. Boyce, Associate Dean, Academic Affairs  
Donald G. Floriddia, Associate Dean, Student Affairs & Professionalism  
Xiaoling Li, Associate Dean, Graduate Education & Research  
Sian M. Carr-Lopez, Assistant Dean for Experiential Programs  
Nancy L. DeGuire, Assistant Dean, External Relations  
Linda L. Norton, Assistant Dean, Operations  
James Uchizono, Assistant Dean and Director, Pre-Health Programs

## Contents

- Pharmacy
- Pharmaceutical and Chemical Sciences (see Graduate Catalog for information)
- Physical Therapy (see Graduate Catalog for information)
- Speech-Language Pathology

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.

## The Thomas J. Long School of Pharmacy and Health Sciences Faculty

### Pharmacy Programs

Phillip R. Oppenheimer, Dean, School of Pharmacy & Health Sciences, Professor of Pharmacy Practice, 1997, PharmD, University of California, San Francisco, 1972.

Sian M. Carr-Lopez, Assistant Dean for Experiential Programs and Professor of Pharmacy Practice, 1990, PharmD, University of the Pacific, 1985.

Nancy L. DeGuire, Assistant Dean for External Relations and Associate Clinical Professor of Pharmacy Practice, 1997, PharmD, University of the Pacific, 1989.

Linda L. Norton, Assistant Dean for Operations and Professor of Pharmacy Practice, 1993, PharmD, University of the Pacific, 1991.

James A. Uchizono, Assistant Dean and Director of Pre-Health Programs, Associate Professor of Pharmaceutics, 2000, BS, 1985, BS, University of California, Irvine, 1985; PharmD, 1990, PhD, University of California, San Francisco, 2001.

Eric G. Boyce, Associate Dean for Academic Affairs and Professor of Pharmacy Practice, Director of the BA in Applied Science Program, 2006, BS Pharm, 1975, PharmD, University of Utah, 1984.

Donald G. Floriddia, Associate Dean for Student & Professional Affairs and Professor of Pharmaceutics, 1968, BS Pharm, Massachusetts College of Pharmacy, 1966; MS, 1968; PhD, University of the Pacific, 1971; MS, University of Southern California, 1971.

Xiaoling Li, Associate Dean for Graduate Education & Research and Professor of Pharmaceutics, 1993, BS, 1982; MS, Shanghai First Medical College, P.R. China, 1985; PhD, University of Utah, 1991.

Peter Hilsenrath, Joseph M. Long Chair in Healthcare Management and Professor of Economics, Eberhardt School of Business and Thomas J. Long School of Pharmacy and Health Sciences Department of Pharmacy Practice, BA, University of California, Santa Cruz, 1978, PhD, University of Texas, Austin, 1985., 2008

Bhaskara R. Jasti, Chair of the Department of Pharmaceutics & Medicinal Chemistry and Professor of Pharmaceutics, Interim Dean of Graduate Studies and Interim Vice Provost for Research and Collaborative Programs, 2001, BS, Kakatiya University, India, 1987; BS, Jadavpur University, India, 1990; PhD, University of the Pacific, 1995.

William A. Kehoe, Jr., Chair of the Department of Pharmacy Practice and Professor of Pharmacy Practice, Professor of Psychology, 1985, BA, University of California, Los Angeles, 1975; PharmD, University of California, San Francisco, 1981; MA, Psychology, University of the Pacific, 1996.

John C. Livesey, Chair of the Department of Physiology & Pharmacology and Associate Professor of Physiology & Pharmacology, 1994, BS, Stanford University, 1977; PHD, University of Minnesota, 1982.

Dana Nelson, Chair of the Good Neighbor Pharmacy Entrepreneurial Pharmacy Practice Program and Assistant Clinical Professor of Pharmacy Practice, 2011, MS, Physiology-Pharmacology, University of the Pacific, 1974, PharmD, 1971

- Sian M. Carr-Lopez, Vice Chair of Pharmacy Practice, Curriculum and Assessment, Professor of Pharmacy Practice, 1990, PharmD, University of the Pacific, 1985.
- Veronica Bandy, Associate Clinical Professor of Pharmacy Practice and Director of the Introductory Pharmacy Practice Experience, 2002, BS, University of California, Riverside, 1995; MS Pharm Sciences, PharmD, University of the Pacific, 2000.
- Kathleen M. Graves, Director of Clinical Education, Assistant Professor of Physical Therapy, 2004, BS, University of California, Davis, 1996; MSPT, 2003; DPT, University of the Pacific, 2003.
- Berit P. Gundersen, Assistant Provost for Curriculum, Administration, and Special Programs, Professor of Pharmacy Practice, 1986, PharmD, University of the Pacific, 1984.
- Maria G. Pallavicini, Provost and Professor of Physiology & Pharmacology, 2010, BA, University of California, Berkeley, 1973, PhD, University of Utah, 1977.
- Richard R. Abood, Professor of Pharmacy Practice, 1991, BS Pharm, University of Nebraska, 1972; JD, University of Nebraska, 1976.
- Mamoun M. Alhamadshah, Assistant Professor of Pharmaceutics, 2011, B.S. Pharm. Jordan University of Science & Technology, Irbid, Jordan; 1999; PhD, University of Toledo, 2004.
- Jason Bandy, Assistant Clinical Professor of Pharmacy Practice and Regional Coordinator - Sacramento, 2012, PharmD, University of the Pacific, 2000.
- Sandra Bellamy, Associate Professor of Physical Therapy, 2002, BA, 1997; MSPT, 1999; DPT, University of the Pacific, 2003.
- Linda Bortell, Assistant Clinical Professor of Pharmacy Practice and Regional Coordinator - San Jose, 2011, PharmD, University of Arkansas for Medical Sciences, Little Rock, 2003
- William K. Chan, Professor of Medicinal Chemistry, 1996, PharmD, 1986; PhD, University of California, San Francisco, 1991.
- Todd E. Davenport, Assistant Professor of Physical Therapy, 2007, BS, Willamette University, 1998; DPT, University of Southern California, 2002.
- Jesika S. Faridi, Assistant Professor of Physiology & Pharmacology, 2004, BS, University of California, Davis, 1995, PhD, Loma Linda University, 2000.
- Bryan Fusco, Regional Coordinator, Modesto, CA, Assistant Clinical Professor of Pharmacy Practice, 2010, PharmD, University of the Pacific, 1997.
- Suzanne Galal, Assistant Professor of Pharmacy Practice, 2009, PharmD, Northeastern University, Bouve College of Health Sciences, Boston, MA, 2008.
- Xin Guo, Associate Professor of Pharmaceutical Chemistry, 2003, BS, Shanghai Medical University, 1993; MS, Duquesne University, 1995; PhD, University of California, San Francisco, 2001.
- Robert F. Halliwell, Professor of Physiology & Pharmacology, 2002, BS, University of Stirling, 1983; MS, University College London, 1985; PhD, University of Dundee, 1992.
- Kimberly A. Hoffmann, Regional Coordinator, Bakersfield, CA, Associate Clinical Professor of Pharmacy Practice, 2002, PharmD, University of the Pacific, 1989.
- RoseAnn T. Jankowski, Regional Coordinator, Los Angeles, CA, Clinical Professor of Pharmacy Practice, 1998, BS, University of California, San Diego, 1978; PharmD, University of Southern California, 1982.
- S. Lena Kang-Birken, Regional Coordinator, Santa Barbara, CA, Associate Professor of Pharmacy Practice, 1994, BA, California State University, Northridge, 1987; PharmD, University of California, San Francisco, 1991.
- Adam M. Kaye, Associate Clinical Professor of Pharmacy Practice, 1999, PharmD, University of the Pacific, 1995.
- Myo K. Kim, Associate Professor of Pharmacy Practice, 2003, BS, Chung-Ahn University, Korea, 1994, PharmD, University of Minnesota, 1998.
- Audrey J. Lee, Professor of Pharmacy Practice, 1994, PharmD, University of California, San Francisco, 1992.
- Tamara L. Little, Associate Professor of Physical Therapy, 2001, BS, Tennessee State University, 1993; MS, Ola Grimsby Institute, 1997; DMT, Ola Grimsby Institute, Inc., Sand Diego, CA, 2000; EdD, University of the Pacific, 2008.
- Jenana Maker, Assistant Professor of Pharmacy Practice, 2008, PharmD, University of Rhode Island, 2006.
- Jim K. Mansoor, Professor of Physical Therapy, 1993, BA, California State University, Sacramento, 1980; MS, 1989; PhD, University of California, Davis, 1996.
- Melissa Mantong, Assistant Professor of Pharmacy Practice, 2009, PharmD, University of California, San Francisco, 1996.
- Denis J. Meerdink, Associate Professor of Physiology & Pharmacology, 1990, BS, Arizona State University, 1974; MS, 1978, PhD, Iowa State University, 1981.
- Yong S. Moon, Regional Coordinator, Long Beach, CA, Associate Professor of Pharmacy Practice, 1998, BA, BS, University of California, Irvine, 1992, PharmD, University of Southern California, 1996.
- Nancy N. Nguyen, Regional Coordinator, Palo Alto, CA, Associate Clinical Professor of Pharmacy Practice, 2004, BS, University of California, Davis, 1997, PharmD, Western University of Health Sciences, 2002.
- Kate M. O'Dell, Regional Coordinator, Travis, CA, Associate Professor Pharmacy Practice, 2004, PharmD, University of Michigan, 1999.
- Miki S. Park, Assistant Professor of Pharmaceutics, 2004, BS, University of Texas, Austin, 1997; PhD, University of California, San Francisco, 2002.
- Rajul Patel, Assistant Professor of Pharmacy Practice, 2005, PharmD, 2001, PhD, University of the Pacific, 2005.
- Cathy Peterson, Associate Professor of Physical Therapy, 2002, BS, University of Iowa, 1989; MSPT, Des Moines University, 1991; EdD, University of San Francisco, 2002.
- Roshanak Rahimian, Associate Professor of Physiology & Pharmacology, 2001, Pharm D, Tehran University of Medical Sciences, 1988; MS, University of Ottawa, 1995; PhD, University of British Columbia, 1998.
- Marcus C. Ravnan, Associate Professor of Pharmacy Practice, 2000, PharmD, University of the Pacific, 1994.
- Susan L. Ravnan, Lecturer, Stockton, CA, Associate Professor of Pharmacy Practice, 1998, PharmD, University of the Pacific, 1994.
- Wade A. Russu, Assistant Professor of Medicinal Chemistry, 2005, BS, California Polytechnic State University, San Luis Obispo, 1992; MA, University of California, Santa Barbara, 1995; PhD, University of California, Santa Barbara, 2000.
- Sachin A. Shah, Regional Coordinator, Fairfield, CA, Assistant Professor of Pharmacy Practice, 2007, PharmD, Massachusetts College of Pharmacy and Health Sciences, 2005.
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- Timothy J. Smith, Professor of Physiology & Pharmacology, 1993, BS Pharm, Purdue University, 1978; PhD, University of Minnesota, 1983.
- Oby Stan-Ugbene, Assistant Clinical Professor of Pharmacy Practice, 2006, PharmD, University of the Pacific, 2005.
- David Thomas, Associate Professor of Physiology & Pharmacology, 2000, BS, 1985; MS, California State University, Sacramento, 1989; PhD, University of California, Davis, 1996.



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Pamela Tien, Lecturer in Pharmacy Practice, 2012, PharmD, University of the Pacific, 2010.

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Joel A. Wagner, Associate Clinical Professor of Pharmaceutics, 1988, PharmD, University of Southern California, 1969.

Mark Walberg, Assistant Professor of Pharmacy Practice, 2009, MA Biology, University of California, Los Angeles, 2003, PharmD, University of the Pacific, 2006, PhD, University of the Pacific, 2009.

Todd S. Wataoka, Regional Coordinator, Hawaii, Assistant Clinical Professor of Pharmacy Practice, 1992, BEd, University of Hawaii, 1987; PharmD, University of the Pacific, 1992.

Paul J. Williams, Professor of Pharmacy Practice, 1982, PharmD, University of the Pacific, 1974; MS, University of North Carolina, 1980.

Joseph A. Woelfel, Assistant Professor of Pharmacy Practice, 2006, BS Pharm, 1970, MS, 1972, PhD, University of the Pacific, 1978.

Clifford A. Young, Assistant Clinical Professor of Pharmacy Practice, 2009, BS Pharmacy, University of Washington, 1987; BS Nutrition Science, University of California, Davis, 1984.

Amanda R. Wight, Adjunct Professor, 2011, PharmD, University of the Pacific.

Deepak Sisodiya, Adjunct Professor, 2011, PharmD, University of Michigan, 2002.

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Kathleen M. Black, Adjunct Professor, 2011, PharmD, University of Southern California, 1990.

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Shaheen S. Shaikh, Adjunct Professor, 2006, Pharm.D., University of California, San Francisco, 2003

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- Kenneth Woo, Adjunct Professor, 2007, PharmD, University of Mississippi, 2000
- Margie M. Woo, Adjunct Professor, 1988, PharmD, University of the Pacific, 1987
- Christopher Wood, Adjunct Professor, 2007, BA, Chaminade University, 1987; MPH, University of Hawaii, 1991; MD, University of Hawaii, 1998
- Frank C. Wood, Adjunct Professor, 2005, PharmD, University of the Pacific, 1985
- Linda K. Woods, Adjunct Professor, 2009, PharmD, University of Wyoming, 1979
- Wayne V Woods, Adjunct Professor, 2009, PharmD, University of Wyoming
- James W. Wright, Adjunct Professor, 1983, BS, University of California, Davis, 1976; PharmD, University of California San Francisco, 1980
- Jay J.Q. Wu, Adjunct Professor, 2004, PhD, University of Konstanz, 1993
- Felix K. Yam, Adjunct Professor, 2011, PharmD, University of Rhode Island, 2004.
- Noymi Yam, Adjunct Professor, 2006, PhD, University of the Pacific, 2009
- Peggy Yang, Adjunct Professor, 1997, PharmD, University of Southern California, 1994
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- Alan S. Yayasaki, Adjunct Professor, 2005, BS, University of California, Davis, 1977; PharmD, University of the Pacific, 1980
- Betty W.S. Yee, Adjunct Professor, 1995, AA, City College of San Francisco, 1970; PharmD, University of California, San Francisco, 1994
- Chester Yee, Adjunct Professor, 2005, BS, Idaho State University, 1961; BS Pharm, 1962
- Christy J. Yee, Adjunct Professor, 2005, BS, University of California, San Diego, 1996; PharmD, University of California, San Francisco, 2001
- Florence Yee, Adjunct Professor, 2003, PharmD, University of California, San Francisco, 1973
- Fred Yee, Adjunct Professor, 1987, BS, California State University, Sacramento, 1978; BS University of the Pacific, 1981
- Helen S. Yee, Adjunct Professor, 1995, PharmD, University of California, San Francisco, 1993
- William P. Yee, Adjunct Professor, 1986, PharmD, University of the Pacific, 1983
- Johnathan Yeh, Adjunct Professor, 2009, PharmD, University of Southern California, 2007
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- Alison Yoshida, Adjunct Professor, 2000, PharmD, University of the Pacific, 1997
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- Feng Yu, Adjunct Professor, 2009, PharmD, Janssen Pharmaceutica Research Foundation, Belgium, 1996
- John R. Yuen, Adjunct Professor, 2001, BA, University of Southern California, 1984; PharmD, University of Southern California, 1988
- Robert C. Zehnder, Adjunct Professor, 2000, BS, California Polytechnic University, San Luis Obispo, 1983; PharmD, University of California, San Francisco, 1989
- Larry A. Zelman, Adjunct Professor, 1985, PharmD, University of Southern California, 1983
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## Speech-Language Pathology

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- Larry Boles, Professor of Speech-Language Pathology, 2010, BA, San Francisco State, 1978; M.A., San Francisco State, 1982; Ph.D., University of Arizona, 1995
- Jill K. Duthie, Assistant Professor of Speech-Language Pathology, 2006, BA, University of California, Santa Barbara, 1972; MA, California State University, Northridge, 1976; PhD, University of Oregon, Eugene, 2005
- Simalee Smith-Stubblefield, Associate Professor of Speech-Language Pathology, 1983, BS, University of Wyoming, 1976; MA, University of the Pacific, 1982
- Michael Susca, Associate Professor of Speech-Language Pathology, 2001, BS, University of California, Santa Barbara, 1975; MS, University of New Mexico, 1977; PhD, University of Nebraska, Lincoln, 2001
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## 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](mailto: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/>.



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Douglas A. Prosser, Adjunct Professor, 2003, PharmD, University of Southern California, 1979

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Praveen Reehal, Adjunct Professor, 2003, PharmD, University of the Pacific, 1998

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Jay P. Rhi, Adjunct Professor, 2011, PharmD, University of Southern California, 1982.

Yasir Riaz, Adjunct Professor, 2008, PharmD, University of the Pacific, 2000

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Jennifer Trytten, Adjunct Professor, 2007, BA, California State University, Fresno, 1994; BS, Midwestern University, 1997; PharmD, 1998

Mildred Tsang, Adjunct Professor, 2003, PharmD, University of California, San Francisco, 1975

Te-Yun Tsao, Adjunct Professor, 1998, BS, San Francisco State University, 1986; PharmD, University of California, San Francisco, 1994

Lori A. Tsukiji, Adjunct Professor, 1992, BS, University of California, Davis, 1978; PharmD, University of California, San Francisco, 1989

Jiasheng Tu, Adjunct Professor, 2009, PhD in Pharmaceutics, China Pharmaceutical University, 1992

Charles Tuey, Adjunct Professor, 2006, BS, University of California, San Diego, 1995; PharmD, University of Illinois, 2003

Gregory M. Umeda, Adjunct Professor, 1999, PharmD, University of the Pacific, 1996

Jennie Ung, Adjunct Professor, 2001, PharmD, University of Southern California, 1997

Alice H. Ung-Robbins, Adjunct Professor, 2006, BS, Rutgers University, 1993; PharmD, 2001

Satyam Upadrashta, Adjunct Professor, 2006, BSc, Osmania University, India, 1969; MS, Osmania University, India, 1973; PhD, University of Iowa, 1988

Michael S. Ureda, Adjunct Professor, 1999, BS, University of California, Riverside, 1973; PharmD, University of the Pacific, 1977

Leonard Valdez, Adjunct Professor, 2012, BS, University of California, San Diego, 1998; PharmD, Howard University, School of Pharmacy, 2007.

Linh Buu Van, Adjunct Professor, 2009, University of California San Francisco School of Pharmacy, 2003

Nicole S. Varnell, Adjunct Professor, 2004, BA, University of California, Berkeley, 1995; PharmD, University of the Pacific, 1999

Teresa M. Veirs, Adjunct Professor, 2009, PharmD, University of the Pacific, 1992

Sriram Vemuri, Adjunct Professor, 2003, BS Pharm, Andhra University, 1972; MS, Purdue University, 1975; PhD, University of Rhode Island, 1995

Matangi Venkateswaran, Adjunct Professor, 2009, PharmD, University of California San Francisco School of Pharmacy, 2007

Dennis Vermillion, Adjunct Professor, 2012, BA, University of the Pacific, 1982; PharmD, University of Southern California, 1986.

Sujeev Vhan, Adjunct Professor, 2009, PharmD, University of the Pacific, 2006

Eleadon O. Vita, Adjunct Professor, 1998, BS, University of California, Irvine, 1990; PharmD, University of California, San Francisco, 1994

Jayesh Vora, Adjunct Professor, 2007, MS, University of Cincinnati, OH, 1990; PhD, Northeastern University, Boston, 1994

Mai P. Vu, Adjunct Professor, 2000, BS, University of California, Davis, 1988; PharmD, University of California, San Francisco, 1997

Helga B. Wachholz, Adjunct Professor, 2000, PharmD, University of Arizona, 1986

Steven L. Waite, Adjunct Professor, 1992, PharmD, University of California, San Francisco, 1987

Henry C. Walker, Adjunct Professor, 2006, BS, University of California, Davis, 1981; BS, Creighton University, 1990

Jerry W. Wallace, Adjunct Professor, 2003, BS, University of California, Berkeley, 1969, BS Pharm, University of the Pacific, 1970, PharmD, University of California, San Francisco, 1971

Mike Walsh, Adjunct Professor, 2003, PharmD, University of the Pacific, 1982

Julie Walton, Adjunct Professor, 2003, PharmD, University of Southern California, 1993

LihJen Wang, Adjunct Professor, 2007, MS, Wayne State University, 1978; PharmD, Auburn University, 1994

Wei Wang, Adjunct Professor, 2003, PharmD, Shandong Medical University, 1982; PhD, University of Southern California, 1992

Yu-Chang John Wang, Adjunct Professor, 2003, BS, National Taiwan University, 1998; PhD, University of Michigan, 1974

Lynn M. Wardwell, Adjunct Professor, 1997, BS, University of California, Los Angeles, 1986; PharmD, University of California, San Francisco, 1990

Robert Warren, Adjunct Professor, 1988, AA, Reedley College, 1963; PharmD, University of California, 1967

Scott R. Weber, Adjunct Professor, 1990, PharmD, University of the Pacific, 1983

Sabrina Y. Wei, Adjunct Professor, 2000, BS, San Francisco State University, 1992; PharmD, University of the Pacific, 1995

Alice A. Wen, Adjunct Professor, 2004, PharmD, University of Southern California, 1998

Jody West, Adjunct Professor, 2012, BS Pharmacy, University of Utah, 1979.

R. David West, Adjunct Professor, 1991, BA, University of California, Santa Barbara, 1980; MA, 1982; PharmD, University of California, San Francisco, 1987

Tom E. Whitaker, Adjunct Professor, 2000, BA, University of Texas, Austin, 1974; PharmD, University of California, San Francisco, 1985

Brian M. White, Adjunct Professor, 2003, BS, University of California, San Diego, 1993; PharmD, University of California, San Francisco, 1997

Valerie Wiebe, Adjunct Professor, 2003, PharmD, University of California, San Francisco, 1988

Linda F. Winstead, Adjunct Professor, 2005, BS, University of Tennessee, 1970; PharmD, 1971

Lydia Winter, Adjunct Professor, 1999, BS, California State University, Sacramento, 1994; PharmD, University of the Pacific, 1998

Merle L. Wisniewski, Adjunct Professor, 2010, PharmD, University of the Pacific, 2000

Betty P. Wong, Adjunct Professor, 1997, BS, University of California, Davis, 1992; PharmD, University of the Pacific, 1995

Bonnie X. Wong, Adjunct Professor, 1993, BS, 1988; PharmD, University of Southern of California 1992

Cynthia Wong, Adjunct Professor, 2007, BS, University of California, Berkeley, 1997; MS, San Francisco State University, 1999; PharmD, University of the Pacific, 2002

Darlene Wong, Adjunct Professor, 2003, PharmD, University of the Pacific, 1995

Kenneth H. Wong, Adjunct Professor, 1996, PharmD, University of the Pacific, 1995

Lisa K. Wong, Adjunct Professor, 2012, BS, University of California, Davis, 1996; PharmD, University of California, San Francisco, 2000.

Lisa Kam-Fong Wong, Adjunct Professor, 2004, BS University of California, Davis, 1996; PharmD, University of California, San Francisco, 2000

Priscilla Wong, Adjunct Professor, 2000, PharmD, University of California, San Francisco, 1995

Shannon Wong, Adjunct Professor, 2012, BS University of California, Davis 1993; PharmD, University of the Pacific, 1996.

Sincere Wong, Adjunct Professor, 2005, PharmD, University of the Pacific, 2002

Susan Wong, Adjunct Professor, 2000, BS, University of California, Irvine, 1982; PharmD, University of California, San Francisco, 1986

Tracy Wong, Adjunct Professor, 2008, PharmD, University of California San Francisco, 1988

William Wong, Adjunct Professor, 2008, PharmD, University of Illinois at Chicago, 1999

Carolyn Woo, Adjunct Professor, 2012, BS, University of California, Davis, 2009; PharmD, University of California, San Francisco, 2007.

Christopher A. Woo, Adjunct Professor, 1991, PharmD, University of the Pacific, 1988

Kenneth Woo, Adjunct Professor, 2007, PharmD, University of Mississippi, 2000

Margie M. Woo, Adjunct Professor, 1988, PharmD, University of the Pacific, 1987

Christopher Wood, Adjunct Professor, 2007, BA, Chaminade University, 1987; MPH, University of Hawaii, 1991; MD, University of Hawaii, 1998

Frank C. Wood, Adjunct Professor, 2005, PharmD, University of the Pacific, 1985

Linda K. Woods, Adjunct Professor, 2009, PharmD, University of Wyoming, 1979

Wayne V Woods, Adjunct Professor, 2009, PharmD, University of Wyoming

James W. Wright, Adjunct Professor, 1983, BS, University of California, Davis, 1976; PharmD, University of California San Francisco, 1980

Jay J.Q. Wu, Adjunct Professor, 2004, PhD, University of Konstanz, 1993

Felix K. Yam, Adjunct Professor, 2011, PharmD, University of Rhode Island, 2004.

Noymi Yam, Adjunct Professor, 2006, PhD, University of the Pacific, 2009

Peggy Yang, Adjunct Professor, 1997, PharmD, University of Southern California, 1994

Lovelle M. Yano, Adjunct Professor, 2000, BA, San Francisco State University, 1985; MA, 1994; PharmD, University of California, San Francisco, 1998

Alan S. Yayasaki, Adjunct Professor, 2005, BS, University of California, Davis, 1977; PharmD, University of the Pacific, 1980

Betty W.S. Yee, Adjunct Professor, 1995, AA, City College of San Francisco, 1970; PharmD, University of California, San Francisco, 1994

Chester Yee, Adjunct Professor, 2005, BS, Idaho State University, 1961; BS Pharm, 1962

Christy J. Yee, Adjunct Professor, 2005, BS, University of California, San Diego, 1996; PharmD, University of California, San Francisco, 2001

Florence Yee, Adjunct Professor, 2003, PharmD, University of California, San Francisco, 1973

Fred Yee, Adjunct Professor, 1987, BS, California State University, Sacramento, 1978; BS University of the Pacific, 1981

Helen S. Yee, Adjunct Professor, 1995, PharmD, University of California, San Francisco, 1993

William P. Yee, Adjunct Professor, 1986, PharmD, University of the Pacific, 1983

Johnathan Yeh, Adjunct Professor, 2009, PharmD, University of Southern California, 2007

Edward Yen, Adjunct Professor, 2012, BS, University of California Los Angeles, 2007; PharmD, University of the Pacific, 2011.

Katherine A. Yep, Adjunct Professor, 2009, PharmD, University of the Pacific, 2005

Janis Wing Yun Yim, Adjunct Professor, 2012, PharmD, University of the Pacific, 2006.

C. Kelly Yip, Adjunct Professor, 2012, BS, University of Wisconsin, Madison, 1980; PharmD, University of Illinois, Chicago, 1992.

Franklin Yip, Adjunct professor, 1995, BA, University of California, Berkeley, 1988; PharmD, University of the Pacific, 1991

Goldie Yip, Adjunct Professor, 1999, PharmD, University of the Pacific, 1990

Janice Yonemoto, Adjunct Professor, 2012, PharmD, University of California, San Francisco, 1985.

Ok Hee Yoon, Adjunct Professor, 2009, PharmD, Hyo-sung Women's University, 1973

Alison Yoshida, Adjunct Professor, 2000, PharmD, University of the Pacific, 1997



Terrence Young, Adjunct Professor, 2007, BS, University of Southern California, 1973; PharmD, University of the Pacific, 1976

Feng Yu, Adjunct Professor, 2009, PharmD, Janssen Pharmaceutica Research Foundation, Belgium, 1996

John R. Yuen, Adjunct Professor, 2001, BA, University of Southern California, 1984; PharmD, University of Southern California, 1988

Robert C. Zehnder, Adjunct Professor, 2000, BS, California Polytechnic University, San Luis Obispo, 1983; PharmD, University of California, San Francisco, 1989

Larry A. Zelman, Adjunct Professor, 1985, PharmD, University of Southern California, 1983

Dongxiao Zhang, Adjunct Professor, 2006, BS, Nakai University, 1990; PhD, Case Western Reserve University, 1996

Winnie Zing, Adjunct Professor, 2005, PharmD, University of California, San Francisco, 1988

Thomas F. Zioncheck, Adjunct Professor, 2002, BS, State University College, Oneonta, 1984; PhD, Purdue University, 1988

## 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 1<sup>st</sup> 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-Health at [PreHealth@pacific.edu](mailto: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)** 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. **3)** The diversity requirement only applies to 4+3 students.

## III. Fundamental Skills

Students must demonstrate competence in:

Reading

Writing

Quantitative analysis

## IV. Major Requirements

BIOL 051	Principles of Biology *	5
BIOL 061	Principles of Biology	5
BIOL 071	Human Anatomy	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 017	Concepts of Physics	
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 031	Introduction to Psychology ***	
PSYC 111	Abnormal Psychology ***	
Select one of the following:		3-4
ECON 051	Economic Principles and Problems +	
ECON 055	Introductory Macroeconomics: Theory and Policy +	
One favorable Letter of Recommendation from each of the following:		
Pharmacist (cannot be an immediate family member)		
Academic (instructor or faculty adviser)		
Passing Writing Sample		
Passing Interview		
* Fulfills GE IIIA 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 but the Office of Admission manages the admissions process. Questions regarding admission are directed to the Office of 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 Admission invites qualified candidates to participate in interviews on campus and a writing demonstration. Admissions decisions are based on the application, letters of recommendation, the interviews and the writing sample.

### Pharmacy Pre-Professional Curriculum Requirements

At least sixty four (64) 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 year of high school physics (with laboratory) or one semester/quarter of college physics (with laboratory).
- 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.
- 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 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 <http://www.pacific.edu/Admission/Graduate-Professional/Pharmacy/Pharm-D-Technical-Standards.html>) for entrance into and progression through the Doctor of Pharmacy program.

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 12.0 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 or who fail any two advanced pharmacy practice experiences 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 experience courses in semesters 7 and 8 of the program. In other courses, a grade of D or better is required. A student who has a major grade point deficiency or who has not successfully completed all required course work plus 4 units of elective course work may not enroll in advanced pharmacy practice experiences until the deficiency is corrected. As noted above, a grade point average in all courses of 2.0 or better and a required grade point deficiency of zero or better is required for graduation.

## Professional Curriculum for the Doctor of Pharmacy Degree

The professional curriculum for the Doctor of Pharmacy program has been designed to prepare graduates to meet the following major performance objectives (student learning outcomes):

- Possess and apply pharmaceutical sciences knowledge;
- Perform pharmacist directed patient care;
- Practice in pharmacy and health care environments;
- Promote public health;
- Demonstrate professionalism, communication & interaction abilities; and
- Problem solve and continue to learn.

This new curriculum replaces the old curriculum beginning with the 2009 entering class. A minimum of 141 units are required in the professional curriculum, which includes a total of 4 units of electives prior to program semester 7 and 12 units of elective rotations in semesters 7 and 8.

**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		Units
PHRM 111	Pharmacy Practice and Professionalism	3
PHRM 112	Dispensing, Compounding and Calculations	3
PHRM 113	Molecular and Cellular Biochemistry	4
PHRM 114	Physical Pharmacy and Dosage Forms	5
PHRM 115	Nonprescription Therapy and Self Care	2
PHRM 118	Practicum I	2
	<b>Term Units</b>	<b>19</b>
<b>Semester 2</b>		

PHRM 121	Informatics, Statistics and Research Design	3
PHRM 122	Physiology and Pathophysiology I	5
PHRM 123	Physiology and Pathophysiology II	5
PHRM 124	Drug Metabolism and Disposition	3
PHRM 129	Community I IPPE	2
<b>Term Units</b>		<b>18</b>
<b>Semester 3</b>		
PHRM 134	Pharmacokinetics and Advanced Drug Delivery Systems	4
PHRM 135	Pharmacology and Medicinal Chemistry I	4
PHRM 136	Pharmacology and Medicinal Chemistry II	4
PHRM 138	Practicum II	2
PHRM 139	Geriatrics Introductory Pharmacy Practice Experience	2
Electives		0-2
<b>Term Units</b>		<b>16-18</b>
<b>Semester 4</b>		
PHRM 142	Physiology and Pathophysiology III	5
PHRM 145	Pharmacology and Medicinal Chemistry III	4
PHRM 146	Therapeutics I Neuro-Psychiatry	4
PHRM 147	Therapeutics II GI/Hepatic/Nutrition	2
PHRM 149	Hospital IPPE	2
Electives		0-2
<b>Term Units</b>		<b>17-19</b>
<b>Semester 5</b>		
PHRM 151	Pharmacoeconomics, Benefits and Outcomes	2
PHRM 152	Pharmacy Law and Ethics	4
PHRM 156	Therapeutics III Cardiology	4
PHRM 157	Therapeutics IV Renal/Respiratory	3
PHRM 158	Practicum III	1
PHRM 159	Community II IPPE	2
Electives		0-2
<b>Term Units</b>		<b>16-18</b>
<b>Semester 6</b>		
PHRM 161	Pharmacy Management	2
PHRM 165	Therapeutics V Infectious Diseases	4
PHRM 166	Therapeutics VI Oncology/Transplantation	3
PHRM 167	Therapeutics VII Endocrine/Musculoskeletal	4
PHRM 168	Practicum IV	1
PHRM 169	Health Care Outreach IPPE	1
Electives		0-2
<b>Term Units</b>		<b>15-17</b>
<b>Semester 7 and 8</b>		
PHRM 171	Internal Medicine APPE	6
PHRM 172	Ambulatory Care APPE	6
PHRM 173	Hospital Care APPE	6
PHRM 174	Community Pharmacy APPE	6
PHRM 184	APPE Elective I	6
PHRM 185	APPE Elective II	6
<b>Term Units</b>		<b>36</b>

Total Unit: 137-145

### Substitutions for Required Courses

PHRM 160 Practice-Based IPPE (2 units) may be substituted for PHRM 159 Community II IPPE

PRAC 143 Health Care Outreach IPPE – Medicare Part D (1 unit) may be substituted for PHRM 169 Health Care Outreach IPPE

### Professional Electives

All candidates for the Doctor of Pharmacy degree are required to complete a minimum of four (4) semester units of career-related electives while in residence and prior to progression into the Advanced Pharmacy Practice Experiences. These may be pharmacy electives or approved University electives. Electives taken during pre-pharmacy or while not in residence will not be used to fulfill this requirement. Electives taken to fulfill the general education or liberal arts requirement are not be used to fulfill this requirement. Students are also required to complete twelve (12) semester units of elective advanced pharmacy practice experiences in the senior year.

### 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 the requirements for 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, geriatrics pharmacy, and health care outreach during the first six semesters of the program. The advanced practice experience consists of two semesters during the senior year. The student is required to enroll in four required six-week rotations that include Community, Hospital, Ambulatory Care and Internal Medicine advanced pharmacy practice experiences. In addition, each student must complete two six-week elective rotations.

Upon admission, each student is required to sign a form that gives the Thomas J. Long School of Pharmacy and Health Sciences the right to place the student in appropriate experiential sites. 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 completion of 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 given to each student at the beginning of the first professional year. 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.

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.

Completion of the Doctor of Pharmacy degree requires a minimum of 205 semester units (pre-pharmacy plus pharmacy) in the new curriculum and 198 semester units (pre-pharmacy plus pharmacy) in the old curriculum.

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.

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.

#### Pharmacy Courses

**PHAR 149. Professional Communication and Interviewing. 1 Unit.**

#### 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.

**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 biopharmaceutical, 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. Prerequisite: a passing grade in all required courses in Semester 1 of the Doctor of Pharmacy Program and a current Pharmacy Intern license.

**PHRM 134. Pharmacokinetics and Advanced Drug Delivery Systems. 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 biopharmaceutical 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.**

This course is a continuation of PHRM 114 Physical Pharmacy & Dosage Forms and PHRM 124 Drug Metabolism & Disposition that utilize the LADME framework (Liberation, Absorption, Distribution, Metabolism, and Excretion) to understand biopharmaceutical and pharmacokinetic/pharmacodynamic principles of 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 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.

**PHRM 142. Physiology and Pathophysiology III. 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 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. 2 Units.**

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 and a current Pharmacy Intern license.

**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 and a current Pharmacy license.

**PHRM 160. Practice-Based IPPE. 2 Units.**

The Practice-Based introductory pharmacy practice experience is another method to enhance each student's understanding of the role and responsibilities of pharmacists and medication distribution and use process in any one of a variety of pharmacy practice settings. Successful completion of this course satisfies completion of PHRM 159.

**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 and the current Pharmacy Intern license, current blood borne pathogen and CPR certifications.

**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, and they must satisfy the institution's policies and procedures on healthcare trainee or worker eligibility, such as background.

**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, and they must satisfy the institution's policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPAA training, etc. A valid pharmacy intern license is also required.

**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, and they must satisfy the institution's policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPAA training etc. A valid pharmacy intern license is required.

**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, and they must satisfy the institution's policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPAA training, etc. A valid pharmacy intern license is required.

**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, and they must satisfy the institution's policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPAA training, etc. A valid pharmacy intern license is required.

**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, PHRM 184, satisfy the institution's policies and procedures on healthcare trainee or worker eligibility, such as background checks and screenings, HIPAA training, etc, and possess a valid pharmacy intern license.

**PHRM 191. Independent Study. 1-4 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 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 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 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.**

Students study current compounding practice, regulations governing compounding, USP recommendations and making compounded products with evaluation and analysis as is currently part of a pharmacy practice. Prerequisites: PHRM 134, PHRM 135, PHRM 136 with a "D" or higher; PHRM 138 with a "C" or higher; PHRM 139. Professional standing.

**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.**

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 121. Basic Life Support. 2 Units.**

This course is a training program that prepares instructors to teach basic life support courses.

**PRAC 123. Health Care Delivery Systems. 2 Units.**

Students examine the structure and function of Health Care in the U.S., with emphasis on the effects on the practice of pharmacy.

**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 128. Gerontology and Geriatric Therapy. 2 Units.**

Students explore the social and psychological aspects of aging as well as the pharmacokinetic and pharmacodynamic changes related to elderly patients. In addition, this course examines common diseases of the elderly and how aging affects drug therapy. Open to students with sixth semester standing only.

**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- Formulary Management. 2 Units.**

This course introduces fundamental concepts about the role and influence Pharmacists have on formulary management in managed care settings. Topics include understanding the steps involved in evaluating the AMCP (Academy of Managed Care Pharmacy), Dossier format of pharmaceutical products, additional literature search and evaluation, interpreting pharmaco-economic/cost-impact analysis, monograph creation and presentation to a Pharmacy and Therapeutics Committee. Open to Doctor of Pharmacy students only.

**PRAC 132. Introduction to Travel Medicine. 2 Units.**

Introduction to the practice of travel medicine with an emphasis on vaccines and pharmacological prophylaxis and treatment of tropical diseases. Prerequisites: PHRM 111, 112, 113, 114, 115, 118; certification through APhA's Pharmacy Based Immunization Delivery training program.

**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. 2 Units.**

Students study basic principles of behavior, behavioral medicine and health psychology. Application of these principles are studied and related to diabetes, asthma, chronic pain, cardiovascular disease and pain. Professional standing.

**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- Fundamentals, Application and Outreach. 2 Units.**

This course focuses on introducing fundamental concepts about Medicare Part D, understanding real-world implications of Medicare Part D, and performing community outreach activities which assist Medicare-eligible patients to identify the most cost appropriate prescription drug plan.

**PRAC 142. Basics and Structure of the Medicare Benefit. 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, low-income subsidy, and pharmaceutical assistance programs are highlighted. Students also learn about the most common medications filled by Medicare beneficiaries and have a series of Medication Therapy Modules on the most prevalent chronic conditions in this population. Prerequisite: Instructor permission.

**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 145. Foundations of Clinical Outcomes Research. 2 Units.**

This course offers an introduction to the design and implementation of clinical/outcomes research studies. Emphasis is placed on methods appropriate for evaluating health care services and assessing the long term outcomes of pharmacological interventions. The course is designed for students who have an interest in conducting clinical and outcomes research. The multidisciplinary focus of the course makes it appropriate for students in Pharmacy, Physical Therapy, and Speech Language Pathology. Prerequisites: PHAR 111, 112, 121 or permission of instructor.



**PRAC 148. Introductory Biostatistics. 2 Units.**

This is an introductory course in the terminology and use of biostatistics.

**PRAC 149A. Special Topics. 1-4 Units.****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 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 159. Pharmaceutical Care for Ambulatory Care Clinic Patients. 2 Units.**

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.

**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 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 pharmacoconomics 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 165. Business Law for the Pharmacist. 3 Units.**

This is an introductory course to the business laws that affect the pharmacist.

**PRAC 191. Pharmacy Practicum. 1-3 Units.**

This course examines procedures related to pharmacy practice. It includes conference and practicum, and students may re-elect for a maximum of three units. Permission of instructor.

**PRAC 193. Undergraduate Independent Study. 1-5 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.

## Speech-Language Pathology

Robert Hanyak, Chair

### Degrees Offered

**Bachelor of Science**

**Master of Science** (see Graduate Catalog for information)

### Majors Offered

**Speech-Language Pathology**

### 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 involved with persons with communication handicaps.

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.

## Speech-Language Pathology Faculty

Robert E. Hanyak, Chair, Speech-Language Pathology, Associate Professor of Audiology, 1985, BA, University of the Pacific, 1979; MS, University of Utah, 1981; AuD, University of Florida, 2005

Heidi Germino, Assistant Clinical Professor of Speech-Language Pathology, Director, Scottish Rite Center, 2007, BA, University of the Pacific, 1990; MA, 1992

Amy Wusstig, Assistant Clinical Professor of Audiology, Clinical Director, 2010, B.S. Speech Pathology and Audiology, California State University, Sacramento, 2004; AuD, Utah State University, 2008

Larry Boles, Professor of Speech-Language Pathology, 2010, BA, San Francisco State, 1978; M.A., San Francisco State, 1982; Ph.D., University of Arizona, 1995

Jill K. Duthie, Assistant Professor of Speech-Language Pathology, 2006, BA, University of California, Santa Barbara, 1972; MA, California State University, Northridge, 1976; PhD, University of Oregon, Eugene, 2005

Simalee Smith-Stubblefield, Associate Professor of Speech-Language Pathology, 1983, BS, University of Wyoming, 1976; MA, University of the Pacific, 1982

Michael Susca, Associate Professor of Speech-Language Pathology, 2001, BS, University of California, Santa Barbara, 1975; MS, University of New Mexico, 1977; PhD, University of Nebraska, Lincoln, 2001

Jeannene Ward-Lonergan, Professor, 1999, BS, Saint Joseph College, 1984; MS, Boston University, 1989; PhD, University of Connecticut, 1995

## 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:

- Reading
- Writing
- Quantitative analysis

## IV. Major Requirements

PSYC 029	Child Development	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	
PSYC 103	Statistical Inference in Behavioral Sciences	
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 LSH 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.

#### 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.

#### 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 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.

**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, 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

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 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.

*designated course prior to graduation. ) Courses may be used also to meet general education and/or major/minor requirements.*

## 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).

## Applied Science Faculty

### 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 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

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)

**Note: 1)** *Transfer students with 28 units or more transfer units prior to fall 2011 are encouraged but not required to complete a*

### III. Fundamental Skills

Students must demonstrate competence in:

Reading

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.

# Arthur A. Dugoni School of Dentistry

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Dean: Patrick J. Ferrillo, Jr., BS, DDS

The Arthur A. Dugoni School of Dentistry is a fully-accredited professional school that offers the Doctor of Dental Surgery degree. This 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 by advancing oral health, and is supported by its core values of humanism, innovation, leadership, reflection, stewardship, collaboration, and philanthropy.

The dental program, located in San Francisco, includes biomedical and behavioral science, laboratory, preclinical, and clinical instruction as well as research opportunities. The school also has a community-based teaching clinic in Union City and a state-of-the-art dental clinic on the Stockton campus.

In addition to the Doctor of Dental Surgery degree, the School of Dentistry has a graduate program in orthodontics that leads to a certificate and the degree of Master of Science in Dentistry; a graduate 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) with locations in Union City and Stockton that leads to a certificate.

The School of Dentistry is an active member of the American Dental Education Association and its educational programs are fully accredited by the Commission on Dental Accreditation. In 2004 the school was named in honor of its long-standing dean, Dr. Arthur A. Dugoni. Upon Dr. Dugoni's retirement in 2006, Dr. Pat Ferrillo assumed the deanship. In 2014 the school will relocate to a new state-of-the-art facility in downtown San Francisco.

## Mission

The mission of the School of Dentistry is to:

- Prepare oral healthcare providers for scientifically based practice
- Define new standards for education
- Provide patient-centered care
- Discover and disseminate knowledge
- Actualize individual potential
- Develop and promote policies addressing the needs of society

These core values characterize the School of Dentistry and define its distinctive identity:

- Humanism: dignity, integrity, and responsibility
- Innovation: willingness to take calculated risks
- Leadership: modeling, inspiring, and mobilizing
- Reflection: using facts and outcomes for continuous improvement
- Stewardship: responsible use and management of resources
- Collaboration: partnering for the common good
- Philanthropy: investing time, talent and assets

## Curriculum

Basic biomedical, pre-clinical, and clinical subjects are combined with applied behavioral sciences in an integrated program that prepares graduates to provide quality care to the public and to enter a changing world that requires them to supplement and adapt existing knowledge

and skills. The 36-month curriculum that leads to the degree of Doctor of Dental Surgery begins in July and is divided into 12 quarters, each consisting of 10 weeks of instruction, one week of examinations, and a vacation period of between one and four weeks.

During the first quarter, students practice use of dental instruments and materials, develop a working position and posture that uses direct and indirect vision, hone basic dental laboratory skills, and are introduced to study and test-taking skills and methods of time management that assist them in succeeding in this rigorous curriculum. Integrated biomedical science instruction in anatomy, biochemistry, physiology, pharmacology, and microbiology is offered in the first eight quarters, followed by multi-disciplinary, integrated presentations of basic science foundations for clinical topics such as the importance of saliva, tissue aging, nutrition, and infection control. Throughout the program, students learn application of basic sciences to clinical problems in dentistry that use the scientific method of inquiry.

Pre-clinical instruction takes place 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. Clinical work with patients is initiated in the fourth quarter.

The school's comprehensive patient care philosophy is based on the concept of private dental practice where the student assumes responsibility for assigned patients' treatment, consultation, and referral for specialty care. Second-year students practice clinical dentistry 15 hours per week; during the third year the number of clinical hours increases to 29 per week (evening clinic appointments supplement patient care opportunities and are available to second-year students and mandatory for third-year students). In the clinic, students learn to provide comprehensive dental care under the direction of Group Practice Leaders and multi-disciplinary faculty from diagnostic sciences, periodontics, restorative dentistry, endodontics, orthodontics, and removable prosthodontics. Oral and maxillofacial surgery, pediatric dentistry, and radiology are learned in respective specialty clinics. Students participate with faculty and orthodontic residents in adjunctive orthodontic care and oral development clinics.

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. Second- and third-year students participate in patient care at over 30 extramural sites. Extramural clinics are located in numerous treatment facilities in Northern California, and include hospitals, community clinics, and skilled nursing facilities. At extramural clinic sites students are supervised by Pacific faculty in conditions that more closely resemble private practice. Students typically treat 4-6 patients per day. Rotations at these sites occur weekdays during the academic year, weekends, and vacation periods. Students typically find these experiences highly educational, and learn how to provide patient care in a more condensed time-frame. Every student must participate in extramural rotations during their enrollment.

Behavioral science aspects of human and practice management, critical thinking, ethics, and dental jurisprudence are woven throughout 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 in the third year.

Students are counseled individually with regard to establishing a practice and applying for postgraduate education. A weekend conference devoted to new developments in dentistry serves to acquaint students with opportunities for postgraduate education and with alumni views of the realities of dental practice.

## Admission Requirements

There are four 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, 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.

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. Applicants submit a copy of an advanced standing evaluation form provided by the four-year college or a course equivalency statement from the community 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 advised to complete one course in anatomy or 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 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. Preference for admission is given to students who provide scores no later than September for the class that enters the following July. 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) (<http://www.ada.org>).

### 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) (<http://www.adea.org/aadsas>). Submit official transcripts from each college and university attended\*, three letters of evaluation, and a check or money order for the AADSAS processing fee to:

AADSAS  
1400 K Street  
Suite 1100  
Washington DC, 2005

Completed application materials must be received by AADSAS no later than December 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, 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, 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 pre-dental students. The programs were initiated in 1984 and have been refined over the years.

### Five-Year Program Leading to a DDS Degree

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

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

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.

## Graduate Orthodontic Program

The advanced education program in orthodontics began in 1971. Classes begin each July for the 27-month program. Instruction prepares the resident to provide superior treatment based on contemporary biologic

orthodontic principles and is recognized for education eligibility by the American Board of Orthodontics.

Didactic courses include principles of orthodontics, cephalometrics and 3D imaging, facial growth, biomechanics, craniofacial biology, research methodology, appliance laboratory, pediatrics, statistics, anatomy, oral pathology, cleft lip and palate, comparative appliances, occlusion, orthognathic surgery, restorative-orthodontic relationships, practice management, and periodontic/orthodontic care. Faculty fosters a collegial atmosphere and mutual respect between residents and faculty.

Clinical instruction and practice are conducted in the school's orthodontic clinic in seven half-day clinics per week which include treatment for children, adolescents, adults, and multidisciplinary (integrated with periodontal and restorative procedures) patients. Adult patients constitute about one fourth of a student's caseload. Each resident starts approximately 45 to 55 new patients and 70 to 90 transfer patients during the residency program. Residents are also rotated through the Kaiser Craniofacial Panel. Residents have an opportunity to participate in a 10 to 14 day Rotaplast medical mission abroad for the care of patients with craniofacial anomalies. Fixed appliance treatment employs the edgewise technique, although instruction permits a wide latitude of clinical variation based on patient needs and special faculty expertise. Experience in treating the entire range of orthodontic problems is provided. Each resident also starts several micro-implant anchorage supported patients. From 1998 to 2002 the orthodontic department was the initial testing site for the new Invisalign technology, and today provides a state-of-the-art approach to treating a wide variety of patients with Invisalign. Each resident generally starts 6 to 8 patients with this appliance.

Each resident engages in a research project and completes a thesis to qualify for the Master of Science in Dentistry degree. Theses are submitted for publication in scientific journals.

Residents are scheduled for didactic and clinical instruction five full days per week, and full participation is required. While there is no prohibition of weekend private dental practice, students' commitments during the program seriously limit this opportunity.

## International Dental Studies Program

Through the Division of International Dental Studies, the opportunity to earn the Doctor of Dental Surgery degree is available to qualified graduates of foreign dental programs. This 24-month, eight-quarter program provides practical and comprehensive training in dental techniques as practiced in the United States. The program's admission process is described more fully on the school website and in a separate brochure available from the International Dental Studies Program coordinator at:

University of the Pacific, Arthur A. Dugoni School of Dentistry  
2155 Webster Street  
San Francisco, CA 94115-2399, U.S.A.  
Phone: (415) 929-6428/929-6688  
Email: IDS@pacific.edu

The International Dental Studies (IDS) curriculum includes pre-clinical and clinical instruction in dental subjects presented in the traditional DDS program, as well as instruction in pharmacology, oral 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 third quarter and spend the greater portion of their second year in clinical practice.

Complete consideration requirements and application procedures are described on the school website and in a separate brochure available from the coordinator of the International Dental Studies program. Basic required documentation for consideration is as follows:



1. copy of a dental degree from a foreign dental school (any degree in a language other than English must be accompanied by a certified translation from a bona fide U.S. translator);
2. copy of successful completion of Part I of the National Dental Board Examination (NBDE-1). A passing score on NBDE-2 is highly encouraged;
3. copy of a score of 92 or above on the internet-based or 580 or above on the paper-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 to three recent letters of recommendation;
6. copy of a curriculum vitae (CV) that describes the applicant's dental experience and additional academic accomplishments since receiving the dental degree.

Provisional degrees are not accepted.

The IDS admissions committee considers the following factors in selecting applicants for admission: dental school achievement, score on the National Dental Board Examination Part-1, 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.

Application must be made through ADEA Centralized Application for Advanced Placement for International Dentists (CAAPID) at <http://www.adea.org>; do not apply directly to the IDS program.

## Advanced Education in General Dentistry Program

The School of Dentistry has two sites for its Advanced Education in General Dentistry (AEGD) Program. The Union City site is located approximately 35 miles southeast of San Francisco. The second site is in the Chan Family Health Science Learning Center and Clinics on the University of the Pacific Stockton campus in Stockton.

The AEGD program is a one-year, accredited postgraduate residency in general dentistry with an optional second year. The core of the program involves advanced clinical treatment of patients that require comprehensive general dental care. There is a comprehensive seminar series attended by residents at both sites that covers all of the dental specialties. The residents provide dental care to people with complex medical, physical, and psychological situations.

At both sites AEGD residents provide comprehensive dental care, attend supplemental seminars and rotations, and supervise dental and dental hygiene students. Hospital dentistry education and experience is part of the program curriculum. In Union City, residents are directly involved in the clinical education of dental and dental hygiene students, which gives residents at this site unique teaching experience. In Stockton, AEGD residents not only supervise and instruct dental students, they work with dental hygiene students in the combined hygiene and dental services in their community clinic.

The AEGD program offers the opportunity to gain more in-depth training in an optional accredited second-year residency training program. The optional second year allows greater flexibility to pursue individual interests, advanced clinical cases, teaching, or research projects.

The start date for the program is July 1. Residents have time off during the school's winter holiday break and 10 days discretionary leave.

There is no tuition for participation in the AEGD program. Residents receive an educational stipend. The program uses the American Dental Education Association's PASS application to receive application materials. For on-line information about Pacific's AEGD Program application process, please visit our site on the Web at <http://www.dental.pacific.edu>. Follow

the links to Academic Program, and Advanced Education in General Dentistry; Application Process.

In addition to the two-year program, the AEGD Global Scholar Program is a unique, collaborative five-year program with the Gladys L. Benerd School of Education for foreign trained dentists interested in advanced training in general dentistry and in becoming more proficient educators. Candidates must be sponsored by a qualified dental school abroad and agree to becoming educators at their home dental school upon completion. Successful candidates earn a two-year AEGD certificate and a Masters in Education degree.

## Oral and Maxillofacial Surgery Residency Program

The School of Dentistry offers a residency program in oral and maxillofacial surgery housed at Highland Hospital in Oakland, California. The program has been in place since 1926, and in 2001 became affiliated with the University of the Pacific. The program is fully accredited by the Commission on Dental Accreditation. Upon completion of the program the resident is prepared to practice the full scope of oral and maxillofacial surgery and is eligible to apply for certification by the American Board of Oral and Maxillofacial Surgery.

Residents are educated in the basic sciences, including anatomy, pathology, pharmacology, and physiology. Clinical practice includes dentoalveolar surgery, comprehensive management of the implant patient, comprehensive management of dentofacial and craniofacial deformities, surgical management of pathologic lesions, temporomandibular joint surgery, aesthetic surgery, reconstructive surgery and management of cleft lip and palate, and trauma management.

There are several hospitals and clinics to which the resident is assigned during training, including Highland Hospital, Kaiser Hospital in Oakland, Oakland Children's Hospital, and the University of the Pacific School of Dentistry clinics. One of the program's most distinctive characteristics is the large volume and variety of clinical experience.

The residency lasts 48 months, and is made up of 30 months of oral and maxillofacial surgery, and 18 months of medical rotations including medicine, surgery, plastic surgery, oral pathology, and anesthesiology as well as electives in various surgical or medical subspecialties.

A dental degree is prerequisite to apply to the program. A candidate must submit an application package including a completed PASS application and three letters of recommendation. University of the Pacific/Highland participates in the National Matching Service.

## Arthur A. Dugoni School of Dentistry Faculty Dental Hygiene

Deborah Horlak, RDH, Program Director, Associate Professor of Periodontics, BA, Ohio State University, 1973, MA California State University Fresno, 2003

Shelly Azevedo, Clinical Instructor, Department of Periodontology, BS, Loma Linda University, 1984, MS, Touro University International, 2007.

Dorothy T. Burk, Associate Professor of Anatomy, BA, University of New Hampshire, 1972, PhD, University of Michigan, 1976, MA, University of the Pacific, 1994.

William M. Carpenter, Professor of Pathology and Medicine, DDS, University of Pittsburgh, 1964, MS, George Washington University, 1973.

Howard H. Chi, Assistant Professor of Dental Practice, BA, University of the Pacific, 1985, DMD, Temple University, 1989, MA, University of the Pacific, 2000.

Cathleen Dornbush, Clinical Instructor, Department of Periodontology, BS, University of Southern California, 1979 RDHAP, University of the Pacific, 2004.

Elena Francisco, Clinical Instructor, Department of Periodontology, BS, Loma Linda University, 1976, RDHAP, University of the Pacific, 2005.

Lisa A. Harpenau, Associate Professor of Periodontics, BS, Loyola Marymount University, 1986, DDS, University of California, San Francisco, 1990, DDS, University of California, San Francisco, 1990, BS, University of California, San Francisco, 1990, MS, Baylor University, 1992, MBA, University of the Pacific, 1999.

Tanya Jones, Clinical Instructor, Department of Periodontology, BA, Brigham Young University, 1982, RDHAP, University of the Pacific, 2004.

Kimi Kan, Clinical Instructor, Department of Periodontology, BS, University of the Pacific 2006.

William P. Lundergan, Professor of Periodontics, AA, College of the Sequoias, 1970, BS, University of California, Irvine, 1973, DDS, University of the Pacific, 1981, MA, University of the Pacific, 1994.

John Muller, Clinical Instructor, Department of Periodontology, BS, University of San Francisco, 1978, DDS, University of the Pacific, 1985.

Marlene Storz, RDH, Assistant Professor of Periodontics, BS, University of the Pacific 2006.

Paula Watson, RDHAP, Associate Professor of Periodontics, AA, Foothill College, 1990, BS, Chapman University, 2001, MS, University of New Haven, 2004, RDHAP, West Los Angeles College, 2003.

## Dental Hygiene

The Arthur A. Dugoni School of Dentistry and the University have combined forces to offer a 36 month accelerated bachelor of science degree in dental hygiene. Pacific has created this distinctive three-year baccalaureate program (eight semesters including summer sessions) to attract highly qualified students. In addition to clinical practice, the baccalaureate hygiene degree allows entry into many positions in teaching, research, administration, public health, private industry, and other areas of dental hygiene practice, as well as eligibility for entry into advanced degree programs.

### Mission

The mission of the University of the Pacific Baccalaureate Dental Hygiene program is consistent with the mission and educational goals of the University and the Arthur A. Dugoni School of Dentistry.

The dental hygiene program will:

- Educate individuals who, upon completion of the program are professionally competent to provide quality dental hygiene care in an evolving profession
- Provide patient-centered, quality care in an efficient clinical model that demonstrates the highest standards of service achievable
- Provide opportunities for community based, experiential learning

The program and its graduates will be distinguished by the following attributes:

- Continuous enhancement through professional development
- Humanistic values that respect the dignity of each individual and foster the potential for growth in all of us
- Application of theory and data for continuous improvement
- Leadership in addressing the challenges facing the profession of dental hygiene, education, and our communities

### The Study of Dental Hygiene

Dental hygiene is a professional program where students learn to provide preventive clinical care for patients with emphasis on recognition, treatment, and prevention of oral diseases. In addition to performing a variety of preventive and therapeutic functions, the dental hygienist also has a major role in counseling and educating patients, supporting community groups, and collaborating with other health professionals. The curriculum helps students build the educational, communication, and

clinical skills necessary for the dental hygienist to work in co-therapy with the dental team.

## Facilities

The program is located on the University's Stockton campus in a state of the art facility shared with Pharmacy, Physical Therapy and Speech-Language Pathology Programs, as well as the Arthur A. Dugoni School of Dentistry's Advanced Education in General Dentistry (AEGD) program. The AEGD clinic, staffed by dental residents and faculty, provides outstanding comprehensive restorative care and patient co-therapy experiences for both dental hygiene students and dental students on extramural rotation from the San Francisco campus. The University of the Pacific's Health Sciences Learning Center and Clinics offers students an exceptional learning environment and the community an excellent resource for dental services.

## Admission Requirements

Admission to the Dental Hygiene Program is competitive and based on merit. Students may apply either as a freshman student, doing prerequisite coursework at Pacific, or as a transfer student, completing prerequisites at another institution. After review of the completed application, the Office of Admissions will invite qualified candidates to participate in interviews on campus. In addition to a personal interview, applicants are invited to take part in orientation, meet informally with current students, and tour the campus. Admission is based on the combination of application information and interview.

### Freshman Application:

The Freshman application deadline is November 15 for the following fall semester. Students are notified of their acceptance after March 15.

Recommended High School Preparation: Completion of high school or its equivalent is mandatory. Pass/Fail evaluations in required subjects are acceptable only when accompanied by a narrative transcript provided by the awarding school.

Required courses: Students applying to dental hygiene must take two years of high school algebra. Applicants are also expected to complete a college preparatory program. Preparatory courses are those in the fields of English, social sciences, foreign languages, mathematics and laboratory sciences.

It is strongly recommended, to all students who apply to the University, that the following be included in the secondary school program: four years of English; at least three years of mathematics, that include geometry and intermediate algebra; at least two years of a laboratory science in at least two disciplines (biology, chemistry, 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 aiming to improve analytical abilities, promote artistic development, and strengthen written skills.

### Recommended Courses

Course	Years
English	4
Fine Arts/Performing Arts	1
Foreign Language (one)	2
Social Science	2
Mathematics*	4
Laboratory Sciences**	3
Academic Electives***	1

\* Suggested math sequence for science majors (including dental hygiene): algebra, geometry, algebra II, trigonometry or calculus.

\*\* Physics, biology and chemistry are recommended for dental hygiene applicants.

\*\*\* Academic elective courses should be advanced foreign languages, mathematics, laboratory science or other solid college preparatory courses.

**GPA:** Special emphasis is placed on coursework selected, the grades achieved in those courses, and the cumulative grade point average.

**SAT or ACT Exams:** The Admissions Committee reviews the results of the student's SAT or ACT scores.

**Essay:** An essay may be required of University applicants.

**Recommendation:** One academic recommendation on official letterhead is required. It should be from a science instructor, counselor or advisor. Additional letters of evaluation from health care professionals are recommended.

**Dental Experience:** Job shadowing, employment or dental office observation are expected so that the applicant is familiar with the role of the practicing dental hygienist.

**Extracurricular Activities:** Other factors considered (but not required) in selecting the class include community service and involvement and volunteer activities.

## Transfer Student Application:

Transfer application deadline for entry into the program is August 1 for the following spring semester. Applicants are notified by December 1. SAT or ACT exam scores are NOT required.

Sixty-four units of lower division college courses that are Pacific transferable and include the following prerequisites or equivalents are required:

- General Biology and lab (2 semesters or 3 quarters) must articulate to Pacific /BIOL 061
- General Chemistry and lab (2 semesters or 3 quarters) must articulate to Pacific CHEM 025/CHEM 027
- Microbiology (minimum of one 3 unit semester course or one 4 unit quarter class). The course may articulate to Pacific BIOL 145 but other microbiology courses are accepted.
- General (Introductory) Psychology (minimum of one 3 unit semester course or one 4 unit quarter class) must articulate to Pacific PSYC 031
- Introductory Sociology (minimum of one 3 unit semester course or one 4 unit quarter class) must articulate to Pacific SOCI 051
- Mathematics (statistics) (minimum of one 3 unit semester course or one 4 unit quarter class) must articulate to Pacific MATH 035 or MATH 037
- English Composition (minimum of one 3 unit semester course or one 4 unit quarter class) must articulate to Pacific ENGL 025
- Communication (Speech) (minimum of one 3 unit semester course or one 4 unit quarter class) must articulate to Pacific COMM 027
- Anatomy and Physiology (one semester or 2 quarters) must articulate to Pacific BIOL 111
- Organic Chemistry (one semester or 1 quarter/ no lab required). The course may articulate to Pacific CHEM 033 or but other courses are acceptable.
- One course that must articulate with Pacific General Education Category I-C Societies and Cultures Outside the United States
- One course that must articulate with Pacific General Education Category II-B Fundamental Concerns
- One course that must articulate with Pacific General Education Category II-C Practice and Perspectives in the Visual and Performing Arts or another II-B

## Health Requirements:

Prior to entry into the professional portion of the program (final 4 semesters), health requirements must be met and documentation submitted to the University's Cowell Wellness Center as follows:

- **Medical Examination:** Following acceptance for admission, students submit the University's "Entrance History and Physical," form signed by a physician which confirms that a medical examination was completed within 3 months of the date of matriculation into the professional portion of the Dental Hygiene program.
- **Measles, Rubella (German Measles), and Mumps:** Students provide documentation of presence of positive titres. Documented vaccination with two dose series MMR given one month apart with live attenuated measles and rubella virus is adequate. A history of measles and rubella as childhood diseases is not sufficient.
- **Tuberculosis:** Students submit the report of a two-step PPD tuberculosis skin test done within 3 months of entering professional program. With a history of tuberculosis OR a positive skin test, students submit the physician's report of a chest X-ray taken within the year prior to matriculation. Chest X-rays may be required at intervals, and suppressive medication may be recommended.
- **Hepatitis B:** Every student is required to submit documented proof of presence of antibodies to the Hepatitis B virus or to complete the Hepatitis B three-dose vaccination series and Hepatitis B antigen test at least one month after completion of series. It is recommended that this be done prior to matriculation; in all cases, however, it must be done before a student is allowed to treat patients which occurs in the first month of the program. If a student does not have documented proof of having antibodies to this virus, the vaccination series is available at the school for a fee.
- **Tetanus Diphtheria Vaccination** is required within past 10 years.
- **Varivax (Chicken Pox)** Students provide documentation of 2 dose vaccination series or presence of titer if history of having chicken pox.

Inquiries about health requirements and supporting documentation are handled through the University's Cowell Wellness Center (209) 946-2315.

## Program Description

The bachelor of science degree in dental hygiene is a professional program presented in an accelerated year-round format of eight semesters including summer sessions. Students accepted into the program as freshmen complete all sessions with the University. Transfer level program entrants, with prerequisites fulfilled, complete the final four semesters of professional coursework only.

In the first half of the program, prerequisite general education courses are presented to provide a strong science background, and a broad base in the humanities designed to strengthen dental hygiene science and clinical practice. Students undertake this portion of their course work, which is provided by the College of the Pacific, with the general undergraduate student population on the main campus. The student must maintain a 2.7 GPA or better in lower division coursework to proceed into the professional portion of the program.

The professional portion of the program is a highly structured four semesters of upper division coursework that includes both didactic and clinical experience. This portion of the program is presented by the Arthur A. Dugoni School of Dentistry Dental Hygiene Program on the Stockton campus.

## Dental Hygiene Licensure

Completion of the program enables graduates to take national and regional or state licensure examinations. For California examination information contact:

Dental Hygiene Committee of California  
2005 Evergreen Street., Suite 1050  
Sacramento, CA 95815  
<http://www.dhcc.ca.gov/>  
(916) 263-1978.

# Degree Requirements

## General Education Curriculum

### First Year

#### Semester 1

BIOL 051	Principles of Biology
ENGL 025	English 25
PSYC 031	Introduction to Psychology
PACS 001	What is a Good Society

#### Term Units

#### Semester 2

BIOL 061	Principles of Biology
CHEM 025	General Chemistry
SOCI 051	Introduction to Sociology
PACS 002	Topical Seminar on a Good Society

#### Term Units

#### Semester 3

CHEM 027	General Chemistry
CHEM 033 or 035	Elements of Organic Chemistry (or Organic Chemistry Primer)
MATH 035 or 037	Elementary Statistical Inference (or Introduction to Statistics and Probability)
Elective	

#### Term Units

#### Semester 4

General Education: (4 units) (Gen. Ed. II, section b or c, requirement fulfilled)

COMM 027	Public Speaking
BIOL 145	Microbiology
BIOL 111	Anatomy and Physiology

#### Term Units

Total Unit: 64

## Dental Hygiene Curriculum

### Second Year

#### Semester 5

DHYG 110	Oral Health Education
DHYG 111	Head and Neck Anatomy
DHYG 112	Dental Anatomy
DHYG 113	Oral Radiology Lecture
DHYG 114	Oral Histology and Embryology
DHYG 115	Dental Hygiene Practice
DHYG 116	Pre-Clinical Dental Hygiene
DHYG 118	Oral Radiology Lab

#### Term Units

#### Semester 6

DHYG 120	Periodontics I
DHYG 121	Pharmacology
DHYG 122	Oral Pathology
DHYG 123	Medical and Dental Emergencies I
DHYG 124	Local Anesthesia/Pain Management
DHYG 125	Dental Hygiene Clinic I
DHYG 126	Dental Hygiene Clinic I

#### Term Units

#### Semester 7

DHYG 131	Community Oral Health
DHYG 132	Patient Management/Special Needs
DHYG 133	Medical and Dental Emergencies II
DHYG 135	Dental Hygiene Clinic II
DHYG 136	Dental Hygiene Clinic II
DHYG 143	Biochemistry and Nutrition

#### Term Units

#### Semester 8

DHYG 130	Periodontics II
DHYG 141	Dental Materials
DHYG 142	Ethics and Jurisprudence
DHYG 144	Senior Project II
DHYG 145	Dental Hygiene Clinic III

DHYG 146 Dental Hygiene Clinic III

7

#### Term Units

17

Total Unit: 66

## Dental Hygiene Faculty

Units	4	Deborah Horlak, RDH, Program Director, Associate Professor of Periodontics, BA, Ohio State University, 1973, MA California State University Fresno, 2003
	4	
	4	
	4	
	16	Shelly Azevedo, Clinical Instructor, Department of Periodontology, BS, Loma Linda University, 1984, MS, Touro University International, 2007.
	4	
	5	Dorothy T. Burk, Associate Professor of Anatomy, BA, University of New Hampshire, 1972, PhD, University of Michigan, 1976, MA, University of the Pacific, 1994.
	4	
	4	William M. Carpenter, Professor of Pathology and Medicine, DDS, University of Pittsburgh, 1964, MS, George Washington University, 1973.
	17	
	5	Howard H. Chi, Assistant Professor of Dental Practice, BA, University of the Pacific, 1985, DMD, Temple University, 1989, MA, University of the Pacific, 2000.
	3	
	4	Cathleen Dornbush, Clinical Instructor, Department of Periodontology, BS, University of Southern California, 1979 RDHAP, University of the Pacific, 2004.
	4	
	16	
	4	Elena Francisco, Clinical Instructor, Department of Periodontology, BS, Loma Linda University, 1976, RDHAP, University of the Pacific, 2005.
	3	
	4	Lisa A. Harpenau, Associate Professor of Periodontics, BS, Loyola Marymount University, 1986, DDS, University of California, San Francisco, 1990, DDS, University of California, San Francisco, 1990, BS, University of California, San Francisco, 1990, MS, Baylor University, 1992, MBA, University of the Pacific, 1999.
	4	
	15	
		Tanya Jones, Clinical Instructor, Department of Periodontology, BA, Brigham Young University, 1982, RDHAP, University of the Pacific, 2004.
Units		
	1	Kimi Kan, Clinical Instructor, Department of Periodontology, BS, University of the Pacific 2006.
	2	
	1	William P. Lundergan, Professor of Periodontics, AA, College of the Sequoias, 1970, BS, University of California, Irvine, 1973, DDS, University of the Pacific, 1981, MA, University of the Pacific, 1994.
	1	
	2	
	3	John Muller, Clinical Instructor, Department of Periodontology, BS, University of San Francisco, 1978, DDS, University of the Pacific, 1985.
	3	
	1	Marlene Storz, RDH, Assistant Professor of Periodontics, BS, University of the Pacific 2006.
	14	
	2	Paula Watson, RDHAP, Associate Professor of Periodontics, AA, Foothill College, 1990, BS, Chapman University, 2001, MS, University of New Haven, 2004, RDHAP, West Los Angeles College, 2003.
	3	
	3	
	1	Dental Hygiene Courses
	2	<b>DHYG 110. Oral Health Education. 1 Unit.</b>
	2	Students are introduced to principles and practices of prevention and control of dental disease. The course emphasizes oral health promotion, to include plaque control, patient education and behavior modification.
	5	
	18	
	4	<b>DHYG 111. Head and Neck Anatomy. 2 Units.</b>
	4	This course is designed to expand student knowledge of the anatomical structures of the head and neck. Students examine clinical correlations relevant for dental professionals.
	2	
	1	
	1	
	7	<b>DHYG 112. Dental Anatomy. 1 Unit.</b>
	2	Students study dental terminology, tooth morphology and the relationship of teeth in form and function to each other and to supporting structures. Root morphology, occlusion and dental anomalies correlated to basic clinical applications are also addressed.
	17	



**DHYG 113. Oral Radiology Lecture. 1 Unit.**

This course is designed to examine the fundamentals of dental radiography. Topics include history, principles, legal considerations, and radiation safety. Clinical applications include exposure technique, film processing, preparing and interpreting dental radiographs. Students learn how to correct technical errors.

**DHYG 114. Oral Histology and Embryology. 2 Units.**

This course offers lectures, clinical examples, classroom discussions and slide materials designed to help students develop a knowledge of oral histology and embryology that is applied to the clinical practice of dental hygiene.

**DHYG 115. Dental Hygiene Practice. 3 Units.**

Students are introduced to the contemporary role of the dental hygienist, the evolving profession of dental hygiene, and procedures and techniques that are utilized in the dental hygiene process of care. Emphasis is placed on development of a comprehensive medical and dental database and history, diagnostic tools, oral cancer examination, clinical systems and protocol, infection control, basic instrumentation and polishing, and patient communication.

**DHYG 116. Pre-Clinical Dental Hygiene. 3 Units.**

This course provides the opportunity for application of the information presented concurrently in DHYG 115. Students practice infection control, vital signs, oral cancer examination, instrumentation and other clinical skills using manikins and student partners.

**DHYG 118. Oral Radiology Lab. 1 Unit.**

Clinical applications of the concepts delivered in DHYG 113 take place during the laboratory experience. Content includes radiographic exposure technique, film processing, preparing and interpreting film and digital radiographs, and correcting of technical errors.

**DHYG 120. Periodontics I. 2 Units.**

Students are introduced to periodontology. Emphasis is placed on etiology, histology and epidemiology, diagnosis and classification of periodontal disease. Principles of periodontal disease preventive therapy, treatment planning, reassessment and supportive periodontal therapy are also introduced. Students learn under which circumstances referral to periodontal specialty practices is appropriate. Prerequisite: Admission into the Baccalaureate Dental Hygiene program.

**DHYG 121. Pharmacology. 3 Units.**

This course is designed to classify and study therapeutic agents commonly encountered and/or utilized in the practice of dentistry. Students learn chemical and physical properties, therapeutic effects, methods of administration, dosage, contraindications and side effects of these agents.

**DHYG 122. Oral Pathology. 3 Units.**

Students study the etiology, pathogenesis, clinical and histogenic features of oral diseases. Students learn to recognize basic tissue and reaction and lesions that occur in the mouth, jaws, and neck and to formulate differential diagnosis of lesions seen in the practice of dentistry.

**DHYG 123. Medical and Dental Emergencies I. 1 Unit.**

Students learn basic methods of medical and dental emergency prevention and management in the dental office. Emphasis is on recognizing signs, symptoms, and treatment of the more common emergencies which may occur in the dental setting. Drugs and equipment that are utilized in the management of medical emergencies are outlined. Students are trained in Basic Life Support Systems (BLS).

**DHYG 124. Local Anesthesia/Pain Management. 2 Units.**

Students examine comprehensive information and skills that provide comfortable dental treatment. Local anesthesia and nitrous oxide-oxygen administration are explained and practiced.

**DHYG 125. Dental Hygiene Clinic I. 2 Units.**

This lecture/lab/clinic course is designed to provide students a beginning clinical experience in the treatment of child, adolescent, adult, and geriatric patients. Promotion of oral health and wellness is stressed through lecture and clinical experiences in following: patient assessment, dental hygiene care treatment planning, case presentation and implementation, and treatment outcomes evaluation. Principles, rational and application of ultrasonic scaling are introduced. Cariology considerations and additional fluoride delivery options are discussed. Students integrate knowledge and skills developed in DHYG 110, DHYG 115, DHYG 116, DHYG 120, and DHYG 124.

**DHYG 126. Dental Hygiene Clinic I. 5 Units.**

This lecture/lab/clinic course is designed to provide students beginning clinical experience in the treatment of child, adolescent, adult, and geriatric patients. Promotion of oral health and wellness is stressed through lecture and clinical experiences in: patient assessment, dental hygiene care treatment planning, case presentation and implementation; and treatment outcomes evaluation. Principles, rational and application of ultrasonic scaling are introduced. Cariology considerations and additional fluoride delivery options are discussed. Students integrate knowledge and skills developed in DHYG 110, DHYG 115, DHYG 116, DHYG 120, and DHYG 124.

**DHYG 130. Periodontics II. 2 Units.**

This course is designed to enable students to enhance and develop knowledge and skills applicable in the treatment of patients with advanced periodontal disease. Concepts and treatment techniques of surgical and non-surgical periodontal therapy are stressed.

**DHYG 131. Community Oral Health. 4 Units.**

This course is designed to enable students to examine the principles and practices of oral health in diverse public health settings. Emphasis is placed on the role of the dental hygienist as an innovator and educator in community dental health programs with consideration to needs assessment, research study utilization, biostatistic application, program planning, and results evaluation. The social and professional responsibility of the dental professional with regard to public promotion of oral health and access to care is examined. Students design and implement a community-based research project that culminates in a class presentation and may be submitted in to the professional association's table clinic competition.

**DHYG 132. Patient Management/Special Needs. 2 Units.**

This course is designed to enlighten the viewer to the world of people with special needs, the issues they face, the programs in place to help them, and dental treatment modalities.

**DHYG 133. Medical and Dental Emergencies II. 1 Unit.**

This course provides a continuation of DHYG 123, Medical and Dental Emergencies I. Students review methods of medical and dental emergency prevention and management in the dental office. Emphasis is on recognizing signs, symptoms, and treatment of the more common emergencies which may occur in the dental setting. Drugs and equipment are utilized in the management of medical emergencies are outlined.

**DHYG 134. Senior Project I. 3 Units.**

This course is designed to provide students the opportunity for supervised practical application of previously studied theory in a variety of settings. Through outside agency affiliation, faculty assistance and mentorship, students choose a specific area of hygiene practice to explore in depth. Prerequisite: Admission into the Baccalaureate Dental Hygiene program.

**DHYG 135. Dental Hygiene Clinic II. 1 Unit.**

This lecture/ lab/ clinic course is designed to enable students to expand their experience in treatment of the periodontally involved patient. Students refine techniques for patient assessment, treatment planning, patient communication, full mouth scaling, and non-surgical periodontal treatment. Desensitization techniques, and pit and fissure sealants, are introduced. Utilization of radiographs, local anesthesia and nitrous oxide sedation in patient care is further developed. Students integrate knowledge and skills developed in DHYG 130, DHYG 132, and all previous course work to-date.

**DHYG 136. Dental Hygiene Clinic II. 7 Units.**

This lecture/ lab/ clinic course is designed to enable students to expand their experience in treatment of the periodontally involved patient. Students refine techniques for treatment planning, root planing, and non-surgical periodontal treatment. Desensitization techniques, and pit and tissue sealants, are introduced. Utilization of radiographs, local anesthesia and nitrous oxide sedation in patient care is further developed. Students integrate knowledge and skills developed in DHYG 130, DHYG 132, and all previous course work to-date.

**DHYG 141. Dental Materials. 2 Units.**

This course is designed to examine structure and physical properties of dental materials utilized in the practice of dental hygiene. Emphasis on concepts and principles of clinical application.

**DHYG 142. Ethics and Jurisprudence. 2 Units.**

Students study ethical theories and issues related to the practice of dental hygiene and professionalism. A personal philosophy of professional conduct, continuous quality assurance and self-assessment is explored. Fundamental factors necessary to practice within existing regulatory frameworks are stressed.

**DHYG 143. Biochemistry and Nutrition. 2 Units.**

Students study basic principles of biochemistry and nutrition related to dentistry. Students complete patient dietary surveys and develop correctional nutritional plans.

**DHYG 144. Senior Project II. 3 Units.**

This course offers students the opportunity for supervised practical application of previously studied theory in a variety of settings. Through outside program affiliation, faculty assistance, and mentorship, students choose a specific area of dental hygiene practice to explore in depth.

**DHYG 145. Dental Hygiene Clinic III. 1 Unit.**

This course offers advanced clinical experience in performing treatment for a variety of clinical patient cases. Students use local anesthesia, nitrous oxide, oral antimicrobials, and diet analysis. State Board Examination requirements and protocol, are reviewed and simulated through practical exercises. Identification of an appropriate patient for licensure examination is made. Students integrate knowledge and skills developed in all previous course work to-date.

**DHYG 146. Dental Hygiene Clinic III. 7 Units.**

This course is designed to provide advanced clinical experience in performing treatment for a variety of clinical patient cases. Students use local anesthesia, nitrous oxide, oral antimicrobials, and diet analysis. State Board Examination requirements and protocol, are reviewed and simulated through practical exercises. Identification of an appropriate patient for licensure examination is made. Prerequisite: Admission into the Baccalaureate Dental Hygiene program.

# McGeorge School of Law

Francis J. Mootz III, Dean

*A professional school offering a Juris Doctor degree in a full-time or part-time program, and Master of Laws (LL.M. and J.S.D.) degrees in U.S. Law & Policy, Transnational Business Practice, and Water Resources Law.*

Founded in 1924, the University of the Pacific, McGeorge School of Law (Pacific McGeorge) has grown into one of the leading law schools in the country. Its 13-acre campus in Sacramento is a dynamic center for legal education, research and training in the skills of legal advocacy and practice.

Approximately 1,000 students are enrolled in the school's full-time and part-time divisions as well as its graduate law program. More than 100 undergraduate institutions are represented in a typical entering class.

Pacific McGeorge is less than three miles from the State Capitol and surrounding federal, state, and local offices and courts. Students are able to observe law and decision-making processes at their sources and enjoy many opportunities to learn from supervised placements in state, federal, local and public interest agencies.

## Accreditation

Pacific McGeorge is a member of the Association of American Law Schools, is fully accredited by the American Bar Association and by the Committee of Bar Examiners of the California State Bar, and is approved by the Veterans Administration for veterans' educational benefit programs. The school of law has a chapter of The Order of the Coif, the national legal scholastic honor society.

## Campus and Library Facilities

The Pacific McGeorge campus features some of the finest legal education facilities in the nation which include on-campus housing, dining facilities and a recreational center with swimming pool. In addition to modern classrooms, the campus houses one of the largest private law libraries in California and a courtroom. Facilities are accessible to the handicapped.

The Legal Studies Center houses the Gordon D. Schaber Law Library, a comprehensive legal research facility of more than 500,000 volumes, and extensive electronic legal databases. Law librarians, experts in legal research methodology, are available to assist patrons in using the library's print and electronic resources. The library makes a variety of study accommodations available to students that include individual carrels, group study rooms, and video viewing rooms all equipped with wireless technology for laptop access. The Information Commons, a computer learning and research center, contains computers available for use by students for computerized legal research, Internet search, word processing and e-mail.

The law school's Center for Advocacy & Dispute Resolution houses the nationally-recognized "Courtroom of the Future." The courtroom contains design features and advanced electronic and visual display equipment to function as a model for developing new methods to facilitate the judicial process. The courtroom's main purpose is to serve as a classroom for training in the skills of trial advocacy.

## Admission Requirements

The school of law considers applications for admission from individuals who have completed, or will have completed by the time of enrollment, a bachelor's degree from an accredited college or university. The Pacific McGeorge 3+3 Program, described later, also allows gifted undergraduate students at the University of the Pacific to begin work on their law degree after their junior year on the Stockton campus.

Application materials include:

1. Completed application form, available through your account at [www.lsac.org](http://www.lsac.org) (<http://www.lsac.org>)

2. Law School Admission Test results
3. JD Credential Assembly Service (CAS) report
4. Personal Statement
5. Nonrefundable application fee

Review of application files begins early in each calendar year for the entering fall semester class. The number of seats available for each entering class is limited, so early completion of application materials by March 15 is advised.

In reviewing applicants, preference is given to University of the Pacific graduates when compared to equally qualified graduates of other schools.

To receive the law school's View book with application forms, write to:

Admissions Office  
University of the Pacific  
McGeorge School of Law  
3200 Fifth Avenue  
Sacramento, CA 95817  
[admissionsmcgeorge@pacific.edu](mailto:admissionsmcgeorge@pacific.edu)  
[mcgeorge.edu](http://www.mcgeorge.edu) (<http://www.mcgeorge.edu>)

## Basic Program of Study and Degree Requirements

The law school operates on the semester system with 88 units required for the J.D. degree. The full-time program requires three years of law study, while the part-time program requires four years. Part-time students may earn the J.D. degree in three and one-half years by satisfying graduation requirements through enrollment in an accelerated evening program. The required first-year curriculum for full-time students includes Criminal Law, Contracts, Torts, Property, Legal Process and Civil Procedure. In advanced years, students take a combination of required and elective courses.

The current program contains more than 100 electives in the areas of:

- Business
- Child and elder law
- Clinical and practice-oriented electives
- Commerce
- Comparative and international law
- Criminal justice
- Environmental law
- Labor law
- Personal relationships
- Property and land use planning
- Public and administrative law
- Special programs and activities
- Taxation
- Torts

Joint degree programs are available with limited cross-credit for acquisition of the J.D./MBA (Master of Business Administration) through the University's Eberhardt School of Business or through CSU Sacramento's School of Business. A J.D./PPA (Master of Public Policy and Administration) is also available in cooperation with CSU Sacramento. Students interested in a joint degree program not available, such as history, international relations or social work may consult with an academic dean to determine if any credit for law school coursework would be accepted by the Master's program. Upon approval of a written proposal, up to 6 units of credit may be accepted toward the J.D. degree.

The law school has a tradition of close and personal relationships among the faculty, administrators and students, which helps create an environment where professional ideals are developed and maximum learning takes place.

## University of the Pacific-McGeorge 3+3 Program

University of the Pacific undergraduates may plan a course of study that leads to enrollment at the University's McGeorge School of Law during their fourth undergraduate year. Both a bachelor's and a J.D. degree may be earned in a total of six years rather than the usual seven. To be eligible for admission to McGeorge under the 3+3 program, undergraduates must meet grade point average, course, and unit requirements prior to enrolling at the law school, as well as have a minimum LSAT score within the 50<sup>th</sup> percentile range. Further information is available from the Dean of Admissions or the Pre-Law Advisor on the Stockton campus and the Office of Admissions at Pacific McGeorge.

## Activities

The *McGeorge Law Review*, published quarterly, is edited and managed by a board of student editors. The law school's location in the state capital has led to a natural emphasis on California legislation, and a special supplement, "Review of Selected California Legislation," also known as "Greensheets" is published annually. *The Pacific McGeorge Global Business & Development Law Journal*, another student-edited journal, focuses on matters of interest to the practitioner involved in international business transactions.

All students are members of the Student Bar Association which coordinates a number of activities through its elected Board of Governors. Organizations open to all law students include the Governmental Affairs Student Association, Women's Caucus, minority law students' organizations, legal fraternities, Nevada Law Students Association, religiously affiliated organizations, the Environmental Law Forum, the International Law Society, the Public Legal Services Society and other interest and social groups.

Pacific McGeorge mock trial and moot court teams compete with other law schools in regional, national and international competitions. In 2012, Pacific McGeorge held its 6<sup>th</sup> Annual National Ethics Mock Trial Competition, which featured some of the finest mock trial teams from across the country.

The Roger Traynor Honor Society, named for the distinguished former Chief Justice of the California Supreme Court, honors scholastic excellence by selecting for membership students named to the Dean's Honor List for each of two years. Students whose academic performances place them in the top ten percent of their graduating class are eligible for election to The Order of the Coif.

## Special Curricular Programs

### Advocacy Certificate

A specialized curriculum leads to a J.D. degree with a Certificate in Advocacy. Pacific McGeorge offers students exceptional faculty and facility resources in advocacy. Students receive specialized practical training to prepare for effective careers in litigation, civil, and/or criminal trial and appellate work, or dispute resolution.

### Capital Certificate in Public Law & Policy

A unique curriculum leads to a Capital Certificate in Public Law & Policy awarded concurrently with the J.D. degree. Students who complete the program are specially qualified to begin careers in legislative advocacy, administrative adjudication, drafting of legislation, representation of government agencies and officials, representation of persons who regularly deal with government agencies, and related public policy-making positions.

## International Legal Studies Certificate

A structured curriculum leads to a J.D. degree with a Certificate in International Legal Studies. Pacific McGeorge is an internationally recognized leader in this field of legal education and J.D. students have the opportunity to take many courses right alongside foreign attorneys in Pacific McGeorge's acclaimed LL.M. Transnational Business Practice Program.

## Business Law Concentration

The new Business Law Concentration is for students who want to pursue a general business law practice, or for those who want to pursue a specialized law practice in entertainment law, employment law, banking law, real estate law, or myriad other kinds of business law.

## Criminal Justice Concentration

A structured curriculum leads to a J.D. degree with a concentration in Criminal Justice – offering required and elective courses selected to provide students who seek a career in criminal law with a firm foundation.

## Environmental Law Concentration

Environmental law lies at the intersection of environmental responsibility and society's use of and impact on the natural world. Local, national and international laws govern myriad aspects of environmental law and vary from an extremely specific to a very broad focus. This new concentration prepares students to pursue a career working in environmental issues or in environmental law.

## Intellectual Property Law Concentration

A specialized curriculum leads to a J.D. degree with a concentration in Intellectual Property Law. Core courses in this growing legal field include Patent Law, Intellectual Property and Unfair Competition, Copyright Law, and Trademark Law.

## Tax Concentration

Pacific McGeorge has fashioned one of the strongest tax programs in the West and offers a tailored curriculum that leads to a J.D. degree with a Tax Concentration. Students benefit from an outstanding faculty, excellent library resources, and a curriculum that features a broad array of tax and business electives.

## Graduate Programs

Pacific McGeorge offers a full-time graduate program that leads to the Master of Laws (LL.M.) in Transnational Business Practice that combines an on-campus study with an optional externship placement in a foreign law office. The law school also offers an LL.M. in Water Resources Law and an LL.M./J.S.D. program in International Water Resources. The LL.M. in U.S. Law & Policy program is designed to equip foreign-trained lawyers with the skills and knowledge to succeed as a global lawyer. The U.S. Law & Policy LL.M. has a Public Law & Policy track for attorneys who wish to pursue a career in the public sector.

## Clinical Programs

Pacific McGeorge has been a leader in clinical legal education for more than three decades. The law school now offers eight different Legal Clinics where students can enrich themselves both academically and personally by helping community clients with a variety of legal challenges. In a faculty-supervised law office setting, students strengthen the connection between theory and practice, learn practical lawyer skills, and begin to develop a professional identity as a future attorney. The current Legal Clinics are Administrative Adjudication, Bankruptcy, Criminal Appellate Advocacy, Elder and Health Law, Federal Defender, Housing Mediation, Immigration Law, and Prisoner Civil Rights Mediation.

## Field Placement Program

The mission of the Pacific McGeorge Field Placement Program is to prepare future members of the legal profession for responsible service



in the many roles that lawyers perform. Field Placements provide eligible students with academic credit for real-world experience performing supervised legal work at more than 100 approved government agencies, courts, or non-profit entities in practice areas including administrative law, business and tax law, criminal justice, environmental law, general civil law, government practice, health law, legislative process and public interest. Additionally, qualified students may gain practical experience through Field Placement Full-Time Semester opportunities such as Judicial Externships with Federal Judges, the California Supreme Court and Court of Appeal Justices, or at approved courts or government agencies in Washington D.C. or overseas.

### **Capital Center for Public Law & Policy**

Founded in 1995, the Capital Center for Public Law & Policy promotes effective government by providing policy makers with nonpartisan legal analysis of public policy issues. Students have the opportunity to participate in all center activities which include analysis of legislation.

### **Global Center for Business & Development**

The Global Center for Business and Development pursues educational, scholarly and practical initiatives that addresses the interface between the global economy and the legal profession.

### **Center for Advocacy & Dispute Resolution**

The Center for Advocacy and Dispute Resolution was founded in 1973 with the opening of the first experimental courtroom facility among American law schools. The "Courtroom of the Future" has served for more than three decades as a threshold in training future attorneys in the highest degree of effective trial skills.

### **Summer Programs Around the World**

Since 1974, Salzburg, Austria has been the site of the Institute on International Legal Studies where Pacific McGeorge holds an annual three-week program that is open to American and international law students. In summer 2013, Supreme Court Associate Justices Anthony M. Kennedy and Elena Kagan will teach the Fundamental Rights in Europe and the United States course with Professor Sionaidh Douglas-Scott, Oxford University, in Salzburg. In addition, Pacific McGeorge offers summer programs in Guatemala and Russia to American and international law students.

### **Institute for Administrative Justice**

The Institute for Administrative Justice (IAJ), established in 1972, has gained national recognition as a leading source of expertise on administrative hearing practices. Many public agencies contract with the IAJ to provide training and systems management. McGeorge students who work for the Institute gain direct experience in the practice of administrative law.

### **McGeorge School of Law Catalog**

Complete information and a course listing is found in Pacific McGeorge's Course Catalog online at <http://www.mcgeorge.edu/Students/academics.htm>.

### **McGeorge School of Law Faculty**

# Center for Professional and Continuing Education

Barbara Shaw, Associate Provost

*The Center for Professional and Continuing Education (CPCE) extends learning opportunities beyond the traditional campus environment and provides a variety of programs that are designed to meet the educational needs of community and campus lifelong learners.*

The Center for Professional and Continuing Education provides many opportunities for students to add courses and special topic programs to their experience at University of the Pacific. It is the regional center for extension education, customized workforce training, professional development, evening degree completion programs, certificate programs and distance learning. Additionally, the Center offers a variety of programs and services designed to meet the educational needs of the entire family including summer programs for youth and programs for mature adult learners. The Center is designed to help students and community members of San Joaquin County and the surrounding region improve their professional skills, update their knowledge, develop new personal or professional expertise, and/or participate in vocational or personal development activities. CPCE also provides training for global participants.

## Evening Degree Completion Program

The Evening Degree Completion Program in Organizational Behavior is designed to meet the needs of adult students who may have started, but never finished their college degree. Adult students who complete this program earn a bachelor of science degree with a major in organizational behavior. The major is offered in an intensified lock-step, cohort format designed for students who have already earned between 60 and 70 college semester units. The evening class schedule provides adults the opportunity to complete their undergraduate education without interfering with employment.

The program focuses on the interdisciplinary study of social interaction and social change, which incorporates group dynamics involved in planning for change in businesses and organizations in the 21st century. The Organizational Behavior major combines courses from various disciplines within the University in order to provide students with the organizational and business skills necessary to work effectively within a variety of organizations. Students complete their degree over a 20-month period by taking two 3-unit classes every eight weeks.

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. If you are interested in the program but have not earned the minimum transfer units, please contact CPCE at (209) 946-2424 for academic advising.

## Degree Requirements

The bachelor of science degree requires 124 units of credit that includes completion of the academic major, the University General Education Program and elective units, as well as writing, reading, quantitative skills proficiency requirements and the University diversity requirement. Students must earn a minimum C grade point average (2.00) in all college work taken for the degree at Pacific and in 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.

## Center for Professional and Continuing Education Faculty

### Bachelor Of Science Major In Organizational Behavior

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 behavior.

#### I. General Education Requirements

PACS 003, which is required of all transfer students, is met by ORGB 178 within the major.

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:

Reading

Writing

Quantitative analysis

#### IV. Major Requirements: 54 units

ORGB 100	Introduction Seminar	3
COMP 023	Computer Concepts and Applications	3
ECON 051	Economic Principles and Problems	3
ORGB 105	Organizational Social Psychology	3
ORGB 109	Organiz., Managerial Developmt	3
ORGB 110	Acct & Fin Statement Analysis	3
ORGB 120	Critical Thinking for Adults	3
ORGB 130	Professional Communication	3
ORGB 135	Principles and Marketing	3
ORGB 145	Issues in Human Resource Management	3
ORGB 149	Introduction to Organizational Communication	3
ORGB 150	Advanced Professional Writing	3
ORGB 155	Issues in Decision Making	3

ORGB 175	Res. Meth.: Quant. & Qual.	3
ORGB 176	Applied Research	3
ORGB 177	Organizational Structure, Design and Analysis	6
ORGB 178	Intro to Ethical Theories (Pacific Seminar 3 Requirement)	3

#### Organizational Behavior Courses

##### **ORGB 100. Introduction Seminar. 3 Units.**

This course is an introduction to the Organizational Behavior major taught in the intensified eight-week format. It is a team-taught course with faculty from Sociology, the Library and the Center for Professional and Continuing Education. The aim of the course is to acquaint students with topics, research and issues typical of the field and to acquaint them with the skills and learning resources needed to complete the program. It includes an introduction to the contemporary library and the concepts of the research process that include the use of databases essential for social science research.

##### **ORGB 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.

##### **ORGB 109. Organiz., Managerial Developmt. 3 Units.**

This course in organizational behavior encompasses the study of individual and group behavior in organizational settings. Managing organizational behavior challenges individuals to understand and embrace workforce diversity, elements of change, effective communication, and performance systems. A comprehensive review of these processes, as well as others, allows students to examine their role in organizations.

##### **ORGB 110. Acct & Fin Statement Analysis. 3 Units.**

This course addresses the accounting process of recording, summarizing, analyzing and interpreting financial information. Students learn how financial statements are prepared and how they assist in the financial decision making process. Emphasis is placed on financial statement analysis.

##### **ORGB 120. Critical Thinking for Adults. 3 Units.**

This course is intended to help students become more expert at making solid arguments and identifying weaknesses in one's own as well as arguments of others. Students learn to formulate a claim clearly and precisely, identify assumptions, evaluate the breadth of a claim, explain the logic of an argument and identify logical assumptions and evaluate the significance of a claim for others.

##### **ORGB 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.

##### **ORGB 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.

##### **ORGB 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.

##### **ORGB 149. Introduction to Organizational Communication. 3 Units.**

The purpose of this course is to provide you with current theory and research in the area of organizational communication. Organizational communication has been an established discipline with a focus on how people create and develop relational messages and exchange them with other organizational members through selective channels. The course will help students understand various approaches to investigating organizational communication, obtain a better understanding of organizational communication behavior so they can develop an ability to diagnose, prevent and address communication problems. Organizational communication issues covered in the course include socialization, superior-subordinate communication, verbal communication, nonverbal communication, network and channels, symbolic behavior, listening, interpersonal communication, small group and team communication, effective leadership in organizations and new communication technology.

##### **ORGB 150. Advanced Professional Writing. 3 Units.**

Would you like to be able to produce clear, concise and persuasive documents? This course helps you do that. Success with any professional writing task depends on your ability to identify your audience, understand their needs and plan how to meet those needs effectively. This course also covers proofreading and revising while it addresses the most commonly used forms in professional writing such as letters, memos and proposals.

##### **ORGB 155. Issues in Decision Making. 3 Units.**

This course provides a study of decision-making theory applied to individuals and organizations. The course provides a comprehensive theory of how people cope with decisional conflicts concerning management of organizations, career choice, marriage and a variety of other significant choices.

##### **ORGB 175. Res. Meth.: Quant. & Qual.. 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.

##### **ORGB 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.

##### **ORGB 177. Organizational Structure, Design and Analysis. 6 Units.**

This course explores the organizational structure of human societies and the influence of organizations on individuals and groups. Analysis of the form and structure of formal organizations and the relationship between organizations, social class and social institutions in contemporary society is emphasized. Case studies of private, public and non-profit organizations are included.

##### **ORGB 178. Intro to Ethical Theories. 3 Units.**

This course provides students the opportunity to become familiar with how they and others think about moral issues and make moral choices. There is a dual emphasis on the analysis of personal moral development and the role of ethics in organizations.

##### **ORGB 191. Independent Study. 1-4 Units.**

## Adult Student Services

The Center for Professional and Continuing Education provides student services specifically for adult learners, often part-time students, who wish to obtain or complete an undergraduate degree. The Center assists interested persons to determine if they qualify for admission to the University, to identify appropriate academic programs to meet individual needs, to acquire financial aid information and to secure access to needed student services. The Center provides adults re-entering Pacific guidance

in planning their academic career in relationship to their individual needs, abilities and goals. Student Services begins by providing assistance in discovering the options that are available. Assessment of personal goals, learning style, vocational interests and level of student skills are among the services offered in cooperation with several University offices. Because adult students often experience difficulty integrating their study schedules with their work and family situations, Student Services' staff members are prepared to assist students with the transition to the University.

Adult learners have several opportunities to earn elective unit credit previous to enrolling at Pacific. Students may take CLEP examinations (College Level Examination Program) for a reasonable fee and earn four units of undergraduate, lower division credit, for each test receiving a passing score for a maximum of 20 units. Broad area tests and specific field tests are available. Other forms of experiential credit include units earned through challenging courses and through cooperative education and internships.

Summer Sessions at Pacific offers special opportunities for adult learners with early morning, daytime, and early evening classes at a reduced tuition as well as online courses. Because the summer contains three separate sessions, students may complete the equivalent of an entire semester's work by taking the maximum number of units allowed in each session.

*"Sprinkle a few adult students into your courses – and guess what? Other students begin to connect class discussion to the world outside the University. Why? Because adult students have experience, their comments make the world of ideas real to others. And because the sacrifices necessary in returning to school engender a seriousness about study evident to others, they often make the best possible models regarding what college life is all about."*

*Professor Roy Childs*

Adult learners experience many advantages because Pacific is a resident campus. Students can participate in and benefit from the many activities and events that take place every day of the week. Conservatory concerts, notable speakers, athletic events, recreational opportunities and other activities for learning and entertainment are available to adult learners.

An important dimension of Pacific is the supportive nature of its student body. Adult learners, in spite of their busy schedules balancing work, family and school, respond to the personal and academic needs of their peers. Frequently, students tutor each other and participate in study groups. Pacific's Iota Gamma chapter of the national honor society, Alpha Sigma Lambda, recognizes the academic achievement of adult learners. Recently, a "commuter lounge" was designated on campus as an additional resource for non-residential students. In addition, Osher Re-Entry Scholarships are available to a number of qualified adult students each year.

## Adult Student Services Faculty

## Extended Education Credits

Extended Education Credit courses 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. These units, however, do not count toward a student's overall university grade point average. Students are encouraged to check with their academic department in regard to the total number of extension units counted toward the degree. (The average number of units is eight but vary depending on the academic department.) Courses are offered both on campus and online.

## Extended Education Credits Faculty

## Summer Sessions

The University offers varied summer programs that allow Pacific students to both fulfill degree requirements and to accelerate their academic progress. It also provides an opportunity for individuals from the community to enroll in University courses without being admitted as regular students. Summer Sessions courses are divided among three five-week sessions immediately following the end of spring semester. Special programs of varying lengths of time and online courses are available. Students may register online. For information on Summer Sessions and a description of courses to be offered, call the Center for Professional and Continuing Education at (209) 946-2424 or visit the CPCE website at [www.pacific.edu/cpce](http://www.pacific.edu/cpce) to download the Summer Sessions' catalog.

## Summer Sessions Faculty

## Commencement Office

The Center for Professional and Continuing Education 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).

## Commencement Office Faculty

## Community Programs

The Center for Professional and Continuing Education also offers a variety of programs specifically for our surrounding community.

**Customized Workforce Training** programs are offered to businesses throughout 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** credit courses (9000 series number) are designed for educators and administrators for professional skill and salary enhancement. This graduate level credit is not 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. Programs offered include Records Management, International Trade (online), Substance Abuse Counseling (in-seat or online), Social Entrepreneurship (online), Supervision and Sustainability (online). **Non-credit courses** are offered for both personal and professional enrichment.

**Special Programs** are offered throughout the year for youth (Summer Scholars) as well as for mature adult learners (Osher Lifelong Learning Institute).

## Community Programs Faculty



# University Administration

## The Administration

Title	Name
President	Pamela A. Eibeck
Provost	Maria G. Pallavicini
Vice President for Business and Finance	Patrick D. Cavanaugh
Vice President for Student Life	Elizabeth Griego
Vice President for External Relations and Director of Intercollegiate Athletics	Ted Leland
Vice President for Development	Burnie Atterbury
Vice President and Secretary to the Board of Regents	Mary Lou Lackey
Associate Vice President, Office of Communications	Richard Rojo
Associate Vice President for Planning, Innovation and Institutional Assessment (Interim)	Mike Rogers
Director of Institutional Research	Mike Rogers

## Office of the Provost

Title	Name
Provost	Maria G. Pallavicini
Associate Provost for Enrollment (Interim)	Timothy E. Naccarato
Associate Provost for Professional and Continuing Education	Barbara L. Shaw
Associate Provost for Research, Collaborative Programs (Interim)	Bhaskara R. Jasti
Assistant Provost for Academic Affairs	Lou Matz
Assistant Provost for Faculty Affairs	Vacant
Assistant Provost, Resource Management	Carrie J. Darnall
Chief Information Officer	Malik Rahman
Executive Director of Institutional Effectiveness	David Hemenway
Director of Admission	Richard Toledo
Director, Center for Teaching and Learning (Interim)	Jim Thompson
Director of Financial Aid	S. Lynn Fox
Director, International Programs and Services	Ge-Yao Liu
University Registrar	Ann Gillen

## School and College Deans

Title	Name
Dean, College of the Pacific	Rena Fraden
Senior Associate Dean	Gregg Jongeward
Associate Dean and Director of General Education	Gesine Gerhard
Assistant Dean	Marcia Hernandez
Dean, Conservatory of Music	Giulio M. Ongaro
Assistant Dean	David M. Chase
Dean, Eberhardt School of Business	Lewis Gale

Associate Dean, Undergraduate Programs	Ray Sylvester
Associate Dean, Graduate Programs	Cynthia Eakin
Dean, Gladys L. Benerd School of Education	Lynn G. Beck
Assistant Dean	Marilyn Draheim
Assistant Dean	Michael Elium
Dean, School of Engineering and Computer Science	Steven Howell
Associate Dean	Louise Stark
Assistant Dean	Gary R. Martin
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 and Professional Affairs	Donald G. Floriddia
Assistant Dean for Experiential Programs	Sian Carr-Lopez
Assistant Dean for External Relations	Nancy DeGuire
Assistant Dean for Operations	Linda Norton
Assistant Dean for Pre-Health Programs	James Uchizono
Dean of Graduate Studies and Associate Provost for Research and Collaborative Programs (Interim)	Bhaskara R. Jasti
Assistant Dean, Research and Graduate Studies	Carol Brodie
Dean, Pacific McGeorge School of Law	Francis J. Mootz III
Associate Dean, Academic Affairs	Dorothy Landsberg
Associate Dean for Strategic Initiatives	Clark Kelso
Associate Dean, Faculty Scholarship	Anne Bloom
Principal Assistant Dean, Academics and Student Life and Assistant Dean of Admissions	Timothy E. Naccarato
Assistant Dean, Administration and Resource Management	Robert D. Murta
Assistant Dean, Advancement, External Relations and Career Development	Charlene Mattison
Assistant Dean, Law Library and Graduate and International Programs	Matthew Downs
Assistant Dean, Student Affairs	Mary McGuire
Dean, Arthur A. Dugoni School of Dentistry	Patrick J. Ferrillo, Jr.
Dean Emeritus	Arthur A. Dugoni
Executive Associate Dean, Associate Dean for Academic Affairs	Nader A. Nadershahi
Associate Dean for Institutional Advancement	Craig S. Yarborough
Associate Dean, Administration	Eddie K. Hayashida
Associate Dean, Clinical Services	Richard E. Fredekind

Associate Dean, Development	Jeff Rhode
Associate Dean, Fiscal Services	Edward Pegueros
Associate Dean, Student Services	Kathy Candito
Assistant Dean, Academic Affairs	Daniel J. Bender
Assistant Dean, Alumni Affairs	David B. Nielsen
Dean, University Library	C. Brigid Welch
Assistant Dean	Mary Chimato

## Office of Vice President for Business and Finance

Title	Name
Vice President for Business and Finance	Patrick D. Cavanaugh
Associate Vice President, Controller	Kenneth Mullen
Assistant Vice President, Budget and Risk Management	Marcus Perrot
Assistant Vice President, Human Resources	Jane Lewis
Assistant Vice President, Chief Investment Officer	Jol Manilay
Assistant Vice President, Business Assessment	Sondra Roeuny
Assistant Vice President, Support Services	Scott Heaton
Director, Capital Planning and Space Management	Priscilla Meckley-Archuleta
Director, Internal Audit	Winnie Rivinius
Director, Budget	Jonallie Parra
Director, Risk Management	Vacant
Associate Controller	Audrey George
Associate Director, Human Resources	Sally Coleman
Assistant Director, Support Services	Mike Lawrie
University Payroll Manager	Tara Juano
Purchasing Manager	Ronda Marr
Director of Student Business Services	Suzette Calderone
Bookstore Manager	Nicole Castillo

## Office of Vice President for External Relations

Title	Name
Vice President for External Relations and Director of Intercollegiate Athletics	Ted Leland
Director of Special Events	Steve Whyte
Director of Economic Development and Community Relations	Mark Plovnick

## Office of the Vice President for Development and Alumni Relations

Title	Name
Vice President	Burnie Atterbury
Associate Vice President	Janet Dial
Assistant Vice President Alumni Relations	Bill Coen
Director Alumni Relations	Kelli Page

## Office of Vice President for Student Life

Title	Name
Vice President for Student Life	Vacant
Dean of Students	Joanna Royce-Davis
Associate VP for Residential Living and Dining Services	Steven Jacobson
Associate VP for Diversity and Community Engagement	Lisa Cooper
Assistant VP for Student Leadership and Recreation	Lynn King
Assistant Dean of Students	Peggy Rosson
University Chaplain	Joel Lohr
Executive Director, Educational Equity Programs	Anita Bautista
Executive Director, University Center and Student Activities	Jason Velo
Director, Assessment and Student Development Services	Sandy Mahoney
Director, Career Resource Center	Vacant
Director, Center for Community Involvement	Erin Rausch
Director, Center for Social & Emotional Competence	Craig Seal
Director, Community Involvement Program	Pov Chin
Director, Counseling Services	Stacie Turks
Director, Health Services	Beth McManis
Director, Judicial Affairs and Outreach Services	Heather Dunn-Carlton
Director, Multicultural Affairs	Serjio Acevedo
Director, New Student and Family Programs	Linda Dempsey
Director, Public Safety	Mike Belcher
Director, Residential and Greek Life	Vacant
Director, Dining Services	Sia Mohsenzadegan
Director, Pacific Recreation & MOVE Program	Bryan Lenz

# The Board of Regents

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**Name**

Fawzi M. Al-Saleh

Ron Berberian

Connie M. Callahan

Tony Chan

Ron Cordes

Robert J. Corkern (Vice Chair)

Douglass M. Eberhardt

Pamela A. Eibeck

Morrison C. England, Jr. (Secretary)

Noël Ferris

Richard H. Fleming

Armando Flores

Clark Gustafson

Randall T. Hayashi

José M. Hernández

Kevin Huber

Kathleen Lagorio Janssen (Chair)

H. Larry Leasure

Jim Mair (Treasurer)

Kathi McShane

Diane D. Miller

Gary Mitchell

Fredric C. Nelson

Dianne L. Philibosian

Jeannette Powell

Ron Redmond

Walter Robb

Barry L. Ruhl

Susanne Stirling

Naka "Nick" Ushijima

# Intercollegiate Athletics Coaches and Administrators

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**Ted Leland**, 2011, Vice President of External Relations & Athletics, B.A. University of the Pacific, 1970; M.A., 1972; PhD, Stanford University, 1982.

**Jodi Baker**, 2002, Director, Athletic Training Education Program, B.A., Whitworth College, 1997; M.A., San Diego State University, 2002; Ed.D., University of the Pacific, 2012.

**Don Barbara**, 2008, Assistant Baseball Coach, B.A. Long Beach State University, 2001.

**Raynald Batalon**, 2009, Associate Head Women's Volleyball Coach, B.G.S., University of Nevada, 2003.

**Calvin Byrd**, 2010, Assistant Men's Basketball Coach, B.A. Villanova, 1993.

**Jonah Carson**, 2010, Assistant Men's Volleyball Coach, B.A., University of California, Santa Cruz, 2000; M.A. 2002.

**Keith Coleman**, 1994, Head Women's Soccer Coach, B.S., California Polytechnic State University, San Luis Obispo, 1991.

**Michelle Coleman**, 1995, Assistant Women's Soccer Coach, B.A., California State University, Chico, 1994.

**Wendy Cornwall**, 1991, Assistant Director of Compliance, B.S., University of the Pacific, 1988.

**Michael Dalgety**, 2006, Associate Director of Athletics for Internal Affairs, B.A., University of the Pacific, 1997; M.A., University of Arizona, 2003; Ed.D., University of the Pacific, 2012.

**Bradley Davis**, 2006, Associate Head Women's Basketball Coach, B.A., University of California, Berkeley, 1995.

**Tim Dickson**, 2009, Assistant Director of Athletics for Major Gifts, B.A., University of the Pacific, 1998.

**Marcus Dorin**, 2008, Associate Director of Athletic Performance, B.A., California State University, Chico, 2001, M.A. 2006.

**Jim Dugoni**, 1996, Associate Director of Athletics for Development, B.S., University of the Pacific, 1986, M.S. U.S. Sports Academy, 1990, M.A., Stanford University, 1993.

**Sam Gay**, 2011, Assistant Director of Athletic Training, B.S., Eastern Washington University, 2008; M.Ed., Utah State University, 2010.

**Greg Gibbons**, 2010, Head Women's Volleyball Coach, B.S., Iowa State University, 1997; M.Ed., University of Phoenix, 2009.

**Brandon Goethals**, 2005, Head Men's Golf Coach, B.A., UNLV, 1992.

**James Graham**, 2008, Head Men's and Women's Water Polo Coach, B.S., University of Redlands, 2003.

**Lizzie Hagen**, 2009, Assistant Softball Coach, B.A., University of the Pacific, 2007.

**Christine Hammerberg**, 2006, Athletics Business Manager.

**Jessica Hancock**, 2009, Assistant Softball Coach, B.A., University of California, Davis, 2009.

**Andrew (A.J.) Hohn**, 2012, Assistant Men's Golf Coach, B.S., University of the Pacific, 2008.

**Adam Jacobsen**, 2003, Assistant Men's Basketball Coach, B.A., University of the Pacific, 1997.

**Davin Johnson**, 2010, Assistant Women's Basketball Coach, Grand Canyon University.

**Josh Jones**, 2009, Head Women's Cross Country and Track Coach, B.S., Liberty University, 2000, M.S., California University of Pennsylvania, 2007.

**Kendra Klein**, 2012, Assistant Men's and Women's Water Polo Coach, B.A., California State University Northridge, 2005; M.A., University of the Pacific, 2013.

**Brian Kolze**, 1992, Head Softball Coach, B.A., California State University, Northridge, 1984.

**Georgia Kovich-Lee**, 2003, Assistant Director of Athletics for Marketing and Promotions, B.A. Brock University, 1994; M.S., Pennsylvania State University, 1995.

**Zac Koerner**, 2011, Assistant Men's and Women's Water Polo Coach, B.A., University of California Irvine, 2000.

**Ben Laskey**, 2005, Assistant Director of Athletic Media Relations, B.A., University of the Pacific, 2003; M.A., 2005.

**Kendra Lucking**, 2012, Assistant Field Hockey Coach, B.S., Shippensburg University, 2007.

**Christopher M. Ludwig**, 2007, Lecturer and Clinical Education Coordinator, Athletic Training Program, B.S., California State University Fresno, 2004; M.S., California State University Fullerton, 2007; Ed.D., University of the Pacific, 2013.

**Chris Lynn**, 2011, Assistant Director of Athletics for Annual Giving, B.S., University of Louisville, 2005; M.S., University of Illinois, 2011.

**Annette Martinez**, 2007, Assistant Director of Athletic Training, B.A., University of the Pacific, 2002; M.A., Fresno Pacific University, 2011.

**Rosie Martins**, 2012, Assistant Director of Athletics Training, B.A., University of the Pacific, 2008; M.S.E., University of Kansas, 2010.

**Dan McCabe**, 2008, Ticket Operations Manager.

**Mike McCormick**, 2008, Assistant Baseball Coach, B.A., Chico State University, 1995; M.A., Azusa Pacific University, 1998.

**Mike Millerick**, 1991, Assistant Director of Athletics for Communications, B.A., University of the Pacific, 1991.

**Danielle Neault**, 2009, Assistant Director of Student-Athlete Services, B.A., University of the Pacific, 2009; M.Ed., 2011.

**Carmen Padilla**, 2009, Assistant Soccer Coach, B.S., University of the Pacific, 2007.

**Lindsay Pierce**, 2011, Coordinator of Athletic Development and Special Events, B.A., University of Oregon, 2010.

**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.

**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.

**Lynne Roberts**, 2006, Head Women's Basketball Coach, B.A., Seattle Pacific University, 1997; M.S., 2000.

**Antonio Sandoval**, 2007, Director of Athletic Performance, B.S., California State University San Bernardino, 2003; M.S., California State University Sacramento, 2006.

**Charlotte Scatliffe**, 2012, Head Women's Tennis Coach, B.A., University of California Santa Barbara, 2008.

**Elizabeth Skeels**, 2009, Assistant Field Hockey Coach, B.A., Wake Forest, 2009.

**Andy Smith**, 2013, Head Field Hockey Coach, Open University.



**Ed Sprague**, 2003, Head Baseball Coach, Stanford University.

**Holly Trexler**, 2005, Associate Director of Athletics for Student-Athlete Services and Compliance/SWA, B.A., University of Kansas, 1995; J.D., 1998; MS.Ed., 1999.

**Amy Van Hollebeke**, Assistant Women's Basketball Coach, B.A., University of the Pacific, 2009; M.A. 2013.

**Nicole Vargas**, 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.

**Ron Verlin**, 1994, Associate Head Men's Basketball Coach, B.S., California State University, Sacramento, 1990.

**Sarah Vinall**, 2011, Coordinator of Athletic Marketing and Promotions, B.A., University of the Pacific, 2005; M.A., 2008.

**Julie Wendland**, 1989, Accounts Manager.

**Kevin Wilkinson**, 2010, Athletic Media Relations Assistant, B.A., St. Bonaventure University, 2000.

**Michael Wong**, 2012, Assistant Men's and Women's Swimming Coach, B.A., Occidental College, 2009; M.S., Azusa Pacific University, 2012.

**Joe Wortmann**, 1988, Head Men's Volleyball Coach, B.A., Loyola Marymount University, 1978; M.A., University of the Pacific, 1998.

**Wes Yourth**, 2010, Assistant Director of Athletics for Facilities and Operations, B.A., San Francisco State University, 2001, M.S., United States Sports Academy, 2005.

# Library Faculty

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Mary Carmen Chimato, Assistant Dean of the University Library, 2010, BA, Stony Brook University, 1999; MLS, MSIS, Drexel University, 2002.

C. Brigid Welch, Dean of the University Library, Professor, 2008, BA, Arizona State University, 1977; MLS, University of Texas at Austin, 1979.

A. Craig Hawbaker, Professor, Reference Librarian, 1991, BS, Drake University, 1973; MSL, Western Michigan University, 1975.

Robin L. Imhof, Associate Professor, Reference Librarian, 2002, BA, UC, Los Angeles, 1987; MLIS, San Jose State University, 1995; MA, San Francisco State University, 2000.

Lorrie Knight, Professor, Instruction Librarian, 1996, BA, University of Texas, Austin, 1975; MLIS, Louisiana State University, 1989.

Michelle Maloney, Assistant Professor, Reference Librarian, 2007, BA, University of Massachusetts, Amherst, 2000; MLIS, University of Illinois at Urbana-Champaign, 2006.

Rachel Keiko Stark, Assistant Professor, Health Sciences Librarian, 2013, BA, Willamette University, 2008; MLS, Drexel University, 2012.

Veronica Alzalde Wells, Assistant Professor, Access Services/Music Librarian, 2010, BA, Luther College, 2006; MLIS, University of Wisconsin-Madison, 2008; MA, University of Wisconsin-Madison, 2010.

# Emeritus Faculty/Staff

Name	Year and Degrees		
Glen A. Albaugh	1971, Professor of Sport Sciences, Emeritus, 1999.	Lee Christianson	1967, Professor of Biological Sciences, Emeritus, 2006.
Steven C. Anderson	1970, Professor of Biological Sciences, Emeritus, 1997.	Elmer U. Clawson	1974, Professor of Education, Emeritus, 1995.
Judith K. Andrews	1966, Associate Professor, University Libraries, Emerita, 2001.	Thomas A. Coyne	1978, Professor of Law, Emeritus, 1999.
Michael H. Ballott	1971, Professor of Business, Emeritus, 2005.	Donald DaGrade	1970, Professor of Bassoon and Saxophone, Emeritus, 2007.
David P. Baral	1981, Professor of Education, Emeritus, 1999.	Mamie Darlington	1992, Associate Professor of Sociology, Emerita, 2005.
Roger Barnett	1965, Professor of Geography, Emeritus, 1999.	Robert W. Dash	1964, Professor of Modern Language and Literature, Emeritus, 2001.
Kenneth L. Beauchamp	1969, Professor of Psychology, Emeritus, 2007.	Gilbert L. Dellinger	1973, Professor of Art, Emeritus, 2000.
Robert Benedetti	1989, Dean of the College of the Pacific, 2002, Executive Director of the Jacoby Center, Professor of Political Science, Emeritus, 2013	Donald V. DeRosa	1995, President Emeritus, 2009.
David F. Besch	1985, Assistant Professor of Electrical and Computer Engineering, Emeritus, 2002.	Roland B. di Franco	1972, Professor of Mathematics, Emeritus, 2001.
Robert W. Blaney	1966, Professor of Religious Studies, Emeritus, 1996.	Clifford L. Dochterman	1972, Vice President, Emeritus, 1990.
James Blankenship	1977, Professor of Pharmacology, Emeritus, 2010.	Richard P. Dodge	1964, Professor of Chemistry, Emeritus, 1994.
John W. Blasingame	1982, Associate Professor of Business, Emeritus, 1999.	William C. Dominik	1967, Professor of Music, Emeritus, 1995.
George P. Blum	1962, Professor of History, Emeritus, 1999.	Arthur A. Dugoni	1951, Dean of the Dugoni School of Dentistry and Professor of Dentistry, Emeritus, 2006.
Dennis Brennan	1978, Assistant Dean and Associate Professor of Education, Emeritus, 2012.	I. Dale Dunmire	1973, Professor of Electrical and Computer Engineering, Emeritus, 1990.
William H. Brennan	1976, Associate Professor of History, Emeritus, 2006.	Alberto Eraso	1964, Associate Professor of Modern Language and Literature, Emeritus, 1990.
Gwenneth L. Browne	1968, Professor of Philosophy, Emerita, 1997.	Susan W. Eskridge	1989, Associate Professor of Education, Emerita, 2009.
Donald W. Bryan	1974, Associate Professor of Business, Emeritus, 2007.	H. Richard Etlinger	1982, Professor of Music Management/Business, Emeritus, 2000.
Gaylon L. Caldwell	1970, Dean of Elbert Covell College and Professor of Political Science, Emeritus, 1982.	Lee C. Fennell	1968, Professor of Political Science, Associate Provost and University Registrar, Emeritus, 1999.
Wallace F. Caldwell	1970, Professor of Political Science, Emeritus, 1994.	U. Wolfgang Fetsch	1967, Professor of Piano, Emeritus, 1991.
John P. Carew	1967, Professor of Economics, Emeritus, 1995.	Dale Fjerstad	1974, Associate Professor of Trumpet, Emeritus, 1986.
Patrick N. Catania	1970, Professor of Clinical Pharmacy, Emeritus, 2006.	Barbara Flaherty	1988, Associate Professor of Art, Emerita, 2010.
Judith Chambers	1973, Vice President for Student Life, Emerita, 2001.	David Q. Fletcher	1973, Professor of Civil Engineering, Emeritus, 2006.
Kishori Chaubal	1972, Associate Professor of Biological Sciences, Emerita, 1999.	Paul T. Fogle	1979, Associate Professor of Speech-Language Pathology, Emeritus, 2012
Madhukar G. Chaubal	1964, Professor of Medicinal Chemistry, Emeritus, 1999.	David Fries	1973, Professor of Medicinal Chemistry, Emeritus, 2010.
Roy Childs	1973, Professor of Sociology, Emeritus, 2008.	Joan E. Coulter Garn	1973, Assistant Professor of Music, Emerita, 1997.
Deann J. Christianson	1967, Professor of Mathematics, Emerita, 2006.	George Gould	1983, Professor of Law, Emeritus, 2008.

Alex T. Granik	1982, Associate Professor of Physics, Emeritus, 2005.	Margaret A. Langer	1981, Associate Professor of Education, Emerita, 2002.
Carol Ann Hackley	1985, Professor of Communication, Emerita, 2011.	Neil L. Lark	1962, Professor of Physics, Emeritus, 1999.
Fay B. Haisley	1984, Dean, Gladys L. Benerd School of Education and Professor of Education, Emerita, 1999.	Estelle P. Lau	1977, Professor of Education, Emerita, 2000.
Robert E. Hamernik	1962, Professor of Civil Engineering, Emeritus, 1998.	Arthur M. LaVere	1968, Professor of Dentistry, Emeritus, 1998.
George T. Hankins	1980, Professor of Electrical and Computer Engineering, Emeritus, 1991.	Alan S. Leider	1975, Professor of Dentistry, Emeritus, 1998.
Roseann Hannon	1970, Professor of Psychology, Emerita, 2010.	Ira C. Lehn	1968, Professor of Violoncello, Emeritus, 1991.
Halvor P. Hansen	1959, Professor of Communication, Emeritus, 1990.	George H. Lewis	1970, Professor of Sociology, Emeritus, 2013
Lois N. Harrison	1985, Professor of Music Education, Emerita, 1997.	Ronald H. Limbaugh	1966, Professor of History, Emeritus, 2000.
Paul J. Hauben	1969, Professor of History, Emeritus, 1994.	B. Jean Longmire	1976, Professor of Education, Emerita, 2005.
Gary N. Howells	1971, Professor of Psychology, Emeritus, 2013	Armand P. Maffia	1971, Associate Professor of Education, Emeritus, 1983.
Wilbur R. Hughes	1980, Professor of Dentistry, Emeritus, 1995.	Douglas W. Matheson	1968, Professor of Psychology, Emeritus, 2004.
J. Carolyn Hultgren	1989, Assistant Professor of Physical Therapy, Emerita, 2002.	Alice Jean Matuszak	1963, Professor of Medicinal Chemistry, Emerita, 2000.
Leonard A. Humphreys	1970, Professor of History, Emeritus, 1991.	Charles A. Matuszak	1963, Professor of Chemistry, Emeritus, 2000.
Mari G. Irvin	1981, Professor of Education, Emerita, 2000.	Hugh J. McBride	1975, Professor of Education, Emeritus, 1996.
Ravi Jain	2000, Dean of the School of Engineering and Computer Science, Professor of Civil Engineering, Emeritus, 2013	Maurice L. McCullen	1970, Professor of English, Emeritus. 2002.
Patrick R. Jones	1974, Professor of Chemistry, Emeritus, 2011.	Dale W. McNeal	1969, Professor of Biological Sciences, Emeritus, 2002.
Roger C. Katz	1974, Professor of Psychology, Emeritus, 2006.	E. Leslie Medford, Jr.	1962, Dean of Admissions, Emeritus, 1988.
David E. Keefe	1978, Associate Professor of Economics, Emeritus, 2011.	Lawrence Meredith	1966, Professor of Religious Studies, Emeritus, 1999.
W. Joseph King	1983, Professor of Electrical and Computer Engineering, Emeritus, 2009.	Doris C. Meyer	1956, Professor of Physical Education, Emerita, 1990.
John R. Knight	1995, Professor of Finance and Real Estate, Emeritus, 2013.	David Wilkinson Miller	1981, Professor of Law, Emeritus, 2006.
Lorrie Knight	1996, Reference/Instruction Librarian, Professor, Emerita, 2013	Sally M. Miller	1967, Professor of History, Emerita, 1999.
Robert T. Knighton	1967, Professor of English, Emeritus, 2001.	James P. Morgali	1961, Professor of Civil Engineering, Emeritus, 1999.
J. Curtis Kramer	1975, Professor of Geosciences, Emeritus, 2005.	Robert D. Morrow	1975, Professor of Education, Emeritus, 2002.
Lynn Kraynak	1987, Associate Professor of Religious and Classical Studies, Emerita, 2012.	Roger C. Mueller	1969, Professor of English, Emeritus, 1997.
Janine Kreiter	1959, Professor of Modern Language and Literature, Emerita, 1994.	Fred Muskal	1970, Professor of Education, Emeritus, 2009.
Robert A. Kreiter	1960, Professor of Modern Language and Literature, Emeritus, 1994.	John M. Nagle	2000, Dean of the Benerd School of Education and Professor of Education, Emeritus, 2006.
Bruce LaBrack	1975, Professor of Anthropology, Emeritus, 2008.	George L. Nemeth	1970, Professor of Horn and Music History, Emeritus, 2005.
		Thuan V. Nguyen	1969, Professor of Engineering, Emeritus, 1998.
		Carl E. Nosse	1980, Professor of Theory-Composition, Dean, Conservatory of Music, Emeritus, 1999.
		Elizabeth Rindskopf Parker	2002, Dean of the Pacific McGeorge School of Law, Emerita, 2013



J. Ronald Pecchenino	1970, Professor of Art, Emeritus, 1996.	Reuben W. Smith III	1972, Dean of the Graduate School and Professor of History, Emeritus, 1994.
Newman Peery	1982, Professor of Business, Emeritus, 2008.	Roland C. Smith	1971, Professor of Dentistry, Emeritus, 1998.
Edwin R. Pejack	1982, Professor of Mechanical Engineering, Emeritus, 2007.	Donald L. Sorby	1984, Dean of the School of Pharmacy, Emeritus, 1995.
Richard L. Perry	1961, Professor of Physics, Emeritus, 1997.	Larry O. Spreer	1970, Professor of Chemistry, Emeritus, 2011.
Sandra L. Persels	1976, Professor of Drama, Emerita, 1996.	S. Thomas Stubbs	1963, Associate Professor of Sport Sciences, Emeritus, 1999.
John C. Phillips	1976, Professor of Sociology, Emeritus, 2008.	J. Connor Sutton	1963, Associate Professor of Sport Sciences, Emeritus, 1999.
Larry L. Pippin	1965, Professor of Political Science and Geography, Emeritus, 1994.	Ted T. Takaya	1979, Professor of Modern Language and Literature, Emeritus, 1996.
Edward T. Pohlman	1961, Professor of Education, Emeritus, 1995.	Paul A. Tatsch	1980, Associate Professor of Business, Emeritus, 2005.
Donald R. Poulton	1980, Professor of Dentistry, Emeritus, 2009.	Douglas Tedards	1982, Associate Professor of English, Emeritus, 2007.
Virginia L. Puich	1969, Associate Professor of Communicative Disorders, Emerita, 1997.	William Topp	1970, Professor of Computer Science, Emeritus, 2008.
Herbert R. Reinelt	1962, Professor of Philosophy, Emeritus, 1999.	Richard H. Turpin	1984, Professor of Electrical and Computer Engineering, Emeritus, 2005.
Claude D. Rohwer	1964, Professor of Law, Emeritus, 2005.	Darcy Umphred	1987, Professor of Physical Therapy, Emerita, 2006.
Howell L. Runion	1969, Professor of Physiology and Pharmacology, Emeritus, 2003.	Warren van Bronkhorst	1967, Professor of Violin, Emeritus, 1991.
Robert Sarka	1982, Professor of Dentistry, Emeritus, 2004.	Judith L. Van Hoorn	1982, Professor of Education, Emerita, 2007.
Darwin Sarnoff	1972, Professor of Pharmacy Practice, Emeritus, 2004.	Richard J. Vargo	1981, Professor of Accounting, Emeritus, 2013
Ralph L. Saroyan	1970, Director of Pharmacy Pre-Health Programs, Emeritus, 2002.	Ray VarnBuhler	1980, Professor of Art, Emeritus, 1998.
Barbara Sayles	1962, Associate Professor of Modern Language and Literature, Emerita, 2002.	Ravindra C. Vasavada	1973, Professor of Pharmaceutics, Emeritus, 2000.
Gilbert W. Schedler	1967, Professor of English and Religious Studies, Emeritus, 2004.	William H. Wadman	1955, Professor of Chemistry, Emeritus, 1988.
John V. Schippers	1962, Professor of Education, Emeritus, 1990.	Patricia Wagner	1962, Professor of Sociology, Emerita, 1981.
George W. Schroeder	1981, Professor of Electrical Engineering, Emeritus, 2005.	Coburn C. Ward	1977, Professor of Mathematics, Emeritus, 2001.
Glendalee Scully	1976, Professor of Law, Emerita, 2008.	Lori D. Warner	1987, Associate Professor of Economics, Emerita, 2007.
Jed Scully	1977, Professor of Law, Emeritus, 2008.	Donald K. Wedegaertner	1963, Professor of Chemistry, Emeritus, 2004.
John E. Seaman	1969, Professor of English, Emeritus, 1999.	Philip Wile	1987, Professor of Law, Emeritus, 2007.
Francis Michael Sharp	1979, Professor of Modern Language and Literature, Emeritus, 2008.	Roy A. Whiteker	1976, Dean of the College of the Pacific, Emeritus, 1989; Professor of Chemistry, Emeritus, 1992.
Clark Shimeall	Assistant Professor of Geology, Emeritus, 1986.	William P. Whitesides	1978, Professor of Voice, Emeritus, 1996.
Donald Y. Shirachi	1971, Professor of Physiology and Pharmacology, Emeritus, 1994.	Harvey R. Williams	1977, Professor of Sociology, Emeritus, 2005.
Anthony Skrocki	1973, Professor of Law, Emeritus, 2004.	John S. Williams	1965, Professor of English, Emeritus, 1998.
Douglas Smith	1970, Professor of Computer Science, Emeritus, 2007.	Robert R. Winterberg	1950, Vice President, Emeritus, 1990.
John D. Smith	1970, Professor of English, Emeritus, 1999.	Paul H. Winters	1956, Professor of Communication, Emeritus, 1989.

William Wolak	1975, Professor of Theatre Arts, Emeritus, 2007.
David E. Wolfe	1987, Professor of Music Therapy, Emeritus, 2007.
Donald H. Wollett	1979, Professor of Law, Emeritus, 1991.
Carl E. Wulfman	1961, Professor of Physics, Emeritus, 1996.
Walter Zimmermann	1970, Professor of Mathematics, Emeritus, 2008.

# Campus Map

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Click the map below for a larger view. An interactive campus map can be found at <http://www.pacific.edu/Campus-Map.html>

# Academic Calendar

## 2013 Fall Semester

(All Schools and Colleges except Pharmacy)

Description	Date(s)
Orientation and Registration	
Session 1 (Freshmen)	June 25-26
Session 2 (Freshmen)	June 28-29
Payment Deadline for Fall 2013	August 1
Transfer Student Orientation	August 15-16
International Student Orientation	August 19
Session 3 (Freshmen)	August 20-21
New Graduate Teaching/Research Assistants Orientation	August 22
Graduate Student Orientation	August 22
Classes Begin	August 26
# Registration re-opens	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
Fall Student Break	October 4
Spring 2014 Schedule of Classes available Online	October 7
* Advising for Spring 2014 Registration for continuing students	October 14 - November 1
Last Day for Pro-Rated Refund	October 17
Fall Festival (Parent and Family Weekend)	October 18 -20
Last day to Withdraw	October 28
* Early Registration Appointment begin date for continuing students Spring 2014	October 28
* Early Registration/continuing graduate students Spring 2014	October 28 - January 18
* Early Registration/continuing undergraduate students Spring 2014	October 29 - December 23
Thanksgiving Break	November 27 - 29
Classes Resume	December 2
Classes End	December 6
Final Examination Period	December 9 - 13

## 2014 Spring Semester

(All Schools and Colleges except Pharmacy)

Description	Date(s)
Payment Deadline for Spring 2014	January 1
International Student Orientation	January 8
New Student/Transfer Orientation and Registration	January 9 - 10
Graduate Student Orientation	January 10
Classes Begin	January 13
# Registration re-opens	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
Last Day for Pro-Rated Refund	March 7
Summer 2014/Fall 2014 Schedule of Classes Available Online	March 10
Spring Break	March 10 - 14
Classes resume	March 17
* Advising for Fall 2014 for continuing students	March 24 - April 8
Last day to withdraw	March 27
* Early Registration Appointment begin date for continuing students Fall 2014	March 31
* Early Registration/continuing graduate students Fall 2014	March 31 - September 4
* Early Registration/continuing undergraduate students for Fall 2014	April 1 - May 16
Deadline for Application for Fall 2014, Spring 2015, Summer 2015 graduation	April 3
Classes End	April 30
Study Day	May 1
Final Examination Period	May 2 - 8
Commencement	May 10

# Advisers should arrange to be available on this day.

\* Limited to Currently enrolled students.

## School of Pharmacy and Health Sciences

### 2013 Fall Term

Description	Date(s)
Early Registration Fall 2013 - Incoming 1st year students	July 2 - 9
Early Registration Fall 2013 - Incoming graduate students	July 2 - September 6
Payment deadline for Fall 2013	August 1
Advanced Pharmacy Practice Experiences	Aug 19 - December 20
Orientation	August 21 - 23
Classes Begin	August 26
# Registration, re-opens	August 26
Labor Day Holiday	September 2
# Last Day to Add Classes	September 6
# Last Day to Drop Classes without record of enrollment	September 6
Pharmacy Winter 2014 Schedule of Classes Available Online	October 7
Midterm Exams	October 7 - 11
Last Day for Pro-rated refund	October 14
* Advising for Winter 2014	October 14 - 18
* Early Registration for Winter 2014	October 21 - November 1
Last Day to Withdraw	October 28
Classes End	November 25
Thanksgiving Break	November 27 - 29
Final Examination Period	December 2 - 6



## 2014 Winter Term

Description	Date(s)
Payment deadline for Winter 2014	December 1
Classes Begin	January 6
# Registration re-opens	January 6
Advanced Pharmacy Practice Experiences	January 6 - May 9
# 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 Spring 2014 Schedule of Classes Available Online	February 17
Midterm Exams	February 18 - 21
* Advising for Spring 2014	February 24 - 28
Last Day for Pro-Rated Refund	February 25
Last day to Withdraw	March 3
* Early Registration for Spring 2014	March 3 - 14
Deadline for Application for Fall 2014/Spring 2015/ Summer 2015 graduation	April 3
Classes End	April 8
Final Examination Period	April 10 - 16

## 2014 Spring Term

Description	Date(s)
Payment deadline for Spring 2014	April 1
Classes Begin	April 28
# Registration re-opens	April 28
Pharmacy Fall 2014 Schedule of Classes Available Online	May 5
# Last Day to Add Classes	May 9
# Last Day to Drop Classes without record of enrollment	May 9
* Advising for Fall 2014 Term	May 12 - 16
Commencement	May 17
* Early Registration for Fall 2014	May 19 - 30
Memorial Day Holiday	May 26
Midterm Exams	June 9 - 13
Last Day for Pro-Rated Refund	June 16
Last Day to Withdraw	June 20
Fourth of July Holiday Observed	July 4
Early registration Fall 2014 - Incoming 1st year students	July 7 - 18
Early registration Fall 2014 - Incoming graduate students	July 7 - September 5
Classes End	July 29
Final Examination Period	July 31 - August 6

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