

1972

PAU Bulletin 1972-1973

Pan American University

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Pan American University
Edinburg, Texas

1972-73 BULLETIN

BULLETIN
of
PAN AMERICAN UNIVERSITY
Edinburg, Texas

Member of

Association of Texas Colleges and Universities

American Council on Education

Association of American Colleges

American Association of Colleges for Teacher Education

Southern Association of Colleges and Schools

Approved for Teacher Education by the

Texas Education Agency

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Number 2

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1972-73

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PHILOSOPHY

Pan American University is a democratic institution which is dedicated to the preservation and extension of responsible human freedom and to the enlightenment of the Rio Grande Valley community.

As such an institution, it is dedicated to the following:

The belief that it is the obligation of Pan American University to help perpetuate the best of American cultural heritage and to blend with it the outstanding features of Latin-American culture, and to propagate the best that is known and thought in the world.

The belief that every student should be considered an individual with individual needs and, as such, be counseled into pursuing the areas of learning for which he is capable and suited, and in which he is interested, and into pursuing the broader areas available to him in a first-class senior college, basically a liberal arts college.

The belief that every student should be stimulated to know and cherish his American heritage, to develop adequate skills in oral and written communication, to understand his place in the physical universe and to appreciate, enjoy, and participate in the fine arts.

The belief that the University should provide the highest possible professionally trained faculty and administrative staff for its students.

The belief that the faculty and administrative staff should provide a functional, adequate, and aesthetically planned physical plant and campus for the use and enjoyment of university personnel, students and citizens in the area.

EQUAL OPPORTUNITY EMPLOYER

It is the policy of Pan American University to recruit, hire, and promote all job classifications without regard to race, color, religion, sex, or national origin, except where sex is a bona fide occupational qualification.

CARVED BAPTISMAL FONT—The font, pictured on the cover, came from the Michoacan area in Mexico where a church had been destroyed. The font, probably of 18th Century origin, was donated to Pan American University by architect Kenneth Bentsen of Houston, who has collected many pieces of art from Mexico. The font is situated in the fountain area at the Fine Arts Center.

(Color photo by Gerald Whitaker.)



Stampedes of University students into the spacious field house first occur on registration day. During the basketball season, the masses again parade through the gates to enjoy the intercollegiate competition.

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UNIVERSITY CALENDAR

1972-1973

Dates and deadlines for applications for student loans, scholarships, or other financial aid are set up by the Financial Aid office and are listed on page 32 of this catalog.

Deadline Dates for Graduate School are listed in the Graduate Bulletin.

Residual ACT tests will be given each semester just prior to registration. Contact the Student Affairs Office for time and place.

FIRST SEMESTER

August 7, Monday

Application for Admission and supporting documents (health certificate, transcript of credits, and ACT test results) must be received by the Admissions Office by this date to insure processing for admission to fall semester. Prospective students should file documents as early as possible before this deadline.

August 28, Monday

1. Deans and Department Heads will be in their offices, beginning on this date, to advise prospective students. All students who need academic counseling should arrange to obtain it during this period.
2. Dormitories open for occupancy at 1:00 p.m.

August 29, Tuesday

1. Freshman Orientation (Mandatory)
2. Faculty meetings.

August 30, Wednesday

1. Registration by appointment will begin at 8:00 a.m.
2. Registration by appointment for evening classes will begin at 7:00 p.m.

August 31, Thursday and September 1, Friday

Registration by appointment continues through Friday afternoon.

Note: If a student wishes to register for any combination of regular day and Saturday or evening classes, he must register according to his day class assignments.

September 5, Tuesday

1. Classes begin.
2. First day for making schedule changes.

September 6, Wednesday

Last day for making schedule changes.

September 18, Monday

Twelfth class day. Last day for any tuition or fee refund.

October 4, Wednesday

Last day to drop a course or to withdraw from the University without having a grade recorded.

October 16, Monday

Deadline for filing an *Application for Degree* form with the Registrar's Office for students expecting to graduate in May, 1973.

October 23, Monday

Unsatisfactory reports will be filed with the Registrar's Office and posted by 9:00 a.m.

November 23-25, inclusive

Thanksgiving.

December 15-21, inclusive

First semester final examinations.

December 22, Friday

1. Grade reports due in Registrar's Office by 4:00 p.m.
2. End of first semester.

SECOND SEMESTER**December 11, Monday**

Application for Admission must be received by the Admission Office by this date to insure processing for admission to spring semester.

January 10, Wednesday

1. Freshman Orientation (Mandatory)
2. Dormitories open for occupancy at 8:00 a.m.

January 11-12

Registration by appointment.

January 15, Monday

1. Classes begin.
2. First day for making schedule changes.

January 16, Tuesday

Last day for making schedule changes.

January 27, Saturday

Twelfth class day. Last day for any tuition or fee refund.

February 12, Monday

Last day to drop a course or to withdraw from the University without having a grade recorded.

February 15, Thursday

Deadline for filing an Application for Degree form with the Registrar's Office for students expecting to graduate in August, 1973.

March 5, Monday

Unsatisfactory reports will be filed with the Registrar's Office and posted by 9:00 a.m.

March 12-17, inclusive

Spring recess.

April 19-21, inclusive

Easter

May 1, Tuesday

Deadline for filing an Application for Degree form with the Registrar's Office for students expecting to graduate in December, 1973.

May 7-12, inclusive

1. Second semester final examinations.
2. Dormitories close at 6:00 p.m. on May 12.

May 15, Tuesday

Grade reports due in Registrar's Office by 4:00 p.m.

May 20, Sunday

Commencement exercises.

SUMMER SESSION, 1973**April 27, Friday**

Application for Admission form must be received by the Admissions Office by this date to insure processing for admission to first summer term.

June 4, Monday

Registration by appointment for first summer term.

June 6, Wednesday

Classes begin.

June 7, Thursday

Last day to register or make changes in class schedules.

June 9, Saturday

Fourth class day. Last day for any tuition or fee refund.

July 4, Wednesday

Independence Day.

July 11, Wednesday

First term final examinations.

July 13, Friday

Registration by appointment for second summer term.

July 16, Monday

Classes begin.

July 17, Tuesday

Last day to register or make changes in class schedules.

July 19, Thursday

Fourth class day. Last day for any tuition or fee refund.

August 17, Friday

Second term final examinations.

August 26, Sunday

Commencement exercises.

OFFICERS AND COMMITTEES

1971-1972

PAN AMERICAN UNIVERSITY

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Lou Hassell	Houston
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James McKone	<i>Sports Information Director</i>

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Robert Crane	<i>Director</i>
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Barbara Dierlam	<i>Receptionist</i>

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Honors Program

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 Helen Snider *Assistant Registrar*

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Porter Stratton	<i>Department Head</i>
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Jackson G. Barefield	<i>Department Head</i>

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J. Lell Elliott	<i>Department Head</i>
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Gertrude Wright	<i>Bursar</i>

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B. J. Pigg	<i>Manager</i>
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 John R. Sawyer
 Arnulfo S. Martinez

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 John B. Raimo
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 Joe F. Wilson
 Carl C. Wright
 L. A. Youngman
 Ex-officio—J. C. Nichols

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 Elmer Flaccus
 Leslie Gower
 Mary Ann Lipford
 Phelma Moore
 John B. Raimo

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 Homer J. Pena

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 Paula Fix Dean
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 William S. Ware
 Barry Thompson
 Students:
 Paul Cowen
 Jesus Ramirez
 Mariana Torres
 Ex-officio—Vernon L. Davis
 Harry Quin
 Arnulfo S. Martinez



"Is B.A. 1301 still open? It's Not? Now what am I supposed to do?" Despite the multitude of similar questions confronting the registrar, Pan Am tries to alleviate the long lines for the incoming students on registration day.

HISTORY OF THE UNIVERSITY

Pan American University entered the seventies preparing for a 12,000-plus student enrollment by 1980. One of the state's fastest growing universities, Pan Am is putting the finishing touches to a \$12 million building program, known as Phase One.

More expansion and construction is expected during the next decade and work could start as soon as 1972 when additional construction funds become available for Phase Two.

The last building under the initial building program is the Education Building, which will be shared by the schools of business and education when completed in early 1972.

Scheduled for inclusion in Phase Two is a new Astro-Science Center which will contain classrooms, space-age laboratories, a planetarium, observatory and office space for the faculty.

The present administration building will be remodeled and expanded to conform with the Spanish design of other new buildings on campus.

Construction in the seventies also will see a new two-story business administration building constructed just to the west of the Education Building. Another dormitory complex is on the drawing boards which will double the present on-campus housing capacity of 520 students. A new dining hall also is planned to serve the resident students.

Modern progress started at Pan American University on September 1, 1965, when the school became the 22nd Texas institution of higher learning to receive state support.

This institution first began operation in September, 1927, as Edinburg Junior College and served as a two-year junior or community college. During this quarter century period, as the population grew, there was a steadily increasing demand that the Edinburg Regional College be expanded to a four-year college to better serve the needs of the citizenry. In response to this demand, a law was passed by the Legislature and signed by the Governor on May 13, 1951, enabling the people of Hidalgo County to vote on the expansion of the college which would serve the needs of this section. The election held December 29, 1951, resulted in the establishment of the Pan American Regional College District which included all of Hidalgo County.

In September of 1952, a full four-year program was offered. Each year of operation saw a steady increase in the enrollment and in the number of students graduating. In the 20-year period as a senior college, the enrollment of students has increased from 693 to 6,231 in 1972. As a junior institution, the physical worth was \$557,178 in 1951. Current property assets at Pan American are in excess of \$17 million. During this period, rapid progress in scholastic programs have increased offering degrees in three areas of study. As a consequence of these growth records and the strained financial resources of the college district, the college reached its goal of state-support in 1965. In 1971 the school was given University status by the Texas Legislature.

BUILDINGS AND EQUIPMENT

EAST CAMPUS

The *Old Administration Building* contains administrative offices, including two of the Deans, the Director of Inter-American Institute, and some of the Department Heads. In addition, it contains classrooms and faculty offices.

The *Art Building* located north of the old administration building contains classrooms and laboratories. A minor portion is being used for print classes in art. Other art classes have moved to the new Fine Arts Center on the West Campus.

The *Drama Building* contains one large classroom and a student darkroom.

The *Industrial Education Building* contains the laboratory equipment used in several areas of Industrial Education: power technology, welding metallurgy machine shop, sheet metal, and electricity; also, it has an air-conditioned lecture-demonstration room, and provides space requirements for some of the Fine Arts crafts, as well as offices and storerooms.

The *Woods Laboratory* provides the housing for the tools and equipment necessary for all areas of wood-working: crafts, pattern-making, cabinet-making, upholstery, and a complete finishing area.

The *Piper Building* is a small building housing the offices of the School of Education and other faculty offices.

The *Old Science Building*, formerly used by the Department of Biology and Chemistry, contains laboratories, classrooms, and offices. Presently, Nursing Education is using office and laboratory space in this building.

WEST CAMPUS

Since the beginning of the four-year institution in 1951, approximately 120 acres of land have been purchased by Pan American University, with the aid of the citizens of Edinburg. This acreage was acquired and expanded the existing eight and one-half acres, purchased and used by the Edinburg Regional College for physical education classes where a field house had been constructed in 1950. This area became known as the West Campus and is now in process of intensive development. Twelve new buildings are completed and form the nucleus for the beautiful campus envisioned on the Master Plan for the University.

The *Administration Building* is located just west of the Library, it contains the administrative offices of the President, Vice President for Academic Affairs, Vice President for Business Affairs, Public Information and Dean of Admissions and Registration.

The *Chapel of the Lord's Prayer*, completed early in 1967, was made possible through the generosity of Mrs. Joe Crump of Mission and Midland and her late husband. The building, located directly north of the University Library, is beautifully furnished with an organ and with seats for 48 persons.

The *University Center* is the focal point of student life on campus and serves a variety of student and faculty organizations which use it as a meeting place. The structure is completely air-conditioned. The Center is comprised of a bookstore, a cafeteria and a snack-bar which seat about 200 each, a faculty lounge, a ballroom with a 600 capacity and the activities wing. The activities wing contains a large recreation room equipped with game tables, pool tables, lounging furniture, and a TV lounge, four conference rooms and the offices for the Vice-President for Student Affairs, the Dean of Men, and Director of Placement, Dean of Women, Director of the University Center and Student Activities, and Student Association. As the center of University community life, it serves as a laboratory of citizenship, training students in social responsibility and for leadership in our democracy. Through its various committees, and staff, it provides a cultural, social, and recreational program, aiming to make free time activity a co-operative factor with study in education. In all its processes it encourages self-directed activity, giving maximum opportunity for self-realization and for growth in individual social competency and group effectiveness. Its goal is the development of persons as well as intellects.

The *Cooling Plant* provides chilled water for air conditioning all buildings. Carrying cool water pipes from the plant to all buildings is the covered walkway which extends for about a mile around the campus. It also provides a protected place for students to walk from class to class. Construction cost was \$2 million.

The *Engineering Building* contains 25,000 square feet of floor space. The completely air-conditioned structure is fully equipped with new furniture and laboratory facilities. Classrooms, reading and conference rooms are provided as well as laboratories for physics, geology, mechanical drawing, and physical science, which are used in regular class work and research.

A *Field House* with a full-size basketball court, and showers and dressing rooms for both men and women, was constructed before the University became a four-year institution. Subsequently, additional showers and locker spaces have been provided.

The *Fine Arts Center* houses the entire Art Department with class and activity areas for all branches of the arts offered. It was recently completed at a cost of \$1,250,000. In addition to the student learning and practice areas, it has an auditorium seating 1,000 persons and is used for university and public functions.

The *Health and Physical Education Complex* provides a 5,000-seat arena for the university's basketball games, activity and classroom space for students in the required physical education courses. It was completed late in 1969 at a cost of \$1,750,000.

The *Liberal Arts Building* is fully air-conditioned and contains modern furnishings in the 17 classrooms. Also provided in the building are 17 individual offices for faculty members and an office for the secretary. This building was constructed and ready for use in the fall semester of 1963.

The *Library* has a capacity for 113,000 volumes and total seating facilities for 520 students. The book collection now consists of 105,000 books, 22,000 vertical file items, 1,200 phonodiscs, and 114,000 physical units of microfilms. In addition, the library is a depository for United States Government Publications and at present houses a collection of 63,000 documents. 32 newspapers and 1,500

magazines, both foreign and domestic, are currently received. The library is housed in an attractive building recently expanded and remodeled. The building's architecture features a modern Spanish design of arches, buttresses, and a tower, which conforms to the "village concept" of the other new buildings on the West Campus.

The *Observatory and Astro-Science Center* on the West Campus presently includes: a 22-foot Observatory Dome, housing a 17-inch telescope; a well-equipped Planetarium, presenting public and school programs at regular intervals with scheduling by the Region I Education Service Center; a number of smaller telescopes and astronomical cameras housed in separate structures; and office space for the Staff. The observatory complex also includes radio telescope equipment, darkroom, workshop, and laboratory.

At the former Moore Air Base, fifteen miles west of the campus, there is an astronautics laboratory, including offices, shop, photographic darkroom and rocket range. Astronomical instruments, such as a 16-inch reflecting telescope and photoelectric photometer housed in a dome, are used regularly as a part of the astro-science program. The 8-inch astronomical camera, made possible by the National Aeronautics and Space Administration, is being used in advanced laboratory work and undergraduate research by the Astro-Science majors.

The optics for a 41-inch reflecting telescope including the primary mirror is finished and will be used in a new telescope and observatory for both teaching and research at a dark sky site a few miles out from the campus.

The *Orville I. Cox Tennis Stadium* offers some of the finest playing surfaces to be found in the southwest. The Stadium, which was built through contributions from a number of interested friends of the University, has acquired a reputation as the location of the Annual Pan American Invitational Tennis Tournament which is held each spring.

New dormitories housing 200 men and 200 women are completely modern in every respect. The completely air-conditioned structures provide lounge space, auxiliary room such as laundry room, as well as quarters for the directors. Meals are served in the cafeteria in the University Center which is conveniently located to the dormitories. Information concerning reservations, cost and regulations may be obtained from the Office for Student Affairs.

A lighted *Baseball Field* is located north of the Observatory and is the playing field for the varsity team. Seating accommodations are provided for 200 spectators.

The *Science Building* on the West Campus, completed in 1969, is valued at \$1.5 million. The two-story air-conditioned building contains classrooms, darkrooms, faculty offices and laboratories for biology and chemistry. Also included is a large auditorium with seating facilities for 233 persons, and two smaller auditoriums seating 150 students each. The Data Processing center occupies a special room on the lower floor.

Southwick Hall and *Emilia Hall* house a classroom (Southwick) and faculty offices, including the graduate dean, personnel office, student newspaper, HEP and Proyecto Esperanza in Emilia Hall. Office for the Health Coordinator is located in Southwick.

STUDENT AFFAIRS



As a focal point for campus activities, the fountain and circular patio of the University Center attracts both performing musical groups and interested student and faculty spectators.

STUDENT AFFAIRS

GENERAL REGULATIONS

University students are expected to demonstrate a sense of responsibility for their actions and behavior. Each student is expected to become familiar with the working rules which have been adopted for the benefit of the entire student body. Observance of all local city ordinances, state laws, and national laws is expected of each student. It is the responsibility of each student to conduct himself in such a manner that his department, either on or off campus, will not lead to the embarrassment of the students nor to the university as a whole.

The following practices are considered unacceptable conduct for members of the university community and visitors to the university:

1. Theft of or damage to property of the university or of property of a member of the university community or the property of a visitor to the university.
2. Conviction of a crime or crimes, or offenses in courts of competent jurisdiction which involves the conviction of a felony and also conviction of a crime or crimes involving moral turpitude may subject a student to disciplinary action including suspension or expulsion.
3. Physical abuse or detention of any person on university owned or university controlled property or at any university sponsored or supervised function, or conduct which endangers the health, welfare or safety of any person.
4. Use, possession or distribution of narcotic or illegal drugs on university owned or controlled property, except as expressly permitted by law. Any student found guilty of illegal use, possession or sale of a drug or narcotic, or failure to pay tax on said narcotic, shall be automatically placed on indefinite suspension, regardless of whether or not the illegal act which gave rise to the conviction was committed on the campus or on university owned or university controlled property or any other premises.
5. Illegal or unauthorized possession or use of firearms, explosives, dangerous chemicals or other weapons on university owned or university controlled property.
6. Obstruction of the free flow of traffic, both pedestrian and vehicular, on or near university owned or university controlled property.
7. Violation of rules governing residence in university owned or controlled property.
8. Obstruction or disruption of teaching, research, administration, disciplinary procedures, or other university activities, including the university's public service functions or other authorized activities, on or near university owned or university controlled property, by a single student or in concert with others.
9. Failure to comply with directions of security personnel and any other law enforcement officers acting in performance of their duties and to identify one's self to these officers, faculty or administrative staff when requested to do so.

10. Unauthorized entry to or use of university facilities, including both buildings and grounds.
11. Failure to comply with the directions of university officials acting in the performance of their duties.
12. Disorderly conduct, use of obscene, vulgar and profane language, which would disrupt the maintenance of order and propriety; breach of the peace, and aiding, abetting or procuring another to breach the peace on or near university owned, or controlled property or at university sponsored or supervised functions.
13. Violation of university established policies or regulations, including regulations in the official catalogue, "Code of Student Affairs," the "Faculty Handbook," THE RULES OF PROCEDURE FOR THE BOARD OF REGENTS OF PAN AMERICAN UNIVERSITY, and other publications pertaining to the student organizations, student, faculty, administrative staff, non-academic employes and visitors conduct, the use of university facilities, or procedures concerning the time, place and manner of public expression.
14. *Section 1.* No person may buy, sell, create, duplicate, alter, give or obtain, or attempt to buy, sell, create, duplicate, alter, give or obtain a diploma, certificate, academic record, certificate of enrollment, or other instrument which purports to signify merit or achievement conferred by an institution of education in this state with the intent to use fraudulently such document or to allow the fraudulent use of such document.

Section 2. A person who violates this Act or who aids another in violating this Act is guilty of a misdemeanor and upon conviction is punishable by a fine of not more than \$1,000, and/or confinement in the county jail for a period not to exceed one year.

Member of the university community is defined as any student, full or part-time, faculty, or teaching personnel, administrative personnel, or non-academic employee of the university.

Persons who violate these regulations may be ejected from university property, and suspended or expelled, and may be liable to legal prosecution, as may be appropriate for any individual member of the university community or any visitor to the university. Any penalties assessed as a result of a violation of these regulations shall be imposed after adequate notice is given and a hearing is conducted.

THE FOLLOWING OTHER REGULATIONS ALSO APPLY:

Attendance: Work missed because of absence can be made up only by arrangement with the instructor or on recommendation of the appropriate department head. It is the individual responsibility of the student who is absent for any reason to notify the proper persons of the reason for his absence and to contact the appropriate department head for any permit required by his instructors. Work must be made up as soon as practicable. Students who expect to be absent will notify their instructors in advance of the absence. Students who miss a final examination must notify the instructor at once. There are no approved "cuts."

Class Responsibility: Each student is responsible for all of the work in each of his class groups. Failure to meet this obligation may lead to dismissal from the class, or *in the case of the student on probation*, from the university.

Alcoholic Beverages: The University prohibits the possession or consumption of alcoholic beverages on the campus, in university buildings, and on-campus dormitories. Students are held individually responsible for compliance with this regulation. Under this rule the university does not permit student organizations to serve alcoholic beverages at student functions or meetings held on the campus.

Publications: Publications may not be circulated on the university campus without permission of the Student-Faculty Publications Committee. All publications circulated on campus shall contain the names and addresses of all persons, individual or corporate, publishing same.

Gambling: State law specifically forbids gambling of any form on State property. Gambling in on-campus or off-campus housing may result in legal procedures and disciplinary action. Gambling on the campus by Pan American university students is in direct violation of university policy and may lead to disciplinary action.

Hazing: Hazing at any state educational institution is prohibited by law. Hazing is defined according to the General laws, Regular Session, 33rd Legislature 1913, Article 1152.

Fiscal Obligation: Any student who fails to meet his financial responsibility to the university will be subject to withdrawal.

Official Clearance: No transcript of credits or grades will be released to a student or to any designated person unless the student has settled all accounts due the university and has effected an official clearance through the Office of the Registrar, Business Affairs, and Student Affairs.

Scholastic Dishonesty: Any student guilty of scholastic dishonesty, which includes plagiarism, collusion, or cheating on any examination or test is subject to suspension from the university. Cheating involves either the giving, receiving, offering or soliciting of information, or the use of prepared material in an examination.

Social Functions: Any social function held under the name of the university or of any university organization or group requires the written approval of the Director of Student Activities prior to the date of the function. Any individual student or organization at Pan American University who is identified while participating in an unscheduled and/or unapproved student activity, either on or off campus, which leads to embarrassment of the student body or the university as a whole, will be subject to disciplinary action.

Summons to Administrative Offices: When it is necessary for a student to report to an administrative office for a conference, the summons may be transmitted by

letter, telephone, or other means of communication. A student who receives a summons is expected to report immediately. Failure to do so makes a student liable to suspension.

Eligibility for Representation: To represent the university in any type of contest or to receive awards for previous participation, a student must meet the university eligibility requirements.

- a. Be a full-time student.
- b. Meet the eligibility requirements of any conference or association in which he competes as a representative of the university.
- c. Meet the eligibility requirements of any organization which he is to represent.
- d. Before leaving the campus on any university sponsored trip, each student is required to have his eligibility certified by the Dean of the School in which the student is enrolled.

General Policy on Petitions: (Page 13 Rules of Procedure for the Board of Regents Pan American University, published 1962.) That no petition by any student or group of students may be circulated or presented to the Board of Regents for consideration until it has first been passed upon, approved and authorized by the Student Government and until it has then been presented through proper administrative channels to the Board of Regents, at which time, at the Board's discretion, it may or may not be considered. It is further recommended that any violation of this regulation by any student or group of students shall make them subject to expulsion.

The foregoing are published by the Board of Regents of Pan American University as rules and regulations under the provisions of Senate Bill number 162 as same was passed by the 60th Legislature and signed into law by the Governor.

Upon approval by the Board of Regents of Pan American University these regulations shall constitute a statement of policy by the Board and they may be amended by the Board of Regents pursuant to its responsibilities as delegated by the Legislature of the State of Texas.

In the event that any of these regulations shall be determined by a court of competent jurisdiction to be illegal, unconstitutional or void for any reason, it shall not affect the other provisions of these regulations, which shall remain in effect until such time as they are amended or changed as herein provided.

ALL STUDENTS WHO REGISTER WILL BE ISSUED AN IDENTIFICATION CARD

Use of the student ID card is governed by the following conditions:

1. It remains the property of Pan American University and must be surrendered:
 - (a) To the Office of the Registrar upon withdrawal. No transcript or official records will be released until it has been surrendered.

- (b) To any faculty member, administrative official or security officer of the university on demand.
2. It must be presented for:
- (a) Admission to the Library and use of its facilities.
 - (b) Any school or faculty sponsored activity.
 - (c) Admission to all varsity and freshman athletic events.
 - (d) Identification for cashing checks on the campus.
 - (e) Authorization to resell books to the Book Store.
 - (f) Checking out equipment from the University Center Office.
 - (g) Securing transcripts from the Office of the Registrar.
3. This card is *Non-Transferable*. Loss or mutilation must be reported to the Office for Business Affairs, **AND A CHARGE OF \$5.00 WILL BE MADE FOR REPLACEMENT.**

STUDENT HOUSING

Beginning with the freshman single students under 21 years of age who are *not* living with parents or guardians shall live on campus in the Residence Halls unless given permission to live off-campus by the Office for Student Affairs. Housing for all single minor students must be approved before a permit to register will be issued. Housing approval for women will be cleared through the Office of the Dean of Women. Housing for men will be cleared through the Office of the Dean of Men.

On-Campus Housing

Two resident Halls are provided on the Pan American University campus for housing:

New Residence Hall for Women	192 students
New Residence Hall for Men	192 students

All Residence Halls are air conditioned and centrally heated for year around comfort.

List of Articles for Dormitory Living

- 4 to 6 sheets (beds are too long for fitted sheets)
- 2 to 3 pillow cases
- 4 to 6 towels

- 1 waste basket
- 2 to 4 wash cloths
- 1 quilted pad for single bed
- 1 bedspread for single bed (optional)
- 1 alarm clock (optional)

If you would like to match your bedspreads, etc., may we suggest that you wait to buy them until you reach school and have been assigned a roommate, so that you may discuss together your color scheme and design. If you wish to hang anything on your wall, see the director of your dormitory for directions before doing so.

Linen Service: Arrangements have been made for linen service for those students who want it.

The following items will be furnished upon request:

- | | | |
|-------------------------------|---------------|---------------|
| I. To be delivered each week: | 2 sheets | 1 pillow case |
| | 4 bath towels | 4 wash cloths |

- Cost: 1 long-term semester—\$12.00
 2 long-term semesters—\$22.50
 1 6-wk. summer semester—\$5.00
 2 6-wk. summer semesters—\$9.00

- II. Over-night service, consisting of 2 sheets, 1 pillow case, 1 towel and 1 wash cloth—50c per night.

Conditions: Students will be expected to pay for lost linens, burns and unnecessary tears while linens are in his possession. If a student leaves the university within the first six weeks of the semester, a refund of 50% of deposit will be made. After the first six weeks there will be no refund.

Dormitory residents must comply with University regulations as stated above and, in addition, are subject to specific regulations governing each dormitory. These are posted in the dormitory or given to each occupant.

Directions for making dormitory room reservations, the schedule of fees and deposits, and other details concerning dormitories will be found under the section of the catalog headed *Student Expenses*.

OFF-CAMPUS HOUSING

It is necessary that each student have on file in the Office for Student Affairs and in the Office of the Registrar a correct living address. A student who changes his address after registration cards have been filed must report to these offices immediately and have his address corrected or be subject to disciplinary action. If a

minor student's parents or guardian wishes him to live in an off-campus residence, a written request from the parent or guardian must be filed prior to the time of registration with the Dean of Women or the Dean of Men. This statement must include the proposed place of residence and a waiver of responsibility. Each case will be subject to individual approval by the Dean of Women or the Dean of Men.

FINANCIAL AID TO STUDENTS

Frank G. Herrera, Director

Pan American University is an equal employment opportunity institution in the administration of its financial aid program. In keeping with this policy, financial aid is extended to students without regard to race, creed, color, sex, or ethnic origin.

There are several sources of student aid; through employment at the University placement in part-time jobs off the campus, scholarships, grants, and loan funds. All applications should be made to the Director of Financial Aid in the University Center building.

EMPLOYMENT BY THE UNIVERSITY:

There are some jobs available each year on the University campus, including work on buildings and grounds, secretarial work, library and laboratory assistantships, and similar places in university offices or buildings. Payment is usually on an hourly basis for these places and varies with the skill and experience of the student. Students whose scholastic records indicate ability to do creditable university work and who are unable to attend the university without financial help, will be given first consideration for all available jobs. Applicants for such places should submit an application as early as possible. Applications should indicate the quality of school or university work the student has done, as shown by his grades, and should give the name and address of at least three persons, not relatives, who can answer questions about the financial status of the applicant.

WORK-STUDY PROGRAM:

The Federal Work-Study Program has enabled the University to employ a sizable number of students. To qualify for the program a student must satisfy both the economic and scholastic requirements set forth under the program. Employment is available under the Work-Study Program both on-campus and off-campus, and a student may work for an average of 15 hours a week during any week in which classes are in session and for a maximum of 40 hours during any other week in the semester. During the summer months any Pan American University student or any high school graduate who has applied for admission to Pan American University, has been accepted, and will enroll as a full-time student in September, is qualified for the Work-Study Program provided he satisfies the other requirements which include maintaining satisfactory academic standings. It is possible to combine the Work-Study Program with other types of financial aid in order to help secure adequate finances for a student's university career.

GRANTS

Educational Opportunity Grants: The Federal Government established this program for students of exceptional financial need. A student may receive a maximum grant of \$1,000. However, no more than half his need may be met in the form of a grant. The remaining portion must be from some other type of assistance. The actual amount and qualification is determined from the family financial statement filed with each application.

Additional information and application forms may be secured by addressing the Financial Aid Director.

LOANS

National Defense Education Act of 1958: Recognizing the fact that loans are an increasingly important aspect of financing an education, Pan American University, by participating in the N.D.E.A. program, has some funds available with which a student may finance a substantial part of his education. A student may borrow up to \$1,000 per academic year at a low interest rate. Payout of funds borrowed starts one year from date of last attendance in an accredited institution of higher learning. Applicants are considered on the basis of financial need and demonstrated academic ability. Funds are limited and preference is given to the students who plan to teach after graduation. Upper classmen must maintain a satisfactory academic standing. Beginning freshmen must be able to predict a satisfactory academic standing. Further information and application forms may be secured by addressing the Financial Aid Director.

Hinson-Hazlewood Loan Program: The state of Texas, recognizing its responsibilities to the residents of Texas, established this loan program. A student may borrow up to \$1,000 per academic year at a low interest rate. The payout of funds borrowed does not start until the student is no longer attending an accredited institution of higher learning, provided that this does not exceed five years from the date the student received his first loan. Applicants are considered on the basis of financial need and demonstrated academic ability. Upper classmen must maintain a satisfactory academic standing. Beginning freshmen must be able to predict a satisfactory academic standing. Applicants must also be residents of Texas. Further information and application forms may be secured by addressing the Financial Aid Director.

Federally Insured Loan Program: This program has been designed for those people in the middle and upper income brackets. A student may borrow up to \$1,500 per academic year without regard to financial need. These loans are handled through the student's local bank and it is the responsibility of each applicant to work with the bank to secure the loan. The Financial Aid Director only certifies that the student is or has been accepted for enrollment during the period the application covers. The loan carries a low interest rate and is guaranteed by U.S. Government. Additional information and application forms may be secured by addressing the Financial Aid Director.

Sally Ross Sanders Loan Fund: Fund established by the past presidents of the Rio Grande Valley Federation of Women's Clubs. Loans are not to exceed \$25.00 and bear no interest. Loans must be repaid within the semester in which the loan is made.

College Short-Term Loans: This loan fund has been made possible through donations from a number of individuals and organizations. A portion of this fund is also made up of memorials given in memory of *Dr. J. B. Speer, Robert Karle, Gene Wilder, Emilia Ramirez, Eva L. Calderon, S. D. Hendrix, Ralph Morgan, Mrs. Joe Chapa, Clarence Durham Sr., Bill Robe, A. L. Cramer, John McFarland, Candace Walters, Charles Magurean, and Ellis Thomas.* Individual donations have been received from the San Juan Music Club, Mrs. Jimmy Roach Nicholson, and Delta Kappa Gamma Rho Chapter. These funds are administered by the college and are available to students for short-term loans. These loans are limited to no more than \$148 and must be repaid within the semester for which said funds were borrowed. These funds are designed to aid students who do not have sufficient funds to pay tuition, purchase books and supplies, and other such items, or to assist students when emergencies arise. A \$2.00 service charge is assessed against each loan.

Edinburg Rotary Loan Fund: This loan fund has been established through a very generous donation from the Edinburg Rotary Club. This fund is available to students on a short-term basis. A student may borrow a maximum of \$148.00 per semester and must repay this loan within the semester borrowed. A \$2.00 service charge is assessed against each loan.

McAllen Rotary Loan Fund: This loan fund has been established by a donation from the McAllen Rotary Club. The fund is available to students on a short-term basis who may borrow a maximum of \$148 per semester and repay the loan within the semester borrowed. A \$2.00 service charge is assessed against each loan.

L. D. Gilmore Memorial Loan Fund: This fund has been established through individual donations in memory of Dr. Gilmore. Preference will be given to students majoring in the educational field and is available on a short-term basis. Students may borrow a maximum of \$148 per semester and repay the loan within the semester borrowed. A \$2.00 service charge is assessed against each loan.

Educational Foundation of Texas Society of CPAs: This fund has been established by the Foundation for loans to accounting students of upper class rank. Loans will be made on the basis of need for financial assistance, scholastic record, faculty recommendation and dedication toward careers in any phase of accounting. These loans carry a low interest rate. Brochures may be obtained from the Director of Financial Aid or Dean of the Business School.

SCHOLARSHIPS

It is not possible to list all scholarships at present since many are being given directly to students from specific towns by organizations in the town or city. A partial list of some scholarships follows:

First honor graduates from accredited high schools of Texas are eligible for a scholarship which covers full cost of tuition for the freshman year in the University. These students are certified through the Texas Education Agency. Initial enrollment must be in this University.

The member of the Freshman class who makes the highest average in his class during a regular college year receives an award covering full cost of tuition for the *second half* of his sophomore year. To be eligible for the award the student must have attended Pan American University the entire freshman year and must have carried at least 14 semester hours of credit work each semester.

The Texas Education Agency, through the Division of Vocational Rehabilitation, offers payment of tuition and other services to civilian students who have certain physical handicaps, provided the vocational objective selected by the student has been approved by a representative of the Division. Application for Vocational Rehabilitation should be made to the Division of Vocational Rehabilitation, 609 McKelvey Building, Harlingen, Texas, or to Director, Division of Vocational Rehabilitation, Capitol Station, Austin, Texas.

Good Neighbor Scholarships: These scholarships are available to students from Hispanic-America. Applications should be made to the Office for Student Affairs before the following dates:

Fall	July 1
Spring	December 15
Summer Session	April 1

Tuition Scholarships: A limited number of tuition scholarships will be available for the academic year. Applications should be made to the office of the Director of Financial Aid.

Among scholarships donated through the university, but with the recipients designated by the donor, are: The Edinburg High School Choir Scholarship; the Eighth District Federated Music Club Scholarship; the Rio Grande Valley Federation of Women's Clubs Scholarship; the Pan American Round Table of McAllen Scholarship; the McAllen Music Club Scholarship; and the Pan American Round Table of Rio Grande City Scholarship; scholarships granted by certain religious or fraternal organizations such as Division of National Missions of the Board of Missions of the Methodist Church, the Home Mission Board of the Southern Baptist Convention, and the Knights Templar Educational Foundation. Others are granted by individuals or organizations such as: McAllen Classroom Teachers Association; McAllen Elks Club; Wallace Gin Company; Women's Missionary Union (Baptist); Weslaco Rotary Club. Applications for these scholarships should be made directly to the sponsoring groups.

Band and Choir Scholarships: Assistantships are available each year for band, orchestra, and chorus students, and application should be made to the Head of the Fine Arts Department.

Danny Callis Journalism Scholarship: This fund was established in spring of 1969 for students minoring in the field of Journalism.

Scholarship will cover full tuition and is to be awarded to a Journalism student that shows a distinct interest in the field of Journalism. No student with less than a 2.5 grade point average will be considered.

Applications should be submitted to Financial Aid Department, Pan American University.

Central Power and Light Company Scholarships: Each year Central Power and Light Company makes available one scholarship to a beginning freshman majoring in Business Administration. Each scholarship provides for one of the standard courses leading to a Bachelor's degree in Business Administration. Scholarships have a maximum value of \$2,400 payable at the rate of \$300 per semester until graduation as long as satisfactory standards are maintained.

An applicant for a Central Power and Light Company Scholarship must:

1. Meet all entrance requirements of Pan American University.
2. Be and have been a resident of the general area served by Central Power and Light Company for not less than three years, and be a graduate of a high school or junior college in that area.
3. Show promise of success in the Business Administration field as determined by tests and the selection committee.
4. Have made a scholastic record that would justify consideration for a scholarship, and be in the upper quarter of his graduating class.
5. Follow one of the curricula prescribed for Business Administration majors.
6. Be of high moral character.
7. Maintain a scholastic record satisfactory to the committee while attending college.
8. Have filed a completed copy of application for scholarship in the Office of the Financial Aid Director by April 20.

Application blanks may be secured from your high school Principal, the manager of any Central Power and Light Company office, or by writing to the Director of Financial Aid, Pan American University, Edinburg, Texas.

The Joe and Jess Crump Scholarship: Graduates from Hidalgo County high schools with grades above the average in the school from which they have graduated may apply to the trustees of the Joe and Jess Crump Scholarship Trust for financial assistance in order to attend Pan American University. The trustees may advance at their discretion annually to such students an amount equal to the actual cost of college books, tuition, and required fees necessary for the particular year for which the application is made and approved and for succeeding years while such students are still attending Pan American University and are deemed worthy by the trustees. Applications should be made through the office of the Director of Financial Aid by July 15 for the fall semester; November 15 for the spring semester.

The Harry E. Wilcox Engineering Scholarships: Consists of two scholarships covering tuition, books, and fees. Application should be made to the Head of the Department of Physical Sciences.

The Lemont Wilcox Music and Art Scholarships: Consists of one Art scholarship and one Music scholarship covering tuition, books, and fees. Applications should be made in writing to the Head of the Department of Fine Arts.

Rio Grande Valley Gem and Mineral Society Scholarship in Geology: Applicants for this scholarship must be geology majors or minors or Earth Science majors or minors. Applications should be sent direct to the head of the Department of Physical Science. Scholarship is awarded on a semester basis only.

The Burton Grossman Scholarship: This scholarship is offered each semester through the Inter-American Institute to help defray expenses towards room, board and incidentals. Recipients must be residents and citizens of Mexico and otherwise qualified. Applications should be submitted to the Dean of the Inter-American Institute.

APPLICATION DEADLINES

In the submission of applications, the following deadlines will be met:

	<i>Fall</i>	<i>Spring</i>	<i>Summer</i>
<i>Entering Freshmen</i>	<i>Awards</i>	<i>Awards</i>	<i>Awards</i>
National Defense Loans; Educational Opportunity Grants; Scholarships	April 1	Nov. 1	Ineligible
<i>All Other Students</i>			
National Defense Loans; Educational Opportunity Grants; Scholarships	June 1	Nov. 15	April 1
Texas Opportunity Plan Loan:	No Deadline		

All applications received after the stated dates will be considered only if money is available to cover the request. With few exceptions, one application can and should be used for all assistance. Special application will be forwarded to you upon examination of the general application, or upon your request.

Pan American University journalists write and edit the college yearbook, EL BRONCO, and the weekly newspaper, THE PAN AMERICAN. Volunteer writers and editors, including beginners looking for training, are solicited as staff members for both publications. Compensated positions are open on the newspaper and yearbook.

THE OFFICE OF PLACEMENT

Lino Garcia, Jr., Director

GRADUATE PLACEMENT:

The Office of Placement provides a central office where graduating seniors and alumni of Pan American University may find assistance in searching for permanent employment at the time of graduation or later. The primary purpose of the Office of Placement is to bring together, in as effective a manner as possible, graduates of Pan American University and a wide variety of employers. In order to provide the best possible assistance for prospective graduates, the Office of Placement arranges for visits to the campus by various employers. These employers conduct personal interviews with graduating seniors and other interested students. Major companies, governmental agencies, and school districts are represented by such interviewers. Before a student may be interviewed on the campus, he must be registered with the Office of Placement. The Office of Placement administers its affairs in keeping with the University equal employment opportunity policy.

The services of the Office of Placement are available to any student regardless of his major. All seniors, especially those majoring in business and those majoring in education and seeking teaching positions, should register with the Office of Placement as early in the senior year as possible.

PART-TIME PLACEMENT:

To the extent of its ability, the Placement Office will attempt to locate part-time employment for students attending college, but students who must work while attending school will often be able to find a position in their own communities. The Placement Office can assume no responsibility other than helping to locate places of employment.

STUDENT HEALTH SERVICE:

Student Health Service, located within Southwick Hall, is open five days a week, from 8:00-4:30 p.m. Any student who has need of this service due to an accident or illness should feel free to call upon the Registered Nurse on duty.

In case of an emergency, a physician will be available through the emergency room service at the Edinburg Municipal Hospital. Otherwise, a student who is in need of attention of a physician will be referred to his own family doctor.

Psychiatric services are also available through the Student Health Service, one day a week. Any student wishing to make an appointment may call 383-3891, ext. 279.

SPECIAL SERVICES

Hector L. Garcia, Director

Proyecto Esperanza is a federally funded program designed to provide Special Services in higher education. The Pan American University Special Services program is a program of study and orientation designed to assist students in their transition from high school to college. The primary objectives are to provide the student with incentive to continue his education, to develop his awareness of University opportunities, and to provide him with the basic skills and confidence necessary for accomplishing his educational goals. With this in mind, *Proyecto Esperanza* will have available tutorial and counseling services to assist the student in every way without added expense to those in need of services. The program offers tutorial service in four major areas of study; English, Science, Mathematics and Social Studies.

Admission to the program may be granted to anyone regularly eligible for admission to Pan American University and who is or will be a first or second year student. Preference will be given to applicants who need training in communication skills, basic math, social studies, and science; if they are from low income families (Financial Aid) and those who represent educationally depressed communities (Model Cities Area).

HIGH SCHOOL EQUIVALENCY PROGRAM

Joe Sanchez, Director

Pan American University High School Equivalency Program was funded in July, 1971 through the Office of Economic Opportunity and its Migrant Division. The H.E.P. (High School Equivalency Program) is operated through the Student Affairs division.

The H.E.P. goals are to take students who have dropped out of school, 18 - 24 years old, legally single, legal residents, of migrant or seasonal farmworker families, at the poverty level, to a level of sustained, progressive employment. The three-phase approach of H.E.P. (with the GED certificate being a sub-goal) is to help students obtain and hold a job, obtain skills through training, or to continue their education at the university level.

H.E.P. is a dynamic, innovative, and successful nationwide educational program that has proven to really help students make it back into the mainstream of American life.

Pan American University H.E.P. offices are at Emilia Hall.



Public appearances by Pan Am musicians is helping spread the name of the Rio Grande Valley university. Senoritas in the foreground enjoy a presentation by the university band across the Rio Grande in Reynosa, Mexico.

BUSINESS AFFAIRS

STUDENT EXPENSES

The cost of attending Pan American University is reasonable; in fact, it is considerably less than at many institutions. Moreover, a broad student-aid program consisting of part-time employment, scholarships, and loans provides opportunity of helping defray expenses. The cost of a Pan American University education should not stand in the way of any person determined to get a higher education.

While the cost of attending this university varies with the individual student, it generally conforms to a pattern. Therefore, in an attempt to assist the student in planning his budget, we have listed the various expenses for which the student must make provisions.

NOTE: Pan American University reserves the right to change tuition and fees in keeping with Acts of the Texas State Legislature or the Board of Regents.

PAYMENT OF FEES

State universities have no power to extend credit to any person. It is necessary, therefore, that any student registering at this university have the necessary finances to pay all expenses at the time of registration. A student is not registered until all his fees are paid in full. Payments may be made by cash, check or money order payable to Pan American University. All checks, money orders and drafts are accepted subject to final payment.

RESIDENCY CLASSIFICATIONS AND TUITION FEES

There are seven (7) residency classifications which apply in registering at Pan American University used in figuring the tuition charge. Listed below are these classifications with a brief explanation of each as to whom they individually apply. These fees apply for both credit and non-credit enrollment.

Classification 1: Residents of Texas will pay \$4 per semester credit hour with a minimum charge of \$50 for regular semester (4½ months), and a minimum charge of \$25 for summer sessions (6 weeks).

Classification 2: Students who are residents of another state, pay \$40 per semester credit hour with no minimum per semester.

Classification 3: Students who are citizens of any country other than the U. S. of America pay \$14 per semester credit hour with a minimum of \$200 per regular semester and \$100 per summer session.

Classification 4: Non-Residents enrolled during the Spring Semester of 1971 and who remain continuously enrolled in the regular semesters pay \$200 for 12 semester credit hours or more.

Classification 5: Students in Nursing Education pay \$50 per semester who are enrolled for 12 or more semester credit hours.

NOTE: Students in Nursing Education enrolled for less than 12-semester credit hours will pay an amount proportionately less than 12-semester credit hour students, but not less than \$20. Only students officially accepted by the Nursing Department will qualify under this classification.

Classification 6: A teaching assistant, research assistant, or other student employee is entitled to register himself, his spouse, and their children by paying the tuition fees required for Texas residents, without regard to the length of time he has resided in Texas; provided the student employee is employed at least $\frac{1}{2}$ time in a position which relates to his program.

Classification 7: A non-resident student holding a competitive scholarship of at least \$200 for the academic year for which he is enrolled is entitled to pay the fees required of Texas residents without regard to the length of time he has resided in Texas, provided that he competes with other students for the scholarship and that the scholarship be awarded by a scholarship committee officially recognized by Pan American University.

STUDENT RESPONSIBILITY FOR RESIDENCE CLASSIFICATION

The responsibility of registering under the proper residence classification is that of the student, and if there is any possible question of his right to classification as a resident of Texas, it is his obligation, prior to or at the time of registration, to raise the question with the Dean of Admissions and have his status officially determined.

Every student who is classified as a resident student but who becomes a non-resident at any time by virtue of a change of legal residence by his own action or by a person controlling his domicile is required to notify the Dean of Admissions.

Students failing to comply with the residency provisions of the state tuition bill (Art. 2645c V.C.S. as amended) are subject to penalties as set forth in the law and/or appropriate disciplinary action.

Additional information on residency classification is available in the Office of the Dean of Admissions.

EXEMPTIONS FROM TUITION

Under the authority of Chapter 6, Acts of the 43rd Legislature, 1st called session, 1933, as amended, otherwise cited as the Hazelwood Act, the following exemptions from tuition is applicable:

The Board of Regents of Pan American University is hereby authorized and directed to except and exempt all citizens of Texas, who have resided in Texas for a period of not less than twelve (12) months prior to the date of registration, and who served during the Spanish-American, and/or during World War as nurses or in the Armed Forces of the United States during World War, and/or during the Korean War, and/or during the Cold War, and who are honorably discharged therefrom, and who were bona fide legal residents of this State at the time of entering such service, from the payment of all dues, fees and charges

whatsoever, including fees for correspondence courses; provided however, that the foregoing exemption shall not be construed to apply to deposits, such as library, or laboratory deposits, which may be required in the nature of security for the return of or proper care of property loaned for the use of the student nor to any fees or charges for lodging, board, or clothing. And provided further that the benefits and provisions of this Act shall also apply and inure to the benefit of the children of members of these armed services of the United States who were killed in action or died while in such service. This exemption does not apply to a person who served in the Armed Forces if, at the time of his registration in a university in this State, he is eligible for educational benefits under the federal legislation in effect at the time of his registration. However, such serviceman is covered by the exemption if his right to benefits under federal legislation is extinguished at the time of his registration. The Board of Regents of Pan American University may and it shall be its duty to require every applicant claiming the benefit of the above exemption to submit satisfactory evidence that the applicant is a citizen of Texas and was a bona fide legal resident of Texas at the time of entering such service and is otherwise entitled to said exemption.

Senate Bill 431 of the the 60th Legislature, cited as the Connally-Carrillo Act, provides for the exemption from tuition fees of all persons who, at the time of registration:

(1) Are citizens of Texas; (2) have resided in Texas for a period of not less than twelve (12) months; (3) are under 25 years of age; (4) were graduated in the top 25 per cent of their graduating class of an accredited high school in 1967 or thereafter or have scored in the top 20 per cent on a nationally standardized university admission examination; (5) had annual family income of not more than \$4,800; and (6) had no financial assistance from any source other than his family or his guardian.

In order to be exempted from payment of tuition fees under either the Hazelwood Act or the Connally-Carrillo Act, the student must have an approved application for exemption on file with the university 30 days prior to registration.

Application for exemption may be secured at the Office of the Director of Financial Aid located in the University Center.

STUDENT SERVICE FEE AND BUILDING USE FEE

Other required fees to be paid by students are the Student Service Fee and the Building Use Fee. These fees are required of every student registering for credit, non-credit or audit hours.

Student Service Fee:

Activities to be supported from this source of income include: Intramural and Inter-collegiate Athletics, Student Publications, Band, Choir, Orchestra, Artists and Lecture Series, Cultural Entertainment Series. Debating and Oratorical Activities, Student Government, and other student activities and services as authorized by the Board of Regents.

Building Use Fee:

Building Use Fees are computed at \$2.70 per semester hour.

Refunds of these fees will be made under the same conditions as set for the Tuition fees.

FEE APPLICABLE PER SEMESTER

Schedules as per Regular Sessions

Classifications 1, 6, and 7. Residents of Texas.

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
21	84.00	22.00	56.70	162.70
20	80.00	22.00	54.00	156.00
19	76.00	22.00	51.30	149.30
18	72.00	22.00	48.60	142.60
17	68.00	22.00	45.90	135.90
16	64.00	22.00	43.20	129.20
15	60.00	22.00	40.50	122.50
14	56.00	22.00	37.80	115.80
13	52.00	22.00	35.10	109.10
12	50.00	22.00	32.40	104.40
11	50.00	21.00	29.70	100.70
10	50.00	19.00	27.00	96.00
9	50.00	17.00	24.30	91.30
8	50.00	15.00	21.60	86.60
7	50.00	13.00	18.90	81.90
6	50.00	11.00	16.20	77.20
5	50.00	9.00	13.50	72.50
4	50.00	7.00	10.80	67.80
3	50.00	5.00	8.10	63.10
2	50.00	5.00	5.40	60.40
1	50.00	5.00	2.70	57.70

Classification 2. (Non-Residents) Students who are Citizens of another state.

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
21	840.00	22.00	56.70	918.70
20	800.00	22.00	54.00	876.00
19	760.00	22.00	51.30	833.30
18	720.00	22.00	48.60	790.60
17	680.00	22.00	45.90	747.90
16	640.00	22.00	43.20	705.20

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
15	600.00	22.00	40.50	662.50
14	560.00	22.00	37.80	619.80
13	520.00	22.00	35.10	577.10
12	480.00	22.00	32.40	534.40
11	440.00	21.00	29.70	490.70
10	400.00	19.00	27.00	446.00
9	360.00	17.00	24.30	401.30
8	320.00	15.00	21.60	356.60
7	280.00	13.00	18.90	311.90
6	240.00	11.00	16.20	267.20
5	200.00	9.00	13.50	222.50
4	160.00	7.00	10.80	177.80
3	120.00	5.00	8.10	133.10
2	80.00	5.00	5.40	90.40
1	40.00	5.00	2.70	47.70

Classification 3. (Non-Resident) Students who are citizens of any country other than the United States of America.

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
21	294.00	22.00	56.70	372.70
20	280.00	22.00	54.00	356.00
19	266.00	22.00	51.30	339.30
18	252.00	22.00	48.60	322.60
17	238.00	22.00	45.90	305.90
16	224.00	22.00	43.20	289.20
15	210.00	22.00	40.50	272.50
14	200.00	22.00	37.80	259.80
13	200.00	22.00	35.10	257.10
12	200.00	22.00	32.40	254.40
11	200.00	21.00	29.70	250.70
10	200.00	19.00	27.00	246.00
9	200.00	17.00	24.30	241.30
8	200.00	15.00	21.60	236.60
7	200.00	13.00	18.90	231.90
6	200.00	11.00	16.20	227.20
5	200.00	9.00	13.50	222.50
4	200.00	7.00	10.80	217.80
3	200.00	5.00	8.10	213.10
2	200.00	5.00	5.40	210.40
1	200.00	5.00	2.70	207.70

Classification 4. Non-Residents enrolled during the Spring Semester of 1971.

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
21	200.00	22.00	56.70	278.70
20	200.00	22.00	54.00	276.00
19	200.00	22.00	51.30	273.30
18	200.00	22.00	48.60	270.60
17	200.00	22.00	45.90	267.90
16	200.00	22.00	43.20	265.20
15	200.00	22.00	40.50	262.50
14	200.00	22.00	37.80	259.80
13	200.00	22.00	35.10	257.10
12	200.00	22.00	32.40	254.40
11	184.00	21.00	29.70	234.70
10	167.00	19.00	27.00	213.00
9	150.00	17.00	24.30	191.30
8	134.00	15.00	21.60	170.60
7	117.00	13.00	18.90	148.90
6	100.00	11.00	16.20	127.20
5	84.00	9.00	13.50	106.50
4	67.00	7.00	10.80	84.80
3	50.00	5.00	8.10	63.10
2	50.00	5.00	5.40	60.40
1	50.00	5.00	2.70	57.70

Classification 5. (Nursing Education) Students officially accepted by the Nursing Department.

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
21	50.00	22.00	56.70	128.70
20	50.00	22.00	54.00	126.00
19	50.00	22.00	51.30	123.30
18	50.00	22.00	48.60	120.60
17	50.00	22.00	45.90	117.90
16	50.00	22.00	43.20	115.20
15	50.00	22.00	40.50	112.50
14	50.00	22.00	37.80	109.80
13	50.00	22.00	35.10	107.10
12	50.00	22.00	32.40	104.40
11	46.00	21.00	29.70	96.70
10	42.00	19.00	27.00	88.00
9	38.00	17.00	24.30	79.30

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
8	34.00	15.00	21.60	70.60
7	30.00	13.00	18.90	61.90
6	26.00	11.00	16.20	53.20
5	22.00	9.00	13.50	44.50
4	20.00	7.00	10.80	37.80
3	20.00	5.00	8.10	33.10
2	20.00	5.00	5.40	30.40
1	20.00	5.00	2.70	27.70

Schedules as per Summer Sessions

Classifications 1, 6, and 7. Residents of Texas

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
9	36.00	11.00	24.30	71.30
8	32.00	11.00	21.60	64.60
7	28.00	11.00	18.90	57.90
6	25.00	11.00	16.20	52.20
5	25.00	9.00	13.50	47.50
4	25.00	7.00	10.80	42.80
3	25.00	5.00	8.10	38.10
2	25.00	5.00	5.40	35.40
1	25.00	5.00	2.70	32.70

Classification 2. (Non-Residents) Students who are citizens of another state.

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
9	360.00	11.00	24.30	395.30
8	320.00	11.00	21.60	352.60
7	280.00	11.00	18.90	309.90
6	240.00	11.00	16.20	267.20
5	200.00	9.00	13.50	222.50
4	160.00	7.00	10.80	177.80
3	120.00	5.00	8.10	133.10
2	80.00	5.00	5.40	90.40
1	40.00	5.00	2.70	47.70

Classification 3. (Non-Residents) Students who are citizens of any country other than the United States of America.

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
9	126.00	11.00	24.30	161.30
8	112.00	11.00	21.60	144.60
7	100.00	11.00	18.90	129.90
6	100.00	11.00	16.20	127.20
5	100.00	9.00	13.50	122.50
4	100.00	7.00	10.80	117.80
3	100.00	5.00	8.10	113.10
2	100.00	5.00	5.40	110.40
1	100.00	5.00	2.70	107.70

Classification 4. Non-Residents enrolled during the Spring Semester of 1971.

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
9	100.00	11.00	24.30	135.30
8	100.00	11.00	21.60	132.60
7	100.00	11.00	18.90	129.90
6	100.00	11.00	16.20	127.20
5	84.00	9.00	13.50	106.50
4	67.00	7.00	10.80	84.80
3	50.00	5.00	8.10	63.10
2	50.00	5.00	5.40	60.40
1	50.00	5.00	2.70	57.70

Classification 5. (Nursing Education) Students officially accepted by the Nursing Department.

<i>No. Hr.</i>	<i>Tuition</i>	<i>Student Service Fee</i>	<i>Building Use Fee</i>	<i>Total</i>
9	25.00	11.00	24.30	60.30
8	25.00	11.00	21.60	57.60
7	25.00	11.00	18.90	54.90
6	25.00	11.00	16.20	52.20
5	22.00	9.00	13.50	44.50
4	20.00	7.00	10.80	37.80
3	20.00	5.00	8.10	33.10
2	20.00	5.00	5.40	30.40
1	20.00	5.00	2.70	27.70

OTHER FEES AND CHARGES*See Note*

<i>Below</i>	<i>Fee or Charge</i>	<i>Amount</i>
(1)	Laboratory Fee	\$ 2 to \$ 8
(2)	Individual Coaching or Instructional Fee	\$20 to \$35
(3)	Audit Fee	\$15
(4)	Parking Permit Fee	\$ 4
(5)	Graduation Fee	\$15
(6)	Late Registration Fee	\$ 5
(7)	Transcript Charge	\$ 1
(8)	Change of Schedule Fee	\$ 2
(9)	Advanced Standing Examination	\$15
(10)	Returned Check Charge	\$ 2
(11)	ACT Residual Test (Scheduled dates)	\$ 8
	ACT Residual Test (non-schedule dates)	\$10
(12)	Replacement of ID Card	\$ 5
(13)	Bowling Fee	\$10

NOTE:

- (1) **Laboratory Fee:** For each laboratory course a fee of \$2.00 to \$8.00 is charged depending upon cost of materials used in the course. For laboratory courses dropped, the laboratory fee will be refunded on the same refund schedule as tuition.
- (2) **Individual Coaching or Instructional Fee:** Course or courses in art, architecture, drama, speech or music, where individual coaching or instruction is the usual method of instruction, shall pay a fee in addition to the regular tuition.

<i>Courses:</i>	<i>Regular Session</i>	<i>Summer Session</i>
One Semester credit hour course	\$20.00	\$20.00
Two Semester credit hour course	\$35.00	\$35.00

- (3) **Audit Fee:** A student may, under certain conditions, enroll as an auditor for a fee of \$10.00 per course plus a student service fee of \$5.00. This may be done by obtaining the proper audit card from the Registrar, having it approved by the instructor of the class to be audited, paying the required fee to the Office of the Comptroller, and using the paid receipt as an admission card to the class. Enrollment as an auditor does not permit the enrollee to take examinations or have tests or other papers checked by the instructor. Students may not receive credit for a course taken by audit, nor are they eligible for advanced standing examination over a course which has been audited. Audited courses are not posted on the students' permanent record.

NON-CREDIT FEE: A student who wishes to enroll in a course for non-credit will pay as one who enrolls for credit. The student should note the procedure for non-credit enrollment, as given in another section of this Bulletin.

- (4) **Parking Permit Fee:** Pan American University recognizes the use of a motor vehicle as a convenience and is not obligated to furnish unlimited parking space to accommodate all vehicles. The University does, however, attempt to provide a reasonable amount of convenient parking space in keeping with resources and available sites. To facilitate the maintenance and operation of parking facilities each student of the University who operates or parks a motor vehicle on the campus must register each vehicle at the following schedule of fees:

Fall Semester	\$4.00
Spring Semester	\$2.50
Summer Sessions	\$1.50

NOTE:

The *FEE* is payable only once during the school year and is in effect from the date paid to the end of the school year in which paid. Refunds will be made on the same schedule as tuition only if the student officially withdraws within the same semester the permit was purchased.

- (5) **Graduation Fee:** A graduation fee of \$15.00 is required of candidates for graduation. The application for graduation to be presented to the Registrar must show payment or exemption from this fee. This fee, to be paid in the Office of the Comptroller, must be paid each time an application for a degree is filed. The graduation fee is not subject to refund. If notified in time, transfer of fee may be made from one semester to another such as from fall to spring semester.
- (6) **Late Registration Fee:** A late registration fee of \$5.00 will be charged those students who fail to register on the days set aside for registration.
- (7) **Transcript Charge:** No charge is made for the first copy of an official transcript. A fee of \$1.00 is charged for each copy thereafter. Unofficial transcripts have a charge of \$0.25 each.
- (8) **Change of Schedule Fee:** Change of schedule means the adding of a course, dropping of a course, or both, after the initial registration has been completed. A fee of \$2.00 will be charged for each such change except where the change is due to the fault of the University.
- (9) **Advanced Standing Examination:** A fee of \$15.00 must be paid at the Office of the Comptroller as part of the application for each Advanced Standing Examination.
- (10) **Returned check charge:** If a check is returned from the bank unpaid for any reason, the student will be assessed a penalty of \$2.00 for each check returned. He must pay the full amount of the returned check and an assessed penalty immediately or withdraw from the University. The assessed penalty fee is \$2.00 per check returned.
- (11) **ACT Residual Test:** A fee of \$10.00 must be paid at the Office for Student Affairs as part of the application for an ACT Residual Test admin-

istered at any time other than the regularly scheduled dates. The fee for scheduled dates is \$8.00 per student.

(12) Replacement of ID Card: Any student who loses his identification card must pay \$5.00 at the Office of the Comptroller for its replacement. The replacement fee is not subject to refund.

(13) Bowling Fee: There is a \$10.00 fee for all students participating in a bowling course.

SCHEDULE OF REFUNDS

If a student finds it necessary to drop one or more courses or to withdraw from the University and if he formally drops or withdraws through the Registrar's and Comptroller's Office, he may receive a refund of tuition and certain other fees as follows:

Regular Session (following official withdrawal)

From Registration through first six class days	90%
Next six class days	50%
After this date no refunds	

Summer Sessions

From Registration through first four class days	75%
After this date no refunds	

NOTE: Saturday is classified under this schedule as a class day regardless of class schedule.

The effective date of withdrawal for refunds will be the date as recorded by the Office of the Comptroller when the withdrawal is officially completed.

Immediate refund will not be made to students who withdraw during the refund period. Normally, refund checks will be mailed within 30 days to the student's address on file in the Comptroller's Office.

Surrender of the Student Identification Card and other such activity books or tickets as might be issued should be made at time of withdrawal to the Office of the Comptroller.

DORMITORY FEES AND PAYMENTS

Charges for dormitory room and board are payable in full at the time of occupancy unless other arrangements are made with the Comptroller in the Office of the Comptroller. A single fixed charge will be levied for meals and rooms and may not be separated.

Full payments (including tax):**New Men's and Women's Residency Halls**

Regular Semester (4½ months)
\$393.20

Summer Session (6 weeks)
\$130.96

Installment Payments:

Students who wish to pay room and board by installments must have such arrangements approved by the Comptroller at the Comptroller's Office. A carrying charge of \$1.00 per month will be made for deferred payments. The first payment each semester or summer session is payable at the time of registration. All other payments are due the 1st of each month. The following schedule includes the carrying charge and state sales tax on board.

New Men's and Women's Residency Halls

	At Registration	Oct.	Nov.	Dec.
	Sept.	1st	1st	1st
First Semester (Fall)	99.30	99.30	99.30	99.30
	At Registration	Feb.	Mar.	April
	Jan.	1st	1st	1st
Second Semester (Spring)	99.30	99.30	99.30	99.30
	At Registration	July		
	June	1st		
First Summer Session	88.37	44.19		
	At Registration	Aug.		
	July	1st		
Second Summer Session	44.19	88.37		

Dormitory Reservation and Room Deposit:

Applications for dormitory room reservations are to be made in the Office for Student Affairs. A check for \$20.00 must accompany the request. This will serve as a reservation fee and will be held as dormitory property and damage deposit. This fee is retained on deposit throughout the period of residence of the student as a guarantee against damage and breakage. The deposit will be refunded, less any property or breakage charges, at the end of his residence in the dormitory, provided that residence terminates at the end of a normal semester or term. If a student moves from the dormitory during the semester, the \$20.00 deposit will be forfeited. Should a student find it impossible to enroll, he will receive a refund of his reservation deposit, if an application for refund is made by the following dates:

Semester	Refund Request not later than:
Fall Semester	August 15
Spring Semester	December 15
First Summer Session	May 15
Second Summer Session	June 30

STUDENT INSURANCE

Each student is covered by a limited insurance policy for injuries sustained in attendance at the university or in going directly from home to the university, or from the university directly home. There is protection up to \$1,500 for death, dismemberment or loss of sight. Medical expenses in excess of \$10.00 may be paid up to the amount of \$750.00.

Forms to be completed in case of injury may be obtained from the Office for Business Affairs and this office has a detailed description of the coverage offered by the policy. These forms must be completed within twenty days of the date of the accident.

The cost of this coverage is included in the student service fee paid by each student.

SUMMARY OF ESTIMATED COST PER SEMESTER

Estimate of 15 semester hours per regular semester and six semester hours during the summer sessions:

<i>Tuition and Fees (Resident Student)</i>	<i>Regular Semester (4½ months)</i>	<i>Summer Session (6 weeks)</i>
Tuition	\$ 60.00	\$ 25.00
Student Service Fee	22.00	11.00
Building Use Fee (\$2.70 per sch-15 hours)	40.50	16.20
Total Required Fees	\$ 122.50	\$ 52.20
Laboratory Fees (estimated)	4.00	2.00
Books and Supplies (estimated)	50.00	20.00
Estimated Total for Student living off-campus	\$ 176.50	\$ 74.20
Room and Board (including tax)	393.20	130.96
Resident of State of Texas Estimated Total	\$ 569.70	\$205.16
With adjustments made on Tuition charges:		
Nurses	(10.00)	—0—
Estimated Total	\$ 559.70	\$205.16

Non-Residents enrolled during the Spring Semester of 1971	150.00	75.00
	<hr/>	<hr/>
Estimated Total	\$ 709.70	\$280.16
Students who are citizens of any country other than the U.S. of America	10.00	—0—
	<hr/>	<hr/>
Estimated Total	\$ 719.70	\$280.16
Non-Residents	390.00	140.00
	<hr/>	<hr/>
Estimated Total	\$1109.70	\$420.16

ACADEMIC AFFAIRS



Likely anywhere on a university campus, spontaneous rap sessions such as this one on the steps at the University Center may concern tangential topics ranging from music to politics.

GRADUATE SCHOOL ADMISSION

Information concerning the admission requirements for graduate school at Pan American University may be found in the current graduate school bulletin.

UNDERGRADUATE ADMISSION

METHODS OF ADMISSION

A student is admitted to Pan American University through the Office of the Dean of Admissions. He may gain admission by:

1. Presentation of a transcript of his high school record showing that he is a graduate of an accredited high school and that he has earned at least 16 accredited high school units. Included among the 16 units must be: three units in English; two units in mathematics, at least one of which must be in algebra; and a minimum of six units from the three fields of: a foreign language, social science, and natural science (with at least two units from each of two of these fields).

2. A person who has never graduated from high school may enter by qualifying for the issuance of a high school certificate based on GED test results.

3. Any student who has ever been enrolled in another college must have on file in the Office of Admissions an official transcript sent directly from each college previously attended before he can be considered for admission to Pan American University. Failure to submit such transcripts is grounds for immediate dismissal from this university when admission has been gained by ignoring previous college work.

The only transcript required for students with degrees is from the college where they earned their last degree.

A student's previous college work will be evaluated in terms of Pan American University standards. Those students who are on academic suspension will not be granted admission for any long term.

It should be noted that Pan American University is an equal educational opportunity institution. Under this philosophy, students are admitted to the University without regard to race, creed, color, sex, or ethnic origin.

PROCEDURE FOR ADMISSION

Any student entering Pan American University for the first time must submit the following:

1. A completed Pan American University application for admission form.
2. *Complete official transcript.*
 - a. Beginning Freshmen: An official high school transcript.
 - b. Transfer Students: See section 3 under Methods of Admission.

3. *A record of a recent physical examination.* The approved examination forms may be obtained from the Admissions Office. The applicant's personal physician should examine him, complete the blanks on the examination form, and return the form to the Admissions Office.

4. Scores from the American College Testing Program tests are preferred, but SAT, CEEB are acceptable. Students who have not filed test results with the University may take the test at Pan American University at the time indicated on the official calendar as published in this catalog. A fee will be required.

5. A housing approval form must be on file in the Student Affairs Office.

FOREIGN STUDENTS

Students from outside the United States wishing to enroll at Pan American University must submit a "Request for Application" form indicating their educational background, financial status, and the score obtained on the TOEFL examination.

To be eligible for admission a foreign student must have the equivalent of a high school education in the United States, a score of 500 on the TOEFL Level I examination, and be able to finance his studies at Pan American University. Approval of the Dean of Admissions is required if the conditions given above are not met. The I-20 form will be issued by the Office of Student Affairs after the student has been accepted for admission to Pan American University.

DEFINITIONS

The rules and regulations of the University use terms that have specific meaning but which are not always clearly understood by the student. For his benefit, some of the more common terms are defined in this section. The listing is alphabetical.

Advanced Level Work: Courses numbered either 3000 or 4000 are called advanced or upper division courses. Normally, a student with fewer than 60 semester hours of credit may enroll in 3000 or 4000 courses only when his schedule includes enough lower level (1000 and 2000 courses) work to total at least 60 semester hours, in addition to the upper level courses for which he wishes to enroll. Approval of the Department Head or Dean of School is required if the conditions given above are not met for advanced level enrollment.

Auditor: A student who has special permission to audit or visit a class without receiving academic credit is listed as an *auditor*. One may enroll as an auditor at ANY TIME BY: obtaining the proper audit card from the Registrar, having it approved by the instructor of the class to be audited, paying the required fee to the Office for Business Affairs, and using the receipt as an admission card to the class. Enrollment as an auditor does not permit the enrollee to take examinations, have test or other papers checked by the instructor, or to participate in the class discussion. Students may not receive credit for a course taken by audit, nor is a student eligible for Advanced Standing Examination over a course which has been audited. Audited courses are not posted on the student's permanent record.

Classification of Students: Students are classified according to the number of semester hours of college credit they have earned.

A student is classified as a *freshman* if he has fewer than 30 semester hours of college credit.

Sophomores must have 30-59 semester hours of credit.

Juniors have credit for 60-89 hours.

Seniors are students who have credit for 90 or more semester hours. Students who hold a degree are classified as *special* students.

Course Numbers: Courses are numbered to show both the collegiate level at which they are offered and the semester hour value of the course. The first digit shows the level and the second digit shows the credit hours. The last two digits are merely departmental designations.

1000 courses are at the freshman level

2000 courses are at the sophomore level

3000 courses are at the junior level

4000 courses are at the senior level

When the course name is followed by two numbers, separated by a comma, the course consists of two semesters of work and *both* semesters must be completed in order to receive credit. For example the catalog entry, Spanish 1301, 1302 shows that the course is given in the freshman year; that it carries three hours of credit per semester; and that both semesters must be completed for credit to be received in either. All courses ending in the numbers 87 and 88 are honors courses.

Degree Plan: A Degree Plan is an outline of the courses a student must complete or other conditions he must comply with in order to meet the requirements for graduation for a specific degree. This Degree Plan should be made out not later than the first semester of the junior year and it is often helpful to complete it earlier than this. While a student may make out a Degree Plan without consulting any source except listed catalog requirements, he must have the Plan approved by the Department Head and the Dean of his school before he can submit an Application for Degree to the Registrar.

Full-time Student: One who is enrolled for twelve or more semester hours of credit is classified as a full-time student. Persons enrolled for fewer than twelve hours of credit are classified as part-time students.

Grade Point Average: The grade point average is computed by dividing the total grade points earned by the total semester hours attempted. (See the sections on Quality of Work: (1) Grading System and (2) Grade Points.)

Graduation under a specific Bulletin: The student may meet the requirements for graduation that are listed in the bulletin of the year in which he enters college or some later bulletin. However, the student must graduate within seven years from the academic year of entrance or he must be placed under the provisions of a later bulletin. Any changes in his degree plan to comply with a later bulletin must be approved by his department head and the dean of his school

Honor Roll: After each regular semester an honor roll is published listing the names of all full-time students who have a grade point average of 3.5 or better for that semester.

At graduation, students are listed with "Honors" in accordance with the following standards:

Cum Laude—A grade point average of 3.0 to 3.49.

Magna Cum Laude—A grade point average of 3.5 to 3.74.

Summa Cum Laude—A grade point average of 3.75 or more.

Students who transfer must have an overall average equivalent to these grade point limits and, in addition, their work at Pan American University must meet these grade point averages.

Non-credit Enrollment: A student who is eligible to enroll for credit may enroll for a course on non-credit basis. He may take tests, have papers graded and receive the same classroom attention given students enrolled for credit but may not receive credit for the course—either at the close of the semester or by an advanced standing examination later. Any change in credit status must be made, through the Registrar's office, not later than one month from the date classes begin.

Prerequisite: This term means that specified requirements must be met before one can enroll in a course. Specific prerequisites are listed in course descriptions.

Probation: A student is placed on scholastic probation when he fails to achieve the required overall grade point average. A student may be placed on disciplinary probation for infraction of any university regulation. In either case, he must satisfy specific requirements placed on him before he can return to a non-probationary status.

Semester Hour: College credit is measured in terms of semester hours. Ordinarily, a class that meets one 50-minute period per week for a semester will carry a credit of one semester hour. Since the majority of classes meet three periods, or their equivalent, each week, these classes carry three semester hours of credit. Two or three laboratory hours per week are usually required for one semester hour of laboratory credit.

ADVANCED PLACEMENT EXAMINATIONS

Pan American University offers advanced placement to qualified students in American history, biology, chemistry, English, European history, mathematics, and physics. Course credits may be obtained as follows:

AMERICAN HISTORY

1. Credit for three hours in American history (History 2313) is given with College Entrance Examination Board (CEEB) Advanced Placement Test scores of 4, or 5. A grade of A is given for a 5; a grade of B for a 4. If the score is 3, the faculty reviews the examination and decides whether or not to give credit for History 2313.
2. Credit without a grade for three hours in American history is given with a score of 550 or higher on the College Entrance Examination Board (CEEB) Achievement Test in American history.

BIOLOGY

1. Credit for eight hours of biology (Biology 1401-1402) is given with College Entrance Examination Board (CEEB) Advanced Placement Test scores of 4 or 5. A grade of A is given for a 5; a grade of B for a 4.

2. If the score is 3, the faculty reviews the examination and decides whether or not to grant credit for either Biology 1401 or 1402.

CHEMISTRY

1. Credit for eight hours of chemistry (Chemistry 1401-1402) is given with College Entrance Examination Board (CEEB) Advanced Placement Test scores of 4 or 5. A grade of A is given for a 5; a grade of B for a 4.
2. If the score is 3, the faculty reviews the examination and decides whether or not to grant credit for either chemistry 1401 or 1402.
3. Students with scores of 600 or more on CEEB Achievement Test in Chemistry may enroll for Chemistry 1402 as independent credit without the prerequisite of Chemistry 1401. No credit is given for Chemistry 1401. If the CEEB Achievement Test score is 550 but less than 600, the student may request consideration of the Chemistry Department Head to waive the Chemistry 1401 prerequisite on the basis of his score, the ACT score, and the high school record.

ENGLISH

1. Credit for six hours in English (English 1301-1302) is given with College Entrance Examination Board (CEEB) Advanced Placement Test scores of 4 or 5. A grade of A is given for a 5; a grade of B is given for a 4.
2. If the score is 3, the faculty reviews the examination and decides whether or not to give credit for either English 1301 or 1302.
3. Any student who scores 28 or above on the English section of the ACT or 650 or better on the verbal section of the Scholastic Aptitude Test (SAT) of the College Entrance Examination may take in advance of registration and upon payment of a fee a local advanced placement examination designed and administered by the faculty.
 - a. For English 1301, the examination consists of the writing of essays on general topics.
 - b. For English 1302, the examination consists of the writing of essays about literature.

EUROPEAN HISTORY

1. Credit for six hours in European history (History 1333-1334) is given for College Entrance Examination Board (CEEB) Advanced Placement Test scores of 4 or 5. An A is given for a 5; a B for a score of 4.
2. If the score is 3, the faculty reviews the examination and decides whether or not to grant credit for either History 1333 or 1334.

MATHEMATICS

1. Credit for three hours in mathematics (Math 1307) is given for College Entrance Examination Board (CEEB) Advanced Placement Mathematics AB Test scores of 4 or 5. An A is given for a 5; a B is given for a 4.

2. If the score on the Mathematics AB Test is three, the faculty reviews the examination and decides whether or not to grant credit for Math 1307.
3. Credit for six hours in mathematics (Math 1307-1308) is given for College Entrance Examination Board (CEEB) Advanced Placement Mathematics BC Test scores of 4 or 5. An A is given for a 5; a B is given for a 4.
4. If the score on the Mathematics BC Test is three, the faculty reviews the examination and decides whether or not to grant credit for either Math 1307 or 1308.
5. Any student who scores 28 or above on the mathematics section of the ACT may take in advance of registration and upon payment of a fee a local advanced placement examination designed and administered by the faculty. Such an examination may be taken for Math 1304, Math 1305, or both.

PHYSICS

1. Credit for eight hours in physics (Physics 1401, 1402) is given for College Entrance Examination Board (CEEB) Advanced Placement Physics B or C Test scores of 4 or 5. An A is given for a 5; a B is given for a 4.

High school seniors anticipating advanced placement should make arrangements with their counselors to take the proper examination. This should be far enough in advance of their first college semester for their scores to be received by the University and to be evaluated by the faculty before the first registration period begins. Inquiries should be addressed to the heads of the departments in which advanced placement will be sought.

ADVANCED STANDING EXAMINATIONS

To be eligible to receive credit by means of an advanced standing examination, a student must meet the following conditions:

1. He must have completed a minimum of twelve semester hours of college work.
2. He must satisfy the Department Head that he has the proper background to qualify for the test over which he desires to be examined. The application for the test must be approved by the appropriate school Dean.
3. He must make a minimum grade of B or the equivalent in order to establish credit for the course.
4. A student will not be approved to take an advanced standing examination in any course which he may have failed, audited, or taken for non-credit; which was waived as a prerequisite; or in which he is currently enrolled.
5. Credit may be obtained through either a locally administered examination or the College Board's National College Level Examination, (CLEP).

WITHDRAWAL

To withdraw from school a student must execute a formal withdrawal procedure through the Registrar's Office.

A student withdrawing during the first month of classes (10 days in a summer session) will receive a W on his permanent record for each course in which he was enrolled. If he withdraws later in the semester, he will be given a grade of WP or WF by the instructor for each course in which he was enrolled.

DROPPING A COURSE

To drop a course a student must execute a formal drop procedure through the Registrar's Office.

A student dropping a course during the first month of classes (10 days in a summer session) will receive a DR on his permanent record for the course that he has dropped. If he drops a course later in the semester, he will be given a grade of DP or DF by the instructor for the course that he dropped.

GRADING SYSTEM AND GRADE POINTS

The following grades are used to designate achievement in classwork. Their corresponding grade values are indicated.

- A — Excellent (4 grade points per semester hour)
- B — Good (3 grade points per semester hour)
- C — Satisfactory (2 grade points per semester hour)
- D — Below average (1 grade point per semester hour)
- F — Failure (0 grade points per semester hour)
- I — Incomplete (0 grade points per semester hour)
- NC — No credit (Not considered in calculating grade points).
- DR — Course dropped (not considered in calculating grade points)
- DP — Drop Passing (not considered in calculating grade points)
- DF — Drop Failing (considered an F in calculating grade points)
- W — Withdrawal from school (not considered in calculating grade points)
- WP — Withdraw Passing (not considered in calculating grade points)
- WF — Withdraw Failing (considered an F in calculating grade points)

A grade of *I* may be given only for work which is *incomplete because of reasons beyond the control of the student*. Such reasons might be illness which prevents him from taking the final examination, death in the family, or a similar serious circumstance. An *I* must be removed by the end of the following regular semester. Failure to remove it within this period causes the *I* to be changed, *automatically*, to a grade of *F*. *An I is not given simply because the student fails to complete assigned work on time.*

QUALITY OF WORK

While a grade of D is considered passing in a subject, an overall average of C which corresponds to a grade point average of two must be maintained by the student if he expects to graduate. Pan American University has certain specific grade requirements also. For example, the student must maintain a C average in his required work in English; a D in English will have to be balanced by a B in English, not a B in another subject field. He must also make an average of C in both his major and minor fields.

Students who expect to be certified as teachers are required to have a grade point average of 2.25 in both the major and the minor fields. This applies both to applicants for the elementary certificate and to those planning to teach under a secondary certificate.

Calculation of Grade Point Average. An illustration of the method of calculating the grade point average follows:

Method of Calculating

<i>Course</i>	<i>No.</i>	<i>Grade</i>	<i>Grade Points</i>	<i>Grade Points</i>
English	1301	C	3 sem. hrs. × 2 pts. per hr. = 6	
Mathematics	1301	D	3 sem. hrs. × 1 pt. per hr. = 3	
History	2301	B	3 sem. hrs. × 3 pts. per hr. = 9	
Chemistry	1401	F	4 sem. hrs. × 0 pts. per hr. = 0	
Phys. Ed.	1101	A	1 sem. hr. × 4 pts. per hr. = 4	
Total Hrs.	14		Total grade points	22

$$\text{Grade point average} = \frac{\text{Total Grade Points } 22}{\text{Total semester hrs. } 14} = \frac{22}{14} = 1.57$$

Repeated Courses: When a course is repeated, only the last grade and hours earned are used to calculate the grade point average.

Five semester limit for repeating courses: When a student repeats a course, only the last grade earned is used in calculating his overall grade point average. Starting in September 1971, only courses taken at Pan American University and repeated within five consecutive semesters, including summer sessions, will automatically be treated in this manner. When a student repeats a transfer course or repeats a course after five semesters, he must apply to the Registrar's Office if he wishes to have only the last grade considered in the calculation of his overall grade point average.

The volume of transcript data to be considered makes this necessary for rapid distribution of grade and grade point information to the students at the end of each semester.

SCHOLASTIC PROBATION AND SUSPENSION

1. Scholastic probation or suspension will be determined on the basis of the student's cumulative grade point average. The term "grade point deficiency," as used here refers to the number of grade points less than *twice* the total hours attempted with Drop and Drop Pass hours not counted. The student will be placed on probation if:
 - a. His accumulated hours earned are 60 or less and his grade point deficiency is 12 or more; or
 - b. His accumulated hours earned are *more* than 60 hours and his grade point deficiency is six or more.
2. Probation is for a maximum period of one calendar year. During this period, the student must remove his excessive deficiency in grade points or be suspended. If a student does not make a 2 point average (c) for the first regular semester of the probation period, he will be suspended at that time.
3. A student on his first suspension may not enroll for the next regular semester. A student on his second suspension may not enroll for the next two regular semesters. On his third suspension a student may only be admitted by applying to and being reinstated by the Admissions Committee who will consider extenuating circumstances such as removal of grade point deficiencies in summer sessions. Any student on suspension who has failed to remove excessive grade point deficiencies can only be readmitted on a probationary status.

If a student who has been suspended for failure to meet scholastic probation requirements feels that unusual circumstances warrant a review of his case, he may direct a written appeal to the Committee on Admissions. Such a petition should detail his reasons for thinking the circumstances of his case warrant special consideration and should indicate valid reasons why the circumstances will not recur. The Committee will reinstate a suspended student, who has not served the period of suspension, only when it is convinced the best interests of both the University and the student will be served by such action.

Class Load: Normally 18 semester hours is the maximum load that a student can carry and maintain satisfactory grades. A student wishing to carry more than 18 semester hours must have his schedule approved by the Dean of his School.

CURRICULA AND DEGREES

Pan American University offers five types of undergraduate curricula: (1) those leading to one of the three bachelor degrees (B.B.A., B.S., and B.A.) conferred by Pan American University; (2) those leading to the Associate of Applied Science (A.A.S.) in Nursing Education; (3) those satisfying the requirements leading toward degrees offered at other institutions, such as; curricula leading to the degrees in law, engineering, pharmacy, medicine, and other specialized fields; (4) courses satisfying requirements for a minor field; and, (5) courses meeting certification requirements for teachers in secondary education.

The School of Business Administration awards the Bachelor of Arts (B.A.) degree in Economics and the Bachelor of Business Administration degree (B.B.A.) in eight areas of Business:

1. Accounting.
2. Business Education.
3. Economics.
4. General Business.
5. Latin-American Business.
6. Management.
7. Marketing.
8. Secretarial Administration.

The School of Education awards the Associate of Applied Science (A.A.S.) and the Bachelor of Science (B.S.) degrees:

1. The Associate of Applied Science degree in Nursing Education (see the Department of Nursing Education for requirements).
2. The Bachelor of Science degree in Elementary Education and Health and Physical Education.
3. The School also offers curricula meeting the certification requirements for teaching in secondary schools.

The School of Humanities and Social Studies awards the Bachelor of Science (B.S.) degree in Law Enforcement Science and the Bachelor of Arts (B.A.) degree with majors in:

1. Art.
2. Community Services.
3. Drama.
4. English.
5. Government.
6. History.
7. Music.
8. Spanish.
9. Speech.

The School of Science and Mathematics awards the Bachelor of Science (B.S.) degree with majors in:

1. Astronomy.
2. Biology.
3. Chemistry.
4. Mathematics.
5. Medical Technology.
6. Physics.
7. The School also offers Curricula meeting the requirements for pre-engineering (two years), pre-dental (with a major in Biology or Chemistry), pre-pharmacy (two years), pre-medical (with a major in Biology or Chemistry for preprofessional work) and pre-architecture (two years.)

The Inter-American Institute awards the Bachelor of Arts (B.A.) degree in Inter-American Studies.

Minors are offered in all the fields which offer majors and in addition minors are offered in Economics, French, Geology, Journalism, Mexican-American studies, Philosophy, Psychology, and Sociology. The student should have his minor field approved by his Dean of School.

Supporting courses in a variety of fields are available in the various Departments including Engineering, Geography, German, and Latin.

GENERAL EDUCATION REQUIREMENTS

On January 13, 1964, the Texas Commission on Higher Education approved the organization and degree programs for Pan American College with the effective date being September 1, 1965. The University operates under the academic areas of: the Inter-American Institute and the four Schools: Business Administration, Education, Humanities and Social Studies, and Science and Mathematics. Four undergraduate programs were approved by the Commission: the Association of Applied Science (A.A.S.) in Nursing Education, the Bachelor of Arts Degree (B.A.), the Bachelor of Science Degree (B.S.), and the Bachelor of Business Administration Degree (B.B.A.).

Because the university is convinced of the value of general, liberal education in developing worthy citizens of our nation and of our world, it expects all who plan to graduate from Pan American University to have some knowledge of the materials listed under this outline. There is no intention of stating that the classes and courses listed are the *best* or *only* ones for this purpose. Neither is it expected that the listed courses will not be changed from time to time, as experience may dictate. It does seem, however, that the pattern of courses offers the most acceptable program that the present thinking of the staff of the University can devise — commensurate with the limitations of time, facilities, and the state of knowledge of both faculty and students. Generally, the student should plan to complete most of the courses during his freshman and sophomore years; though certain professional objectives may make it necessary to postpone a portion until the junior or senior year.

A *minimum* of 48 semester hours of general, liberal education will be required for any degree except the Associate of Applied Science (see the Department of Nursing Education for requirements). The following suggested courses offer considerable choice but the overall pattern may not be changed without consent of the Council of Deans.

1. Communications

- a. English 1301, 1302 (unless Eng. 1301 or Eng. 1301 and Eng. 1302 are waived because of achievement in the required tests); or Eng. 1387, 1388, 1304 (Honor Plan); or Eng. 1305, 1306 (for foreign students).
- b. Speech 1301 will be required of all students who do not meet the standards prescribed in the speech interview given at or before the time of registration. This is usually administered to freshmen the first semester of attendance but may be given to transfer students at any level.

2. Humanities

- a. English, sophomore literature, six semester hours.
- b. Art 1301, *except* for students majoring or minoring in art; with the exception of *all-level* art majors or Art 1387.
- c. Music 2307, *except* for students majoring or minoring in music or Music 2387.

3. Social Studies

- a. State and Federal Government, Government 2313, 2314 (not open to freshmen) or Govt 2387, 2388 (Honors Plan.)
- b. History 2313 or 2333, 2314 (open to freshmen but may be taken in sophomore or junior year) or Hist. 2387, 2388 (Honors Plan.)

4. Mathematics, six semester hours.

Mathematics requirements may be selected from Mathematics 1301, 1302, 1304, 1305, 1306, 1307, 1308, 1387, 1388, 1312, 2303 (see Departmental areas for the mathematics required for the major the student selects).

5. Natural Science, six semester hours of laboratory course.

(Usually in a science not taken in high school.) Science requirements may be selected from: Astronomy 1401, 1402; Biology 1401, 1402; Chemistry 1401, 1402; Geology 1401, 1402; Physical Science 1303, 1304; Physics 1401, 1402, 1403, 2401, 1405, 1406. *Elementary Education majors only*, 12 semester hours of science, Physical Science 1301, 1302 and Biology 1305, 1306 or approved substitutes. See Departmental areas for the science required for the major the student selects.

6. Foreign language, six semester hours (12 hours advised for those expecting to do graduate work). A student who has completed two years of a foreign language in high school will not receive credit in the same beginning foreign language, and he is required to start college work on the intermediate level should he elect to continue in that language. Students may also meet this requirement by passing an Advanced Standing Test in a foreign language.

7. Physical Activities, four semester hours (eight required for P.E. majors). Only four semester hours in P.E. activity courses may be counted toward graduation, except by P.E. majors who may count eight semester hours. P.E. Activity Courses can not be counted towards a major or minor in Health and Physical Education.

8. See Department of Health and Physical Education Section for veteran's waiver.

GRADUATION REQUIREMENTS

As noted under the heading of *Curricula and Degrees*, Pan American University offers three bachelor degrees: Bachelor of Arts (B.A.), Bachelor of Science (B.S.), and Bachelor of Business Administration (B.B.A.) The *general* requirements for graduation are the same for each degree and are listed below. Specific require-

ments for each major field are listed in the catalog sections dealing with these majors. It is the responsibility of the student to be familiar with all requirements for the degree he seeks.

1. A minimum of 124 semester hours of work with an overall grade point average of 2.00, a grade point average of 2.00 in required English courses, and a grade point average of 2.00 in the required hours for both the major and minor field, must be completed. Graduates who expect to be certified as teachers are required to have a grade point average of 2.25 in both the major and minor fields. This applies both to applicants for the elementary certificate and to those planning to teach under a secondary certificate.
2. The completed courses must include 36 semester hours of advanced level work (courses whose numbers are 3000 or more).
3. The completed courses must include:
 - a. Texas and Federal Constitutions (Govt. 2313, 2314)
 - b. American Heritage (Hist. 2313, 2314 or Hist. 2333, 2314)
 - c. Four semester hours of physical education (activity courses). (No more than four semester hours of such P.E. courses may be counted toward graduation, except by P.E. majors who may count eight semester hours; no more than one activity course in P.E. may be taken in a semester.)
4. The work must include 30 semester hours in a major field of concentration, of which 15 hours must be advanced courses, and 18 semester hours in a minor field of concentration, of which six hours must be advanced. A total of 48 to 60 hours of work in a broadly integrated area, (such as Business Administration, Community Services, Inter-American Studies, and Music) may be substituted for the major or minor requirement. In general, the major should not include more than 36 semester hours of work in the specialized field, except as noted for the broad field. A minimum of 24 semester hours is required for a teaching field and two teaching fields must be completed by those seeking teacher certification, except in the broadly integrated areas.
5. The major-minor or broad field course distribution must follow the requirements set forth by the various schools or departments, subject to any limitations set forth in the *general education* and *graduation* requirements, as shown in the catalog (or in published forms issued by the respective departments or schools.) A student who must follow a different course pattern from those indicated must complete a *Degree Plan approved by his Department Head and the Dean of His School* as soon as possible before the start of his junior year.
6. All students who plan to graduate from Pan American University must include a *minimum* of 48 semester hours of work in general education as outlined in the catalog. As noted, this ordinarily is taken in the freshman and sophomore years. Any variation from this general education requirement must receive the approval of the Council of Deans.
7. The candidate for graduation must file an acceptable *Application for a Degree* with the Registrar on or before the date specified in the University calendar.

8. The student must complete a minimum of 24 semester hours of work in residence during the senior year. If he has not established credit in courses at Pan American University prior to his senior year, he must complete 30 semester hours in residence. A minimum of 6 semester hours of advanced work in the major must be completed in residence.
9. For Medical Technology majors the last 30 semester hours of college work must be completed at Pan American University; must include at least eight semester hours of biology or chemistry, and a minimum of six advanced semester hours.

REQUIREMENTS FOR THE SECOND BACHELOR'S DEGREE

To become eligible for a second bachelor's degree a student must earn a minimum of thirty additional semester hours, including twelve hours of advanced credit, and, in addition, he must meet all catalog requirements listed for the second degree. The twelve hours of advanced credit must be in a field different from that chosen as the major for the first bachelor's degree.

Since the major subject is not shown on the diploma, it is not possible for a student to receive a second Bachelor of Arts, Bachelor of Science, or Bachelor of Business Administration degree from Pan American University.

DEGREE PLANS

As indicated under Selection of Courses, a student may follow listed bulletin requirements in both the general and the specialized portions of his curriculum and thus plan his own schedule of courses. *If, however, he deviates from these bulletin requirements, he must work out a Degree Plan, on the proper form, and have this Degree Plan approved by his department head and the dean of his School.* This should be done as soon as possible at the close of the sophomore year, before any advanced courses are taken. All students are advised to have a Degree Plan approved as soon as possible by his department head and the Dean of his School. An approved Degree Plan is a *prerequisite* for making an Application for Degree.

Upon request, the Department Heads will aid students in preparing Degree Plans that may be required by agencies other than Pan American University. As an illustration, some public school systems require teachers who have not completed their degrees to file an approved Degree Plan in the superintendent's office.

SELECTION OF COURSES

The student should plan to satisfy the requirement of a minimum of 48 semester hours of general education during his freshman and sophomore years. In addition to the general education requirement he may need to take the introductory courses required in his major or minor field. As can be noted under this bulletin section dealing with General Education requirements there is a certain

amount of flexibility of choice permitted among the required subjects. He should, unless excused by a waiver, enroll in an activity course in physical education *each* semester until he finishes the four required hours.

Each of the Departments of the University lists the specific courses required of the major or minor in the specialized fields. Within the limitations imposed, there is usually some choice of courses at the advanced level. The student should check these required courses and develop his own outline of subjects he will need for graduation. *If he wishes to deviate from listed requirements in either the general education or the specialized portions of his work, he must work out a Degree Plan that his department head and the Dean of his School will approve.* Those students who do not deviate from catalog requirements are not required to have an approved Degree Plan, until they make Application for Degree, but should be certain that they have not omitted any graduation requirements.

When a student enters this University with the expectation of subsequently transferring to another institution, he should be certain to obtain a copy of the catalog of that institution and use it as a guide of courses for which he will register at Pan American University. It is *his responsibility* to check the requirements of the other institution though his department head will be glad to help him interpret requirements of other colleges.

SUGGESTED CURRICULA

While Pan American University stresses flexibility in selecting courses so that each person may have that pattern of courses best suited to his needs, there are a few preprofessional curricula so rigidly prescribed that few electives are available.

As is stated elsewhere in this Bulletin, it is the responsibility of each student who expects to transfer to another college or university to complete his work to be certain that he is enrolled in the proper sequence of courses at Pan American University. The Department Head will be glad to help such a student plan his work with the aid of catalogs from the institution to which he expects to transfer but *he* must make the decisions about the classes he will need.

Students who plan to graduate from Pan American University should consult the bulletin section on: graduation requirements, general education, and the *specific suggestions listed under the Schools and Departments* for major and minor requirements. The Department Head will be glad to help clarify matters about which the student may be uncertain.

As a rule, general education requirements should be removed in the freshman and sophomore years. It is frequently necessary to complete introductory or prerequisite courses to the major or minor field during the first two years, and such courses are indicated in the suggestions given under the School or Departments.

While the precise order may vary, the first two years of college work will follow the general pattern listed below. Note that beginning freshmen should enroll for no more than 16 or 17 semester hours of credit each semester. The suggested pattern for the first year simply lists possible courses from which the student

may select the hours for which he can enroll. As noted under departmental requirements for majors, there are some variations from these suggested courses but a student who is undecided about his major can usually be safe in following the pattern.

It is expected that all beginning freshmen will meet with academic advisers prior to or at the time of actual registration and that they will be counseled concerning the best selection of courses. Sophomores and upper classmen are urged to see the Department Heads, who are in their offices the week preceding registration, for advice about course selections and schedules.

FRESHMAN YEAR

- a. English 1301, 1302 (unless the student is excused on the basis of placement tests) or 1387, 1388, or 1305, 1306.
- b. Mathematics, six semester hours as advised.
- c. Natural Science, six semester hours of a laboratory subject. Unless required by his major or minor, the student is advised to enroll in a science not taken in high school.
- d. Art 1301 or 1387 and Music 2307 or 2387.
- e. Speech 1301, if required because of interview results.
- f. Physical Education, two semester hours.
- g. French, German, Latin, or Spanish, six semester hours.

SOPHOMORE YEAR

- a. English, sophomore literature, six semester hours.
- b. History 2313 or 2333 or 2387, 2314 or 2388.
- c. Government 2313 or 2387, 2314 or 2388.
- d. Any required course postponed from the freshman year.
- e. Six to eight semester hours in the major field.
- f. Physical education, two semester hours.

SUMMER SESSION

As a part of its regular program, the University offers a Summer Session consisting of two five and one-half week terms. Classes given in the summer are arranged to meet the requirements of students who need to do summer work and are selected on the basis of the requests made by those who are enrolled during the spring term. Usually one may complete 12 semester hours of work in the summer though students with good scholastic record may be allowed to enroll for as many as fourteen hours during the Session. Under no circumstances may a student enroll for more than 15 semester hours in a summer session.

BIBLE CHAIRS

Dan R. Crawford, Acting Director

Bible courses are taught for full college credit at church centers adjacent to the campus at no expense to the University. A total of twelve hours of Bible may be applied as electives toward a degree. When a student's professional objectives require additional hours in Bible or Religion, his Department Head and the Vice-President for Academic Affairs may allow him to enroll for additional credit.

BIBLE COURSES

Bible 1310. OLD TESTAMENT SURVEY.

A survey of the history and literature of the Old Testament. Particular emphasis is placed upon teachings concerning God, man, salvation, and social relations; especially those teachings which deal with the preparation for the coming of Christ.

Bible 1311. NEW TESTAMENT SURVEY.

A brief survey of the Christian movement in the Mediterranean world during the First Century. The life of Christ, the beginning of the Christian Church, the life and letters of Paul, and the general development of the New Testament as considered from the historical viewpoint.

Bible 1312. BIBLE AND EVERYDAY LIVING.

A study of some aspects of the nature of man and his relationship to Christ as studied in related Bible readings.

Bible 1314. ACTS OF THE APOSTLES.

An historical study of the beginning and extension of Christianity, based on the Book of Acts.

Bible 2301. THE LIFE OF CHRIST.

A study of the life of Christ as contained in the Gospels.

Bible 2302. THE LIFE AND LETTERS OF JOHN.

A study of the life and works of John. A special emphasis given to his Gospel and epistles with a brief review of Revelation.

Bible 2303. THE LIFE AND LETTERS OF PAUL.

A detailed study of the life and teachings of the Apostle Paul as depicted in the Book of Acts and the letters of Paul. The missionary journeys and expansion of Christianity will be given major attention.

Bible 2304. COMPARATIVE RELIGION.

A non sectarian approach to, and a comparison of, the great religions or systems or personal philosophies of the world including Judaism, Buddhism, Mohammendanism, Confucianism, Christianity, and some less-known faiths or philosophies.

HONORS STUDIES

Professor Bob R. Dowell, Director

PURPOSE: Honors Studies provides enhancement of educational opportunities for the capable and interested student. It is not a separate course of study but an enrichment of the various existing ones.

MEANS OF ACHIEVING PURPOSE: The purpose of Honors Studies is achieved in three basic ways.

1. through special honors sections of courses constituting General Education Requirements;
2. through independent study and research in the student's major or minor;
3. through interdisciplinary colloquia.

ADMINISTRATION OF HONORS STUDIES: The Honors Council, appointed by the President upon recommendation of the Vice-President for Academic Affairs, acts as the policy-making body. The chairman of the Council is responsible for the administrative supervision of Honors Studies and holds the title of Director of Honors Studies.

The members of the Honors Council are as follows:

Bob R. Dowell, Chairman	School of Humanities and Social Studies
Edward F. Baldwin	School of Business Administration
Theodore R. Clark	School of Humanities and Social Studies
Martha T. Kinard	School of Education
Gilbert W. Miller	School of Science and Mathematics

HONORS INSTRUCTORS: Honors instructors are recommended by the Honors Council for approval by the appropriate department head. The following criteria are intended as guidelines for selection of honors instructors:

1. It is imperative that the Honors instructor be both aware of the specific aims of Honors Studies and in sympathy with this concept of education which includes:
 - a. providing the honors student a more enriching program by challenging his individual potential and initiative;
 - b. employing a combination of reading, writing, discussion, research, and problem solving as instructional methods;
 - c. emphasizing enrichment rather than acceleration, quality and depth rather than quantity;
 - d. stressing independent study, especially at the upper division level;
 - e. fostering interdisciplinary colloquia; and
 - f. determining grades on an individual basis rather than a competitive basis so that honors students will not be penalized for pursuing honors studies.

2. Although not imperative that the honors instructor hold the doctoral degree, he should be highly regarded professionally and should demonstrate a strong interest in teaching for the sake of teaching.

ADMISSION TO HONORS STUDIES: Admission is by invitation; honor students are chosen by the Honors Council. The following criteria are used in selecting beginning freshmen for the program:

1. high school record;
2. ACT or SAT scores;
3. recommendation from high school principal and/or counselor;
4. recommendation from high school teacher; and
5. a personal interview.

Three criteria are used in selecting students who enter the program as second semester freshmen or first semester sophomores:

1. college record;
2. recommendation of college instructor; and
3. personal interview.

STUDENT PARTICIPATION IN HONORS STUDIES:

At the freshman and sophomore level the student participates in Honors Studies by taking honors sections of General Education Requirement courses relevant to his major and by taking Honors Colloquium.

At the junior-senior level, the student participates in Honors Studies by taking Honors Colloquium. At the junior level, colloquium consists of independent readings and research in the student's major or related field. A senior honors project, based on the junior readings and research, constitutes senior level colloquium.

HONORS COURSES AT THE LOWER LEVEL:

Special designated sections of General Education Requirement courses constitute honors courses. For the purposes of graduation requirements, honors courses count the same as regular General Education Requirement courses. Honors courses are, however, indicated as such on the students' transcripts.

Presently, honors sections include the following:

Art Appreciation 1387

English 1387, 1388, 2387, 2388

Government 2387, 2388

History 2387, 2388

Mathematics 1387, 1388

Music Appreciation 2388

In some instances, it is necessary for the student to postpone certain honors sections until his junior year.

HONORS COLLOQUIUM:

In general, Honors Colloquium is interdisciplinary and functions as an integrating force for linking varied segments of knowledge. Colloquium at freshman level concentrates on broadening student awareness by exploring pertinent contemporary topics. Sophomore colloquium delves into the history of Western thought. Junior and senior colloquium allows the student to deal with a particular topic of his own choice, in his major or related field.

Honors Colloquium is a one-hour course at the freshman level, a three-hour course at the sophomore level, and a three-hour one-semester course at the junior and senior level.

Freshman Level

Honors Colloquium 1187, 1188 Man in the Contemporary World: Part I, Part II

Examines emerging new life styles in light of traditional philosophical stances. Emphasizes oral expression through assignments that necessitate dialogue between students and between students and instructor.

Sophomore Level

Honors Colloquium 2387, 2388 The Heritage of Western Man: Part I, Part II

A survey of the Western philosophical heritage from the perspective of current philosophical issues and social problems.

Junior Level

Honors Colloquium 3387 Honors Readings and Research

Supervised independent reading and research in the student's major or related field, with periodic class meetings for coordination, instruction in methodology, and discussion.

Senior Level

Honors Colloquium 4387 Senior Honors Project

A supervised independent research paper, or other approved project, based on the honors readings and research, with periodic class meetings for coordination, instruction in methodology, and discussion.

INDEPENDENT STUDY AND RESEARCH AT THE ADVANCED LEVEL:

Honors work at the junior-senior level concentrates on carefully planned and closely supervised independent study and research through Honors Colloquium 3387 and 4387. (See descriptions above).

Each student chooses a study topic in his major or related field and finds a professor in this field who is willing to advise him in such a study. The student is then required to submit a written proposal acceptable to both his adviser and the professor in charge of Colloquium 3387. In a sense, the adviser serves as a resource person and the colloquium instructor as a coordinator.

The regularly scheduled meetings of the colloquium bring together the several students, working independently on various topics, for the interchange of ideas as each progresses toward his individual goal. This same arrangement continues through Colloquium 4387.

The above plan furnishes the student an opportunity to work directly, on a one-to-one basis, with a professor who possesses special expertise in the student's chosen area of concentration; it also furnishes the student the added opportunity of sharing in the exchange of ideas from varied fields with fellow honors students. In short, the plan combines the concepts of independent study and interdisciplinary colloquia.

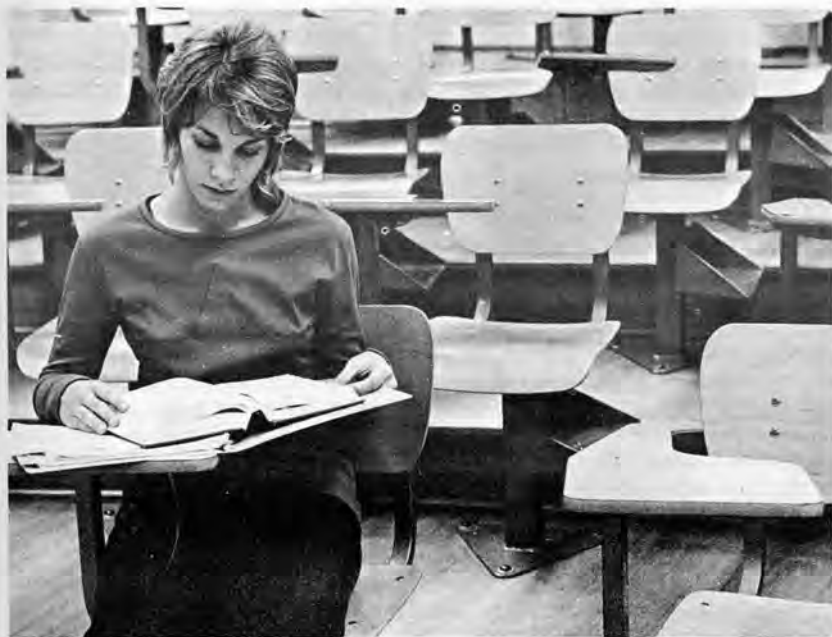
SCHOLARSHIPS: Any freshman or sophomore taking two honors courses and Honors Colloquium each semester will be considered for an Honors Studies scholarship.

Any junior or senior taking the recommended honors offerings at each respective level will be considered for an Honors Studies scholarship.

GRADUATING WITHIN THE FRAMEWORK OF HONORS STUDIES: Any student who has completed a minimum of six honors courses and twelve hours of colloquia, and who has an overall grade-point average of 3.0 is eligible to graduate within the framework of Honors Studies.

During the student's final semester an Examining Committee, made up of his independent study adviser, his junior-senior colloquium coordinator, and members of the Honors Council, will question the student over his independent study. Upon the findings of this committee, the ratings of his honors instructors, and his overall grade-point average, the Honors Council will determine whether the student graduates with Honors, High Honors or Highest Honors. Besides having the total Honors Studies achievement recorded on his transcript, the student is also given special recognition at baccalaureate.

INQUIRIES: Anyone desiring further information should address inquiries to Director of Honors Studies, Pan American University, Edinburg, Texas, 78539.



Mike Campbell (above) strums his guitar for the entertainment of passing students while Lee Cramer (below) finds a quiet place to skim the day's assignments before her classmates swarm into the auditorium-lecture room of the Engineering Building.

INTER-AMERICAN INSTITUTE

Professor T. Lawrence White, Dean

The Inter-American Institute has the administrative status of a separate school. Under its coordination, two interdisciplinary programs are offered: a Bachelor of Arts Degree in Inter-American Studies and a Bachelor of Business Administration in Latin American Business.

These majors are offered to provide students with a wide general background in the history, geography, economics, languages, and literature of Hispanic America and especially Mexico. Special emphasis will be placed upon achievement of sufficient knowledge of the Spanish language to make it an effective means of communications. This level of linguistic skill is essential to open the doors of cultural understanding and appreciation of Latin America to non-native speakers.

Opportunities for students completing the program are broad and varied. The growth in the volume of business and the number of firms operating in Latin America, together with the increased tensions of international relations, create a substantial demand for persons familiar with the Spanish language and Latin American customs and institutions. Local and national firms have repeatedly expressed this need. Government agencies—local, state, national and international—also require the services of employees with these qualifications. In the academic field the number and size of graduate programs offering advanced and specialized studies and research in this area are increasing yearly. These programs require qualified students, as well as capable faculty.

Latin America is geographically close to the United States, to which it is tied by economic and military necessities. Yet the people of Latin America, their national characteristics, hopes, and aspirations, and the major components of their civilization are practically unknown to most North Americans. The need to continue and expand intellectual communication and mutual understanding with the Western Hemisphere, and with Mexico in particular, is of the utmost importance to the United States as well as to our neighbors to the South. It has been estimated that by 1975 one out of every 100 United States citizens will spend part of his working life in Latin America. Certainly the "need to know" about Latin America is apparent, and it is mainly in response to this need we offer these inter-disciplinary programs.

These inter-disciplinary programs involve the departments of Business Administration, Communications, Fine Arts, Foreign Languages and Social Studies.

These programs will prepare students to participate intelligently and effectively in business and government activities in Latin America, as well as equip graduates to work in Latin America or with Latin Americans in the United States upon completion of the degrees.

Degree Requirements**Major in Inter-American Studies:**

An interdisciplinary area program requiring a 48-hour major (no minor required) including the following:

1. Twelve hours from History 2333, 3333, 3343, 3353, 4353, 4363, 4374;
2. Spanish 1301, 1302 or 1303, 1304; 2301, 2302; 4311 or 4312;
3. Government 3343 or 3383;
4. Nine hours from: Spanish 3303 or 3304; 3305, 4301, 4302, 4303, 4307;
5. Nine hours from: Art 4352, Phil. 2353, Geog. 3333, Eco. 3353, Soc. 3343.

Teacher Certification in Inter-American Studies:

Students desiring to teach in the secondary school can be certified in the fields of History and Spanish. An early consultation with the Dean is strongly recommended.

SUGGESTED CURRICULUM**Inter-American Studies****Freshman Year**

Eng. 1301, 1302.
 Hist. 2313, or 2333, 2314.
 P.E. two hours activity.
 Span. 1301, 1302, or 1303, 1304.
 Art 1301.
 Mus. 2307.
 Spec. 1301 (if required).

Junior Year

Math., six hours.
 Span., six hours, advanced².
 History, three hours advanced¹.
 Govt. 3343 or 3383.
 Inter-American Studies Elective,
 six hours, advanced².
 Electives, nine hours.

Sophomore Year

Eng., sophomore literature, six hours.
 Govt. 2313, 2314.
 Span. 2301, 2302.
 P.E., two hours, activity.
 Science, six to eight hours (lab).
 Electives, six hours.

Senior Year

Span. 4311 or 4312.
 Span., three hours, advanced².
 History, six hours advanced¹.
 Inter-American Studies Elective,
 six hours, advanced².
 Electives, 12-15 hours.

¹Advanced History must be chosen from Hist. 3333, 3343, 3353, 4353, 4363, 4374.

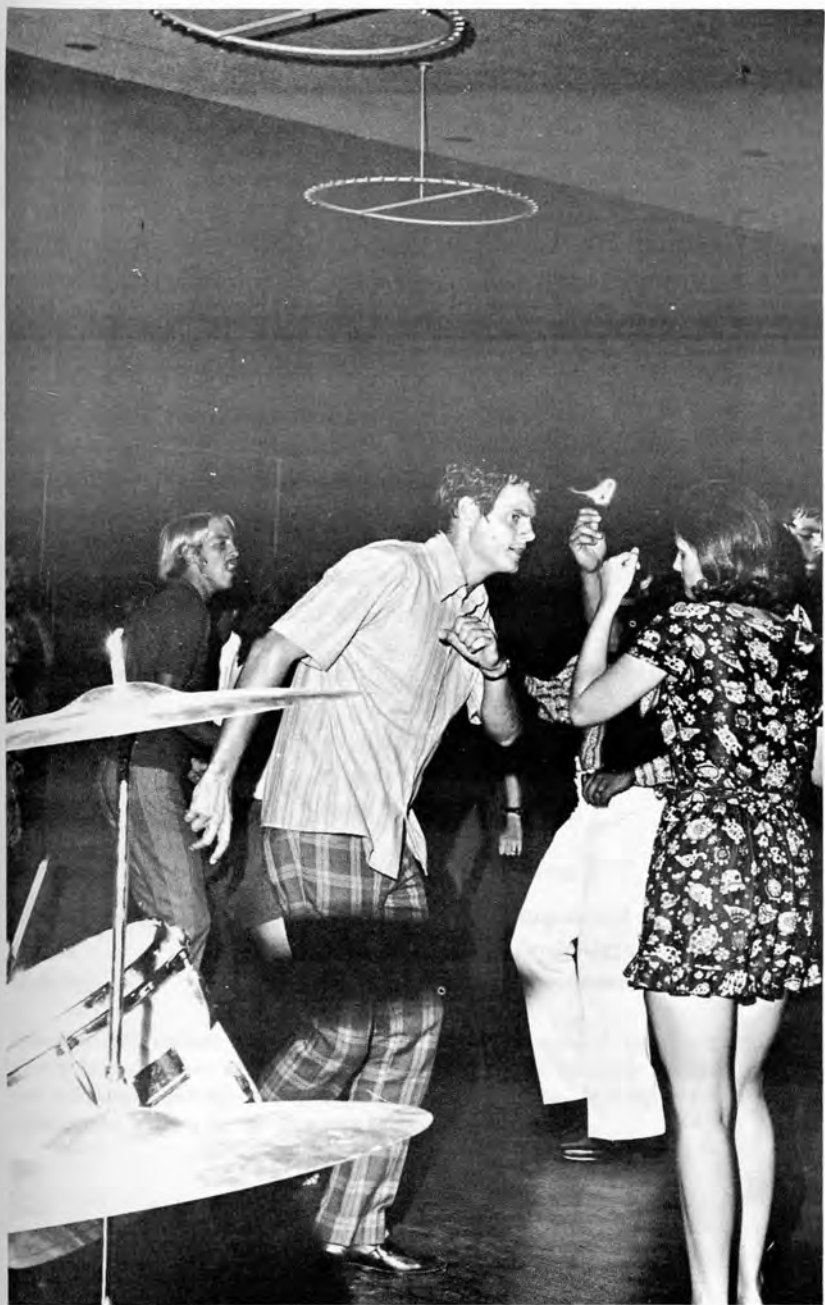
²Advanced Spanish must be chosen from Span. 3303 or 3304; 3305, 4301, 4302, 4303, 4307.

³Inter-American Studies Electives are: Art 4352; Phil. 2353; Geog. 3333; Eco. 3353; Soc. 3343; Govt. 3343 and 3383.

Degree Requirements**Major in Latin American Business**

See degree requirements outlined under School of Business Administration.

GRADUATE SCHOOL



A place to dance is provided in the ballroom of the University Center. Several hundred persons may dance in the large room with its attractive lights and glass paneling. Many events are held to which students are admitted with only their ID cards.



Pan American University is authorized to offer the following Graduate Degrees:

- Master of Education (Elementary)
- Master of Education in Counseling and Guidance (Elementary)
- Master of Education in Supervision (Elementary)
- Master of Education (Secondary)
- Master of Education in Counseling and Guidance (Secondary)
- Master of Education in Supervision (Secondary)
- Master of Education in Health and Physical Education

The departments which offer minors leading to the degree of Master of Education are as follows:

- | | |
|---------|-------------------------------|
| Biology | Health and Physical Education |
| History | English |
| Spanish | Math |

Work may also be done in the following support areas:

- | | | | |
|-----------|-------|------------|------------------|
| Art | Music | Chemistry | Speech and Drama |
| Physics | | Journalism | Psychology |
| Sociology | | Business | Government |

Essential information concerning the Graduate School of Pan American University in such areas as the Graduate Faculty, degree programs, course offerings and admission policies are provided in the Graduate Bulletin, which may be obtained by writing to the Dean of the Graduate School.

**SCHOOL OF BUSINESS
ADMINISTRATION**



Derby Day at the University always attracts a crowd as sorority girls receive points for removing derbies from the heads of male students. This lone male not only loses his derby but his freedom, too.

SCHOOL OF BUSINESS ADMINISTRATION

Professor R. N. McMichael, Dean

The School of Business Administration awards the degree of Bachelor of Business Administration with specialization in the fields of Accounting, Business Education, Economics, General Business, Latin-American Business, Management, Marketing and Secretarial Administration. The School also offers a Bachelor of Arts degree in Economics, along with minors in Business Administration and Economics. Students in Business Administration may also elect a Plan I or Plan II program leading to teacher certification at the secondary level. The Division of Business and Economic Research operates within the School of Business Administration.

DEPARTMENT OF BUSINESS ADMINISTRATION

Professor Ralph A. Penington, Head

Business Administration is a broadly integrated area of specialization and does not require a minor in any of the Bachelor of Business Administration degree programs. A minor is required, however, in the Bachelor of Arts degree program in Economics.

Degree Requirements

All students seeking a Bachelor of Business Administration degree must possess or acquire reasonable proficiency in the use of the typewriter. This requirement may be satisfied by presenting one credit in high school typing or equivalent, or by satisfactorily completing B.A. 1201. This is normally done during the freshman year. Neither B.A. 1201 nor B.A. 1305 may be counted for major or minor degree credit in Business Administration.

All students in the School of Business Administration must have on file a degree plan approved by the Dean before making application for a degree. It is recommended that a request for the degree plan be initiated at the end of the sophomore year, or at such time as the student has at least 60 hours of college credit.

BASIC PROGRAM FOR FRESHMAN AND SOPHOMORE YEARS (for all degree programs except the B.B.A. in Business Education and Secretarial Administration and the B.A. in Economics; the entire four-year programs are shown under those areas of specialization.) For junior and senior years, see area of specialization.

Freshman Year

B.A. 1331.
 Eng. 1301, 1302.
 Foreign language, six hours¹.
 Math. 1304, 1309.
 Science, six hours (lab.).
 Speech 1302.
 P.E., two hours (activity).

Sophomore Year

Art 1301.
 B.A. 2321, 2322.
 Eco. 2351, 2352.
 Eng., sophomore literature, six hours.
 Hist. 2313 or 2333, 2314.
 Math. 2303.
 P.E., two hours (activity)

¹Spanish 2301 and 2302 for Latin American Business majors. Spanish is recommended for all other degree programs.

NOTE: Unless he has the written approval of the Department Head or the Dean, a student will not be permitted to register for any course in the School of Business Administration if he does not meet the class standing (total earned credit hour) prerequisite for the course.

SUMMARY OF DEGREE REQUIREMENTS BY AREA OF SPECIALIZATION (General Education requirements and electives outside the major area are not included—see area of specialization):

Accounting:

57 semester hours in Business Administration, of which 45 must be advanced; must include B.A. 1331, 2321, 2322, 3321, 3322, 3323, 3324, 3335, 3337, 3341, 3342, 3361, 3371, 3381, 4321, 4324, 4332, 4369 and three hours B.A. electives. Other required courses are: Spee. 1302; Eco. 2351, 2352; Math. 1304, 1309, 2303.

Business Education:

49 semester hours in Business Administration, of which 21 must be advanced; must include B.A. 1202, 1203, 1306, 1307, 1331, 2308, 2312, 2321, 2322, 2332, 3315, 3335, 3337, 3361, 3371, and six hours advanced B.A. electives. Other required courses are: Spee. 1302; Eco. 2351, 2352. Math. 1304 and 2303 are recommended.

Economics (B.A.):

30 semester hours in Economics, of which 24 must be advanced; must include Eco. 2351, 2352, 3341, 3342, 3354, 4355, 4359, and nine hours advanced Eco. electives. Other required courses are: B.A. 2321; Math. 1304, 2303, 1309. A minor is required.

Economics (B.B.A.):

30 semester hours in Economics, of which 24 must be advanced; must include Eco. 2351, 2352, 3341, 3342, 3354, 3381, 4355, 4359, and six hours advanced Eco. electives. Other required courses are: B.A. 1331, 2321, 2322, 3335, 3337, 3361, 3371, 3383; Spee. 1302; Math. 1304, 1309, 2303; three hours advanced Eco. or B.A. electives.

General Business:

51 semester hours in Business Administration, of which 39 must be advanced; must include B.A. 1331, 2321, 2322, 3335, 3337, 3341, 3342, 3361, 3371, 3381, 3383, 4332, 4369, 4378, and nine hours B.A. electives, of which six must be advanced. Other required courses are: Math. 1304, 1309, 2303; Spee. 1302; Eco. 2351, 2352, 3354.

Latin-American Business:

48 semester hours in Business Administration, of which 36 must be advanced; must include B.A. 1331, 2321, 2322, 3335, 3336, 3337, 3341, 3342, 3355, 3361, 3371, 3381, 3383, 4332, 4367, and three hours B.A. electives. Other required courses are: Eco. 2351, 2352, 3353; Spanish 2301, 2302, 3303, 3304; Social Studies (must be of Latin-American content) nine hours, of which six must be advanced. Math. 1304, 1309, 2303; Spee. 1302.

Management:

51 semester hours in Business Administration, of which 36 must be advanced; must include B.A. 1331, 2321, 2322, 3335, 3337, 3341, 3342, 3361, 3362, 3363, 3371, 3381, 3383, 4332, 4369 and six hours B.A. electives. Other required courses are: Eco. 2351, 2352, 3354, 4354; Math. 1304, 1309, 2303; Spee. 1302.

Marketing:

51 semester hours in Business Administration, of which 39 must be advanced; must include B.A. 1331, 2321, 2322, 3335, 3337, 3341, 3342, 3361, 3371, 3375, 3377, 3381, 3383, 4332, 4369, 4378, and three hours B.A. electives. Other required courses are: Spee. 1302; Eco. 2351, 2352, and 3353 or 3354; Math. 1304, 1309, 2303.

Secretarial Administration:

55 semester hours in Business Administration, of which 27 must be advanced; must include B.A. 1202, 1203, 1306, 1307, 1331, 2308, 2312, 2321, 2322, 2332, 3335, 3337, 3361, 3362, 3371, 3381, 4332, and six hours advanced B.A. electives. Other required courses are: Spee. 1302; Eco. 2351, 2352.

Minor in Business Administration:

18 semester hours in Business Administration, of which six must be advanced.

Minor in Economics:

18 semester hours in Economics, of which six must be advanced.

Teacher Certification in Business Administration:

Secondary Plan I: A program in Business Education, either secretarial or non-secretarial, which is composed of 26 semester hours in Business Administration, of which 12 must be advanced. The secretarial program must include B.A. 1202 or 1203, and 1306 or 1307 (demonstrated ability in these areas will allow the substitution of 5 semester hours of approved electives in business administration); 1331, 2321, 2322, 3335, and nine hours advanced B.A. Electives. For the non-secretarial program, B.A. 2332 is required instead of B.A. 1306 or 1307.

Secondary Plan II: A broad-field program in Business Education requiring no second teaching field and which is composed of 55 hours in Business Administration and Economics; must include B.A. 1202, 1203, 1306, 1307 (demonstrated ability in these areas will allow the substitution of approved electives for these hours), 1331, 2308, 2312, 2321, 2322, 2332, 3315, 3335, 3337, 3361, 3371, and six hours advanced B.A. electives; Economics 2351 and 2352.

Business Administration Courses (see area of specialization for course descriptions):

- B.A. 1201. ELEMENTARY TYPING.
- B.A. 1202. INTERMEDIATE TYPING.
- B.A. 1203. ADVANCED TYPING.
- B.A. 1305. ELEMENTARY SHORTHAND.
- B.A. 1306. INTERMEDIATE SHORTHAND.
- B.A. 1307. ADVANCED SHORTHAND.
- B.A. 1331. INTRODUCTION TO BUSINESS.
- B.A. 1381. PERSONAL FINANCE.
- B.A. 2308. SECRETARIAL TRAINING.
- B.A. 2312. OFFICE ADMINISTRATION.
- B.A. 2321. PRINCIPLES OF ACCOUNTING I.
- B.A. 2322. PRINCIPLES OF ACCOUNTING II.
- B.A. 2332. INTRODUCTION TO COMPUTERS IN BUSINESS.
- B.A. 2333. COMPUTERS AND PROGRAMMING.
- B.A. 3333. DATA STRUCTURES.
- B.A. 2373. PRINCIPLES OF SALESMANSHIP.
- B.A. 3315. BUSINESS PRINCIPLES.
- B.A. 3321. INTERMEDIATE ACCOUNTING I.
- B.A. 3322. INTERMEDIATE ACCOUNTING II.
- B.A. 3323. INCOME TAX PROCEDURE.
- B.A. 3324. COST ACCOUNTING.
- B.A. 3325. GOVERNMENTAL AND MUNICIPAL ACCOUNTING.
- B.A. 3335. BUSINESS COMMUNICATIONS.
- B.A. 3336. LEGAL AND POLITICAL ENVIRONMENT OF BUSINESS IN MEXICO.
- B.A. 3337. BUSINESS LAW I.
- B.A. 3338. BUSINESS LAW II.
- B.A. 3341. ELEMENTARY BUSINESS AND ECONOMIC STATISTICS.
- B.A. 3342. INTERMEDIATE BUSINESS AND ECONOMIC STATISTICS.
- B.A. 3345. BUSINESS INTERNSHIP.
- B.A. 3355. ECONOMIC DEVELOPMENT OF LATIN AMERICA.
- B.A. 3356. BUSINESS ENTERPRISE AND PUBLIC POLICY.
- B.A. 3361. PRINCIPLES OF MANAGEMENT.
- B.A. 3362. PERSONNEL MANAGEMENT.
- B.A. 3363. PRODUCTION MANAGEMENT.

- B.A. 3371. PRINCIPLES OF MARKETING.**
B.A. 3375. RETAILING.
B.A. 3377. MARKETING MANAGEMENT.
B.A. 3381. MONEY AND BANKING.
B.A. 3382. INVESTMENT PRINCIPLES.
B.A. 3383. MANAGERIAL FINANCE.
B.A. 3384. FUNDAMENTALS OF REAL ESTATE.
B.A. 3385. PRINCIPLES OF INSURANCE.
B.A. 4321. ADVANCED ACCOUNTING.
B.A. 4324. AUDITING.
B.A. 4325. ACCOUNTING SYSTEMS.
B.A. 4328. C.P.A. REVIEW.
B.A. 4329. ADVANCED INCOME TAX PROCEDURE.
B.A. 4332. HUMAN RELATIONS IN MANAGEMENT.
B.A. 4367. INTERNATIONAL BUSINESS OPERATIONS.
B.A. 4369. BUSINESS POLICY.
B.A. 4378. MARKETING RESEARCH.

Economics Courses (see area of specialization for course descriptions):

- Eco. 1301. INTRODUCTION TO ECONOMICS.**
Eco. 2351. PRINCIPLES OF ECONOMICS: MACROECONOMICS.
Eco. 2352. PRINCIPLES OF ECONOMICS: MICROECONOMICS.
Eco. 3341. ELEMENTARY BUSINESS AND ECONOMIC STATISTICS.
Eco. 3342. INTERMEDIATE BUSINESS AND ECONOMIC STATISTICS.
Eco. 3353. INTERNATIONAL TRADE.
Eco. 3354. INTERMEDIATE ECONOMIC THEORY.
Eco. 3355. ECONOMIC DEVELOPMENT OF LATIN AMERICA.
Eco. 3356. BUSINESS ENTERPRISE AND PUBLIC POLICY.
Eco. 3381. MONEY AND BANKING.
Eco. 4354. LABOR ECONOMICS.
Eco. 4355. MACRO ECONOMIC THEORY.
Eco. 4359. HISTORY OF ECONOMIC THOUGHT.

ACCOUNTING

SUGGESTED CURRICULUM

B.B.A. IN ACCOUNTING

(See basic program for freshman and sophomore years.)

Junior Year

- Mus. 2307.**
Govt. 2313, 2314.
B.A. 3321, 3322, 3323, 3324, 3337,
3341, 3342, 3361.

Senior Year

- B.A. 3335, 3371, 3381, 4321, 4324,**
4332, 4369, and three hours B.A.
electives.
Electives, six hours.

B.A. 2321. PRINCIPLES OF ACCOUNTING I.

The fundamentals of accounting relationships, accounting cycles, recording, basic financial statements, merchandising accounting including accruals, receivables, inventories, plant assets, payroll taxes and sales taxes, and accounting concepts and principles. Primary emphasis on single proprietorship operations. Prerequisites: three semester hours of math and sophomore standing.

B.A. 2322. PRINCIPLES OF ACCOUNTING II.

A continuation of B.A. 2321, but independent of it. A course covering partnerships, corporations, and specialized subjects of manufacturing. Job order and process costs. Introduction of federal income taxes and their effect on business decisions. Prerequisite: B.A. 2321.

B.A. 3321. INTERMEDIATE ACCOUNTING I.

A review of the accounting process and financial statements; detailed study of working capital, receivables, inventories, current liabilities, tangible plant assets. Prerequisites: B.A. 2322 and junior standing.

B.A. 3322. INTERMEDIATE ACCOUNTING II.

A course providing detailed study of plant and equipment depreciation and depletion, revaluations of plant assets, intangibles, long-term debt, corporate capital structure and retained earnings. Financial statement analysis; cash flow and application of funds. Prerequisite: B.A. 3321, or consent of instructor.

B.A. 3323. INCOME TAX PROCEDURE.

Analysis of Federal Tax Laws, emphasis being placed on the determination of net taxable income and the preparation of income tax returns for individuals. Prerequisite: B.A. 2321.

B.A. 3324. COST ACCOUNTING.

A study of the techniques employed in accounting for and interpreting cost. Primary emphasis is given to the accounting for material, labor and burden under job cost, continuous process and assembly systems. Both commercial and distribution costs are studied. Prerequisite: B.A. 2322.

B.A. 3325. GOVERNMENTAL AND MUNICIPAL ACCOUNTING.

The purpose of this course is to acquaint the student with the special features of budgetary and fund accounting as applied to municipalities and other governmental units. Prerequisites: B.A. 2322 and six semester hours of Finance or Government. Not offered every year.

B.A. 4321. ADVANCED ACCOUNTING.

A study of special accounting problems with emphasis on business budgets, principles and techniques of consolidated statements, branch accounting, sales contracts, and fiduciary accounting statements. Prerequisite: B.A. 3322, or consent of instructor.

B.A. 4324. AUDITING.

A survey of auditing principles and procedures applied by public accountants and internal auditors in examining financial statements and verifying underlying data. Prerequisite: B.A. 3321.

B.A. 4325. ACCOUNTING SYSTEMS.

Design and installation of accounting systems. Manual and machine accounting procedures. Prerequisite: B.A. 2322.

B.A. 4328. C.P.A. REVIEW

A course preparing the student for the theory and practice section of C.P.A. examinations. The problems are selected to develop the ability to solve rapidly the multipoint C.P.A. problems under examination conditions. Stress is given to accounting for assets and liabilities and to interpreting the financial statements of individual corporations. Prerequisite: twenty semester hours of accounting. Offered on demand.

B.A. 4329. ADVANCED INCOME TAX PROCEDURE.

Particular attention is given to tax regulations applicable to partnership and corporations together with the preparation of federal tax returns for such businesses. Federal gift, estate, and inheritance taxes are considered. Prerequisite: B.A. 3323.

BUSINESS EDUCATION**SUGGESTED CURRICULUM****B.B.A. IN BUSINESS EDUCATION**

(with secondary teacher certification)

Freshman Year

Art 1301.
B.A. 1202, 1203, 1306, 1307, 1331.
Eng. 1301, 1302.
Math., six hours¹
Spee. 1302.
P.E., two hours, activities.

Sophomore Year

B.A. 2308, 2312, 2321, 2322.
Eco. 2351, 2352.
Eng., sophomore literature, six hours.
Hist. 2313 or 2333, 2314.
Mus. 2307.
P.E., two hours, activities.

Junior Year

B.A. 2332, 3335, 3337.
Ed., six advanced hours².
Foreign Language, six hours.
Govt. 2313, 2314.
Science, six hours (lab.).

Senior Year

B.A. 3315, 3361, 3371, and six hours advanced B.A. electives.
Ed. 4352, 4641, and three advanced hours².
Electives, six hours.

¹Mathematics 1304 and 2303 recommended.

²Select nine hours from Education 3301, 3302, 3303, 3341, 3342, 4351.

ECONOMICS AND FINANCE**SUGGESTED CURRICULUM****B.A. IN ECONOMICS****Freshman Year**

Art 1301.
 Eng. 1301, 1302.
 Math. 1304, 2303.
 Foreign Language, six hours.
 Mus. 2307.
 Science, six hours (lab).
 P.E., two hours, activities.

Sophomore Year

B.A. 2321.
 Eco. 2351, 2352.
 Eng., sophomore literature, six hours.
 Govt. 2313, 2314.
 Hist. 2313 or 2333, 2314.
 Math. 1309.
 P.E., two hours, activities.

Junior Year

Eco. 3341, 3342, 3354, and three hours advanced Eco. electives.
 Electives, eighteen hours, including six advanced¹.

Senior Year

Eco. 4355, 4359, and six hours advanced Eco. electives.
 Electives, eighteen hours, including six advanced¹.

¹Must include a minor of 18 hours, of which six must be advanced. It is recommended that the electives and the required minor emphasize the areas of business administration, mathematics, and social studies.

SUGGESTED CURRICULUM**B.B.A. IN ECONOMICS**

(See basic program for freshman and sophomore years.)

Junior Year

B.A. 3335, 3337.
 Eco. 3341, 3342, 3354, and three hours advanced Eco. electives.
 Mus. 2307.
 Govt. 2313, 2314.
 Electives, three hours.

Senior Year

B.A. 3361, 3371, 3383.
 Eco. 3381, 4355, 4359, and three hours advanced Eco. electives.
 Electives, three hours advanced Eco. or B.A.
 Electives, six hours.

Eco. 1301. INTRODUCTION TO ECONOMICS.

A course in economics for students who have active interests in fields other than business administration or economics. Primary emphasis is given to developing an understanding of man in relation to his economic environment. Students will gain a knowledge of the purpose, functions, and results of a capitalistic system and an understanding of current economic problems.

Eco. 2351. PRINCIPLES OF ECONOMICS: MACROECONOMICS.

An introduction to fundamental economic concepts and principles. Covers a study of capitalism, elements of supply and demand, business organization, determination of national income, monetary and fiscal policy. Prerequisite: sophomore standing.

Eco. 2352. PRINCIPLES OF ECONOMICS: MICROECONOMICS.

Study of supply and demand factors affecting determination of output and prices; distribution of income; and international trade. Prerequisite: Eco. 2351.

Eco. 3341. ELEMENTARY BUSINESS AND ECONOMIC STATISTICS.

See B.A. 3341 for course description and prerequisites. May be counted as Business Administration or Economics.

Eco. 3342. INTERMEDIATE BUSINESS AND ECONOMIC STATISTICS.

See B.A. 3342 for course description and prerequisite. May be counted as Business Administration or Economics.

Eco. 3353. INTERNATIONAL TRADE.

The mechanism of international trade and a study of its effects on a national economy. A discussion of foreign investments, cartels, international output and price controls. Prerequisite: Eco. 2352. Offered on demand.

Eco. 3354. INTERMEDIATE ECONOMIC THEORY.

A course with primary interest on economics of the firm. Concerns economic analysis and methodology, distribution theory, price theory, imperfect competition and monopoly. Prerequisite: Eco. 2352.

Eco. 3355. ECONOMIC DEVELOPMENT IN LATIN AMERICA.

A survey of the record of economic growth in Latin America. An analysis of the resources and institutional contributions in past growth and their role in future development. May be counted as Economics or Business Administration. Prerequisites: Eco. 2351, 2352.

Eco. 3356. BUSINESS ENTERPRISE AND PUBLIC POLICY.

See B.A. 3356 for course description. May be counted as Business Administration or Economics.

Eco. 3381. MONEY AND BANKING.

See B.A. 3381 for course description and prerequisites. May be counted as Business Administration or Economics.

Eco. 4354. LABOR ECONOMICS.

A study of labor economics, manpower management, and collective bargaining; a study of the objectives of labor unions and employer associations; and an appraisal of public policy and labor legislation as it affects producers and consumers. Prerequisite: Eco. 2352.

Eco. 4355. MACROECONOMIC THEORY.

A descriptive-analytical approach to the changing forces that influence the over-all level of economic activity. Income and employment factors, stabilization theory, investment and income relationships, monetary and fiscal policies. Prerequisite: Eco. 2351.

Eco. 4359. HISTORY OF ECONOMIC THOUGHT.

A survey course over the entire field of economics. Prescientific, classical,

and contemporary works will be studied to gain a knowledge of the development of economic theory and a view of current direction and scope. Prerequisite: twelve semester hours of economics.

B.A. 1381. PERSONAL FINANCE

A study of personal income, budgeting, and consumer credit problems. Development of plans for purchasing insurance, real estate, and securities. Taxation as it affects the individual's income, assets, and estate is studied.

B.A. 3381. MONEY AND BANKING.

A study of the principles of money and banking, including types of credit-granting institutions, services of commercial banks and other short-term credit institutions, and the place of the Federal Reserve System in our economic system. Prerequisites: six semester hours each of accounting and economics. May be counted as Business Administration or Economics.

B.A. 3382. INVESTMENT PRINCIPLES.

A study of analysis and valuation of investment securities of corporations and governmental agencies. The purchase and sale of securities through brokerage houses and investment banking firms will be studied. Prerequisite: junior standing.

B.A. 3383. MANAGERIAL FINANCE.

A study of the finance function in the firm and the specific responsibilities of the firm's financial manager. Emphasis is placed upon financial decisions, both those affecting the internal management of the firm and those concerned with the acquisition of new assets and funds. Prerequisites: B.A. 2322 and junior standing.

B.A. 3384. FUNDAMENTALS OF REAL ESTATE.

A study of the physical and economic characteristics of real estate, applicable law, taxation, appraisal, marketing and finance.

B.A. 3385. PRINCIPLES OF INSURANCE.

A study of the identification and control of risks facing the individual and the business firm, and the use of insurance and other mechanisms in dealing with them. It concerns risk analysis, loss prevention, personal and property insurance, insurance programs and estate plans.

GENERAL BUSINESS

SUGGESTED CURRICULUM

B.B.A. IN GENERAL BUSINESS

(See basic program for freshman and sophomore years.)

Junior Year

Govt. 2313, 2314.

Mus. 2307.

B.A. 3335, 3337, 3341, 3342, 3361,
3371, 3381.

Senior Year

Eco. 3354.

B.A. 3383, 4332, 4369, 4378, and nine
hours B.A. electives, including six
advanced.

Electives, six hours.

B.A. 1331. INTRODUCTION TO BUSINESS.

A survey of the field of business and industry in our economic system. Basic principles of business organization and the formation and operation of the several divisions of a business concern; finance, production, marketing, and personnel. Designed to acquaint the beginning student with the problems, procedures, and practices of modern business. Recommended only for freshmen and sophomores.

B.A. 2332. INTRODUCTION TO COMPUTERS IN BUSINESS.

A survey of computer and data processing equipment and programming techniques used in the modern business organization. The course emphasizes the managerial implications of computer usage. Equipment observation and demonstrations will be included. Prerequisite: sophomore standing.

B.A. 2333. COMPUTERS AND PROGRAMMING.

An introduction to computer organization, machine language programming and use of assembly language programming systems. Topics studied are: basic instructional sets, arithmetic and logical operations, indexing, indirect addressing, macro definition and interpreters. Several computer programming projects are included in the course. Prerequisite: sophomore standing.

B.A. 3333. DATA STRUCTURES.

A study of the basic concepts of data and computer storage structures. The organization and maintenance of data files and sorting/searching techniques are studied. Linear lists, strings, arrays, orthogonal lists, trees and multilinked structures are developed. Prerequisites: B.A. 2333.

B.A. 3335. BUSINESS COMMUNICATIONS.

Practice in the use of correct, forceful English, practical psychology, and good business judgement in handling many types of business situations by letter. Prerequisites: Satisfaction of general education requirements for freshman English and ability to use the typewriter.

B.A. 3337. BUSINESS LAW I.

Historical background and rule of law in business and society; legal reasoning; particular emphasis on contracts, agency, property, and the Commercial Code. Prerequisite: junior standing.

B.A. 3338. BUSINESS LAW II.

A continuation and expansion of the study of rules of law in a business society; business organizations; secured transactions; real property; wills and trusts; consumer protection; bankruptcy. Prerequisites: B.A. 3337 and junior standing.

B.A. 3341. ELEMENTARY BUSINESS AND ECONOMIC STATISTICS.

Collection, classification, description, and presentation of numerical data. A study of frequency distributions, averages, dispersion, probability, and statistical inference. May be counted as Business Administration or Economics. Prerequisites: six semester hours of mathematics, including Math. 1309, and junior standing.

B.A. 3342. INTERMEDIATE BUSINESS AND ECONOMIC STATISTICS.

A continuation of elementary statistics, including regression and correlation, index numbers, time series, nonparametric statistics, and other decision-making tools. May be counted as Business Administration or Economics. Prerequisite: B.A. 3341 or Eco. 3341.

B.A. 3345. BUSINESS INTERNSHIP.

A course designed to allow students to perform certain professional activities in a business environment on an internship basis. Students will work full-time in an approved internship program after being selected by the employer and approved by the Dean of the School of Business Administration. Evaluation will be based upon periodic reports submitted by the internee, and upon a performance evaluation made by the employer. Offered on demand.

B.A. 3356. BUSINESS ENTERPRISE AND PUBLIC POLICY.

A study of the nature, scope and effect on the business community of governmental involvement and regulation in the functioning of the economy. Emphasis is on the impact of federal legislation as it pertains to antitrust enforcement and the maintenance of competition, the regulation of public utilities and inter-regional transport, agricultural adjustment, labor relations, and public ownership. The course is designed to give a broad understanding of the many ways in which business and economic life are shaped and influenced by government. May be counted as Business Administration or Economics.

LATIN AMERICAN BUSINESS**SUGGESTED CURRICULUM****B.B.A. IN LATIN-AMERICAN BUSINESS**

(See basic program for freshman and sophomore years.)

Junior Year

Span. 3303, 3304.
B.A. 3335, 3341, 3342, 3361, 3371,
3381.
Eco. 3353.
Govt. 2313, 2314.
Mus. 2307.

Senior Year

B.A. 3336, 3337, 3355, 3383, 4332,
4367, and three hours B.A.
electives.
Social Studies, Latin-American
content, nine hours, including six
advanced.
Electives, six hours.

B.A. 3336. LEGAL AND POLITICAL ENVIRONMENT OF BUSINESS IN MEXICO.

A study of the political and legal institutions of Mexico as they relate to the operation of business enterprise.

B.A. 3355. ECONOMIC DEVELOPMENT OF LATIN AMERICA.

See Economics 3355 for course description and prerequisites. May be counted as Business Administration or Economics.

B.A. 4367. INTERNATIONAL BUSINESS OPERATIONS.

An analysis of problems of management of businesses engaged in international operations with particular emphasis on Latin America. Case studies will be utilized.

MANAGEMENT**SUGGESTED CURRICULUM****B.B.A. IN MANAGEMENT**

(See basic program for freshman and sophomore years.)

Junior Year

Govt. 2313, 2314.
Mus. 2307.
B.A. 3335, 3337, 3341, 3342, 3361,
3371, 3381.
Electives, three hours.

Senior Year

Eco. 3354, 4354.
B.A. 3362, 3363, 3383, 4332, 4369,
and six hours B.A. electives.
Electives, three hours.

B.A. 3361. PRINCIPLES OF MANAGEMENT.

A study of management functions and processes which have general applicability to all types of enterprises. Introduction to basic management philosophy and decision-making processes; study of the principles involved in carrying out managerial functions. Prerequisite: junior standing.

B.A. 3362. PERSONNEL MANAGEMENT.

A study of current developments within the field of personnel administration; a study of concepts, principles, policies, and organizational procedures utilized by business institutions in the management of personnel; selection, placement compensation, morale, labor turnover, collective bargaining, employee service, and supervisory activities. Prerequisites: B.A. 3361, or consent of the instructor, and junior standing.

B.A. 3363. PRODUCTION MANAGEMENT.

A study of the concept of the production function and its applicability to all types of business firms; problems which provide background for the integration of scientific decision processes relative to an analysis of production activities. Prerequisites: junior standing and B.A. 3341 or Eco. 3341.

B.A. 4332. HUMAN RELATIONS IN MANAGEMENT.

The application of behavioral sciences to human relations problems in business and industry; making decisions among business alternatives with due regard for the human element; individual and small-group interactions; relations of workers with employers. Prerequisite: senior standing.

B.A. 4369. BUSINESS POLICY.

A broad course in business management designed to integrate earlier studies in business. Comprehensive case problems are studied, with student participation in decision making related to business operations and economic conditions. A computerized business simulation provides for decision making under dynamic conditions. Prerequisite: senior standing, with a major or minor in Business Administration or Economics.

MARKETING**SUGGESTED CURRICULUM****B.B.A. IN MARKETING**

(See basic program for freshman and sophomore years.)

Junior Year

Govt. 2313, 2314.
Mus. 2307.
B.A. 3335, 3337, 3341, 3342, 3361,
3371, 3381.

Senior Year

Eco. 3353 or 3354.
B.A. 3375, 3377, 3383, 4332, 4369,
4378, and three hours B.A. electives.
Electives, six hours.

B.A. 2373. PRINCIPLES OF SALESMANSHIP.

Modern salesmanship, the product, the buyer, planning the presentation, meeting the prospect, the interview, overcoming resistance, closing the sale, building good will. Practical applications of selling in the form of structured class participation.

B.A. 3371. PRINCIPLES OF MARKETING.

An analysis of the marketing structure as it operates in our economic system with emphasis on improving the flow of goods and services from producer to consumer. Practical application of principles and techniques is encouraged. Designed as a beginning course in marketing. Prerequisite: junior standing.

B.A. 3375. RETAILING.

Principles and methods of modern retailing. Emphasis will be placed upon problems of store location and layout, buying, pricing, credit, stock control, personnel, and sales promotion. The course is designed for students who wish to gain a general knowledge of the retail field as well as those specializing in marketing. Prerequisites: junior standing and, for Business Administration majors, B.A. 3371.

B.A. 3377. MARKETING MANAGEMENT.

Emphasis is placed on acquiring a knowledge of various tools and models that may be useful in assisting the marketing manager in his decision-making process. All areas of marketing are discussed within the decision-making framework, with practical application of techniques emphasized. Prerequisites: B.A. 3371 and junior standing.

B.A. 4378. MARKETING RESEARCH.

A study of qualitative research procedures and techniques utilized in business today. Included is a study of problem definition, sources of research data, survey methods, questionnaire design, and sampling techniques. Practical application of procedures and techniques is emphasized through class research projects. Prerequisites: Eco. 2352, B.A. 3341 or Eco. 3341, B.A. 3371, and senior standing.

SECRETARIAL ADMINISTRATION**SUGGESTED CURRICULUM****B.B.A. IN SECRETARIAL ADMINISTRATION****Freshman Year**

Eng. 1301, 1302.
Math., six hours.
Art 1301.
Spee. 1302.
B.A. 1202, 1203, 1306, 1307, 1331.
P.E., two hours.

Sophomore Year

Eng., sophomore literature, six hours.
Eco. 2351, 2352.
Hist. 2313 or 2333, 2314.
B.A. 2308, 2321, 2322, 2332.
P.E., two hours.

Junior Year

Foreign Language, six hours.
Science, six hours (lab.).
Govt. 2313, 2314.
Mus. 2307.
B.A. 2312, 3335, 3337.

Senior Year

B.A. 3361, 3362, 3371, 3381, 4332,
and six hours advanced B.A.
electives.
Electives, nine advanced hours.

B.A. 1201. ELEMENTARY TYPING.

A course designed for those who have not had previous training in typing. The correct use of the typewriter, development of skill, proficiency in the use of numbers and symbols, and the study of letters and tabulation are stressed. Class meets three hours per week. \$2.00 laboratory fee. May not be counted for degree credit in Business Administration.

B.A. 1202. INTERMEDIATE TYPING.

A course designed for those who have had one year of high school typing and wish to become more proficient in the use of the typewriter. Emphasis is placed upon speed development, business letters, tabulation, and office forms. Class meets three hours per week. \$2.00 laboratory fee.

B.A. 1203. ADVANCED TYPING.

A course designed for those who want to gain speed and a knowledge of business forms. A great deal of remedial work is done for those who have developed incorrect habits at the machine. Letter forms, manuscript work, footnotes,

legal documents, payrolls, telegrams, carbon copies, and related office problems. Prerequisite: B.A. 1202 or equivalent. Class meets three hours per week. \$2.00 laboratory fee.

B.A. 1305. ELEMENTARY SHORTHAND.

A course for students who desire a mastery of the principles of Gregg Shorthand. A study of the writing of shorthand, intensive vocabulary building, elementary dictation, and transcription. May not be counted for degree credit in Business Administration.

B.A. 1306. INTERMEDIATE SHORTHAND.

A continuation of B.A. 1305, review of the principles of Gregg Shorthand, vocabulary building, dictation, and transcription. A student should be able to acquire a dictation speed of 80-100 words per minute by the end of this semester. Prerequisites: B.A. 1305 or equivalent, and credit for or concurrent enrollment in B.A. 1202.

B.A. 1307. ADVANCED SHORTHAND.

A course designed to enable the student to acquire speed in dictation and transcription and to acquaint him with acceptable forms of business letters. A student should be able to acquire a dictation speed of approximately 120 words per minute by the close of the semester. Prerequisite: B.A. 1306 or equivalent.

B.A. 2308. SECRETARIAL TRAINING.

A study of secretarial procedures performed in business offices. This includes personal relations, business etiquette, handling of mail and telegrams, using the telephone, filing, banking procedures, using directories, interviewing callers, office equipment, keeping office records, and minutes of meetings. Prerequisites: B.A. 1202 or equivalent, and sophomore standing.

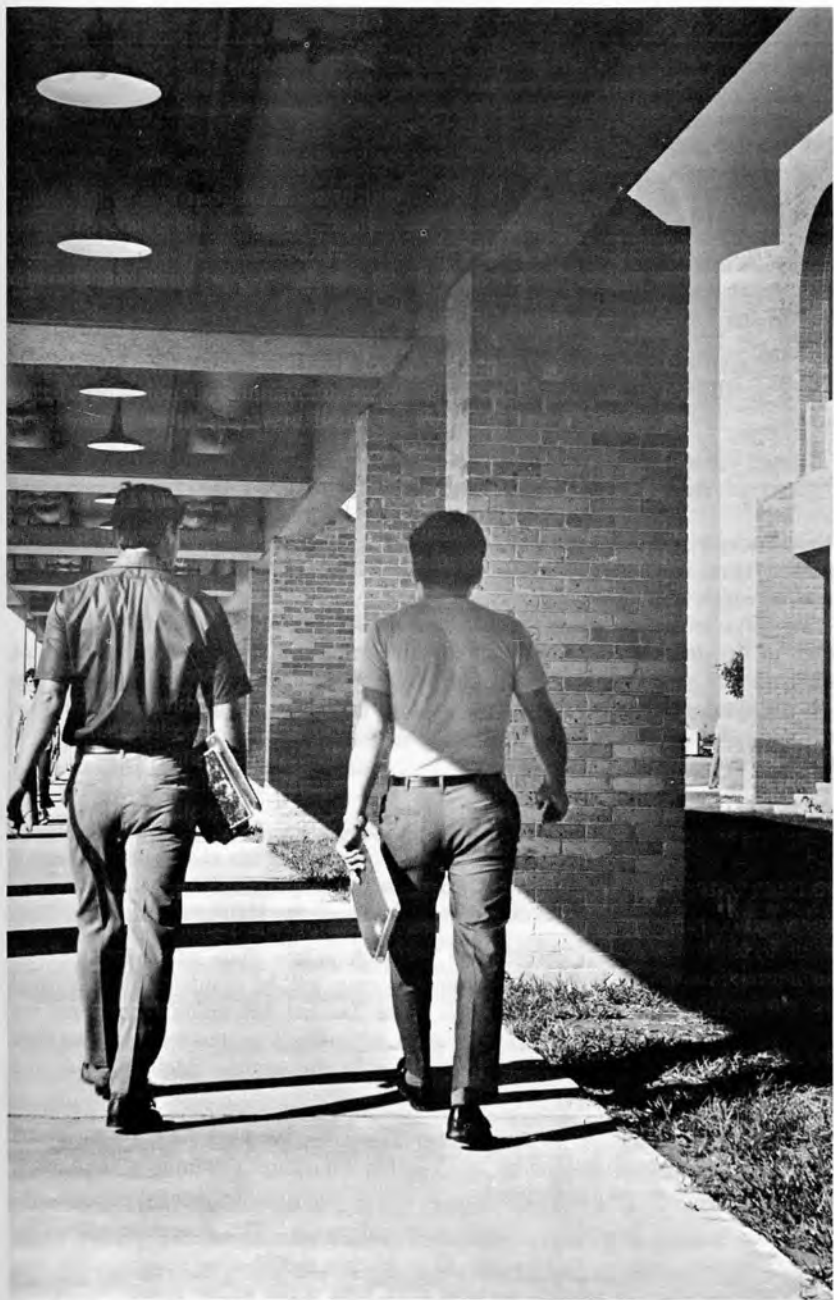
B.A. 2312. OFFICE ADMINISTRATION.

A study of the problems in modern office work with emphasis on the utilization of automated office equipment, and application of modern management principles to specific office procedures.

B.A. 3315. BUSINESS PRINCIPLES.

A course designed to acquaint the student with the principles and practices involved in the various business areas as related to their implementation and application. Prerequisites: B.A. 1202 or equivalent, and B.A. 2322. Required for all Business Education majors.

SCHOOL OF EDUCATION



Sealed in the overhead pipes, chilled water flows to air condition rooms soon to be occupied by these students strolling and enjoying the shaded walkways.

SCHOOL OF EDUCATION

Professor Fred Cunningham, Dean

The School of Education includes the Departments of Teacher Education, Health and Physical Education, and Nursing Education.

The School offers the Bachelor of Science degree in Elementary Education and Health and Physical Education, and the Associate of Applied Science degree in Nursing Education.

A minor is offered in the field of Health and Physical Education.

For specific degree requirements and suggested curricula see the departmental areas.

CERTIFICATE REQUIREMENTS FOR TEACHERS

Teachers in Texas elementary and secondary schools are required by law to hold a valid Texas teacher's certificate for the grade level, specialization area, or position to which they are assigned.

Prospective secondary school teachers are required to have 24 hours of credit in each of two teaching fields. Prospective elementary majors must have a second field with 18 to 24 hours credit. The Head of the Department of specialization or the Head of the Department of teacher education should be consulted for specific course requirements. National Teachers Examinations are required for certification.

THE TEACHER EDUCATION COMMITTEE

This committee is made up of faculty members from the School of Education and from each department of the other Schools of the University.

To be recommended for certification to teach in the State of Texas, students completing their work at Pan American University will be evaluated and approved by the Teacher Education Committee. The Teacher Education Committee not only formulates policies for the admission of students to the teacher education program, but also approves course offerings in the various teaching fields and the professional preparation for certification.

Application for admission to the Teacher Education Program must be filed with the student's department head or the Teacher Education Committee, in accordance with the following provisions:

- (1) No student shall make application before having reached junior status. Students planning to complete their teacher certification requirements here should apply as soon as possible after they reach junior status.
- (2) Transfer students must delay application until successful completion of one regular semester at Pan American University.
- (3) Applications must be filed at the time of any regular registration period subject to provisions 1 and 2 above.

- (4) A student deciding late in his college career to pursue a program of teacher preparation should observe whichever of provisions 1, 2, and 3 above apply to them.

The Teacher Education Committee will review the candidate's application, including his transcript of college work completed and the recommendations of the department head or his major and minor fields, and inform him to the effect that (a) he has been admitted conditionally, the conditions being set forth explicitly, or (b) he has been denied admission. *Final approval will be given when the student has been accepted to do his directed teaching.*

It shall be understood that approval of an application does not constitute subsequent recommendation on the part of the University for a certificate to teach. Such recommendation is contingent upon continued demonstration of promise as a prospective teacher and completion of the certification requirements both in professional education and in the major and/or minor teaching fields.

A student admitted on a conditional basis may proceed with a teacher preparation program but must meet the following requirements before he can receive final approval:

- (1) Must be approved for the directed teaching program.
- (2) Must have an overall 2.00 average in his college work.
- (3) Must have at least a 2.25 average in both major and minor fields.
- (4) Must have approval from the education division and from the department head of his major and/or minor fields. Check the college catalog for directed teaching requirements.

Denial of a request for admission does not necessarily constitute a final judgment. It merely means that the student does not appear to show sufficient promise of success as a teacher to justify his continued efforts in that direction. Should the applicant wish to pursue a course of teacher preparation in spite of such a repudiation, he may, after completion of an additional fifteen semester hours of study at Pan American University, file a second application, at which time he will be obliged to appear personally before the Teacher Education Committee.

Students wishing to teach must follow the approved program for their teaching fields. Check with the department head for a degree plan outlining these programs.

Students graduating without following the approved program for their teaching fields must meet all these requirements, in addition to getting the required number of years of teaching experience, before being recommended by Pan American University to receive a Texas certificate.

Students working on a removal of deficiency program toward certification must also have a 2.00 average in all college work and a 2.25 average in the major and minor fields before being recommended by Pan American University for a Texas certificate.

THE TEACHER EDUCATION COUNCIL

This council is made up of college personnel and members of the faculties of the public schools in the area. The purpose of the council is to advise the Department of Education and the Teacher Education Committee regarding admission requirements, course offerings, and new programs.

DEPARTMENT OF TEACHER EDUCATION

Professor James L. Williamson, Head

The fact that a degree in education from the University may lead to a certificate to teach in the public schools of the state imposes a singular obligation on the part of the University to determine the suitability of the candidate for such degree for the profession of teaching. A great deal more than mere scholastic ability is involved. Physical and mental health, moral ideals, and professional attitudes are paramount among these additional considerations. The right is reserved, therefore, to restrict the teacher education curriculum to those who measure up to these criteria.

Degree Requirements**Major in Elementary Education and Elementary Certificate:**

(Professional Development and Elementary Content Courses to qualify for the provisional (life) certificate.)

30 advanced semester hours in Elementary Education; must include Education 4611; 12 semester hours from Ed. 3321, 3322, 3323, 3324, 3326, 3327, 3328; 12 semester hours from Ed. 3301, 3302, 3303, 3311, 3312, 3313.

The General Education science requirement for Elementary Education majors is Physical Science 1301, 1302 and Biology 1305, 1306 or appropriate approved substitutes.

Minor for Elementary Education Majors:

Elementary Plan I and Plan II, Areas of Specialization: Art, Biology, Chemistry, Earth Science, English, French, Government, Health and Physical Education, History, Mathematics, Physics, Spanish, Speech; in addition Music Education Elementary Plan II. (See *minor field* departmental Area *Elementary Plan I or Plan II* for certification requirements.)

Elementary Plan I: 18 semester hours in one subject, of which nine semester hours must be advanced. These may include courses in general education.

Supporting Area: 18 semester hours from Art 3381, 3382; Geog. 2301; Mus. 3311, 3312; P.E. 2351, 2352; Spee. 3303.

Elementary Plan II: 24 semester hours in one subject, of which 12 semester hours must be advanced. These may include courses in general education.

Supporting Area: 12 semester hours from Art 3381, 3382; Geog. 2301; Mus. 3311, 3312; P.E. 2351, 2352; Spee. 3303.

Teaching Certificate for Junior and Senior High School:

18 advanced semester hours; must include Education 4352 and 4641 and 9 semester hours from Education 3301, 3302, 3303, 3341, 3342, 4351, 4353.

Major Fields for Secondary Plan I: Art, Biology, Chemistry, English, French, Government, Health and Physical Education, History, Mathematics, Physics, Spanish, Speech—and require a second teaching field (minor.) (See *major field departmental area for major requirements and Secondary Plan I for certification requirements* and for the second teaching field (minor) see *minor field departmental area Secondary Plan I for certification requirements* or consult the area of specialization department head or dean of the school.

Second Teaching Field (minor): Art, Biology, Business Education, Chemistry, English, French, Government, Journalism, Health and Physical Education, Earth Science, History, Mathematics, Physics, Spanish, and Speech. (See the *minor field departmental area Secondary Plan I for certification requirements* or consult the area of specialization department head or dean of the school.

Major Fields for Secondary Plan II: Business Education, Music Education, and Social Studies (major in history or government). A second teaching field (minor) is not required. (See *major field departmental area Secondary Plan II for the major and certification requirements* or consult the area of specialization department head or dean of the school.)

Major Fields for All Level: Art, Health and Physical Education, and Music. Health and Physical Education all-level majors *require* a second teaching field (minor), however, a second teaching field (minor) is *not required* of Art and Music majors. (See *major field departmental area All-Level for certification requirements*—Health and Physical Education all-level majors also see *minor field Secondary Plan I for certification requirements* or consult the area of specialization department head or dean of the school.) *All-Level:* 18 advanced semester hours; must include Education 3302, 3311 or 3312, 3341 or 3342; 4352, 4641.

Both major and minor fields, Secondary Plan I, Secondary Plan II, and All-Level, may include courses in General Education, except for P.E. activity courses.

Teaching Certificate for Teaching Mentally Retarded:

(Education courses required to qualify for the provisional (life) certificate for teaching the mentally retarded.)

The student must have a Teaching Certificate. Twelve additional hours are required: Education 4371, 4372, 4373, 4374.

Teaching Certificate for Teaching Driver's Education:

The student must have a Teaching Certificate in Elementary or Secondary Education. Six additional hours are required: Driver Education 4304, 4305.

Teaching Certificate for Kindergarten:

For Individuals Who Already Hold an Elementary Certificate:

The Kindergarten Endorsement that is added to the Provisional Certificate in elementary education shall require 12 semester hours of junior level or above college credit, three hours of which are to be in student teaching at the kinder-

garten level. The courses must be in a college approved institution for the preparation of kindergarten teachers. An individual who has taught full-time under contract in a kindergarten program for one year may substitute an additional course in kindergarten education for the course in student teaching. The total program for the Kindergarten Endorsement requires 12 semester hours.

The Kindergarten Endorsement As a Part of the Bachelor's Degree and Elementary Certificate Program:

A program for elementary certification with kindergarten endorsement shall include a minimum of nine semester hours of junior level courses or above identified and designed for kindergarten teacher preparation, *in addition* to student teaching.

In order to qualify for the Provisional Elementary Certificate with an endorsement for teaching in kindergarten, the candidate must complete six semester hours of student teaching. This shall consist of three semester hours of student teaching in kindergarten and three semester hours of student teaching in the elementary grades.

Directed Teaching:

Directed teaching is required in partial fulfillment of the requirements for a provisional (life) certificate in Texas. This experience is provided by assigning senior student teachers to work in classroom situations with regular teachers for one full semester in a convenient public school. The Department of Teacher Education requires that students entering Directed Teaching must:

1. Have senior standing.
2. Have completed all required courses for freshmen and sophomores.
3. Have at least a 2.00 average in all college courses.
4. Have at least a 2.25 average in both major and minor fields.
5. Have at least a C average in all required English courses.
6. If an elementary school major, have completed at least three courses in elementary school methods.
7. If a secondary school candidate, have completed at least 24 hours in a major or first teaching field; have completed at least 15 hours in a minor or second teaching field; and six hours of professional secondary education.

SUGGESTED CURRICULUM

Elementary Education Major

Freshman Year

Eng. 1301, 1302.
 Art 1301.
 Mus. 2307.
 Spee. 1301, if required.
 Phys. Sci. 1301, 1302 or approved substitute.
 Foreign Language, six hours.
 Math., six hours.
 P.E., two hours, activities.

Sophomore Year

Eng., sophomore literature, six hours.
 Hist. 2313 or 2333, 2314.
 Govt. 2313, 2314.
 Biol. 1305, 1306 or approved substitute.
 P.E., two hours, activities.
 Minor¹.
 Supporting Area².

Junior Year

Ed., 12 hours from Ed. 3301, 3302, 3303, 3311, 3312, 3313; three hours from².

Supporting Area³.

Minor¹.

Elective, three hours.

Senior Year

Ed., nine hours from²; 4611 or 4311 and 4312

Supporting Area³.

Minor¹.

Electives, three hours.

¹Consult minor field for course requirements, Elementary Plan I or Elementary Plan II.

²Select from Ed. 3321, 3322, 3323, 3326, 3327, 3328.

³Elementary Plan I select 18 hours and for Elementary Plan II select 12 hours from Art 3381, 3382; Geog. 2301; Mus. 3311, 3312; P.E. 2351, 2352; Spec. 3303.

Ed. 1301. INTRODUCTION TO TEACHING.

An orientation course in general education in a democratic society. It presents a survey of the school system in the United States, its growth, its structure, its problems, and its trends as they affect and are affected by the schools. May be taken as an elective. Does not count toward certification.

Ed. 1302. INTRODUCTION TO EDUCATIONAL PSYCHOLOGY.

Psychological principles basic to professional education will be stressed. The ability to understand children at all levels of the school along with the personal growth of the prospective teacher will be considered. Does not count toward certification.

Ed. 1651. WORKSHOP FOR TEACHER-AIDES.

A workshop course designed to assist in the development of concepts and skills considered desirable among teacher-aides in migrant and/or disadvantaged pupil programs. Extensive instruction and training will be given in the various roles of the teacher-aide. Instructional and training activities will include lectures, conferences, demonstrations, and a wide variety of practical work in the preparation of audio-visual materials and in the use of audio-visual equipment. Prerequisite: appointment to the workshop under the guidelines set forth by Pan American University.

Ed. 2101. TEACHING HANDWRITING.

A course designed for elementary school teachers who wish not only to develop a more acceptable standard of handwriting with a minimum expenditure of time, but who wish to attain proficiency in the teaching of both manuscript and cursive penmanship. Legibility and logic of execution are stressed. One hour lecture.

Ed. 2301. CHILD DEVELOPMENT.

A study of the interrelationship of biological and environmental factors in the growth of the child from conception through pubertal cycle and the application of this knowledge in directing wholesome personality development. Students who have taken Ed. 3311, Child Growth and Development, may not take this

course for credit. It is desirable, though not mandatory, that students shall already have taken Psy. 2313, Introduction to Psychology.

Ed. 3301. AUDIO-VISUAL AIDS.

This course deals with the best modern methods and the proper use of instructional materials and aids suited for classroom instruction. Sources of materials, methods of presentation, evaluation of results, and proper use and care of various types of projection and production equipment will be stressed.

Ed. 3302. EDUCATIONAL PSYCHOLOGY.

A detailed approach to the application of modern psychological principles to teaching-learning situations. Satisfies advanced professional requirements for both elementary and secondary school majors. Should be taken before Education 3311 and 3341.

Ed. 3303. HISTORY AND PHILOSOPHY OF EDUCATION.

A chronological survey of the place of education in various civilizations; the historical development of educational objectives, methods, curricula, organizations and deliberations, presented with a view toward better understanding of modern educational problems and practices.

Ed. 3311. CHILD GROWTH AND DEVELOPMENT.

This course presents a general view of the physical, emotional, social and mental development of children from prenatal life to the adolescent period. Special emphasis is given to the interrelatedness of these four aspects of development with a view toward helping parents and teachers to understand better and to guide the growth and development of the child through the elementary and elementary school years.

Ed. 3312. TESTING, MEASUREMENT, AND GUIDANCE—ELEMENTARY.

This course emphasizes the role of the teacher in the evaluation and guidance of children in the modern elementary school. Construction, administration, interpretation, and application of results of evaluation devices will be studied as they apply to directing learning and behavior in classroom situations.

Ed. 3313. CHILDREN'S LITERATURE.

This course familiarizes the student with poems and stories for children and includes a study of the principles which should govern the selection of literature for children, the manner in which it should be taught, and the problem of building a library suitable for children of the elementary grades.

Ed. 3321. TEACHING LANGUAGE ARTS.

Methods of teaching the language arts in the elementary school with special reference to the building of communication skills in the curriculum.

Ed. 3322. TEACHING THE BILINGUAL CHILD.

A course designed to aid the teacher of beginning students who do not speak English. The assembling of teaching materials will form a large part of the class work.

Ed. 3323. TEACHING READING.

Consideration of different methods of teaching reading to the elementary school child. Includes the importance, scope, reading readiness, beginning instruction, comprehension, reading-study skills, critical reading, and evaluation of reading progress.

Ed. 3324. TEACHING ENGLISH AS SECOND LANGUAGE.

A course dealing with the audio-lingual approach to second language teaching in the elementary school. Students will practice teaching techniques which require the use of tape recordings, discs, filmstrips, motion pictures, and printed materials. While the principles covered are applicable to instruction in any language, only English and Spanish teaching will be considered.

Ed. 3326. TEACHING ELEMENTARY SCIENCE.

A study of those phases of science which are usually dealt with in teaching at the elementary level. Pertinent demonstrations and skills will be taught to help teachers become more proficient in helping children better understand and appreciate the natural forces which shape their physical environment. **Prerequisite:** must have completed a laboratory science.

Ed. 3327. TEACHING SOCIAL SCIENCE.

Teaching social sciences in the elementary schools. The role of social sciences in the elementary schools with special reference to building units of work in the curriculum.

Ed. 3328. TEACHING ARITHMETIC.

A treatment of the methods of teaching arithmetic at the elementary school level. It includes basic number concepts, fractions, decimals, percentage, thought problems, and such arithmetical skills as are deemed necessary for the teaching of arithmetic and the sciences. **Prerequisite:** Must have completed Math. in General Education.

Ed. 3329. REMEDIAL READING.

This course will show the ways and means of giving remedial assistance to students needing such aids in the various subject matter fields in the elementary school with special emphasis on diagnostic and corrective measures.

Ed. 3330. EDUCATIONAL SPANISH FOR THE ENGLISH-SPEAKING TEACHER.

This course is intended for the native English speaker who needs a functional command of Spanish in order to deal more effectively with the Spanish-speaking school child and his parents. The audio-lingual approach to second-language teaching will be used to give the student a command of structures, phrases and vocabulary items. Emphasis will be placed on accurate reproduction of the Spanish sound system so that the student may master correct pronunciation. (This course cannot be counted toward certification.)

Ed. 3341. ADOLESCENT GROWTH AND DEVELOPMENT.

A study of the characteristics, development, and psychological problems of teenage youth relative to their successful adaptation to secondary school situations.

Ed. 3342. TESTING, MEASUREMENT, AND GUIDANCE—SECONDARY.

This course emphasizes the role of the teacher in the evaluation and guidance of students in the modern secondary school. Construction, administration, interpretation, and application of results of evaluation devices will be studied as they apply to directing learning and behavior in classroom situations.

Ed. 4304. SAFETY EDUCATION.

A course designed to give sufficient background and training in safety and accident prevention to enable the student to work effectively in teaching and in participation in industrial or civic living. Major aspects of traffic, home, school, farm, fire, and industrial safety are emphasized. This course is required for Driver Education Certification. Three hours lecture.

Ed. 4305. DRIVER EDUCATION.

This course includes classroom and laboratory instruction designed to meet the requirements of the Texas Education Agency for certification of teachers of driver education. Prerequisite: driver's license and credit or concurrent enrollment in Ed. 4304.

Ed. 4306. ADVANCED TECHNIQUES FOR DRIVER EDUCATION.

This course is designed to provide a review of Driver Education; simulator instruction (theory and practice); Multi-Car Range instruction (theory and practice); advanced techniques of classroom instruction; administration, supervision and scheduling of Multi-phase driver education programs is included.

Ed 4307. DRIVER AND TRAFFIC SAFETY ENGINEERING.

This course is designed to meet the requirements of the Texas Education Agency for the preparation of Supervisors in the field of Driver and Traffic Safety Education, complementing Ed. 4304, 4305, and 4306. Course coverage consists of studies of: traffic accidents, traffic counting, speed, travel, time, parking, highway capacity, and other factors affecting the safety of highway and street users. Three hours lecture and field assignments. Prerequisites: credit for Ed. 4304 and 4305.

Ed. 4311. DIRECTED TEACHING—ELEMENTARY.

The first part of the course will consist of the preparation of teaching materials, lesson planning, keeping teacher records and making reports, study and observation of class and group work, and limited participation in teaching at the elementary level. The remainder of the course will be devoted to observation and responsible teaching in the elementary classroom under the guidance of a cooperating teacher. Periodic observations of the student teacher at work will be made by the college supervisor. The student teacher will be assigned to a teacher in a public school for one-half day for a semester, Monday through Friday. A weekly seminar and individual conferences are a required part of the course. Prerequisite: approval by the Teacher Education Committee. Students will be required to start their student teaching program at the beginning of the public school term for the fall semester. Those taking student teaching during the spring term will be required to remain until the end of the public school term. (See requirements for student teaching.) This course is available only to students seeking an elementary certificate with a kindergarten endorsement.

Ed. 4312. DIRECTED TEACHING—KINDERGARTEN.

The first part of the course will consist of the preparation of teaching materials, lesson planning, keeping teacher records and making reports, study and observation of class and group work, and limited participation in teaching at the kindergarten level. The remainder of the course will be devoted to observation and responsible teaching in the kindergarten classroom under the guidance of a cooperating teacher. Periodic observations of the student teacher at work will be made by the college supervisor. The student teacher will be assigned to a teacher in a public school for one-half day for a semester, Monday through Friday. A weekly seminar and individual conferences are a required part of the course. Prerequisite: approval by the Teacher Education Committee. Students will be required to start their student teaching program at the beginning of the public school term for the fall semester. Those taking student teaching during the spring term will be required to remain until the end of the public school term. (See requirements for student teaching.) This course is available only to students seeking an elementary certificate with a kindergarten endorsement.

Ed. 4351. READING IMPROVEMENT.

The reading difficulties of secondary pupils, the relation of reading ability to academic achievement, procedures for facilitating better reading instruction, and improving reading in the content fields are all included in his course.

Ed. 4352. TECHNIQUES AND OBSERVATION.

A course designed to prepare students for their student teaching experiences. Activities include the application of modern methods to the major problems of teaching and the observation of classroom teaching in the student's major and minor fields. Required for certification in the area of secondary education.

Ed. 4353. SECONDARY SCHOOL METHODS: TEACHING THE DISADVANTAGED LEARNER.

A study of the problems experienced in teaching secondary school students that are educationally and/or culturally disadvantaged. Emphasis will be on identification of the problems experienced by the classroom teacher, on study of the applicable techniques and materials useful in such classroom situations, and on development of concepts and skills involved in the use of various techniques and materials.

Ed. 4371. TESTS AND MEASUREMENTS.

The administration and interpretation of various standard and teacher-constructed tests. Generally, a rather wide range of tests will be used to show their usefulness in aiding the instructor to determine (1) mental ability, (2) achievement, (3) interest, (4) aptitudes, and (5) personality. So far as possible, practical application will be made and actual administration and subsequent interpretation will be employed. This course is designed especially for teachers of exceptional children.

Ed. 4372. EXCEPTIONAL CHILDREN.

A survey course which includes consideration of the history and the philosophy

of individual differences and the many classes of exceptional children problems, the diagnostic techniques, equipment and buildings, methods of teaching and therapy, and administrative procedures. Emphasis is given to the Texas plan of special education along with the study of further needs.

Ed. 4373. TEACHING MENTALLY RETARDED CHILDREN.

Problems and methods in teaching mentally retarded children. The course is designed for those interested in teaching mentally retarded children. Classroom experiences will be emphasized with some consideration of related problems.

Ed. 4374. PSYCHOLOGY OF MENTAL RETARDATION.

This course is designed for those who are especially interested in the problems of mental retardation. Emphasis will be placed on psychological problems including diagnostics and the social growth and development of the mentally retarded person.

Ed. 4390. GROWTH AND DEVELOPMENT OF YOUNG CHILDREN.

Emphasis on developmental tasks and growth characteristics from birth through the eighth year, with special emphasis on the five-year-old. Emphasis on physical, intellectual, social and emotional development. Lectures, Readings, Class Participation, Observation.

Ed. 4391. KINDERGARTEN CURRICULUM: ORGANIZATION, METHODS, AND MATERIALS.

Consideration of the philosophy, purposes, and objectives of a kindergarten program. Consideration of curricular experiences that make up the programs; planning a daily program—the learning experiences and activities that provide the five-year-old with a rich environment that will meet his needs, interests, and abilities. Emphasis will be on activities and skills to broaden the child's understanding and knowledge of his physical environment—health, safety, science and social studies concepts. Emphasis will be on developmental skills for readiness of number concepts; oral language development; reading centers of interest, of individual, group and class activities. Lectures, Readings, Class Participation and Projects, Observation.

Ed. 4392. CREATIVE ACTIVITIES IN THE KINDERGARTEN.

Consideration of methods of teaching and materials—equipment and supplies—to be used with five-year-olds. Experiences emphasized will be literature—picture-story books, poetry, storytelling, dramatization, etc. Other activities considered will be music and art for the five-year-old. Consideration will be given to development of motor-coordination through work and play activities (indoor and outdoor) with specific tasks outlined; as well as activities to develop eye-hand coordination and visual-tactile skills. Lectures, Readings, Class Participation and Projects, Observation.

Ed. 4393. TEACHING YOUNG CHILDREN OF DIVERSE CULTURES.

A study and evaluation of methods and techniques used to further the cognitive and linguistic development of young children from diverse cultures. Lectures, Readings, Class Participation and Projects, Observation.

Ed. 4611. DIRECTED TEACHING-ELEMENTARY.

The first part of the course will consist of the preparation of teaching materials, lesson planning, keeping teacher records and making reports, study and observation of class and group work, and limited participation in teaching at the elementary level. The remainder of the course will be devoted to observation and responsible teaching at this level under the guidance of a cooperating teacher. Periodic observations of the student teacher at work will be made by the college supervisor. The student teacher will be assigned to a teacher in a public school for one-half day for a semester, Monday through Friday. A weekly seminar and individual conferences are a required part of the course. Prerequisite: approval by the Teacher Education Council. Students will be required to start their student teaching program at the beginning of the public school term for the fall semester. Those taking student teaching during the spring term will be required to remain until the end of the public school term. (See requirements for student teaching.)

Ed. 4641. DIRECTED TEACHING-SECONDARY.

A course designed to give students experience in responsible teaching at the secondary school level under the guidance of cooperating teachers. Periodic observation of the student teacher at work will be made by the college supervisor. The student teacher will be expected to report to his cooperating teachers each day Monday through Friday for the equivalent of three college periods per day. A weekly seminar and individual conferences are a required part of the course. Required for certification in the area of secondary education. Prerequisites: Speech 1301 or satisfactory completion of the Speech Proficiency Test; six semester hours Secondary Education; approval by the student's major advisor; and a senior level standing. Students will be required to start their student teaching program at the beginning of the public school term for the fall semester. Those taking student teaching during the spring term will be required to remain until the end of the public school term.

Ed. 4651. WORKSHOP FOR ELEMENTARY TEACHERS.

A workshop course designed to assist teachers in planning for an elementary curriculum to meet the needs of migrant and/or disadvantaged children. Special permission must be given to each participant before enrollment in the course.

Courses given for teachers by other Divisions will be found listed under the offerings for those Divisions.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION

Professor W. Darrel Black, Head

The Department of Health and Physical Education offers a Bachelor of Science degree with a major in Health and Physical Education. The Department offers a minor in Health and Physical Education.

Health and Physical Education students may elect a curriculum for a major in Health and Physical Education for the secondary level or a Health and Physical Education all-level teaching plan.

Four semester hours of credit in Health and Physical Education activity courses are required for graduation. This requirement is met during both semesters of the freshman and sophomore years. Health and Physical Education majors are required to take eight semester hours in activity courses.

No more than four semester hours of activity courses may be counted toward graduation except by Health and Physical Education majors who may count a maximum of eight semester hours. Activity courses cannot be counted toward a major or minor in Health and Physical Education.

A student who has been honorably discharged from the military service, and who has served a minimum of one year therein, may request a waiver of the required hours in physical education on the basis of one semester hour of required physical education (activity) for each year of military service or major fraction thereof. This waiver simply absolves the requirement for the hours waived but *does not grant credit* for them. Waiver is not automatic and any student may enroll for physical education courses and receive credit upon satisfactory completion of the course.

A health examination is required of students registering for physical education activity courses. Students unable to participate in activity courses must present either a physician's certificate to this effect or waiver executed by the appropriate Dean. Students, presenting a physician's certificate or a Dean's waiver, may satisfy their four semester hours requirement by taking specially designed courses in adaptive physical education or other approved physical education courses.

Students enrolled in physical education are expected to furnish regulation uniforms for activity classes. The regulation uniforms are available in the University bookstore. A fee is charged students who enroll in P.E. 2157, Golf and 2159, Bowling.

Degree Requirements for Men

Health and Physical Education majors and minors are required to take Biology 1401, 1402, 2403. It is desired that the student by the end of the sophomore year, possess both knowledge and skills in individual sports, and team sports. Majors must have credit in P.E. 1100, 1101, 2103, 2104, 2108, 2125, 2157. P.E. 1100 may be waived through proficiency examination and another activity course substituted for P.E. 1100.

Major in Health and Physical Education (for Men):

30 semester hours in Health and Physical Education, of which 15 semester hours must be advanced; must include P.E. 1351, 2354, 3302, 3319, 3353, 4350, 4354 and nine additional semester hours, of which three hours must be advanced. Biology 1401, 1402, 2403; P.E. 1100, 1101, 2103, 2104, 2108, 2125, 2157 and one semester hour activity course elective.

Minor in Health and Physical Education (for Men):

18 semester hours in Physical Education, of which six semester hours must be advanced.

Teacher Certification in Health and Physical Education (for Men):

Elementary Plan I: 18 semester hours in Physical Education of which nine semester hours must be advanced; must include P.E. 1351, 2351, 2352, 3302, 3319, and three advanced hours from P.E. 4351, 4352, 4353, 4355, 4356.

Elementary Plan II: 24 semester hours in Physical Education of which 12 semester hours must be advanced; must include P.E. 1351, 1352, 2351, 2352, 3302, 3319, and six advanced hours from P.E. 3350, 4351, 4352, 4353, 4355, 4356.

Secondary Plan I: 24 semester hours in Physical Education, of which 12 semester hours must be advanced; must include Biology 1401, 1402, 2403 and P.E. 1351, 2354, 3302, 3353, 4350, 4354 and six semester hours, of which three hours must be advanced. A second teaching field of 24 semester hours, of which 12 semester hours must be advanced.

All-Level: 27 semester hours in Physical Education, of which 12 semester hours must be advanced; must include Biology 1401, 1402, 2403 and P.E. 1351, 2351, 2352, 2354, 3302, 3353, 4350, 4354 and three advanced semester hours. A second teaching field of 24 semester hours, of which 12 semester hours must be advanced.

SUGGESTED CURRICULUM FOR MEN**Physical Education Major****(Teacher Certification-Secondary Level)****Freshman Year**

Eng. 1301, 1302.
Math., six hours.
Biol. 1401, 1402.
Art 1301.
P.E. 1100, 1101, 2103, 2104, 1351.

Sophomore Year

Eng., sophomore literature, six hours.
Hist. 2313 or 2333, 2314.
Biol. 2403.
Foreign Language, six hours.
P.E. 2125, 2157, 2108 and 1 hour activity elective; 2354.

Junior Year

Govt. 2313, 2314.
Mus. 2307.
P.E. 3302, 3319, 3353.
Electives, six hours.
Ed., six advanced hours¹.
Minor, three advanced hours.

Senior Year

P.E. 4350, 4354; six semester hours, three hours must be advanced.
Ed. 4641 and six advanced hours¹.
Minor, nine advanced hours.

¹The required Education courses are: Secondary—Ed. 3302, 3341, 3342, 4352; All-Level—Ed. 3302, 3303, 3311, 3341, 3342 (Physical Education section), 4352.

Degree Requirements for Women

Health and Physical Education majors and minors are required to take Biology 1401, 1402, 2403. It is desired that the student by the end of the sophomore year possess both knowledge and skills in individual sports, and team sports. Majors must have credit in P.E. 1100, 2103, 2104, 2108, 2125, 2126, 2157 and

one-hour activity course elective. Through a proficiency examination P.E. 1100 may be waived and an elective course substituted for P.E. 1100.

Major in Health and Physical Education (for Women):

30 semester hours in Physical Education, of which 15 semester hours must be advanced; must include P.E. 1351, 2354, 3310, 3312, 3319, 3322, 3353, 4350, 4354 and three additional advanced hours. Biology 1401, 1402, 2403; P.E. 1100, 2103, 2104, 2108, 2125, 2126, 2157 and one-hour activity course elective.

Teacher Certification in Health and Physical Education (for Women):

Elementary Plan I: 18 semester hours in Physical Education, of which nine semester hours must be advanced; must include P.E. 1351, 2351, 2352, 3312, 3319, three advanced semester hours from P.E. 4351, 4352, 4353, 4355, 4356.

Elementary Plan II: 24 semester hours in Physical Education, of which 12 semester hours must be advanced; must include P.E. 1351, 1352, 2351, 2352, 3312, 3319, 3322, and three advanced hours in Physical Education.

Secondary Plan I: 24 semester hours in Physical Education, of which 12 semester hours must be advanced; must include Biology 1401, 1402, 2403 and P.E. 1351, 2354, 3310 or 3322, 3312, 3319, 3353, 4350 and 4354. A second teaching field of 24 semester hours, of which 12 semester hours must be advanced.

All-Level: 27 semester hours in Physical Education, of which 12 semester hours must be advanced; must include Biology 1401, 1402, 2403 and P.E. 1351, 2351, 2352, 2354, 3310 or 3322, 3312, 3319, 3353, 4350, 4354. A second teaching field of 24 semester hours, of which 12 semester hours must be advanced.

SUGGESTED CURRICULUM FOR WOMEN

Physical Education Major

(Teacher Certification-Secondary Level)

Freshman Year

Eng. 1301, 1302.
Math., six hours.
Biol. 1401, 1402.
Art 1301.
P.E. 1100, 2103, 2104, 2126, 1351.

Junior Year

Govt. 2313, 2314.
Mus. 2307.
P.E. 3312, 3319, 3353.
Ed., six advanced hours¹.
Electives, six hours.
Minor, three advanced hours.

Sophomore Year

Eng., sophomore literature, six hours.
Hist. 2313 or 2333, 2314.
Biol. 2403.
Foreign Language, six hours.
P.E. 2108, 2125, 2157 and 1 hour
elective; 2354.

Senior Year

P.E. 4350, 4354; six semester hours,
three hours must be advanced.
Ed. 4641 and six advanced hours¹.
Minor, nine advanced hours.

¹The required Education courses are: Secondary—Ed. 3302, 3341, 3342, 4352; All-Level—Ed. 3302, 3303, 3311, 3341, 3342 (Physical Education section), 4352.

ACTIVITY COURSES

P.E. 1100 BEGINNING SWIMMING.

P.E. 1101. FITNESS AND MOTOR DEVELOPMENT.

Required of all freshmen men.

P.E. 1103, 1104, 2109, 2110 ADAPTIVE PHYSICAL EDUCATION.

Required of all students who do not qualify medically for regular activity courses. Courses may be taken independently.

P.E. 1150. SPEEDBALL-SOCCER (MEN).

P.E. 1153. SOCCER/SPEEDBALL AND FIELD HOCKEY (WOMEN).

P.E. 1155. SOFTBALL, TRACK AND FIELD (WOMEN).

P.E. 2101. FOOTBALL-BASKETBALL (MEN).

P.E. 2102. VOLLEYBALL-SOFTBALL (MEN).

P.E. 2103. BADMINTON.

P.E. 2104. TENNIS.

P.E. 2105. WRESTLING (MEN).

P.E. 2106. WEIGHT TRAINING (MEN).

P.E. 2107. TRACK AND FIELD (MEN).

P.E. 2108. GYMNASTICS.

P.E. 2121. BASKETBALL, VOLLEYBALL (WOMEN).

P.E. 2125. FOLK AND SQUARE DANCE.

P.E. 2126. BEGINNING MODERN DANCE.

P.E. 2128. INTERMEDIATE AND ADVANCED MODERN DANCE.

P.E. 2152. INTERMEDIATE SWIMMING.

P.E. 2153. SOCIAL DANCE.

P.E. 2156. INTERMEDIATE AND ADVANCED TENNIS.

P.E. 2157. GOLF.

\$6.00 fee.

P.E. 2158. ARCHERY.

P.E. 2159. BOWLING.

\$10.00 fee.

P.E. 2164. FENCING.

P.E. 2173. STUNTS, TUMBLING AND TRAMPOLINE.

P.E. 2182. SKIN AND SCUBA DIVING.

THEORY COURSES

P.E. 1351. INTRODUCTION TO HEALTH, PHYSICAL EDUCATION AND RECREATION.

Orientation to the field of health, physical education, and recreation, its scope, organization of professional activities, vocational opportunities, and professional qualifications.

P.E. 1352. PERSONAL AND COMMUNITY HEALTH.

Basic concepts of personal and community health.

P.E. 2114. RULES AND OFFICIATING OF FOOTBALL AND BASKETBALL (MEN).

The techniques of officiating, study of the National Federation Rules, laboratory experience required.

P.E. 2115. RULES AND OFFICIATING OF BASEBALL, TRACK AND FIELD, AND TENNIS (MEN).

The techniques of officiating, study of the National Federation Rules, laboratory experience required.

P.E. 2116. RULES AND OFFICIATING OF TEAM SPORTS (WOMEN).

The techniques of officiating, study of DGWS rules, laboratory experience required.

P.E. 2117. RULES AND OFFICIATING OF INDIVIDUAL SPORTS (WOMEN).

The teaching of officiating, study of DGWS rules, laboratory experience required.

P.E. 2155. FIRST AID.

American Red Cross Standard and Advanced First Aid.

P.E. 2180. SENIOR LIFE SAVING.**P.E. 2181. WATER SAFETY INSTRUCTORS.**

Prerequisite P.E. 2180 or Current Life Saving Certificate.

P.E. 2351. PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL.

Curriculum construction, material selections, and methods of presenting physical education activities in the elementary school.

P.E. 2352. THE HEALTH EDUCATION PROGRAM IN THE ELEMENTARY SCHOOL.

Basic principles of school health education, methods of teaching, and the administration of the health program in the elementary school. Prerequisite: sophomore standing.

P.E. 2354. KINESIOLOGY.

A study of the structural and mechanical factors which interact with human movement. Prerequisite: Biol. 1401, 1402, 2403.

P.E. 2355. THE HEALTH EDUCATION PROGRAM FOR SECONDARY SCHOOLS.

Basic principles, methods of teaching, and the administration of the health program in the secondary schools. Prerequisite: sophomore standing.

P.E. 3300. THEORY OF COACHING FOOTBALL (MEN).

A study and participation in the fundamentals and techniques, rules, and strategies of football.

P.E. 3302. TEACHING INDIVIDUAL SPORTS (MEN).

The current theories and practices in teaching tennis, badminton, and golf. Prerequisites: P.E. 2104, 2108, 2157 or demonstrated proficiency.

P.E. 3303. THEORY OF COACHING BASKETBALL (MEN).

A study and participation in the fundamentals, techniques, rules, and strategies of basketball.

P.E. 3304. THEORY OF COACHING BASEBALL AND TRACK (MEN).

A study involving the use of theory in the analysis and interpretation of coaching techniques and fundamentals in baseball and track.

P.E. 3310. TEACHING TEAM SPORTS (WOMEN).

Analysis of skills and techniques in teaching volleyball, basketball, soccer/speedball.

P.E. 3312. TEACHING DANCE ACTIVITIES (WOMEN).

Analysis of skill and techniques in teaching social, folk, square and modern dance. Prerequisites: P.E. 2125, 2126, and 2153 or demonstrated proficiency.

P.E. 3319. TEACHING TUMBLING AND GYMNASTICS.

Analysis of skills and techniques in teaching basic tumbling and gymnastics. Prerequisites: P.E. 2108 or demonstrated proficiency.

P.E. 3322. TEACHING INDIVIDUAL SPORTS (WOMEN).

Analysis of skills and techniques in teaching tennis, golf, archery, and badminton. Prerequisites: 2103, 2104, 2157, 2158, or demonstrated proficiency.

P.E. 3350. SCHOOL AND COMMUNITY HEALTH.

A study of school and community health problems including vital and functional experience in planning, carrying out, and evaluating health education programs. Prerequisite: junior standing.

P.E. 3352. CARE, TREATMENT, AND PREVENTION OF ATHLETIC INJURIES.

Prevention and correction of accidents in physical education and athletic activities. The use of proper personal and field equipment, support methods, conditioning exercises, therapeutic aids, medical examinations and massage. Prerequisite: six semester hours of biology.

P.E. 3353. PHYSIOLOGY OF EXERCISE.

A study of the adaptation of the body to activity with special emphasis on the gross movements of physical education. This course will include an experimental laboratory experience. Prerequisite: P.E. 2354.

P.E. 4350. THE SCHOOL HEALTH PROGRAM.

The curricular organization of the school health education program. Delineation and function of the various phases of school health education. Emphasis on planning, content selection, methodology and evaluation.

P.E. 4351. THE ADAPTED PHYSICAL EDUCATION PROGRAM.

The selection and planning of physical education for students whose activity must be adapted due to demands imposed by gravity, trauma, injury, congenital defect, illness, or disease.

P.E. 4352. THE INTRAMURAL PROGRAM.

The organization and administration of intramural programs for both boys and girls.

P.E. 4353. RECREATION LEADERSHIP.

The organization and administration of recreation leadership in public and private agencies. Offered alternate years.

P.E. 4354. PHYSICAL EDUCATION FOR THE SECONDARY SCHOOLS.

A survey of activities for program planning in junior and senior high schools: unit construction, lesson planning, class organization, special programs, and sources of materials.

P.E. 4355. ORGANIZATION AND SUPERVISION OF THE PHYSICAL EDUCATION PROGRAM.

History and philosophy, principles, policies of supervision, planning and administering the school's interscholastic programs, and a brief introduction to test and measurements as each relates to physical education.

P.E. 4356. ADMINISTRATION OF SCHOOL HEALTH PROGRAM.

The organization and administration of the school health education program with special emphasis on curriculum problems in health education, community and school health council, the health service program. A study of local, state, and national health agencies and their use and integration with the school health program.

P.E. 4357. HEALTH EDUCATION WORKSHOP.

For teachers, nurses, principals, superintendents, and community leaders, with opportunity to concentrate on individual and group problems, needs, and interests of participants.

DEPARTMENT OF NURSING EDUCATION

Associate Professor Lillian W. Jones, Head

The Department of Nursing Education grants an Associate of Applied Science Degree in Nursing to candidates who have successfully completed the prescribed course of study. These graduates are then eligible to write the State Board Examination required of all registered nurse candidates. Upon passing this examination, the graduate is issued a license by the State Board of Nurse Examiners to practice as a registered nurse (R.N.).

Objectives

The objectives of the Department of Nursing Education are to develop attitudes and behaviors essential to the practice of nursing by exploring and clarifying the role of the nurse as an individual and as a member of the nursing team and by relating specific knowledge from psycho-social and physical sciences in learning to contribute to community and family health by:

1. Understanding the responsibility of the health team in providing health services.
2. Understanding the nurse's responsibility for preserving life and for protecting and promoting health.
3. Developing basic techniques in communication with patients, families, and other members of the nursing team.
4. Developing the ability to utilize the problem-solving process in assessing and meeting the patient's primary and secondary needs as they are altered by illness.
5. Gaining the knowledge, skill and ability in nursing necessary to assist in planning and giving comprehensive care for patients of all ages.
6. Knowing the necessity of, and appropriate resources for, continued learning as new nursing practice and knowledge develop.

Upon graduation these candidates will be prepared to become expert nurses rather than fully prepared practitioners.

Requirements for Admission

1. The applicant for admission to the nursing program must meet all requirements for admission outlined in the University Catalog. This involves submission of an application form and the required substantiating documents (high school transcript or G.E.D. scores, record of ACT tests, and health examination record) to the Registrar of the University and to the Office of the Head of the Department of Nursing.
2. In addition to the standard health examination form required of all students, nursing education applicants must submit a health record from the family physician that includes a current chest x-ray and an immunization record showing the following:
 - a. Poliomyelitis. Series plus booster one year later.
 - b. Tetanus. Series plus booster one year later.
 - c. Diphtheria Toxoid. Series plus booster one year later.
 - d. Smallpox Vaccination, within one year of application for admission.
 - e. Typhoid. Series plus booster each year.
3. Each prospective nursing education student must arrange for a personal interview with the Head of the Department of Nursing Education or a designated member of the nursing faculty no later than May 28.

Degree Requirements**Associate of Applied Science Degree in Nursing:**

The curriculum will be followed as stated and may be completed within two calendar years. A minimum grade of "C" must be earned in each course required for the Associate of Applied Science Degree in Nursing. Courses may be repeated, if necessary, to achieve this standard. Each student must demonstrate ability to apply nursing theory to clinical performance in order to receive a satisfactory grade in each course in nursing. Principles of nutrition, pharmacology, microbiology, chemistry, community health, ethics, legal aspects, and mental health concepts are correlated in the course content throughout the curriculum.

74 semester hours required for an Associate of Applied Science Degree in Nursing; must include: N.Ed. 1601, 1702, 2603, 2804, 2905; Biol. 1401, 1402, 2403; Ed. 2301; Eng. 1301, 1302; Govt. 2313 or 2314; P.E. two hours (activity courses); Psy. 2313 or 2323; Soc. 2313 or 2323 or 2333; six hours of Electives.

CURRICULUM**Associate of Applied Science Degree in Nursing****First or Second Summer Semester (preceding the Freshman year)**

Eng. 1301.
Biol. 1401.

FRESHMAN YEAR**Fall Semester**

N.Ed. 1601.
Biol. 1402.
Eng. 1302.
Soc. 2313 or 2323 or 2333.

Spring Semester

N.Ed. 1702.
Biol. 2403.
Ed. 2301.
Psy. 2313 or 2323.

First Summer Semester

N.Ed. 2605

SOPHOMORE YEAR**Fall Semester**

N.Ed. 2804.
Govt. 2313 or 2314.
P.E., activity, 1 hour.
Elective, 3 hours.

Spring Semester

N.Ed. 2905.
P.E., activity, 1 hour.
Elective, 3 hours.

Total number of semester hours in Nursing Education	36
Total number of semester hours in General Education	38
Total Hours	74

N.Ed. 1601. FUNDAMENTALS OF NURSING.

The student is provided an opportunity to learn the basic human needs, how they are usually met, and how the nurse assists an individual to meet his needs when there are minor alterations in his ability to do so. Principles from the biological, physical, social, and behavioral sciences are presented and the student is assisted in learning the application of these principles to nursing through use of the problem-solving process. Four hours lecture and six hours laboratory per week. Prerequisites: Biol. 1401; Eng. 1301. Laboratory fee is \$4.00.

N.Ed. 1702. MATERNAL-CHILD HEALTH.

This course is designed to help students continue to develop nursing skills utilized in the promotion of health. The primary focus is upon the needs of the expanding family during the maternity cycle. Four hours lecture and nine hours laboratory per week. Prerequisites: N.Ed. 1601; Biol. 1402; Eng. 1302; Soc. 2313 or 2323 or 2333. Laboratory fee is \$4.00.

N.Ed. 2605. PSYCHIATRIC NURSING.

This course presents the psychodynamics of human behavior and adjustment. The student is given an opportunity to learn and practice a variety of communication skills with patients who are mentally ill. The therapeutic role of the nurse and the development of intrapersonal and interpersonal relationships are emphasized. Selected mental health concepts and the rehabilitation of the mentally ill are included in this course. Eight hours of lecture, twenty-four hours laboratory per week. Prerequisites: Biol. 2403; N.Ed. 1702; Ed. 2301; Psy. 2313 or 2323. Laboratory fee is \$4.00.

N.Ed. 2804. MEDICAL-SURGICAL NURSING I.

The first portion of this course is devoted to the exploration of the normal body responses to illness and their effects on individuals from birth through senescence. Opportunity is provided for the student to learn the role of the nurse in the alteration of these responses. The second portion of the course is focused upon the nursing care of patients of all ages who have a major problem in meeting a specific need due to illness. Four hours lecture and twelve hours laboratory per week. Prerequisite: N.Ed. 2605. Laboratory fee is \$5.00.

N.Ed. 2905. MEDICAL-SURGICAL NURSING II.

In this course the student is provided with the opportunity to continue to explore the role of the nurse in assisting the individual of all ages to meet his basic needs when his ability to do so is impaired as a result of illness and/or accident. Rehabilitation following illness and/or accident is explored. The principle of the basic sciences as they relate to specific diseases entities are emphasized throughout the course. College lecture is implemented by selected opportunities for the student to care for patients of all ages. Five hours lecture and twelve hours laboratory. Prerequisites: All courses in the program that are not required concurrently with N.Ed. 2905. Laboratory fee is \$6.00.

**SCHOOL OF HUMANITIES
AND SOCIAL STUDIES**



Perennially green grass cushions these amused students meeting beside the University Center, headquarters for many student functions on campus.

SCHOOL OF HUMANITIES AND SOCIAL STUDIES

Professor Raymond H. Miller, Dean

The School of Humanities and Social Studies includes the Departments of English and Journalism; Fine Arts (Art and Music); Foreign Language (French, German, Latin, Portuguese, and Spanish); Social Studies (Community Services, Geography, Government, History, Law Enforcement Science, Philosophy, Psychology, Sociology), and Speech and Drama.

The School offers the Bachelor of Arts degree with a major in Art, Community Services, Drama, English, Government, History, Music, and Speech. A Bachelor of Science degree is offered in Law Enforcement Science.

Minors are offered in all the fields which offer majors except Community Services and Law Enforcement Science and in addition minors are offered in French, Journalism, Philosophy, Psychology, and Sociology.

Supporting courses are offered in the following fields: Geography, German, Latin, and Portuguese.

For specific degree requirements and suggested curricula see the departmental areas.

DEPARTMENT OF ENGLISH AND JOURNALISM

Professor Carl L. Grantz, Head

The Department of English and Journalism consists of subject areas of English and Journalism. The Bachelor of Arts degree is offered with a major in English. The Department offers a minor in English and Journalism.

English students may elect a curriculum for a major in English or an elementary or secondary teaching plan.

Journalism students may elect a curriculum for a minor in Journalism or a secondary teaching plan.

ENGLISH

Degree Requirements

Major in English:

36 semester hours in English of which 24 semester hours must be advanced; must include 2301 and 2302 or 2387 and 2388 or approved substitute; 3312, 3313, 4301; 3314 or 4302.

Minor in English:

18 semester hours in English, of which six semester hours must be advanced.

Teacher Certification in English:

Elementary Plan I: 21 semester hours in English, of which nine semester hours must be advanced; must include Eng. 1301, 1302, or approved substitutes; 4302; six semester hours from Eng. 2301, 2302, 2303, 2305, 2307; three semester hours from Eng. 3309, 3310, 3312, 3313, 4306, 4310; and three semester hours from Eng. 3302, 3303, 3304, 3306, 3307, 3311, 3316, 3317, 4301, 4303, 4304, 4305, 4308, 4309, 4312, 4318.

Elementary Plan II: 24 semester hours in English, of which 12 semester hours must be advanced; must include Eng. 1301, 1302, or approved substitute; 4302; six semester hours from Eng. 2301, 2302, 2303, 2305, 2307; three advanced semester hours from Eng. 3309, 3310, 3312, 3313, 4306, 4310; and six advanced semester hours from Eng. 3302, 3303, 3304, 3306, 3307, 3311, 3314, 3316, 3317, 4301 4303, 4304, 4305, 4308, 4309, 4312, 4318.

Secondary Plan I: 24 semester hours in English, of which 12 semester hours must be advanced; must include Eng. 1301, 1302, or approved substitute; 4301, 4302; six semester hours from Eng. 2301, 2302, 2303, 2305, 2307; and six advanced semester hours from Eng. 3302, 3303, 3304, 3306, 3307, 3309, 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 4303, 4304, 4305, 4306, 4308, 4309, 4310, 4312, 4318.

For Suggested Curricula, see page—of this catalog.

Eng. 1301, 1302. RHETORIC AND COMPOSITION.

The first half of the course is devoted to a review of the fundamentals of English grammar and sentence structure and the use of these fundamentals in the composition of expository essays. The second half continues the work of the first half, introduces the methods of research writing, and applies these techniques to an introduction to literature. Credit for English 1301 is a prerequisite for English 1302.

Eng. 1387, 1388. COMMUNICATIONS (HONORS PLAN).

The psychology, philosophy, and art of communication. Prerequisite: Admission to Honor Studies or by invitation.

Eng. 1305, 1306. ENGLISH FOR FOREIGN STUDENTS.

For foreign-speaking students who lack proficiency in English. Intensive practice and drill, both oral and written, in vocabulary and sentence patterns, with particular attention to the English idiom. Expository themes and readings in the essay, with an introduction to the short story and drama in the second half of the course.

Eng. 2301. SURVEY OF ENGLISH LITERATURE.

A chronological study of the principal authors, their works, and the trends in English literature from Pre-Romantic poetry to the twentieth century. A Romantic Movement. A course designed specifically for English majors and minors. Prerequisite: six semester hours of freshman English.

Eng. 2302. SURVEY OF ENGLISH LITERATURE.

A chronological study of the principal authors, their works, and the trends in English literature from Pre-Romantic poetry to the twentieth century. A course designed specifically for English majors and minors. Prerequisite: six semester hours of freshman English.

Eng. 2303. READINGS IN AMERICAN LITERATURE.

A study of several masterpieces of American literature, with emphasis on careful reading and on writing critical essays about individual works. Prerequisite: six semester hours of freshman literature.

Eng. 2305. READINGS IN ENGLISH LITERATURE.

A study of several masterpieces of English literature, with emphasis on careful reading and on writing critical essays about individual works. Prerequisite: six semester hours of freshman English.

Eng. 2307. READINGS IN GENERAL LITERATURE.

A study of several masterpieces of world literature in translation, with emphasis on careful reading and on writing critical essays about individual works. Prerequisite: six semester hours of freshman English.

Eng. 2309. TECHNICAL REPORT WRITING.

A course designed especially for students who desire further training in composition of a practical and advanced character. Exercises in fundamental forms followed by the special types of reports used in engineering, science, and business, one research paper, letters, and oral reports.

Eng. 2387. LITERATURE (HONORS PLAN).

A study of world masterpieces. Prerequisite: Admission to Honors Studies or by invitation.

Eng. 2388. LITERATURE (HONORS PLAN).

A study of world masterpieces. Prerequisite: Admission to Honors Studies or by invitation.

Eng 3302. THE RENAISSANCE IN ENGLAND.

A study of the literature of the Renaissance period in England, with some time devoted to French and Italian backgrounds. Prerequisite: 12 semester hours of English.

Eng. 3303. THE SEVENTEENTH CENTURY.

A study of the literature of England from the beginning of the Jacobean period through the Restoration. Prerequisite: 12 semester hours of English.

Eng. 3304. THE EIGHTEENTH CENTURY.

A study of the major works of English writers of the Neo-Classical Period, including Dryden, Congreve, Pope, Swift, Sterne, and Samuel Johnson. Prerequisite: 12 semester hours of English.

Eng. 3306. THE ENGLISH NOVEL TO 1850.

A study of the origins and development of the English novel with emphasis on the major novelists. Prerequisite: 12 semester hours of English.

Eng. 3307. THE ENGLISH NOVEL FROM 1850 TO PRESENT.

A study of the continuing development and techniques of the English novel with emphasis on the major novelists. Prerequisite: 12 semester hours of English.

Eng. 3309. DEVELOPMENT OF THE AMERICAN NOVEL.

A study of the American novel from its beginnings to the present, with emphasis on the major novelists. Prerequisite: 12 semester hours of English.

Eng. 3310. TWENTIETH CENTURY ENGLISH AND AMERICAN POETRY.

A study of the trends movements in contemporary poetry, with emphasis on the works of the major writers. Prerequisite: 12 semester hours in English.

Eng. 3311. CONTEMPORARY DRAMA.

See Speech 3311 for course description. May be counted as English or Speech.

Eng. 3312. SURVEY OF AMERICAN LITERATURE.

A chronological study of the principal authors, their works, and the trends in American literature, from the colonial period to the Civil War. Prerequisite: 12 semester hours of English. Credit will not be given for both this course and the sophomore survey of American literature, formerly offered as English 2303.

Eng. 3313. SURVEY OF AMERICAN LITERATURE.

A chronological study of the principal authors, their works, and the trends in American literature from the Civil War to the twentieth century. Prerequisite: 12 semester hours of English. Credit will not be given for both this course and the sophomore survey of American literature, formerly offered as English 2304.

Eng. 3314. ADVANCED COMPOSITION.

A study of the basic principles of usage, structure, and rhetoric and their practical application in writing. Prerequisite: 12 semester hours of English.

Eng. 3315. CREATIVE WRITING.

Practice in the writing of poetry and brief prose, with a study of literary forms, techniques, and values from the writer's point of view. Prerequisite: 12 semester hours of English.

Eng. 3316. THE MEXICAN-AMERICAN IN AMERICAN FICTION.

An examination of the Mexican-American as portrayed by Anglo and Mexican-American writers, with emphasis on cultural resources available to the writer and on how they have been used. Prerequisite: 12 semester hours of English.

Eng. 3317. THE SHORT STORY AND THE NOVELLA.

A study of the development and technique of the short story and novella with emphasis on literary appreciation. Prerequisite: 12 semester hours of English.

Eng. 4301. SHAKESPEARE.

A study of representative plays in comedy, history, and tragedy. Prerequisite: 12 semester hours in English.

Eng. 4302. GRAMMAR OF MODERN ENGLISH.

A study of the structure and system of modern American English with attention given to the findings of linguistics and to modern methods of description. Prerequisite: 12 semester hours of English.

Eng. 4303. THE ROMANTIC PERIOD.

A study of the development of romanticism in France, Germany, and England, with the main emphasis on English writers. Prerequisite: 12 semester hours of English.

Eng. 4304. THE LATER NINETEENTH CENTURY.

A study of literature from 1832 to the end of the Nineteenth Century, with the chief emphasis upon the great prose writers of Victorian England: Carlyle, Ruskin, Arnold, Huxley, Dickens, Thackeray. Prerequisite: 12 semester hours of English.

Eng. 4305. MEDIEVAL LITERATURE.

A study of various types of medieval literature, including the epic, the romance, and the allegory, with special attention to Middle English writers. Prerequisite: 12 semester hours of English.

Eng. 4306. THE FRONTIER IN AMERICAN LITERATURE.

A study of the influence of the American frontier on American literature, with special emphasis on the literature and folklore of the Southwest and of the cattle kingdom. Prerequisite: 12 semester hours of English.

Eng. 4308. HISTORY OF THE ENGLISH LANGUAGE.

A history of the English language from the Anglo-Saxon period to the present. Prerequisite: 12 semester hours of English.

Eng. 4309. CHAUCER.

A study of selected works of the greatest English poet of the Fourteenth Century. Prerequisite: 12 semester hours of English.

Eng. 4310. LITERATURE OF THE SOUTH AND SOUTHWEST.

A study of the works of representative writers of the South and Southwest. Prerequisite: 12 semester hours of English.

Eng. 4312. MILTON.

A study of the major poems and selected prose and minor poetry. Prerequisite: 12 semester hours of English.

Eng. 4318. TEACHING SECONDARY SCHOOL LITERATURE.

A study of methods and materials available to the teacher, with emphasis on procedures in analyzing specific works in various genres. Prerequisite: 12 semester hours of English.

JOURNALISM

Minor in Journalism:

Eighteen semester hours in Journalism, of which six semester hours must be advanced.

Teacher Certification in Journalism:

Secondary Plan I: 24 semester hours in Journalism, of which 12 semester hours must be advanced; must include Jour. 1301, 1302, 1305 or 2304; 2303, 3305, 3306; and Jour. 3307, 4301 or 4302.

Jour. 1301. REPORTING.

A study of news sources, newswriting, and news values. This course is designed to train the student for work on the university newspaper, particularly in reporting. The newspaper is used as a laboratory. Prerequisite: a knowledge of typing.

Jour. 1302. REPORTING.

A continuation of Journalism 1301.

Jour. 1305. PHOTOGRAPHY.

This photo-journalism course introduces the student to the world of photography. Included is the study of famous photographers and the student is introduced to the techniques and processes of developing, printing, enlarging, cropping and dodging. Two hours lecture and two hours laboratory. \$2 laboratory fee.

Jour. 2303. RADIO AND TELEVISION REPORTING.

A study of the principles of radio and television news and advertising with emphasis on the gathering and reporting of news, particularly on the differences between this type of reporting and that for a newspaper. Prerequisite: Journalism 1301.

Jour. 2304. ADVERTISING.

Emphasis on newspaper advertising departments and procedures, rate structures, and advertising make up. Detailed study of the writing of copy and the making of layouts for retail establishments. Suggested elective for Business Administration students.

Jour. 3305. EDITING.

Copyreading, headline writing, and newspaper make up. Emphasis on preparation of articles for the university newspaper. Prerequisite: Jour. 1301 and 1302.

Jour. 3306. JOURNALISM FOR SECONDARY TEACHERS.

Problems of planning and producing the high school newspaper and yearbook. Prerequisites: Jour. 1301 and 1302.

Jour. 3307. FEATURE AND EDITORIAL WRITING.

Procedures in gathering material for feature stories and editorials with stress on newspaper articles; analysis of reader appeal; study of feature and editorial structure; development of style by practice in writing. Interpretation of significant trends and events; critical evaluation of source materials; emphasis on judgment and logic; writing editorials; and development of editorial policy and responsibility. Prerequisites: Jour. 1301 and 1302.

Jour. 4301. LAW OF THE PRESS.

Ethical responsibilities to news sources, those in the news, readers or audience and fellow journalists; legal rights and restrictions, including Constitutional guarantees, libel, invasion of privacy and contempt of court. Prerequisites: Jour. 1301 and 1302.

Jour. 4302. PRINCIPLES OF PUBLIC RELATIONS.

Planning and preparation of publicity material for various media; application of public relations techniques; and clinical study of current public relations campaigns. Some laboratory work in the office of Public Information. Prerequisites: Jour. 1301, 1302, and three additional semester hours in journalism.

DEPARTMENT OF FINE ARTS

Professor John Anderson, Head

The Department of Fine Arts consists of the subject areas of Art and Music. The Bachelor of Arts degree is offered with a major in Art, Art Education, Music, or Music Education. The Department offers a minor in Art or Music.

Art students may elect a curriculum for a major in Art (studio) or Art Education (elementary, secondary, or all-level teaching plan).

Music students may elect a curriculum for a major in Music (performance) or Music Education (elementary, secondary, or all-level teaching plan).

ART**Degree Requirements****Major in Art:**

36 semester hours in Art, of which 15 semester hours must be advanced; including Art 1311, 1331, 2321 or 3321, 2332, 3350, and 3 additional advanced semester hours of Art History; 6 advanced hours of Studio courses; and 12 semester hours of Art electives.

Major in Art Education (All-Level):

48 semester hours in Art, of which 24 semester hours must be advanced; including Art 1301, 1311, 1331, 2332, 2303 or 2304, 2312, 2321 or 3321, 3350, 3381, 3382, 3383, 4383, 3 additional hours in Art History, and 9 semester hours in Studio courses (at least 6 advanced).

Minor in Art:

18 semester hours in Art, of which 9 semester hours must be advanced; including Art 1311, 1331, 2332, 3350, and 6 advanced semester hours of Art History.

Minor in Art Education (Elementary Plan II):

24 semester hours in Art, of which 12 semester hours must be advanced; including Art 1311, 1331, 2332, 2321 or 3321, 3350, 3381, 3382, and 3 advanced semester hours in Art History or Studio.

Minor in Art Education (Secondary Plan I):

24 semester hours of Art, of which 12 semester hours must be advanced; including Art 1311, 1331, 2332, 2321 or 3321, 3350, 3383, 4383, and 3 advanced semester hours in Art History.

Transfers: Students wishing to transfer into Art at the junior level or above must submit a portfolio of their work and meet with the Art faculty for program planning.

Majors: Students majoring in Art are required an interview with the Art faculty at the end of their junior year.

Exhibits: Senior Art majors are required to exhibit examples of their work completed during their senior year. This work must meet with faculty approval before exhibition.

The University reserves the right to retain any student work produced as part of the art curriculum.

SUGGESTED CURRICULUM

Art Major

Freshman Year

Art 1311, 1331.
Eng. 1301, 1302.
Math., six hours.
Science, six hours (lab).
Music 2307.
P. E., two hours.

Junior Year

Art 3351.
Art Elective, three hours.
Art Elective, three hours advanced studio.
History 2313 or 2333, 2314.
Minor, twelve hours.

Sophomore Year

Art 2321 or 3321, 2332
Eng. sophomore literature, six hours.
Foreign Language, six hours.
Govt., 2313, 2314.
Elective, six hours.
P. E., two hours.

Senior Year

Art History, three hours advanced.
Art Elective, nine hours.
Art Elective, three hours advanced studio.
Minor, six hours advanced.
Electives, fifteen advanced hours.

Major in Art Education (All level)

Freshman Year

Art 1301, 1311, 1331
Eng. 1301, 1302
Math., six hours
Science, six hours (lab.)
Music 2307
P.E., two hours

Junior Year

Art 3350, 3381, 3382
Art Elective, three hours studio
History 2313 or 2333, 2314
Education 3302, 3311 or 3312,
3341 or 3342
Elective, three hours

Sophomore Year

Art 2321 or 3321, 2332,
2312, 2303 or 2304
Eng., sophomore literature, six hours
Foreign Language, six hours
Govt. 2313, 2314
P.E., two hours

Senior Year

Art 3383, 4383
Art Elective, six hours
advanced studio
Education 4352, 4641
Electives, nine hours

Art 1301. ART APPRECIATION.

Values and meanings in the visual arts. This course is a general education requirement for all students who are not majoring or minoring in Art, with the exception of the all-level major.

Art 1311. DRAWING I.

Introduction to drawing, including work in a variety of drawing media. Basic concepts are explored. \$4.00 laboratory fee.

Art 1312. DRAWING II.

Continuation of Art 1311 with problems in illumination, foreshortening, perspective and chiaroscuro as expressive concepts. Prerequisite: Art 1311. \$4.00 laboratory fee.

Art 1331. DESIGN I.

Principles of design and development of design structures on two dimensional surfaces. \$4.00 laboratory fee.

Art 2332. DESIGN II.

Three dimensional structures, exercises and experiments in theories and techniques, using appropriate materials and processes. Prerequisite: Art 1331. \$4.00 laboratory fee.

Art 1387. ART APPRECIATION (HONORS PLAN).

Values and meanings in the visual arts. This course is a general education requirement for all students who are not majoring or minoring in Art, with the exception of the all-level major. Prerequisite: Admission to Honor Studies, or by invitation.

Art 2303. CRAFTS (Wood).

Wood design in jewelry, furniture and small sculpture. Prerequisite: Art 1331. \$4.00 laboratory fee.

Art 2304. CRAFTS (Metal).

Metal design in jewelry, small sculpture and industrial products. Prerequisite: Art 1331. \$4.00 laboratory fee.

Art 2312. FIGURE DRAWING.

The human figure as expressive subject matter in drawing. Prerequisite: Art 1311. \$4.00 laboratory fee.

Art 2321. PAINTING.

Introduction to painting, involving individual development and invention using watercolor and polymer. Prerequisite: Art 1311 and 1331. \$4.00 laboratory fee.

Art 2322. PAINTING.

Watercolor is continued with gouache and casein techniques. Prerequisite: Art 2321. \$4.00 laboratory fee.

Art 2333. ADVERTISING DESIGN.

Advertising design, layout, illustration, and typography. Prerequisite: Art 1331. \$4.00 laboratory fee.

Art 2341. SCULPTURE.

Introductory course in sculptural concepts through basic sculptural media. Prerequisite: Art 2332. \$4.00 laboratory fee.

Art 2342. SCULPTURE.

Continuation of Art 2341 with emphasis on individual development. Prerequisite: Art 2341. \$4.00 laboratory fee.

Art 2361. PRINTMAKING

Introduction to printmaking with concentration on intaglio processes. Prerequisite: Art 1311 and 1331. \$4.00 laboratory fee.

Art 2362. PRINTMAKING.

Introduction to color with continuation of intaglio and relief printing systems. Prerequisite: Art 2361. \$4.00 laboratory fee.

Art 2371. CERAMICS.

Introduction to ceramic design concentrating on handbuilding. Some work with potter's wheel, glazing and firing. \$4.00 laboratory fee.

Art 2373. CERAMICS.

Extension of handbuilding techniques (coil, slab, press molds.) Prerequisite: Art 2371. \$4.00 laboratory fee.

Art 3303. CRAFTS (Weaving).

Weaving. Warping thread and setting up two and four harness looms. Hand looms also used. Basic patterns and individual design. \$4.00 laboratory fee.

Art 3304. CRAFTS (Weaving).

Weaving. Continuation of Art 3303 with increased emphasis on creative design. Prerequisite: Art 3303. \$4.00 laboratory fee.

Art 3321. PAINTING.

Problems in composition: figure, landscape, abstract using oil/acrylic. Prerequisite: Art 1311 and 1331. \$4.00 laboratory fee.

Art 3322. PAINTING.

Continuation of Art 3321 moving toward individual expression in oil/acrylic. Prerequisite: Art 3321. \$4.00 laboratory fee.

Art 3323. SCENIC DESIGN AND LIGHTING.

See Drama 3321 for course description. Especially recommended to art majors and minors who are interested in acquiring facility in scenic design and basic stage lighting. Credit may not be obtained for both Drama 3321 and Art 3323.

Art 3341. SCULPTURE.

Intermediate course emphasizing increased personal development through the use of metal; welding and casting. Prerequisite: Art 2342. \$4.00 laboratory fee

Art 3342. SCULPTURE.

Problems in sculpture. Variety in materials and techniques. Prerequisite: Art 3341. \$4.00 laboratory fee.

Art 3350. ART SURVEY.

Historical survey of the visual arts from paleolithic to modern times.

Art 3351. MEDIEVAL AND RENAISSANCE ART.

Art history beginning with the Christian era after the fall of Rome, including the Byzantine, Romanesque, Gothic, Renaissance, Baroque and Rococo styles.

Art 3361. PRINTMAKING.

Introduction to serigraphy. Prerequisite: Art 2362. \$4.00 laboratory fee.

Art 3363. PRINTMAKING.

Introduction to lithography. Prerequisite: Art 3361. \$4.00 laboratory fee.

Art 3371. CERAMICS.

Concentrated work on potter's wheel, instruction in basic glaze chemistry and glaze techniques. Prerequisite: Art 2373. \$4.00 laboratory fee.

Art 3372. CERAMICS.

Combining handbuilt and thrown forms. Increased work in glaze formulation. Prerequisite: Art 3371. \$4.00 laboratory fee.

Art 3381. INTRODUCTION TO TEACHING ART.

Materials and methods for teaching creative art in the elementary school.

Art 3382. ART IN THE ELEMENTARY SCHOOL.

Continuation of Art 3381. Emphasis on painting and correlation.

Art 3383. INTRODUCTION TO TEACHING ART.

Survey of visual education at the secondary level.

Art 4301. PHILOSOPHIES OF ART.

See Philosophy 4301 for course description. May be counted as Music or Art or Philosophy.

Art 4321. PAINTING.

Personal expression through the use of a variety of painting media. Prerequisite: Art 3322. \$4.00 laboratory fee.

Art 4322. PAINTING.

Continuation of Art 4321 with direction into experimental painting media. Prerequisite: Art 4321. \$4.00 laboratory fee.

Art 4341. SCULPTURE.

Exploration of experimental materials including electronics and kinetic art forms. Prerequisite: Art 3342. \$4.00 laboratory fee.

Art 4342. SCULPTURE.

Continuation of Art 4341. Prerequisite: Art 4341. \$4.00 laboratory fee.

Art 3352. CONTEMPORARY ART.

Art history from the 19th century in Europe until modern times. Development and growth of today's arts and aesthetics.

Art 4352. ART OF LATIN AMERICA.

Development of art in Latin America. Pre-Hispanic period to the present.

Art 4353. AMERICAN ART.

History of the visual arts in the United States: 18th century to the present.

Art 4361. PRINTMAKING.

Advanced printmaking emphasizing experimental techniques and individual direction. Prerequisite: Art 3363. \$4.00 laboratory fee.

Art 4362. PRINTMAKING.

Continuation of Art 4361. Prerequisite: Art 4361. \$4.00 laboratory fee.

Art 4371. CERAMICS.

Individual direction and glaze experimentation. Prerequisite: Art 3372. \$4.00 laboratory fee.

Art 4372. CERAMICS.

Continuation of Art 4371. Prerequisite: Art 4371. \$4.00 laboratory fee.

Art 4383. ART IN THE SECONDARY SCHOOL.

Methods for teaching creative art in the junior and senior high school. Required of student teachers in Art before practice teaching at the secondary level. Prerequisite: Art 3383.

Art 4391. INDIVIDUAL PROBLEMS.

Advanced problems in an area of the student's choice: Painting, drawing, sculpture, crafts, printmaking, art education, art history. Prerequisite: All courses in the area of choice.

Art 4392. INDIVIDUAL PROBLEMS.

Advanced problems in an area of the student's choice. Prerequisite: Art 4391.

MUSIC

Degree Requirements

The field of Music is a broadly integrated area of specialization and does not require a minor. Students may include a maximum of eight semester hours of music ensemble organizations for degree credit.

Major in Music:

51 semester hours in Music, of which 23 semester hours must be advanced; including Music 1201, 1202, 1401, 1402, 2401, 2402, 3211, 3301, 3302, 3305, 4201, 4203 or 4205; Applied Music: eight semesters, of which four semesters must be

advanced; Music Ensemble: eight semesters, of which four semesters must be advanced. A minor is not required.

Minor in Music:

26 semester hours in Music, of which 6 semester hours of course work must be advanced and 8 semesters are in performance; including Music 1201, 1202, 1401, 1402; Music Electives, 6 advanced hours; Applied Music: four semesters; Music Ensemble: four semesters.

Teacher Certification in Music:

Major in Music Education (All-Level):

62 semester hours in Music, of which 29 semester hours must be advanced, including Music 1201, 1202, 1401, 1402, 2121, 2122, 2123, 2124, 2125, 2401, 2402, 3211, 3301, 3302, 3305, 3312, 4201, 4203 or 4205, 4311, eight semesters of Applied Music (four semesters must be advanced), eight semesters of large Music Ensemble (four semesters must be advanced), and proficiency in Piano. Second Teaching Field (Minor) is not required.

Major in Music Education (Secondary Plan II):

59 semester hours in Music, of which 26 semester hours must be advanced; including Music 1201, 1202, 1401, 1402, 2121, 2122, 2123, 2124, 2125, 2401, 2402, 3211, 3301, 3302, 3305, 4201, 4203 or 4205, 4311, eight semesters of Applied Music (four semesters must be advanced), eight semesters of large Music Ensemble (four semesters must be advanced), and proficiency in Piano. Second Teaching Field (Minor) is not required.

Minor in Music Education (Elementary Plan II):

37 semester hours in Music, of which 16 semester hours must be advanced; including Music 1201, 1202, 1401, 1402, 2121, 2122, 2123, 2124, 2125, 3301, 3302, 3311, 3312, four semesters of Applied Music (two semesters must be advanced), four semesters of large Music Ensemble (two semesters must be advanced), and proficiency in Piano.

Standards In Music:

No grade below C in any of the required courses in Music will apply toward a degree with a major in Music or Music Education.

Transfer students will be required to validate (by examination) credits earned in Applied Music and Music Theory at other institutions. Failure to pass validation will result in the repetition of courses required to reach proper standards.

Precise definition of standards is provided by the department and examination is before a faculty jury.

Music majors and Music Education majors and minors must pass an examination that includes proficiency in piano.

Piano and other instrumental students in Music Education will study Applied Voice a minimum of two semesters.

Music majors will study privately in their areas of concentration during each semester of their enrollment. Examinations in Applied Music (private lessons in Voice and Instruments) are given at the end of each semester before a jury of music faculty members.

Each full-time student must be a member of at least one of the large music ensembles (Band, Choir, Chorus, Symphony Orchestra, or Opera Workshop) each semester during which he is enrolled. Participation in smaller ensembles is encouraged where applicable.

Students enrolled in Applied Music will appear on student recitals at the discretion of their instructors. All students enrolled in Music will attend college recitals and concerts as a part of their required work unless excused by the Department Head, on recommendation of the Recital Committee.

A Music major who selects the performance curriculum will perform one-half of a recital during his junior year and a complete recital during his senior year. A Music major who selects the teacher preparation curriculum will perform one-half of a music recital during his senior year.

SUGGESTED CURRICULA

Music Major

(minor not required)

Freshman Year

Eng. 1301, 1302.
Math., six hours.
Mus. 1401, 1402, 1201, 1202,
Applied Music, four hours;
Music Ensemble, two hours.
P.E., activities, two hours.

Junior Year

Science, six hours.
Foreign Language, six hours.
Mus. 3305, 3211; Applied Music,
four advanced hours; Music
Ensemble, two advanced hours.
Electives, nine advanced hours.

Sophomore Year

Eng., sophomore literature, six hours.
Hist. 2313 or 2333, 2314.
Art 1301.
Mus. 2401, 2402; Applied Music,
four hours; Music Ensemble,
two hours.
Electives, three hours.
P.E., activities, two hours.

Senior Year

Govt. 2313, 2314.
Electives, four advanced hours.
Electives, eight hours.
Mus. 3301, 3302, 4201, 4203 or
4205; Applied Music, four
advanced hours; Music Ensemble,
two advanced hours.

Music Education Major (All-level)

Freshman Year

Eng. 1301, 1302.
Math., six hours.
Mus. 1401, 1402, 1201, 1202, 2121,
2122; Applied Music, two hours,
Music Ensemble, two hours.
P. E., activities, two hours.

Sophomore Year

Eng., sophomore literature, six hours.
Hist. 2313 or 2333, 2314.
Art 1301.
Electives, three hours.
Mus. 2401, 2402, 2123, 2124;
Applied Music, two hours; Music
Ensemble, two hours.
P. E., activities, two hours.

Junior Year

Science, six hours.
 Foreign Language, six hours.
 Electives, three hours.
 Mus. 2125, 3305, 3211; Applied Music, two advanced hours;
 Music Ensemble, two advanced hours.
 Ed. 3302, 3311 or 3312, 3341 or 3342.

Senior Year

Govt. 2313, 2314.
 Ed. 4352, 4641.
 Mus. 3301, 3302, 3312, 4201, 4203 or 4205, 4311; Applied Music, two advanced hours; Music Ensemble, two advanced hours.

Mus. 1101 to 4102. BAND.

Instrumental music organization open to all university students. Concerts on and off the campus, parades, and other performances on behalf of the University and the Rio Grande Valley.

Mus. 1103 to 4104. UNIVERSITY CHOIR.

Vocal music organization open by audition to all university students. Concerts on and off the campus.

Mus. 1105 to 4106. SYMPHONY ORCHESTRA.

Instrumental music organization open to all university students who play appropriate instruments. Concerts on and off the campus.

Mus. 1107 to 4108. STAGE BAND.

Instrumental music organization open by audition to all university students who play an appropriate instrument. Rehearsal and performance of popular and dance music on and off the campus.

Mus. 1109 to 4110. UNIVERSITY CHORUS.

Vocal music organization open to all college students who desire to participate in such an ensemble. No audition required.

Mus. 1111 to 4112. BRASS ENSEMBLE.

Small group of brass players selected by audition. Preparation and performance of repertoire from literature for this instrumentation.

Mus. 1113 to 4114. PIANO ENSEMBLE.

Ensemble of piano students interested in the repertoire for two or more keyboard players.

Mus. 1115 to 4116. STRING ENSEMBLE.

Small group of string players selected by audition. Preparation and performance of repertoire from literature for this instrumentation.

Mus. 1117 to 4118. MIXED VOCAL ENSEMBLE.

Small group of men and women selected by audition to perform varied vocal repertoire. Performances as requested and needed.

Mus. 1119 to 4120. WOODWIND ENSEMBLE.

Small group of woodwind players selected by audition. Preparation and performance of repertoire from literature for this instrumentation.

Mus. 1121, 1122. CLASS PIANO.

Piano instruction for students who have no previous training in piano. May be used to satisfy the minimum piano requirements for non-pianist music majors.

Mus. 1123, 1124. CLASS VOICE.

Vocal instruction for students who have no previous training in voice. May be used to satisfy the voice requirements for non-vocal majors.

Mus. 1127 to 4128. WOMEN'S VOCAL ENSEMBLE.

A small group of women selected by audition to perform varied vocal repertoire. Performances as requested and needed.

Mus. 1129 to 4130. OPERA WORKSHOP.

Preparation and production of musical stage works including opera, oratorio, cantata, operetta, and musical comedy. Open to all students wishing to participate in either on-stage or off-stage musical theatre activities.

Mus. 1139 to 4140. MEN'S VOCAL ENSEMBLE.

A small group of men selected by audition to perform varied vocal repertoire. Performances as requested and needed.

APPLIED MUSIC:

Private instruction in the concentration of the student's interest. Credit is earned on the basis of one-half hour lesson and one hour daily practice for one semester hour credit, or two half-hour lessons per week and two hours daily practice for two semester hours credit. Applied Music Fee: One semester hour course, \$20.00; two semester hour course, \$35.00.

Mus. 1131 to 4232. APPLIED PIANO.**Mus. 1133 to 4234. APPLIED VOICE.****Mus. 1135 to 4236. APPLIED PERCUSSION.****Mus. 1137 to 4238. APPLIED ORGAN.****Mus. 1141 to 4242. APPLIED TRUMPET.****Mus. 1143 to 4244. APPLIED FRENCH HORN.****Mus. 1145 to 4246. APPLIED TROMBONE.****Mus. 1147 to 4248. APPLIED BARITONE HORN.****Mus. 1149 to 4250. APPLIED TUBA.****Mus. 1161 to 4262. APPLIED VIOLIN.****Mus. 1163 to 4264. APPLIED VIOLA.****Mus. 1165 to 4266. APPLIED VIOLONCELLO.****Mus. 1167 to 4268. APPLIED STRING BASS.****Mus. 1171 to 4272. APPLIED FLUTE.****Mus. 1173 to 4274. APPLIED OBOE.**

Mus. 1175 to 4276. APPLIED CLARINET.**Mus. 1177 to 4278. APPLIED SAXOPHONE.****Mus. 1179 to 4280. APPLIED BASSOON.****Mus. 1201, 1202. MUSIC LITERATURE.**

Survey of the literature of music for all media from earliest available Greek music to contemporary works. The development of music in relation to simultaneous historical developments.

Mus. 1401, 1402. FIRST YEAR MUSIC THEORY.

Intervals, scales, chord structures, chord progressions, simple cadences, uses of inversions, nonharmonic tones, seventh chords, simple modulations, and harmonization of melodies. Part-writing, music reading, aural and keyboard skills. Prerequisite: one unit of music in high school.

Mus. 2121. VOCAL METHODS AND MATERIALS.

Methods and materials for teaching vocal soloists and vocal groups.

Mus. 2122. PERCUSSION METHODS AND MATERIALS.

Methods and materials for teaching players of percussion instruments.

Mus. 2123. BRASS METHODS AND MATERIALS.

Methods and materials for teaching players of brass instruments.

Mus. 2124. WOODWIND METHODS AND MATERIALS.

Methods and materials for teaching players of woodwind instruments.

Mus. 2125. STRING METHODS AND MATERIALS.

Methods and materials for teaching players of string instruments.

Mus. 2307. MUSIC APPRECIATION.

General education music course required of all students except music majors and minors.

Mus. 2387. MUSIC APPRECIATION (HONORS PLAN).

General education music course required of all "Honors" students except music majors and minors. Prerequisite: Admission to Honors Studies or by invitation.

Mus. 2401, 2402. SECOND YEAR MUSIC THEORY.

Continuation of Music 1401, 1402, Harmonization of melodies, using diatonic and altered triads and seventh chords, nonharmonic tones, and modulations. Continued music reading, aural and keyboard skills. Prerequisites: Music 1402 with a grade of C.

Mus. 3211. CONDUCTING.

A study of physical characteristics and techniques of conducting both instrumental and vocal groups, score reading, transposition, and unique conductors' problems.

Mus. 3301, 3302. HISTORY OF MUSIC.

Music from its origin to the present. The relation of musical development to cultural and social evolution.

Mus. 3305. COUNTERPOINT.

17th and 18th century counterpoint in all species, and its application in arranging for two, three and four voices. Prerequisite: Music 2402.

Mus. 3311. ELEMENTARY SCHOOL MUSIC.

Materials and methods of music instruction in the elementary grades. Notation, rhythmic reading, singing, ear training, and aims of elementary school music. Required for elementary education majors who have no previous musical experience.

Mus. 3312. ELEMENTARY SCHOOL MUSIC.

Continuation of Music 3311, emphasizing teaching methods and problems related to class music instruction. Special equipment and aids for the classroom music teacher, conducting and leading class singing, and organizing materials for use in the classroom. Required for music education majors.

Mus. 4201. FORM AND ANALYSIS.

Balance, symmetry, and principles of musical structure in small and large homophonic and polyphonic forms. Prerequisite: Music 2402.

Mus. 4203. ORCHESTRATION AND ARRANGING.

Techniques of scoring and editing music for band, orchestra, and instrumental ensembles. Ranges, timbres, voicings, and limitations of the instruments. Prerequisite: Music 2402.

Mus. 4204. ORCHESTRATION AND ARRANGING.

Continuation of Music 4203.

Mus. 4205. CHORAL ARRANGING.

Techniques of writing, arranging, and editing choral music ranging from two to eight parts. Stressing devices suitable for choral groups in the public school. Prerequisite: Music 2402.

Mus. 4207. ADVANCED BAND TECHNIQUES.

Band organization and recruiting, rehearsal procedures, instrumentation, library, uniforms, discipline, marching, program planning and general instrumental administration.

Mus. 4208. ADVANCED CHORAL METHODS.

Choral organization and recruiting, rehearsal procedures, program planning, administration, voice testing and placement, and special problems in choral conducting.

Mus. 4301. PHILOSOPHIES OF ART.

See Philosophy 4301 for course description. May be counted as Music or Art or Philosophy.

Mus. 4311. SECONDARY SCHOOL MUSIC.

Methods, materials, aims, and procedures for teaching music in the junior and senior high school. Some advanced classes will be offered in alternate years.

DEPARTMENT OF FOREIGN LANGUAGE**Professor Charles E. Beaudry, Head**

The Department of Foreign Language consists of the subject areas of French, German, Latin and Spanish. The Bachelor of Arts degree is offered with a major in Spanish. The Department offers a minor in French or Spanish.

French students may elect a curriculum for a French elementary or secondary teaching plan.

Spanish students may elect a curriculum for a major in Spanish or a Spanish elementary or secondary teaching plan.

A student who has completed two years of foreign language in high school will not receive credit in the same beginning foreign language, and he is required to start college work on the intermediate level should he elect to continue in that language.

FRENCH**Degree Requirements****Minors in French:**

18 semester hours in French, of which six semester hours must be advanced.

Teacher Certification in French:

Elementary Plan I: 18-21 semester hours in French, of which nine semester hours must be advanced; must include (a) French 1321, 1322, 2321, 2322; and 12 advanced semester hours of French or (b) French 2321, 2322; and 12 semester hours of French, of which nine semester hours must be advanced.

Elementary Plan II: 24 semester hours in French, of which 12 semester hours must be advanced; must include (a) French 1321, 1322, 2321, 2322; and 12 advanced semester hours of French or (b) French 2321, 2322; and 18 semester hours of French, of which 12 semester hours must be advanced.

Secondary Plan I: 24 semester hours in French, of which 12 semester hours must be advanced; must include (a) French 1321, 1322; 2321, 2322; and 12 advanced semester hours of French or (b) French 2321, 2322; and 18 semester hours of French, of which 12 semester hours must be advanced.

Fr. 1321, 1322. BEGINNING FRENCH.

A study of the essentials of French grammar, pronunciation, elementary conversation and prose reading. Credit will not be given to students who have completed two years of high school French.

Fr. 2321, 2322. INTERMEDIATE FRENCH.

A comprehensive review of French grammar with pronunciation, conversation, and additional prose reading.

Fr. 3321. SURVEY OF FRENCH LITERATURE.

A general study of French literature from the early literary documents to the present. Prerequisites: French 2321, 2322 or their equivalent.

Fr. 3322. SURVEY OF FRENCH LITERATURE.

A continuation of French 3321.

Fr. 3323. ADVANCED FRENCH.

An advanced study of French grammar, composition, conversation and prose reading. Prerequisites: French 2321, 2322 or their equivalent.

Fr. 3324. ADVANCED FRENCH.

A continuation of French 3323.

Fr. 3325. FRENCH CIVILIZATION.

A course covering the range of French history and culture from the early Gauls to the present. Prerequisites: 2321, 2322 or their equivalent.

Fr. 3326. EIGHTEENTH CENTURY FRENCH LITERATURE.

A critical study of the significant works of the eighteenth century. Prerequisites: 2321, 2322 or their equivalent.

GERMAN

Ger. 1331, 1332. BEGINNING GERMAN.

A study of the essentials of German grammar, pronunciation, elementary conversation and prose reading. Credit will not be given to students who have completed two years of high school German.

Ger. 2331, 2332. INTERMEDIATE GERMAN.

A comprehensive review of German grammar with pronunciation, conversation, and additional prose reading.

LATIN

Latin 1351, 1352. BEGINNING LATIN.

An introductory course in Latin designed especially for students who plan to major in English or a Romance language. Credit will not be given to students who have completed two years of high school Latin.

SPANISH

Spanish-speaking students will take Spanish 1303, 1304 or 2301, 2302.

Degree Requirements

Major in Spanish:

30 semester hours in Spanish, of which 15 semester hours must be advanced.

Minor in Spanish:

18 semester hours in Spanish of which six semester hours must be advanced.

Teacher Certification in Spanish:

Elementary Plan I: 18-21 semester hours in Spanish, of which nine semester hours must be advanced; must include (a) Spanish 1301, 1302 or 1303, 1304; 2301, 2302; and nine advanced semester hours; or (b) Spanish 2301, 2302 and 12 semester hours, nine of which must be advanced.

Elementary Plan II: 24 semester hours in Spanish, of which 12 semester hours must be advanced; must include (a) Spanish 1301, 1302 or 1303, 1304; 2301, 2302; and 12 advanced semester hours; or (b) Spanish 2301, 2302; and 18 semester hours, 12 of which must be advanced.

Secondary Plan I: 24 semester hours in Spanish, of which 12 semester hours must be advanced; must include (a) Spanish 1301, 1302, or 1303, 1304; 2301, 2302; and 12 advanced semester hours of Spanish or (b) Spanish 2301, 2302, and 18 semester hours of Spanish, of which 12 semester hours must be advanced.

SUGGESTED CURRICULUM

Spanish Major

Freshman Year

Eng. 1301, 1302.
Span. 1301, 1302 or 1303, 1304 or
2301, 2302.
Hist. 2313 or 2333, 2314.
Math., six hours.
Art 1301.
Music 2307.
P.E., two hours, activity.

Sophomore Year

Eng., sophomore literature, six hours.
Span. 2301, 2302 or sophomore
Spanish, six hours.
Govt. 2313, 2314.
Science, six hours (laboratory).
Electives, six hours.
P.E., two hours, activity.

Span. 1301, 1302. BEGINNING SPANISH.

A course designed to develop the ability to understand, speak, read and write the Spanish language. Open only to persons whose native tongue is not Spanish. Credit will not be given to students who have completed two years of high school Spanish.

Span. 1303, 1304. BEGINNING SPANISH.

A course designed to develop the ability to read and write the Spanish language. For students whose native language is Spanish but who have not studied it. Credit will not be given to students who have completed two years of high school Spanish.

Span. 2301, 2302. INTERMEDIATE SPANISH.

A review of grammar and syntax, original theme writing, and a study of literary selections.

Span. 2303. HISTORY OF THE SPANISH LANGUAGE.

A study of the development of Spanish as a language, from its beginning to the present. Given in Spanish.

Span. 2304. SPANISH LYRIC POETRY.

A survey of lyric poetry from its beginning to the present. Given in Spanish.

Span. 2305. CERVANTES.

A study of the principal works of Miguel de Cervantes with particular emphasis on the "Don Quixote." Given in Spanish.

Span. 2306. THE MEXICAN NOVEL.

A study of the major novels of Mexico from the early beginning to the present. Given in Spanish.

Span. 3301. SPANISH LITERATURE (1100-1750).

A survey of the literature of Spain from the beginning of Romanticism. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 3302. SPANISH LITERATURE (1750 to our times).

A survey of the literature of Spain from Romanticism to the modern period. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 3303. ADVANCED SPANISH COMPOSITION.

Intensive training in Spanish composition, including class publication of material in Spanish. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 3304. ADVANCED SPANISH COMPOSITION.

Additional work in composition similar to Spanish 3303. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 3305. ADVANCED GRAMMAR AND SYNTAX.

A careful examination of the structure of Spanish as shown in contemporary texts. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 3306. PHONETICS.

Emphasis on a practical mastery and on principles of teaching pronunciation. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 3307. THE GOLDEN AGE OF SPANISH LITERATURE.

A critical study of significant Golden Age works. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 4301. SPANISH-AMERICAN LITERATURE (1500-1800).

The literature of South American countries from colonial times to Romanticism. Both individual works and anthologies are read. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 4302. SPANISH-AMERICAN LITERATURE (1800 to our times).

The literature of South American countries from 1800 down through modernism and our day. Both individual works and anthologies are read. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 4303. SPANISH CIVILIZATION.

A survey course covering the entire range of Iberian history and outlining the major differences between Spanish culture and the cultures of other western nations. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 4306. SPANISH PLAY PRODUCTION.

An analysis of several plays with emphasis of their staging. Public performance of one or more plays during the semester. Given in Spanish. Prerequisite: Spanish 2301, 2302.

Span. 4307. THE SPANISH-AMERICAN NOVEL.

A survey of the novel of Spanish America from the Periquillo Sarniento to the present. Given in Spanish. Prerequisites: Spanish 2301, 2302.

Span. 4308. MEDIEVAL SPANISH LITERATURE.

A study of the principal literary works of Spain from El Cid to the Romancero. Prerequisite: Span. 2301, 2302.

Span. 4309. CONTEMPORARY SPANISH LITERATURE.

A study of the principal literary works of Spain from the Generation of 1898 to the present. Prerequisite: Span. 2301, 2302.

Span. 4311. MEXICAN LITERATURE. (1500 to 1850)

A survey of the literature of Mexico from colonial times to Romanticism. Given in Spanish. Prerequisite: Span. 2301, 2302.

Span. 4312. MEXICAN LITERATURE. (1850 to present)

A survey of the literature of Mexico from Romanticism to the modern period. Given in Spanish. Prerequisite: Span. 2301, 2302.

DEPARTMENT OF SOCIAL STUDIES

Professor Porter A. Stratton, Head

The Department of Social Studies consists of the subject areas of Community Services, Geography, Government, History, Law Enforcement Science, Mexican-American Studies, Philosophy, Psychology and Sociology. The Bachelor of Arts degree is offered with a major in Community Services, Government, and History. A Bachelor of Science degree is offered in Law Enforcement Science. Minors are offered in Government, History, Mexican-American Studies, Philosophy, Psychology, and Sociology. Courses are offered in Geography.

Government students may elect a curriculum for a major in Government or a Government elementary or secondary teaching plan.

History students may elect a curriculum for a major in History or a History elementary or secondary teaching plan.

Government and History students may elect a curriculum for teacher certification in Social Sciences.

COMMUNITY SERVICES

Pan American University offers an undergraduate program leading to the Bachelor of Arts degree in Community Services. The curriculum provides preparation for (1) more effective participation in community affairs, based on the concept that a liberal arts education provides an enriched understanding of modern society's complex needs, service-delivery systems, and human welfare issues; (2) immediate employment of a beginning professional in social service positions which do not require professional social work education at the graduate level; and (3) admissions to graduate programs for professional social work and vocational rehabilitation.

Recognizing the marked demand for social services and attendant manpower shortages, Pan American University is now providing opportunities for its graduates to obtain knowledge and skills requisite to filling social service positions. Under the Department of Social Studies, the program offers a sequence of six core courses, supported by interdisciplinary content areas designed to integrate

social sciences and behavioral knowledge reinforced by practical learning experiences in community social agencies and settings.

A strong counseling program guides the Community Service student through specific background content areas that have been identified as necessary to give him a generic competence as a helping professional, and starts him in the direction of his vocational interest.

The degree requires completion of at least 124 hours, 48 of which must meet the general education requirements; and a minimum of 48 hours of required courses must be completed in the Community Services area, 24 of which must be advanced.

Comm. Serv. 2313. INTRODUCTION TO COMMUNITY SERVICES.

A study of societal and human problems as viewed by social welfare. Includes an overview of social welfare institutions, structures, functions, and values. Required of Comm. Serv. majors. Prerequisite: 3 semester hours of Sociology or Psychology; sophomore level.

Comm. Serv. 3313. SOCIAL WELFARE LEGISLATION.

An examination of the relationship between man and laws pertaining to Community Services to afford an understanding of the role of such laws; and to acquaint the student with national, rural and urban Community Service institutions provided by law. No prerequisites.

Comm. Serv. 3323. METHODOLOGY OF COMMUNITY SERVICES.

Introduction to intervention methods, their use, and goals in the social welfare service process; the practice of fusion of knowledge, skill and value stance in clientele services; the processes of intake, referral, interviewing, client-worker transaction; and use of formal and informal resources. Prerequisite. Comm. Serv. 2313.

Comm. Serv. 4323. SEMINAR IN THE PROBLEMS OF COMMUNITY SERVICES.

Small group, tutorial, and individual inquiry methods are used to enable students to study in-depth problems in community services. Course content and methodology of inquiry are selected in concert with instructor. Prerequisites: Comm. Serv. 2313, 3313, 3323, 4413.

Comm. Serv. 4413. FIELD EXPERIENCE IN COMMUNITY SERVICES.

A minimum of eight hours a week in-the-field experiences in established social agencies or informal settings under joint supervision of agency and university so as to orient students to community resources and agency techniques for meeting today's social problems. Concurrent seminar. Prerequisites: Comm. Serv. 2313, 3323. Credit: 4 semester hours.

Comm. Serv. 4414. FIELD EXPERIENCE IN COMMUNITY SERVICES.

Parallels Comm. Serv. 4413, and is optional. In-the-field experiences in areas of special interest: field placement experiences such as probation work, child welfare, VISTA; or summer work with migrant streams (by prior arrangement). Concurrent seminar. Prerequisite: Comm. Serv. 4413. Four semester hours credit.

BACHELOR OF ARTS DEGREE IN COMMUNITY SERVICES**SUGGESTED CURRICULUM****Freshman Year**

Eng. 1301, 1302.
 Math. 1301, 1302.
 Science (Bio. recom.)
 Soc. 2313.
 Psy. 2313.
 P.E., two hours.
 Speech 1301 (if reqd.)
 Art 1301.

Junior Year

Comm. Serv. 3323.
 Soc. 3313 or Psy. 3313.
 Soc. 2323 or 2333.
 Soc. 3333 or 4313.
 Phil. 2323 or 2343.
 Phil. 2353 or 3313.
 Music 2307.
 Electives, six hours.
 Spanish.

Sophomore Year

Eng. Soph. Lit., 6 hrs.
 Govt. 2313, 2314.
 Hist. 2313 or 2333, 2314.
 Psy. 2323, 2324.
 Phil. 2313.
 Comm. Serv. 2313.
 Comm. Serv. 3313.
 P.E., two hours.

Senior Year

Comm. Serv. 4413.
 Comm. Serv. 4414 (optional).
 Comm. Serv. 4323.
 Psy. 4333 or 4363.
 Spanish.
 Electives in Major.
 Electives, Adv. Soc. Sci.

GEOGRAPHY**Geog. 2301. CONSERVATION OF NATURAL RESOURCES.**

A study of the use and conservation of our natural resources. Supplemented by consultants in soils, forestry, minerals, and wildlife. Designed to meet the conservation requirements of Agriculture and Elementary Education. Can be counted in the supporting areas of elementary curriculum.

Geog. 2313. PRINCIPLES OF GEOGRAPHY: PHYSICAL ELEMENTS.

An overview of the earth's natural features systematically described and interpreted through basic geographic principles. Emphasis on earth-sun relations, the world pattern and distribution of water and climate; landscape development under the influence of vulcanism and mountain-building forces, rivers, underground water, glaciers, waves and currents, and the wind; the nature and classification of the principal soil and vegetable groups of the world.

Geog. 2323. PRINCIPLES OF GEOGRAPHY: CULTURAL ELEMENTS.

A study of man's use of natural environment in creating his cultural setting. Emphasis placed upon areas of production and consumption and their effects upon world population.

Geog. 3333. LATIN-AMERICAN GEOGRAPHY.

A regional study of the geography of Mexico, the Caribbean, Central and South America. Includes an investigation of the physical, cultural and economic factors of various regions and how these effect present day conditions.

GOVERNMENT

Degree Requirements

Major in Government:

30 semester hours in Government, of which 15 semester hours must be advanced; must include Govt. 2313, 2314, 2333.

Minor in Government:

18 semester hours in Government, of which six semester hours must be advanced, must include Govt. 2313, 2314, 2333.

Teacher Certification in Government:

Elementary Plan I: 18 semester hours in Government, of which nine semester hours must be advanced; must include Govt. 2313, 2314, 2333, 3313.

Elementary Plan II: 24 semester hours in Government, of which 12 semester hours must be advanced; must include Govt. 2313, 2314, 2333, 3313, 3373, 4313.

Secondary Plan I: 24 semester hours in Government, of which 12 semester hours must be advanced; must include Govt. 2313, 2314, 2333, 3313, 4333, 4343.

Teacher Certification in Social Science:

Secondary Plan II: 48 semester hours in Social Studies. Must include Hist. 2313, 2314, 2333; Govt. 2313, 2314; Eco. 2351; Geog. 2313 or 2301; and Soc. 2313. 24 semester hours must be divided among advanced History and Government courses with not fewer than nine semester hours in each field.

SUGGESTED CURRICULUM

Government Major

Freshman Year

His. 2313 or 2333, 2314.
Eng. 1301, 1302.
Math, six hours.
Govt. 2333.
Spec. 1301 (if required).
Art 1301.
Elective, three hours.
P.E., two hours.

Sophomore Year

Eng., sophomore literature, six hours.
Govt. 2313, 2314.
Natural Science, six hours.
Foreign Language, six hours.
Music 2307.
Elective or any required course postponed from Freshman year.
P.E., two hours.

Govt. 2313., 2314. AMERICAN GOVERNMENT.

Fulfills the legislative requirements of six hours of American government and Texas Constitution and institutions. A functional study of the American constitutional and governmental system, federal and local. Special attention and emphasis on U.S. and Texas Constitutions. Govt. 2313. The origins and development of the American Governmental system; federal-state and inter-state relations; the individual as a citizen, person, and voter; political parties; and legislation. Govt. 2314. Judicial, executive, and administrative functions in federal and state governments; lesser units of government; financing governmental activities; foreign relations and national defense and governmental services and functions in the field of business, labor, agriculture, social welfare, public safety and conservation. Prerequisite; sophomore standing.

Govt. 2333. INTRODUCTION TO POLITICAL SCIENCE.

Emphasis on political fundamentals, public law, theory and organization of the modern state, political dynamics, and institutions. Required of all Government majors and minors. Open to freshmen.

Govt. 2387, 2388. AMERICAN GOVERNMENT. (HONORS PLAN)

Fulfills the legislative requirements of six hours of American and Texas government. A functional study of the American constitutional and governmental system, federal and local. Special attention and emphasis on U.S. and Texas Constitutions. Govt. 2387: The origins and development of the American governmental system; federal-state and interstate relations; the individual as a citizen, person, and voter; political parties; and legislation. Govt. 2388: Judicial executive, and administrative functions in federal and state governments; lesser units of government; financing governmental activities; foreign relations and national defense and governmental services and functions in the field of business, labor, agriculture, social welfare, public safety and conservation. Prerequisite: Admission to Honors Studies or by invitation.

Govt. 3313. RURAL AND LOCAL GOVERNMENT.

A study of organization, functions, relationships, and activities of the taxing districts and one of the counties of the state. Special reference is made to Texas and to the types of such districts encountered in the Rio Grande Valley. Prerequisites: Govt. 2313, 2314.

Govt. 3314. AMERICAN STATE GOVERNMENT.

A study of the basic functions, structure, procedures and problems of American state government, with an emphasis upon intergovernmental relations. Prerequisites: Govt. 2313, 2314.

Govt. 3320. HISTORY AND POLITICS OF THE EMERGING NATIONS: AFRICA.

See History 3320 for course description. May be counted as history or government (was Govt./Hist. 4323, may not be repeated for credit).

Govt. 3321. HISTORY AND POLITICS OF THE EMERGING NATIONS: MIDDLE EAST.

See History 3321 for course description. May be counted as history or government (was Govt./Hist. 4324, may not be repeated for credit).

Govt. 3323. INTRODUCTION TO PUBLIC ADMINISTRATION.

A survey of public administration in the United States with emphasis upon its general machinery and on the powers, problems and control of governmental agencies. Prerequisites: Govt. 2313, 2314.

Govt. 3343. INTERNATIONAL POLITICS.

A study of the political principles, problems, and factors involved in the foreign policies and relations of the nation-states with particular emphasis on the sources and uses of national power and the difficulties in limiting the use of such power. Prerequisites: Govt. 2313, 2314.

Govt. 3364. CONSTITUTIONAL LAW—POWERS.

A study of the allocation of government powers by use of court cases, with special emphasis on the national government and an introduction to the judicial functions of the American legal system. Prerequisite: six semester hours in Govt.

Govt. 3365. CONSTITUTIONAL LAW—LIMITATIONS.

A study of the limitations of governmental powers in the United States by use of court cases, with primary emphasis on civil and political rights. Prerequisite: six semester hours in Govt.

Govt. 3371. TOTALITARIAN GOVERNMENTS AND POLITICS.

A comparative study of ideology, institutions, and political processes of totalitarian governments, with emphasis on the systems of contemporary Russia and Communist China. Prerequisites: Govt. 2313, 2314 (Cannot be taken for degree credit if student has previously completed Govt. 3372).

Govt. 3373. AMERICAN POLITICAL PARTIES AND POLITICS.

A study of the history, organization, function and leadership of political parties and the role they play in the operation of national, state and local governments in the United States. Prerequisites: Govt. 2313, 2314.

Govt. 3383. LATIN-AMERICAN POLITICS.

A survey of governmental structures and politics in Latin America. Examines competing ideologies, group developments, party interests, influence of revolution, relationship between political, social and economic structures, and Latin America's role in the world political arena. Prerequisites: Govt. 2313, 2314.

Govt. 3385. GOVERNMENTS AND POLITICS OF ASIA.

The socio-economic setting, constitutional frame work, political forces, authoritative decision making agencies, and certain major policy outputs of selected governments of Asian nations. Emphasis of Japan, India, Thailand, Indonesia and the Phillipines. Prerequisites: Govt. 2313, 2314.

Govt. 4313. COMPARATIVE GOVERNMENTS: WESTERN DEMOCRACIES.

A comparative study of the peoples and their institutions of the major democracies of Europe: Great Britain, France, West Germany, Italy, the Low Countries, the Scandinavian Countries, Switzerland, and Austria. Prerequisites: Govt. 2313, 2314.

Govt. 4331. SCOPE AND METHODS OF POLITICAL SCIENCE.

Analysis of the scientific study of politics, models of inquiry and research methods. Prerequisites: Govt. 2313, 2314.

Govt. 4333. POLITICAL THEORY (SOCRATES TO THE NINETEENTH CENTURY).

A study of the political philosophy of Western Civilization from early to modern times; the works of Plato, Aristotle, Cicero, Machiavelli, St. Thomas Aquinas, Hobbes, Locke, and others will be examined and discussed. Prerequisites: Govt. 2313, 2314. May be counted as Government or Philosophy.

Govt. 4343. POLITICAL THEORY (NINETEENTH CENTURY TO THE PRESENT).

Modern political thought since the eighteenth century; the doctrines of Western democracy, with special emphasis upon its development in the United States; Hegelian and fascist absolutism, Marxist communism, socialism, and problems of twentieth century nationalism. Prerequisites: Govt. 2313, 2314. May be counted as Government or Philosophy.

Govt. 4353. INTERNATIONAL ORGANIZATION.

An analysis of the juridical-political foundations, actual machinery and activities of the principal international organizations, particularly the U.N. and related bodies. An appreciation of their achievements toward international peace. Prerequisites: Govt. 2313, 2314.

Govt. 4354. POLITICS OF AMERICAN FOREIGN POLICY.

The impact upon foreign policy decisions of public opinion, voting behavior, interest groups, political parties and the electoral system. Theories and models of the foreign policy process. Illustrative case studies. Prerequisites: Govt. 2313, 2314.

Govt. 4373. AMERICAN POLITICAL PARTIES AND POLITICS.

A study of the history, organization, function and leadership of political parties and the role they play in the operation of national, state and local governments in the United States. Prerequisites: Govt. 2313, 2314 (was Govt. 3373, may not be repeated for credit).

Govt. 4383. LATIN-AMERICAN POLITICS.

A survey of governmental structures and politics in Latin America. Examines competing ideologies, group developments, party interests, influence of revolution, relationship between political, social and economic structures, and Latin America's role in the world political arena. Prerequisites: Govt. 2313, 2314 (was Govt. 3383, may not be repeated for credit).

HISTORY

Degree Requirements

Major in History:

30 semester hours in History, of which 15 semester hours must be advanced; must include Hist. 1333, 1334, 2313, 2314 and 2333.

Minor in History:

18 semester hours in History, of which six semester hours must be advanced; must include Hist. 1333 or 1334, 2313, 2314 and 2333.

Teacher Certification in History:

Elementary Plan I: 18 semester hours in History, must include, Hist. 2313, 2314, 2333 and nine advanced semester hours with three semester hours from each of the American, Latin American and European fields of history.

Elementary Plan II: 24 semester hours in History, of which 12 semester hours must be advanced; must include Hist. 2313, 2314, 2333; and 3 advanced semester hours from each of the three fields: American, Latin American and European History.

Secondary Plan I: 24 semester hours in History, of which 12 semester hours must be advanced; must include Hist. 2313, 2314, 2333; and 3 advanced semester hours from each of the three fields: American, Latin American and European History.

Teacher Certification in Social Science:

Secondary Plan II: 48 semester hours in Social Studies. Must include Hist. 2313, 2314, 2333; Govt. 2313, 2314; Eco. 2351; Geog. 2313 or 2301; and Soc. 2313. 24 semester hours must be divided among advanced History and Government courses with not fewer than nine semester hours in each field.

SUGGESTED CURRICULUM**History Major****Freshman Year**

Hist. 1333, 1334, 2333.
 Eng. 1301, 1302.
 Math., six hours.
 Art 1301.
 Music 2307.
 Spee. 1301 (if required).
 P.E., two hours.

Sophomore Year

Eng., sophomore literature, six hours.
 Govt. 2313, 2314.
 Natural Science, six hours.
 Foreign Language, six hours.
 Hist. 2313, 2314.
 P.E., two hours.

Hist. 1333. CIVILIZATION THROUGH THE CENTURIES.

A thorough survey of the political, social and cultural history of Europe through the treaty of Utrecht. Emphasis will be given to the contributions of Greece and Rome to the Western World, the fall of Rome, the beginning of feudalism and the rise of national states, the Renaissance and the Protestant Reformation.

Hist. 1334. CIVILIZATION THROUGH THE CENTURIES.

A continuation of History 1333 to the present time. Emphasis will be given to European expansion, the French Revolution and Napoleon, the Industrial Revolution, the spread of Socialism, and the world conflicts of the twentieth century.

Hist. 2313, 2314. AMERICAN HERITAGE.

An integration of social, political and economic history of the United States. Approach is by problems which move chronologically from the earliest Colonial period to the current great debate on foreign policy. Open to freshmen who have completed Hist. 2333 or freshmen who enter with credit in American History from high school.

Hist. 2333. A GENERAL SURVEY OF THE HISTORY OF TEXAS.

A survey of the history of Texas from the period of Spanish ownership to the present. Open to freshmen. May be substituted for Hist. 2313 to meet State requirement for students expecting to graduate from P.A.U.

Hist. 2387, 2388. AMERICAN HERITAGE. (HONORS PLAN)

An integration of social, political and economic history of the United States. Approach is by problems which move chronologically from the earliest Colonial period to the current great debate on foreign policy. Prerequisite: Admission to Honors Studies or by invitation.

Hist. 3313. EARLY AMERICAN HISTORY, THE COLONIAL PERIOD, 1607-1763.

A study of American Colonial history from the founding of the first colonies through the French and Indian War with emphasis given to the development of American civilization within the British Empire. Prerequisite: six semester hours of history.

Hist. 3320. HISTORY AND POLITICS OF THE EMERGING NATIONS: AFRICA.

Analysis of differences between traditional political values, institutions of the African nations; impact of the West upon African developments; and the political problems of these emerging nations. May be counted as history or government. Prerequisites: six semester hours of history and six semester hours of government (was Hist./Govt. 4323, may not be repeated for credit).

Hist. 3321. HISTORY AND POLITICS OF THE EMERGING NATIONS: MIDDLE EAST.

Analysis of differences between traditional political values, institutions of the Middle East nations; impact of the West upon Middle East developments; and the political problems of these emerging nations. May be counted as history or government. Prerequisites: six semester hours of history and six semester hours of government (was Hist./Govt. 4324, may not be repeated for credit).

Hist. 3324. THE FORMATIVE PERIOD OF THE AMERICAN NATION, 1763-1820.

A study of the early years of the American nation from 1763 through the Revolution, the adoption of the Constitution, and the conduct of government by the Federalist and Jeffersonian Republican parties. Prerequisite: six semester hours of history.

Hist. 3333. MEXICO, CENTRAL AND SOUTH AMERICA, COLONIAL ERA.

A study of the establishment of Spanish dominion; geography and natural resources; institutional and social development; cultural aspects and contributions. Prerequisite: six semester hours of history.

Hist. 3341. HISTORY OF ENGLAND.

English history from earliest times through the period of the Stuart kings. Emphasis will be given to the factors which have influenced the development of British and American institutions. Prerequisite: six semester hours of history.

Hist. 3342. HISTORY OF ENGLAND.

The period of the Glorious Revolution to the British Empire and Commonwealth of Nations. Prerequisite: six semester hours of history.

Hist. 3363. HISTORY OF ASIA.

A brief survey of Asian history with special attention given to India, Japan, and China. Background and development of current problems of the Far East. Prerequisite: six semester hours of history.

Hist. 3373. MEXICAN-AMERICAN HERITAGE.

An interpretation of the historical heritage of the Mexican-American in the United States. Prerequisite: six semester hours of history.

Hist. 4303. THE EMERGENCE OF MODERN AMERICA, 1877-1917.

A study of the growth of American business and industry, the emergence of the United States as a world power, the Populist protest and Progressive reform movements. Prerequisite: six semester hours of history.

Hist. 4313. TWENTIETH CENTURY AMERICA, 1917 TO THE PRESENT.

A study of the history of the United States from World War I to the present with emphasis on domestic and foreign affairs in their relationship to and effect on each other. Prerequisite: six semester hours of history.

Hist. 4322. THE SPANISH SOUTHWEST THROUGH 1821.

A study of the northward colonization of Mexico with emphasis on institutions and the settlement of the interior provinces of Texas, New Mexico, Arizona, and California. Prerequisite: six semester hours of history (was Hist. 3322, may not be repeated for credit).

Hist. 4325. THE AMERICAN SOUTHWEST SINCE 1821.

The American penetration of Texas and the Mexican War, subjugation of the Indians, extension of mining, railroads, cattle industry, and farming across the Southwest; and the transition from raw frontier to modern states of the Southwest. Prerequisite: six semester hours of history (was Hist. 3325, may not be repeated for credit).

Hist. 4343. THE ERA OF SECTIONAL CONFLICT.

United States history from 1820 to 1877 with emphasis upon the development of sectionalism, Southern nationalism, the breakdown of American political parties, Civil War, and Reconstruction. Prerequisite: six semester hours of history.

Hist. 4345. MEXICO SINCE INDEPENDENCE.

A study of political, social and cultural developments since 1821; problems of Mexico and her role in Pan American relations. Prerequisite: six semester hours of history. History 3333 is recommended to precede this course (was Hist. 3343, may not be repeated for credit).

Hist. 4353. HISTORY OF MEXICAN CULTURE.

A study of the Mexican people, including development of their social institutions, thinking, concepts, attitudes, values, reactions, and sensitivities. Prerequisite: six semester hours of history.

Hist. 4354. MEXICO'S TWENTIETH CENTURY SOCIAL REVOLUTION.

A study of the nature and impact of social, political and economic changes in Mexico since the Revolution of 1910. Prerequisite: six semester hours of history with the recommendation that Hist. 3333 and/or 3343 precede this course.

Hist. 4355. HISPANIC SOUTH AMERICA SINCE INDEPENDENCE.

The historical development of the major Hispanic South American Republics; general trends in their social, economic and political growth. Prerequisite: six semester hours of history. History 3333 is recommended to precede this course (was Hist. 3353, may not be repeated for credit).

Hist. 4363. HISTORY OF THE UNITED STATES—LATIN AMERICAN RELATIONS.

The development of a distinctive system of international relations—economic, cultural, and political—between the nations of Latin America and the United States. Prerequisite: six semester hours of history.

Hist. 4370. THE RENAISSANCE AND THE REFORMATION, 1300 TO 1650.

A study of the political, social, and cultural developments of Western Europe from the decline of the Medieval system, through the age of the New Monarchies, with emphasis on France, Germany and Italy. Prerequisite: six semester hours of history with recommendation of Hist. 1333.

Hist. 4371. RUSSIA FROM ITS REVOLUTIONARY ERA TO THE PRESENT.

Russia from the precursors of revolution through the revolutions of 1905, 1917 and the development of the Soviet regime to current trends. Prerequisite: six semester hours of history with recommendation of Hist. 1334 (was Hist. 3371, credit cannot be received if Hist. 3371, or Hist./Govt. 3372 have previously been completed).

Hist. 4374. CENTRAL AMERICA AND THE CARIBBEAN ISLAND NATIONS SINCE 1800.

A study of the nineteenth-century efforts of these nations to emerge as separate entities and an evaluation of their twentieth-century experiences. Prerequisites: six semester hours of history with the recommendation of Hist. 3333.

Hist. 4375. EUROPE IN THE AGE OF ABSOLUTISM AND THE ENLIGHTENMENT, 1650-1789.

Traces the development of the absolutist state, benevolent despotism, and the intellectual and scientific trends of the Enlightenment. Prerequisite: six semester hours of history with recommendation of Hist. 1334 (was Hist. 3375, may not be repeated for credit).

Hist. 4376. REVOLUTIONARY EUROPE, 1789-1850.

A study of Europe of this period with emphasis on the growth of democratic institutions from the beginning of the French Revolution through the Revolution of 1848. Prerequisite: six semester hours of history, with recommendation of Hist. 1334 (was Hist. 3374, may not be repeated for credit).

Hist. 4383. EUROPE FROM 1850 TO 1919.

A study of European history through the period of growing nationalism and imperialism leading to World War I. Prerequisite: six semester hours of history with recommendation of Hist. 1334 (was Hist. 3383, may not be repeated for credit).

Hist. 4393. EUROPE FROM 1919 TO PRESENT.

A study of the causes of World War II, its resulting problems, and current trends. Prerequisite: six semester hours of history with recommendation of Hist. 1334 (was Hist. 3393, may not be repeated for credit).

LAW ENFORCEMENT SCIENCE

Law Enforcement Science is a four-year degree program requiring 126 semester hours with a broad-field major that will assure the student a well-rounded academic educational experience as well as prepare him for entering law enforcement as a career. Bi-lingual ability and bi-cultural understanding are given special attention.

The degree program is built around a core curriculum of law enforcement science courses with a series of inter-disciplinary support courses. Bi-lingualism is stressed by a plan of Spanish courses, which takes into consideration the student's linguistic abilities. Bi-cultural understanding is provided by recommending that students use most of their upper-level electives in recommended courses.

Bachelor of Science Degree in Law Enforcement Science (126 Hrs. Required)

SUGGESTED CURRICULUM

Freshman Year

Hist. 2313, 2314.
Eng. 1301, 1302.
P.E. 2105.
P.E. 2106.
Span. 1301, 3102.*
or Span. 1303, 1304.*
or Span. 2301, 2302.*
Math. 1301, 1302.
LES 3101, 1302.

Sophomore Year

Govt. 2313, 2314.
Eng. 2303, 2305 or 2307.
Span. 2301, 2302.*
or Span. 3303, 3304.*
LES 2301.
LES 2302.
P.E. 1100.
P.E. 2108.
Physical Sciences.

Junior Year

Psy. 2324.
Soc. 3313.
LES 3301.
LES 3302.
LES 3303.
LES 3304.
LES 3401.
Psy. 2313 or 2323.

Senior Year

LES. 4301.
LES 4302.
LES 4303.
LES 4304.
LES 4401.
Govt. 3364, 3365.
Electives (For increased cultural understanding, recommended courses from Mexican-American Studies or Inter-American Studies programs.)

* Selection of Spanish determined by student's linguistic ability.

Core Curriculum for Law Enforcement Science

LES 1301. Introduction to Law Enforcement.

A brief history of professional law enforcement; a survey of the philosophy of law enforcement service; a preview of law enforcement and personal liberties; and a review of the career potentials of law enforcement.

LES 1302. Introduction to Law Enforcement.

A continuation of LES 1301 with an overview of the purpose and jurisdiction of federal, state, and local agencies of criminal justice; an introduction to the role of the law enforcement officer and the community; a survey of the general crime problem; and a general evaluation of the present criminal justice.

LES 2301. Basics of Criminal Law.

The philosophy of criminal law making process; basic concepts of Texas criminal law, including general provisions of the penal code; the law of principles, accomplices and accessories; an overview of offenses against public peace, persons and property, stressing elements and proof; a study of offenses against morals and chastity; and a survey of case study and briefing.

LES 2302. Criminal Evidence and Procedure.

A survey of rules of evidence with particular import at the level of operation; the theory of signed statements; the philosophy of a hearing for the arrested person; the philosophy of the trial procedure and the law enforcement officer's place in the court; and the theory of probable cause.

LES 3301. Crowd Control Principles.

Disaster planning and civil defense programs; specialized tactics, operation and equipment; and overview of minority group problems; the psychology of crowds and mobs; a review of duties and responsibilities of law enforcement officers in crowd control; an overview of human and public relations in crowds and crowd control; and importance of local intelligence and preparedness.

LES 3302. Principles of Traffic Supervision.

A historical study of the traffic problem; the philosophy of traffic supervision and control; a traffic action program's goals; importance of signals and gestures in traffic direction; a study of the nature and volume of traffic; the theory of traffic law enforcement; an overview of the uniform traffic code; and principles of traffic management.

LES. 3303. Principles of Traffic Accident Investigation.

Emphasizes accident investigation and reporting; traffic and accident records and reports; accident data analysis and planning; traffic court procedures; traffic bureau operations; and duties and responsibilities of the traffic officer.

LES 3304. The Juvenile and Law Enforcement.

Investigates concepts of the causes and effects of juvenile delinquency; the detection, apprehension and treatment of the juvenile delinquent; the theory and practice of juvenile courts; the community control program for juvenile delinquency.

LES 3401. Practicum-Field Experience. (Spring Semester)

A minimum of four hours weekly of field experience with some law enforcement agency, with assignments to be inside the department or other relatively safe position; study and evaluation of student and agency reports on employment; three hour seminar or consultation period with class members each week.

LES 3305. Drug Addiction and Law Enforcement.

The study and identification of various drugs and their effects; the study of the causes and effects of drug abuse; and the arrest and treatment of drug offenders.

LES 4301. Principles of Law Enforcement Administration.

The philosophy of law enforcement administration; the organization and function of various types of law enforcement agencies; an examination of the ideas and concepts from various disciplines and their translation to law enforcement management; the organization of and the principles involved in a law enforcement agency; methods of dealing with people; and the role of discipline and morals.

LES 4302. Principles of Law Enforcement Supervision.

An examination of the principles involved in law enforcement supervision; principles of leadership in dealing with people; psychology involved in handling grievances and in building morale; duties and responsibilities of command level personnel; law enforcement budgeting procedures.

LES 4303. Criminalistics.

An introduction and analysis of current criminal investigation procedures; philosophy of the crime scene investigation; an advanced study of important areas involved in criminal investigation; such as proper handling of physical evidence, arrest, search and seizure, hearings, and probable cause.

LES 4304. Community and Law Enforcement Relations.

A study of the problems involving law enforcement agencies and the community; how to make effective use of the mass media to furnish information regarding law enforcement activities; the philosophy of community reaction groups and boards; theories regarding law enforcement involvement in community projects; and the principles and techniques used in establishing a proper law enforcement image.

LES 4401. Practicum-Field Experiences.

Four hours duty per week with a law enforcement agency; three hours seminar or consultation per week; evaluation of student and agency critiques and reports; expansion of the law enforcement philosophy encountered in field work, problems and issues.

MEXICAN-AMERICAN STUDIES

An interdisciplinary minor with a plan of study aimed at giving the Mexican-American student a more appreciable understanding of the heritage of his ancestry and its contributions to his present environment. Mexican-American Studies serves as an excellent minor to several majors, as well as provide support for secondary teachers majoring in Spanish and/or Social Sciences. The curriculum for this program is divided into two classifications: Impact Courses, which deal specifically and directly with the Mexican-American, and Support Courses which, for the most part, are concerned with Mexico, aspects of its culture, and Spanish.

IMPACT COURSES:

Eng. 3316. THE MEXICAN-AMERICAN IN AMERICAN FICTION.

Hist. 3373. MEXICAN-AMERICAN HERITAGE.

Hist. 4322. THE SPANISH SOUTHWEST THROUGH 1821.

Soc. 4323. THE MEXICAN-AMERICAN PEOPLE.

SUPPORT COURSES:

Hist. 4325. The American Southwest Since 1821

Hist. 4345. Mexico Since Independence

Hist. 4353. History of Mexican Culture

Hist. 4354. Mexico's Social Revolution, 1910 to Present

Span. 1303. Composition and Reading

Span. 1304. Composition and Reading

Span. 3303. Advanced Spanish Composition

Span. 3304. Advanced Spanish Composition

Span. 3305. Advanced Grammar and Syntax

Span. 4311. Mexican Literature. (1500-1850)

Span. 4312. Mexican Literature. (1850 to present.)

Minor in Mexican-American Studies:

18 semester hours, of which 9 semester hours must be from the Impact Courses. Programs of study will be influenced by the student's major. Any course may be taken as an elective.

PHILOSOPHY**Minor in Philosophy:**

18 semester hours in Philosophy, of which six semester hours must be advanced.

**INDEPENDENT AND INTERDISCIPLINARY
STUDY IN PHILOSOPHY**

Open to students who have completed at least two semesters of philosophy with a minimum grade point average *B* and the consent of the instructor and the department head. Those enrolled in this program will engage in serious directed research and participate in periodic colloquia arranged by the instructors in charge.

Phil. 2313. INTRODUCTION TO PHILOSOPHY.

A preliminary study of the great philosophic traditions developed by man in his unceasing efforts to understand himself and his world.

Phil. 2323. ETHICS.

A survey of the rich heritage of human thought on what constitutes the good life.

Phil. 2333. PHILOSOPHY OF RELIGION.

A study of man's religious concepts and experiences. Not offered every year.

Phil. 2343. BASIC LOGIC.

An introduction to that branch of philosophy which deals with the nature and problems of clear and accurate thinking. Not offered every year.

Phil. 2353. LATIN-AMERICAN PHILOSOPHERS.

A study of the pensadores who have been regarded most able by Latin Americans themselves, and who have had the greatest influence in shaping the intellectual and social life of their own countries or of all Latin America. Due attention will be given to the influence of European and American philosophers upon these Latin-American pensadores.

Phil. 3313. AMERICAN PHILOSOPHY.

An examination of the contributions of great American thinkers to the philosophical deposit of the world. Not offered every year.

Phil. 3333. PLATO AND ARISTOTLE.

English translations of selections from Plato and Aristotle's writings will be read and interpreted. Prerequisite: three semester hours of philosophy.

Phil. 4301. PHILOSOPHIES OF ART.

A study of the relationship of art to philosophy. An interdisciplinary study of the various theories of art and of the philosophical presuppositions regarding being knowledge, and value inherent in these theories. Attention will be paid to the historical and cultural contexts of these theories. May be counted as philosophy or music or art. Prerequisites: six semester hours of philosophy or art or music.

Phil. 4333. POLITICAL THEORY (SOCRATES TO THE NINETEENTH CENTURY).

See Government 4333 for course description. May be counted as government or philosophy.

Phil. 4343. POLITICAL THEORY (NINETEENTH CENTURY TO THE PRESENT).

See Government 4343 for course description. May be counted as government or philosophy.

PSYCHOLOGY

Minor in Psychology:

18 semester hours in psychology, of which six semester hours must be advanced.

Psy. 2313. INTRODUCTION TO PSYCHOLOGY.

An introduction to the study of the mental processes, including the scientific methods used in psychology, the influences of heredity and environment, the control of the emotions, intelligent behavior, and the conditions governing learning, social behavior, and the development of personality.

Psy. 2323. GENERAL PSYCHOLOGY.

Continuation of Psychology 2313. Emphasis is placed upon intelligence, personality, motivation, vocational choice, and the application of psychological principles to behavioral problems.

Psy. 2324. SOCIAL PSYCHOLOGY.

A study of psychological principles as they are applied in social controls, mob actions, leadership, and group actions. Social status, attitudes, and public opinion will be discussed. May be counted as psychology or sociology.

Psy. 3323. PSYCHOLOGY OF LEARNING.

Methods, results and interpretations of experimental studies in learning. Attention will be given to methods of conditioning. This course will include the nature and conditions of the learning process and those factors related to its rate and efficiency. Prerequisite: six semester hours of psychology.

Psy. 3343. TESTS AND MEASUREMENTS IN PSYCHOLOGY.

An introductory study of the construction, administration, and interpretation of standardized tests in the field of psychology. Prerequisite: three semester hours of psychology.

Psy. 4313. ABNORMAL PSYCHOLOGY.

Analysis, etiology, and incidence of neurosis and psychosis; mental hygiene problems, and adjustive behavior. Prerequisite: six semester hours of psychology (was Psy. 3313, may not be repeated for credit).

Psy. 4333. THEORIES OF PERSONALITY.

A study of the development, structure, and assessment of personality with a consideration of the major theoretical attempts to account for the psychological nature and the behavior of man. Prerequisite: six semester hours of psychology.

Psy. 4343. PHYSIOLOGICAL PSYCHOLOGY.

A study which emphasizes the structure and function of the higher brain centers and their relation to behavior. A background in biology is helpful but not necessary. Prerequisites: Psy. 2313 and 2323.

Psy. 4363. SYSTEMS AND THEORIES IN PSYCHOLOGY.

A history of the development of psychology and a study of theories in contemporary psychology. Prerequisite: six semester hours of psychology.

SOCIOLOGY**Minor in Sociology:**

18 semester hours in sociology, of which six semester hours must be advanced.

Soc. 2313. PRINCIPLES OF SOCIOLOGY.

The social group, culture, and personality; social institutions; social interaction; and social change.

Soc. 2323. A STUDY OF SOCIAL PROBLEMS.

A sociological analysis of selected social problems present in current society.

Soc. 2324. SOCIAL PSYCHOLOGY.

See Psychology 2324 for course description. May be counted as psychology or sociology.

Soc. 2333. MARRIAGE AND THE FAMILY.

A study of problems and an analysis of the factors contributing to successful marriages with study of surveys that have been made of this aspects of the social relations of men and women. A combination lecture-discussion group with selected readings and films.

Soc. 3303. INTRODUCTION TO SOCIAL CASE WORK.

A study of the development of social work and a survey of modern social case work practice. Primarily for those students intending to enter the profession of social case work or related fields. Offered on demand.

Soc. 3313. CRIMINOLOGY.

A study of crime, its causes, and its social treatment.

Soc. 3333. URBAN SOCIOLOGY.

The culture, history, and growth patterns of cities; demographic, ecological patterns and trends. Problems of housing and community organization. Prerequisite: three semester hours of sociology.

Soc. 4313. AMERICAN MINORITIES.

A study of the principal minority groups in American society and their sociological significance; problems of intergroup relations, social movements, and related social changes occurring on the contemporary American scene. Prerequisite: three semester hours of sociology.

Soc. 4323. THE MEXICAN-AMERICAN PEOPLE.

Presents an examination of the Mexican-American's economic status, cultural values, style of life, educational attainment, family status and political participation as affected by current socio-economic conditions and their historical antecedents.

Soc. 4343. POPULATION PROBLEMS.

A study of population distribution, composition, growth, migration, and vital processes (was Soc. 3343, may not be repeated for credit).

DEPARTMENT OF SPEECH AND DRAMA

Professor J. G. Barefield, Head

The Department of Speech and Drama offers a Bachelor of Arts degree with majors in Speech and Drama. The Department offers minors in Speech and Drama.

Speech and Drama students may elect a curriculum for a major in Speech or Drama or an Elementary or Secondary teaching plan.

Speech: Degree Requirements

Major in Speech:

30 semester hours in Speech, of which 15 semester hours must be advanced.

Minor in Speech:

18 semester hours in Speech, of which six semester hours must be advanced.

Teacher Certification in Speech:

Elementary Plan I: Eighteen semester hours (nine must be advanced) which must include Speech 1302, 1303, 3303, 4303, 4307, and one of the following: Speech 2303, 2304, 2305, 3301, 3302, 4304.

Elementary Plan II: Twenty-four semester hours (12 must be advanced) in Speech, which must include Speech 1302, 1303, 3303, 4303, 4307, and six hours from Speech 2303, 2304, 2305, with an additional three hours from Speech 3301, 3302, 4304.

Secondary Plan I: Twenty-four semester hours (12 must be advanced) which must include 1302, 1303, 4303, and six hours from Speech 2303, 2304, 2305, with an additional nine hours from Speech 3301, 3302, 4304, 4305, 4307.

SUGGESTED CURRICULUM

Speech Major

Freshman Year

Eng. 1301, 1302.
 Hist. 2313 or 2333; 2314.
 Foreign Language, six hours.
 Mus. 2307.
 Spec. 1301 (if required), 1302, 1303.
 Elective, three semester hours.
 P.E., activities, two hours.

Sophomore Year

Eng., sophomore literature, six hours.
 Govt. 2313, 2314.
 Math., six hours.
 Art 1301.
 Spec., six hours from 2303, 2304, 2305.
 Elective, three hours.
 P.E., activities, two hours.

Junior Year

Science, six hours.

Elective, three hours.

Minor, 12 hours.

Ed., nine hours.

Spec., three advanced hours.

Senior Year

Minor, 12 advanced hours.

Ed., nine hours.

Spec. 4303, + six advanced hours.

Elective, three advanced hours.

Spec. 1101. PARLIAMENTARY PROCEDURES.

A study of the principles and practice of executing the rules of parliamentary procedure, duties of officers, committee procedures and regulations for drafting constitutions and by-laws.

Spec. 1301. VOICE AND PHONETICS.

An introductory course in which emphasis is placed upon developing good speech habits through individual voice analysis.

Spec. 1302. FUNDAMENTALS OF SPEECH.

Basic training in thought, language, and voice as fundamentals to communication.

Spec. 1303. ORAL READING.

Introduction and practice in the principles of speech applied to oral presentation of literary forms. Of particular importance to teachers, ministers, and drama and radio students. Open to freshmen who have passed the proficiency test.

Spec. 2303. PRINCIPLES OF DISCUSSION.

Principles, methods, and techniques applicable to various types of group discussion dealing with contemporary problems. Prerequisite: Speech 1302.

Spec. 2304. ADVANCED INTERPRETATION.

An advanced study of the problems of oral interpretation of various literary forms. Recommended for students preparing to teach literature, for students interested in radio, TV, and the ministry, and for speech majors. Prerequisite: Speech 1303.

Spec. 2305. ARGUMENTATION AND DEBATE.

Study of the principles of argumentation and debate, audience analysis; briefing and reasoning, strategy and refutation, debates on current questions. Prerequisites: six semester hours of speech including Speech 1302.

Spec. 3301. PLATFORM SPEAKING.

An intensive study of the methods of speech preparation, the techniques of persuasion and audience analysis. Organization and practice in the various types of speeches which act as a motivating force for human conduct in a democratic society. Prerequisites: six semester hours of speech including Speech 1302. Not offered each year.

Spec. 3302. ADVANCED ARGUMENTATION AND DEBATE.

A continuation of Speech 2305. Prerequisites: nine semester hours of speech, including Speech 1302 and Speech 2305.

Spee. 3303. SPEECH FOR THE CLASSROOM TEACHER.

A study of the relationship of the teacher's speech personality to desirable classroom techniques, and of speech activities for general classroom use. Special attention is given to the speech problems of the Spanish-speaking child, to story-telling, and creative dramatics. Prerequisite: Speech 1301 or exemption by the speech test.

Spee. 4303. INTRODUCTION TO SPEECH CORRECTION.

Analysis of speech defects and articulation difficulties with emphasis on dialectical problems. Familiarization with clinical practice and therapy. Open only to speech majors or minors. Prerequisite: nine semester hours of speech.

Spee. 4304. EXTEMPORANEOUS SPEAKING.

Extensive practice in extemporaneous speaking on present day topics of current interest, both foreign and domestic, with emphasis placed on organization and delivery of content material. Open forum techniques used in the class will provide the speaker an opportunity for assembling facts, answering questions, and meeting various audience situations. Prerequisites: nine semester hours of speech including Speech 1302. Not offered each year.

Spee. 4305. EXTEMPORANEOUS SPEAKING.

A continuation of Speech 4304.

Spee. 4309. DIRECTING ACTIVITIES IN SPEECH.

A study of materials of intramural and interschool speech activities, and of the methods of choosing and training participants in this specialized activity. Prerequisites: 12 semester hours of speech or by permission of the instructor. Credit may not be obtained for this course if credit has previously been earned for Speech 4307.

DRAMA COURSES**Major in Drama:**

34 hours in Drama, of which 15 semester hours must be of advanced standing.

Minor in Drama:

18 hours of which six must be advanced.

SUGGESTED CURRICULUM**Freshman Year**

Drama 1101, 1102.
*Speech 1303.
*Drama 1321.
*Drama 2323.
Science.
English 1301, 1302.
Foreign Language.
Art 1301.
Physical Education.

Rehearsal and Performance.
Oral Reading.
Drama Laboratory I.
Acting I.
Six hours Laboratory.
Freshman English.
French or Spanish, six hours.
Art Appreciation.
Two Hours Activities (General).
Total Hours: 31.

*Six hours from these courses.

Sophomore Year

Drama 2101, 2102.	Rehearsal and Performance.
Drama 1322.	Drama Laboratory II.
Drama 2301.	Intro. Study of the Theatre.
Drama 2302.	Contemporary Theatre.
History 2313 (or 2333), 2314.	American Heritage.
English.	Sopho. Literature, Six hours.
Math.	Six hours.
Physical Education.	Two hours activities (dance & fencing).
	Total hours: 31.

Junior Year

Drama 3101, 3102.	Rehearsal and Performance.
Speech 2304.	Advanced Interpretation.
*Drama 3305.	Voice and Articulation.
*Drama 3311.	Contemporary Drama.
*Drama 3321.	Scenic Design and Lighting.
*Drama 3323.	Acting II.
Government 3213, 3112.	American Government.
Music 2307.	Music Appreciation.
**Electives.	12 hours.
	Total hours: 32.

*6 hours from these courses.

Senior Year

Drama 4101, 4102.	Rehearsal and Performance.
*Drama 4301.	Theory of Directing and Production.
*Drama 4302.	Applied Direction and Production.
*Drama 4307.	Directing Activities in Speech and Drama.
*Drama 4308.	Research in Theatre.
	Total Hours: 30.

*Six hours from these courses.

**Must include 20 advanced hours and must include a minor of 18 hours, of which six must be advanced. It is recommended that elective and minor courses emphasize the areas of Speech, Fine Arts, Journalism, languages (especially French and Spanish).

Total hours required for degree: 124

Drama 1101-1102, 2101-2102, 3101-3102, 4101-4102. REHEARSAL AND PERFORMANCE.

Experience in play rehearsal and performance as actor or member of the theatre staff in departmental productions. One hour credit each semester.

Drama 1321. DRAMA LABORATORY I.

Backstage work experience in the methods of constructing, painting, rigging, shifting stage scenery, and stage management.

Drama 1322. DRAMA LABORATORY II.

Continuation of Drama Laboratory I. Instruction and shop experience in staging non-professional plays, including lighting problems, sound, scene design. Prerequisite: Drama Laboratory I.

Drama 2301. INTRODUCTORY STUDY OF THE THEATRE.

An introduction to the various types and styles of plays and acting as well as to the major fields of theatre arts. Open to freshmen who have passed the Speech Interview.

Drama 2302. THE CONTEMPORARY THEATRE.

A study and application of contemporary theatrical movements, methods, and ideas of play construction and presentation. Open to freshmen who have passed the Speech Interview.

Drama 2323. ACTING I.

A study of the principles involved in forming a workable theory of acting and the application through the development of technical skills. Acting experiences to be gained in college productions.

Drama 3304. CREATIVE DRAMATICS FOR ELEMENTARY TEACHERS.

Methods of developing original dramatizations with children. Prerequisites: 12 semester hours of drama.

Drama 3305. VOICE AND ARTICULATION.

Studies in the mechanics of speech; training in breathing, articulation, pronunciation, phonetics. Required of drama majors and minors.

Drama 3311. CONTEMPORARY DRAMA.

A study of trends and movements in 20th century American, British, and European drama, with emphasis on works of major playwrights. Prerequisites: six semester hours of speech and 12 semester hours of English.

Drama 3321. SCENIC DESIGN AND LIGHTING.

Basic principles of design as they are applied to modern stage production, offered in conjunction with study of stage lighting design and instrumentation. Of especial interest to teachers who may find themselves assigned to school dramatics and similar activities. Credit may not be obtained for both Drama 3321 and Art 3323.

Drama 3323. ACTING II.

Intensive study of the techniques involved in building and developing a characterization. Participation in departmental productions is encouraged. Prerequisite: Acting I.

Drama 4301. THEORY OF DIRECTING AND PRODUCTION.

Study, observation, and practice in selecting plays and working with problems, methods, and techniques of direction and production. Two hours lecture

and two hours laboratory per week. Prerequisite: Nine semester hours of drama.

Drama 4302. APPLIED DIRECTION AND PRODUCTION.

A continuation of Drama 4301 with stress upon student direction and production. Prerequisite: Drama 4301.

Drama 4308. RESEARCH IN THEATRE.

Individual study designed to give advance students experience in research in theatre areas. Research programs are supervised by a faculty member.

Drama 4309. DIRECTING ACTIVITIES IN DRAMA.

A study of materials of intramural and interschool drama activities, including oral interpretation, and of the methods of choosing and training performers in this specialized activity. Prerequisites: 12 semester hours of drama or by permission of the instructor. Credit may not be obtained for this course if credit has previously been earned for Speech 4307.



In addition to compiling new facts and studying controversial issues in class, the University student is challenged to reach out and make new friends at various locations on the expanding Pan Am Campus.

**SCHOOL OF SCIENCE
AND MATHEMATICS**

SCHOOL OF SCIENCES AND MATHEMATICS

Professor Lazern O. Sorensen, Dean

The School of Science and Mathematics includes the Departments of Biology, Chemistry, Mathematics, and Physical Science (Astronomy, Engineering, Geology, Physics, and Physical Science).

The School offers the Bachelor of Science degree with a major in Astronomy, Biology, Chemistry, Mathematics, Medical Technology, or Physics; and curricula meeting the requirements for premedical, pre dental, and similar preprofessional work.

Minors are offered in all the fields which offer majors and in addition a minor is offered in Geology.

Supporting courses are offered in the fields of Engineering and Physical Science.

For specific degree requirements and suggested curricula see the departmental areas.

DEPARTMENT OF BIOLOGY

Professor W. S. Ware, Acting Head

The Department of Biology offers a Bachelor of Science degree with a major in Biology or Medical Technology. The Department offers a minor in Biology.

Biology students may elect a curriculum for a major in Biology or Medical Technology or a Biology elementary or secondary teaching plan.

The student is expected to furnish his own transportation for all courses requiring laboratory sessions and field work.

Degree Requirements

Biology 1305, 1306 does not count toward a major in Biology but satisfies the science requirement for a minor in Biology and satisfies six semester hours of the 12 semester hours science requirement for those students only with a major in elementary education.

Major in Biology:

30 semester hours in Biology, of which 15 semester hours must be advanced; must include Biology 1401, 1402, 4100; at least eight semester hours from Biology 2401, 2402, 2403, 3402, 3404, 3406, 3407, 4402 and at least six semester hours from Biology 3309, 3401, 3408, 4305, 4406, 4410. Chemistry 1401, 1402 or approved substitute.

Biology majors who are pre dental or premedical students should include Biology 2402 in their major and minor in Chemistry and include Chemistry 2401, 3401, 3501; Physics 1401, 1402; Psy. 2313; Math 1307 and 1308 (not required for admission to dental school).

Major in Medical Technology:

23 semester hours in Biology, of which 11 semester hours must be advanced; must include Biology 1401, 1402, 3302, 3401, 3402; select four semester hours from Biology 2402, 2403.

20 semester hours in Chemistry, of which eight semester hours must be advanced; must include Chemistry 1401, 1402, 2401, 3401, 3403; and Physics 1401, 1402; or 1405, 1406; Psy. 2313.

A minimum of 12 consecutive months of training in medical technology in School of Technology, approved by the Council on Medical Education and Hospitals of the American Medical Association, with at least a C average.

The sequence of courses listed under Suggested Curricula, Medical Technology Major, should be followed.

(The last 30 semester hours of college work must be completed at Pan American University; must include at least eight semester hours of biology or chemistry, and a minimum of six advanced semester hours.)

Advanced Placement in Biology:

1. Credit for eight hours of biology (Biology 1401-1402) is given with College Entrance Examination Board (CEEB) Advanced Placement Test scores of 4 or 5. A grade of A is given for a 5; a grade of B for a 4.
2. If the score is 3, the faculty reviews the examination and decides whether or not to grant credit for either Biology 1401 or 1402.

Minor in Biology:

Eighteen semester hours in Biology, of which six semester hours must be advanced.

Teacher Certification in Biology:

Elementary Plan I: 18 semester hours, at least nine of which are advanced. Biology 1305, 1306 or 1401, 1402; 2401 or 2402 or 2403; 3309 or 3408 or 4410 plus additional advanced hours in biology to total 18.

Elementary Plan II: 24 semester hours, at least 12 of which are advanced. Biology 1305, 1306 or 1401, 1402; 2401 or 2402 or 2403; 3309 or 3408 or 4410 plus additional advanced hours to total 24.

Secondary Plan I: 24 semester hours, at least 12 of which are advanced. Biology 1401, 1402; 2401 or 2402 or 2403; 3309 or 3408 or 4410 plus additional advanced hours to total 24.

SUGGESTED CURRICULA**Biology Major****Freshman Year**

Eng. 1301, 1302.
Biol. 1401, 1402.
Chem. 1401, 1402.
Math., six hours.
P.E., two hours, activities.

Sophomore Year

Biol., six to eight hours.
Hist. 2313 or 2333, 2314.
Eng., sophomore literature, six hours.
Foreign Language, six hours.
Minor, six hours.
P.E., two hours, activities.

Junior Year

Art 1301.
Mus. 2307.
Govt. 2313, 2314.
Biol., six to eight hours, advanced¹.
Elective, three to six hours.
Minor, six hours.

¹At least eight semester hours from Biol. 2401, 2402, 2403, 3404, 3406, 3407, 4402 and at least six semester hours from 3401, 3408, 3309, 4410, 4305.

Senior Year

Biol. 4100, six to eight hours, advanced¹.
Minor, six hours, advanced.
Electives, to make a total of 124 hours of which at least 36 must be advanced.

Medical Technology Major**Freshman Year**

Eng. 1301, 1302.
Math., six hours.
Biol. 1401, 1402.
Chem. 1401, 1402.
P.E., two hours, activities.
A summer if necessary between 1st and 2nd or 2nd and 3rd years.
Art 1301.
Mus. 2307.

Sophomore Year

Hist. 2313, 2314.
Phys. 1401, 1402.
Biol. 2402 or 2403, 3402.
Psy. 2313.
Chem. 2401.
P.E., two hours, activities.

Junior Year

Govt. 2313, 2314.
Eng., sophomore literature, six hours.
Foreign Language, six hours.
Biol. 3302, 3401.
Chem. 3401, 3403.

Senior Year

Twelve consecutive months of training in medical technology in a School of Technology, approved by the Council on Medical Education and Hospitals of the American Medical Association (30 advanced semester hours credit).

**Biology Major (Premedical or Predental)
(Chemistry minor)**

Freshman Year

Eng. 1301, 1302
Biol. 1401, 1402
Math. 1307, 1308 or 1387, 1388;
2301 (not required for admission to dental school)
Chem. 1401, 1402
Art 1301
P.E. two hours

Sophomore Year

Biol. 2402
Biol., four hours
Chem. 2401
Eng. Sophomore Literature, six hours
Hist. 2313 or 2333, 2314
Phys. 1401, 1402
P.E. two hours

Junior Year

Biol., 6 to 8 hours, advanced
 Govt. 2313, 2314
 Chem. 3401, 3501
 Foreign Language, six hours
 Music 2307
 Psy. 2313

Senior Year

Biol. 4100
 Biol., 6 to 8 hours, advanced¹
 Electives to make a total of 124
 hours of which at least 36 must
 be advanced

¹At least eight semester hours from 2401, 2402, 3404, 3406, 3407, 4402, and at least six semester hours from 3309, 3401, 3408, 4410, 4305.

Biol. 1305. BIOLOGY FOR ELEMENTARY TEACHERS.

A basic introductory course stressing fundamental zoological principles and concepts. It is designed to acquaint the future elementary teacher with the various structures, functions, life histories, and occurrence of local animals. Credit cannot be given for 1305 and 1401. Three hours lecture and two hours laboratory. \$3.00 laboratory fee.

Biol. 1306. BIOLOGY FOR ELEMENTARY TEACHERS.

An introductory course stressing basic botanical principles and concepts. It is designed to acquaint the future elementary teacher with the anatomy, physiology, development, and distribution of the local flora. Credit cannot be given for both 1306 and 1402. Three hours lecture and two hours laboratory. \$3.00 laboratory fee.

Biol. 1305, 1306 may not be counted toward a major in Biology but does satisfy science requirement for a minor in Biology and six semester hours of the science requirement of 12 semester hours required only for those students with a major in elementary education.

Biol. 1401. GENERAL BIOLOGY.

A basic introductory course stressing fundamental biological principles and concepts. Designed to acquaint student with structure, physiology, and life histories of representative invertebrate forms with emphasis on invertebrates. Three hours lecture and three hours laboratory. \$3.00 laboratory fee.

Biol.1402. GENERAL BIOLOGY.

An introductory study of the anatomy and physiology of plants based on the study of higher plants, together with a correlative and comparative survey of the plant kingdom. The emphasis will be placed on the development, reproduction, and relationships of plant to man. Three hours lecture and three hours laboratory. \$3.00 laboratory fee.

Biol. 2401. VERTEBRATE ZOOLOGY.

A basic introductory course dealing with the fundamental biological principles and concepts. Designed to acquaint the student with structure, physiology and life histories of representative vertebrate types. Three hours lecture and three hours laboratory. Prerequisite: Biology 1401 or 1305. \$4.00 laboratory fee.

Biol. 2402. COMPARATIVE VERTEBRATE ANATOMY.

Comparative studies of the morphological, embryological, and physiological relationships among vertebrates, with inclusion of histological and paleontological data. Three hours lecture and three hours laboratory. Prerequisite: Biology 1401 or 1305. \$5.00 laboratory fee.

Biol. 2403. ANATOMY AND PHYSIOLOGY.

Gross anatomy of the human body: the various physiological processes and fundamentals of heredity. Three hours lecture and three hours laboratory. Prerequisite: Biology 1401 or 1305. \$4.00 laboratory fee.

Biol. 3302. MICROTECHNIQUE.

A course designed to teach the principles used in the preparation of tissue of cytological and histological observation. One hour lecture and six hours laboratory. Prerequisites: nine semester hours of biology including Biology 1401, 1402. \$5.00 laboratory fee.

Biol. 3303. GENETICS.

Introduction to genetics with consideration of its application in agriculture, biology, and human welfare. Three hours lecture and two hours laboratory. Prerequisites: nine semester hours of biology. \$3.00 laboratory fee.

Biol. 3309. PLANT TAXONOMY.

Principles of classification, identification, and nomenclature of seed plants with emphasis on the flora of South Texas. Includes laboratory and field studies of major plant families. Two hours lecture and four hours laboratory. Prerequisites: nine semester hours of biology, including Biology 1402 or 1306. \$4.00 laboratory fee.

Biol. 3401. BACTERIOLOGY.

A general survey of the field of bacteriology. The laboratory work includes culturing, staining, and identifying of micro-organisms. Three hours lecture and three hours laboratory. Prerequisites: Biology 1402 and six semester hours of chemistry. \$4.00 laboratory fee.

Biol. 3402. ANIMAL PARASITOLOGY.

Introduction to study of parasitic protozoa and worms (especially trematodes, cestodes, nematodes and acanthocephala). Three hours lecture and three hours laboratory. Prerequisites: nine semester hours of Biology including four hours from 2401, 2402 or 2403. \$4.00 laboratory fee.

Biol. 3404. ORNITHOLOGY.

Principles of avian classification, morphology, and ecology, including migration, distribution, and relation to man. Three hours lecture and three hours laboratory and field work. Prerequisites: nine semester hours biology, including four hours from 2401, 2402, or 2403. \$4.00 laboratory fee.

Biol. 3406. FIELD ZOOLOGY.

A study of vertebrate animals with emphasis upon classification, natural history, collection, preparation, and field techniques and methods. Three hours lecture and three hours laboratory and field work. Prerequisites: nine semester hours of biology, including four hours from 2401, 2402, or 2403. \$3.00 laboratory fee.

Biol. 3407. COMPARATIVE EMBRYOLOGY.

Developmental studies from the zygote through embryological stages (chiefly concerned with amphibians, birds, and mammals). Three hours lecture and three hours laboratory. Prerequisites: nine semester hours of biology, including four hours from 2401, 2402, or 2403. \$4.00 laboratory fee.

Biol. 3408. PLANT MORPHOLOGY.

A study of the morphology, development and relationships of fungi, algae, liverworts, mosses, ferns, gymnosperms, and angiosperms. Particular attention is given to the evolution of these groups. Three hours lecture and three hours laboratory. Prerequisites: nine semester hours of biology, including Biology 1402 or 1306. \$4.00 laboratory fee.

Biol. 4100. BIOLOGY SEMINAR.

A study of current biological literature and the discussion of research in progress. Required of all biology majors in their senior year. Open only to non-majors by permission.

Biol. 4201. BIOLOGY PROBLEMS.

A course adapted to the study of special topics in biology. For advanced students capable of developing a problem independently through conference and activities directed by the instructor. Problem is chosen by the student with the approval of the instructor prior to registration. The class meets each week equivalent to one hour lecture and two hours laboratory. Prerequisite: major in biology with at least a junior standing. \$4.00 laboratory fee.

Biol. 4202. BIOLOGY PROBLEMS.

A continuation of Biology 4201. Prerequisite: Biology 4201. \$4.00 laboratory fee.

Biol. 4301. HISTORY OF BIOLOGY.

History and philosophy of biology from the time of Aristotle to the present day. Emphasis is on the development of the important biological theories. Three hours lecture. Prerequisite: 12 hours of biology.

Biol. 4302. BIOLOGICAL LITERATURE.

A survey of recent advances in biology which includes reviews of classical and recent literature and reports of original investigations. Three hours lecture. Prerequisite: 12 semester hours of biology.

Biol. 4304. ICHTHYOLOGY.

Ecology, physiology, morphology and taxonomy of marine and fresh water fishes. Includes practical application of modern fishery management techniques. Two hours lecture and three hours laboratory. Prerequisite: nine semester hours of biology.

Biol. 4305. PLANT PHYSIOLOGY.

Basic chemical and physical processes in plant growth and development. Three hours lecture and three hours laboratory. Prerequisites: nine semester hours of biology and one semester of organic chemistry. \$5.00 laboratory fee.

Biol. 4401. ECOLOGY.

A study of the basic environmental factors affecting plants and animals, and their relation to economic and conservation problems. Three hours lecture and three hours laboratory and field work. Prerequisites: 12 semester hours of biology. \$4.00 laboratory fee.

Biol. 4402. MARINE ZOOLOGY.

A study of the common marine animals, especially invertebrates in coastal waters. Particular attention is to be given to structural and physiological

relationships. Three hours lecture and three hours laboratory and field work. Prerequisites: 12 semester hours of Biology. \$4.00 laboratory fee.

Biol. 4406. MYCOLOGY.

Morphology, physiology, taxonomy, and culture of selected fungi. Emphasis will be given to those having economic significance. Three hours lecture and three hours laboratory. Prerequisites: 12 hours of biology including Biology 3401. \$4.00 laboratory fee.

Biol. 4410. MARINE BOTANY.

A study of the common local marine flora with emphasis on the macroscopic algae forms. Three hours lecture and three hours laboratory. Prerequisites: nine semester hours of biology, including Biology 1306 or 1402. \$4.00 laboratory fee.

Biol. 4600. BIOLOGY WORKSHOP.

A biology workshop designed to improve the ability of the elementary teacher in the biological sciences. A maximum of six hours of workshop credit may be credited toward a major or minor in biology. \$5.00 laboratory fee.

Biol. 4601. BIOLOGY WORKSHOP.

A biology workshop designed to improve the ability of the secondary teacher in the biological sciences. A maximum of six hours of workshop credit may be credited toward a major or minor in biology. \$5.00 laboratory fee.

Biol. 4602. BIOLOGY WORKSHOP.

A biology workshop designed to improve the ability of the elementary teacher in the biological sciences. A maximum of six hours of workshop credit may be credited toward a major or minor in biology. \$5.00 laboratory fee.

DEPARTMENT OF CHEMISTRY

Professor J. Lell Elliott, Head

The Department of Chemistry offers a Bachelor of Science degree with a major in chemistry and courses for pre-pharmacy. The department offers a minor in chemistry.

Chemistry students may elect a curriculum for a major in chemistry or a major in chemistry, (predental or premedical) or a chemistry elementary or secondary teaching plan or courses for prepharmacy.

Degree Requirements

Chemistry majors are recommended to include eight semester hours of Physics, eight semester hours of Biology, and Math. 1309 (Introduction to Computer Programming; and Algorithmic Processes.) The Foreign Language requirement should be French or German and students who expect to do graduate work in chemistry should take a second year of foreign language.

1. Credit for eight hours of chemistry (Chemistry 1401-1402) is given with College Entrance Examination Board CEEB) Advanced Placement Test scores of 4 or 5. A Grade of A is given for a 5, a grade of B for a 4.
2. If the score is 3, the faculty reviews the examination and decides whether or not to grant credit for either chemistry 1401 or 1402.
3. Students with scores of 600 or more on CEEB Achievement Test in Chemistry may enroll for Chemistry 1402 as independent credit without the prerequisite of Chemistry 1401. No credit is given for Chemistry 1401. If the CEEB Achievement Test score is 550 but less than 600, the student may request consideration of the Chemistry Department Head to waive the Chemistry 1401 prerequisite on the basis of his score, the ACT score, and the high school record.

Major in Chemistry:

39 or 40 semester hours in chemistry, of which 27 or 28 semester hours must be advanced; must include Chemistry 1401, 1402; 2401, 3301, 3401, 3402; 3403 or 4301 or 4403; 3501, 4401, 4402 and Mathematics 1307, 1308 or 1310, 1311; 2301.

Major in Chemistry (Pre dental or Pre medical):

39 or 40 semester hours in Chemistry, of which 27 or 28 semester hours must be advanced; must include Chemistry 1401, 1402; 2401 3301, 3401, 3402, 3403, 4301, or 4403; 3501, 4401, 4402; and 18 semester hours in biology, of which six semester hours must be advanced; must include Biology 1401, 1402, 2402 and six advanced semester hours; and Phy. 1401, 1402; Math. 1307, 1308 or 1310, 1311, 2301.

Minor in Chemistry:

18 semester hours in chemistry, of which six semester hours must be advanced; must include Chemistry 1401, 1402; and 10 semester hours, of which six semester hours must be advanced.

Teacher Certification in Chemistry:

Elementary Plan I: 18 semester hours in chemistry of which 10 semester hours must be advanced; must include Chemistry 1401, 1402; and 10 advanced hours from Chemistry 3301, 3401, 3403, 4301.

Elementary Plan II: 24 semester hours in chemistry, of which 12 semester hours must be advanced; must include Chemistry 1401, 1402, 2401, 3401; and eight advanced semester hours from Chemistry 3301; 3402 or 4401; 3403 or 3501; 4301.

Secondary Plan I: 24 semester hours in chemistry, of which 12 semester hours must be advanced; must include Chemistry 1401, 1402, 2401, 3401; and eight advanced semester hours from Chemistry 3301; 3402 or 4401; 3403 or 3501; 4301.

For students working toward a degree. Chemistry 4368 and 4378 may be counted in place of any of the above advanced courses when recommended by the Head of the Chemistry Department.

For students seeking certification who already have a degree, Chemistry 4368 and 4378 may be substituted for any of the Chemistry listed above except Chemistry 1401, 1402.

SUGGESTED CURRICULA**Prepharmacy****Freshman Year**

Biol. 1401, 1402.

Chem. 1401, 1402.

Eng. 1301, 1302.

Math. 1304, 1305.*

Hist. 2313, 2314.

P.E., two hours.

*Univ. of Tex. requires 1307, 1308.

Sophomore Year

Eng. 2309 or Spec. 2304 or

sophomore literature, six hours.

Chem. 3401, 3501.

Phys. 1401, 1402.

Eco. 1301.

P.E., two hours.

Additional courses transferrable for credit to complete the pharmacy degree are: Govt. 2313, 2314. Chem. 2401 is recommended but not required. A knowledge of typing is expected.

CHEMISTRY MAJOR**(Physics or Mathematics Minor)****Freshman Year**

Eng. 1301, 1302.

Chem. 1401, 1402.

Phys. 1403 (if minor).

Math. 1307, 1308 or 1387, 1388;
2301.

Foreign Language, six hours.

(German or French recommended)

P.E., two hours.

Sophomore Year

Chem. 2401, 3402.

Phys. 2401, 2402 (if minor).

Eng., sophomore literature, six hours.

P.E., two hours.

Electives, 11 hours, (Biol. 1401, 1402;

Eng. 2309 recommended).

Junior YearChem. 3401, 3501, 3301; 3403 or
4301, or 4403.

Math. 3300 or Phys. 3402.

Hist. 2313 or 2333, 2314.

Art 1301.

Mus. 2307.

Senior Year

Chem. 4401, 4402.

Govt. 2313, 2314.

Phys., three hours, advanced or

Math., six hours, three hours must
be advanced.

Electives, 7 or 16 hours, three hours

must be advanced.*

*Phys., eight hours recommended except for Physics minors.

CHEMISTRY MAJOR (Pre dental or Pre medical)**(Biology Minor)****Should include Biology 2402****Freshman Year**

Eng. 1301, 1302.

Chem. 1401, 1402.

Math. 1307, 1308 or 1387, 1388;
2301.

Biol. 1401, 1402.

Art 1301.

P.E., two hours.

Sophomore Year

Chem. 2401, 3402.

Biol. 2402.

Eng., sophomore literature, six hours.

Elective, three hours (Eng. 2309,
recommended).

Phys. 1401, 1402.

P.E., two hours.

Junior Year

Chem. 3401, 3501.
Chem. 3301; 3403 or 4301 or 4403.
Biol., six hours, advanced.
Hist. 2313 or 2333, 2314.
Foreign Language, six hours.
(German or French recommended)

Senior Year

Chem. 4401, 4402.
Mus. 2307.
Govt. 2313, 2314.
Electives, seven hours, three hours
must be advanced.

Chem. 1401, 1402. GENERAL CHEMISTRY.

Fundamental principles of pure and applied chemistry. In the second semester the laboratory work includes semimicro qualitative analysis. Two hours lecture, one hour recitation, and three hours laboratory. Prerequisites: four years high school mathematics or Math 1302, 1303, 1304, or 1306, or concurrent enrollment in Math. 1302, 1303, 1304, or 1306. \$3.00 laboratory fee.

Chem. 2401. QUANTITATIVE ANALYSIS.

An introductory study of methods, equipment, and practices of Quantitative Inorganic Chemistry. Both volumetric gravimetric procedures will be covered in the laboratory work. Two hours lecture and six hours of laboratory. Prerequisite: Chemistry 1402. \$4.00 laboratory fee.

Chem. 3301. INORGANIC CHEMISTRY.

An introductory study of the elements, other than carbon, and their compounds based on the periodic classification and certain related theoretical concepts explaining structure and reactivity. Three hours lecture. Prerequisite: 12 hours of chemistry.

Chem. 3401. ORGANIC CHEMISTRY.

A study of carbon compounds with aliphatics and aromatics considered in parallel. This course is either terminal or continuous with Chemistry 3501. Laboratory work is mainly preparation and purification of compounds. Three hours lecture and three hours laboratory. Prerequisites: Chemistry 1401, 1402. \$4.00 laboratory fee.

Chem. 3402. QUANTITATIVE ANALYSIS.

A continuation of Chemistry 2401 covering the more advanced quantitative method, with special emphasis on separation and analysis of mixtures. Two hours lecture and six hours laboratory. Prerequisite: a "C" or better in Chemistry 2401. \$4.00 laboratory fee.

Chem. 3403. BIOCHEMISTRY.

An elementary course in physiological chemistry or biochemistry. Three hours lecture and three hours laboratory. Prerequisite: Chemistry 3401. \$4.00 laboratory fee.

Chem. 3501. ORGANIC CHEMISTRY.

A continuation of Chemistry 3401. Coverage of compounds is detailed. Three hours lecture and six hours laboratory. Prerequisite: Chemistry 3401. \$5.00 laboratory fee.

Chem. 4201. CHEMISTRY PROBLEMS.

A course adapted to the study of special topics in chemistry. For advanced students capable of developing a problem independently through conference

and activities directed by the instructor. Problem is chosen by the student with the approval of the instructor prior to registration. Students in the Honors Program should enroll in Chemistry Problems to satisfy the requirement for independent study. Prerequisite: major in chemistry with at least junior standing. \$4.00 laboratory fee.

Chem. 4202. CHEMISTRY PROBLEMS.

A continuation of Chemistry 4201. Prerequisite: Chemistry 4201. \$4.00 laboratory fee.

Chem. 4301. HISTORY AND PHILOSOPHY OF CHEMISTRY.

A study of the historical and philosophical development of chemical concepts. Three hours lecture. Prerequisite: 12 semester hours of chemistry.

Chem. 4368. RECENT ADVANCES IN CHEMISTRY.

A course to acquaint teachers with current thinking in the field of Chemistry, such as Molecular Orbital Theory, Quantum Theory, Stereochemistry, etc. Prerequisite: Twelve hours of chemistry.

Chem. 4378. SPECIAL TOPICS IN CHEMISTRY.

A course designed to cover in more detail the more specialized areas in the field of Chemistry. Prerequisite: Twelve hours of chemistry.

Chem. 4401. PHYSICAL CHEMISTRY.

Explanation and mathematical development of the theories and principles of chemistry with attention to the subjects of atomic structure, the gas laws, thermodynamics, the phase rule, and similar topics. Three hours lecture and three hours laboratory. Prerequisites: either Chem. 2401 or a knowledge of volumetric and gravimetric analysis with the use of an analytical balance plus six semester hours of calculus. \$4.00 laboratory fee.

Chem. 4402. PHYSICAL CHEMISTRY.

A continuation of Chemistry 4401. Three hours lecture and three hours laboratory. Prerequisite: Chemistry 4401. \$4.00 laboratory fee.

Chem. 4403. MOLECULAR SPECTROSCOPY.

The interpretation of infrared, ultraviolet, nuclear magnetic, and mass spectra, particularly in regard to applications in organic chemistry. Laboratory work deals mainly with problems which require the reading of spectra from available reference data. Three hours lecture and three hours laboratory. Prerequisite: Chemistry 3401. \$4.00 laboratory fee.

DEPARTMENT OF MATHEMATICS

Professor Sidney Draeger, Head

The Department of Mathematics offers a Bachelor of Science degree with a major in Mathematics. The Department offers a minor in mathematics.

Mathematics students may elect a curriculum for a major in mathematics or a mathematics elementary or secondary teaching plan.

Degree Requirements**Major in Mathematics:**

30 semester hours in mathematics, of which 21 semester hours must be advanced; must include Math. 1307, 1308 (or 1387, 1388); 2301, 3300, 3301.

Minor in Mathematics:

18 semester hours in mathematics, of which six semester hours must be advanced; must include Math. 1307, 1308 (or 1387, 1388); 2301, 3300.

Teacher Certification in Mathematics:

Elementary Plan I: 18 semester hours in mathematics, of which nine semester hours must be advanced; must include Math. 1307, 1308 (or 1387, 1388); 2301 and nine advanced semester hours.

Elementary Plan II: 24 semester hours in mathematics, of which 15 semester hours must be advanced; must include Math. 1307, 1308 (or 1387, 1388); 2301, 3300; and 12 advanced hours.

Secondary Plan I: 24 semester hours in mathematics of which 15 semester hours must be advanced; must include Math. 1307, 1308 (or 1387, 1388); 2301, 3300, 3304; and nine advanced semester hours.

SUGGESTED CURRICULUM**Mathematics Major****(Physics or Chemistry minor)****Freshman Year**

Math. 1307, 1308 or 1387, 1388;
2301.
Eng. 1301, 1302.
Foreign Language, six hours.
(French or German recommended)
Art 1301.
Phys. 1403, 2401 (if minor).
P.E., two hours.

Sophomore Year

Math. 3300, 3301.
Eng., sophomore literature, six hours.
Hist. 2313 or 2333, 2314.
Phys. 2402 or Chem. 1401, 1402.
Govt. 2313, 2314.
P.E., two hours.

Junior Year

Math., six advanced hours.
Phys. 3402 or Chem., six advanced
hours.
Electives, six advanced hours.
Electives, 12 hours.
Music 2307.

Senior Year

Math., nine advanced hours.
Phys., three advanced hours or
Chem., four hours.
Electives, six advanced hours.
Electives, 12 hours.

Mathematics Major**Secondary Certification****Freshman Year**

Math. 1307, 1308 or 1387, 1388;
2301.
Eng. 1301, 1302.
Foreign Language, six hours.
Art 1301.
Mus. 2307.
Elective, three hours.
P.E., two hours.

Sophomore Year

Math. 3300, 3301.
Eng., sophomore literature, six hours.
Hist. 2313 or 2333, 2314.
Science, six hours (laboratory).
Minor, six hours.
P.E., two hours.

Junior Year

Math. 3304 and three advanced
hours.
Govt. 2313, 2314.
Minor, six hours.
Minor, three advanced hours.
Ed., six advanced hours¹.

Senior Year

Math, six advanced hours.
Minor, nine advanced hours.
Ed., six advanced hours¹.
Ed. 4641.
Elective, three hours.

¹Select 12 advanced semester hours from Education 3301, 3302, 3303, 3341, 3342, 4351, 4352.

Math. 1301. MATHEMATICS IN GENERAL EDUCATION.

An introductory course for non-science and non-mathematics majors in which the basic concepts of mathematics are introduced and applied. Precise definitions, logical reasoning, and generalization of known concepts are used. It covers the axiomatic approach to the algebra of numbers, exponents, equations, and logarithms. The theory of sets is introduced and applied. Cannot be counted toward a major or minor in mathematics.

Math. 1302. MATHEMATICS IN GENERAL EDUCATION.

A continuation of Mathematics 1301 that includes topics in functions, relations, graphs, variation, simple statistical methods and probability. Cannot be counted toward a major or minor in mathematics. Prerequisite: Mathematics 1301.

MATH 1304. COLLEGE ALGEBRA.

This course is transitional between high school and college mathematics, and is intended to prepare the student for further work in mathematics in a business or scientific program. Topics include logic; mathematical induction; the binomial theorem; relations, functions and graphs; quadratics; systems of linear equations and inequalities; theory of equations over the complex field.

Math. 1305. TRIGONOMETRY.

A study of the solution of right triangles and oblique triangles, functions of any angle, functions of multiple angles, radian measure, inverse functions, identities, and the solution of trigonometric equations. Prerequisite: credit or concurrent enrollment in Mathematics 1304.

Math. 1307, 1308. ANALYTIC GEOMETRY AND CALCULUS.

Equation of a locus, locus of an equation, the straight line, circle parabola, ellipse, hyperbola, variables, functions, limits, derivatives and differentials for polynomials and applications, integration of polynomials and applications, differentiation of algebraic functions. Prerequisites: Mathematics 1304, 1305 or Math. 1312 or two years of Algebra, one year of Geometry, and one-half year of Trigonometry in high school. Both courses must be taken concurrently in the regular session.

Math. 1309. INTRODUCTION TO COMPUTER PROGRAMMING AND ALGORITHMIC PROCESSES.

Basic characteristics of computers and solutions of computational problems with a universal programming language. Two hours of lecture and a two hour laboratory. Prerequisite: Three semester hours of mathematics. \$4.00 laboratory fee.

Math 1312. ELEMENTARY FUNCTIONS AND COORDINATE GEOMETRY.

This course is designed to prepare a student for calculus. A study of elementary functions and their graphs, including polynomial, rational and algebraic functions, exponential, logarithmic and trigonometric functions. Prerequisite: Two years of high school algebra, one year of geometry and one-half year of trigonometry. May not be counted toward a major or minor if taken after student has credit in Math. 1307, 1308.

Math. 1313. PROBABILITY AND STATISTICS.

Topics covered by this course include descriptive statistics, the concept of probability and the calculation of probabilities, simple probability and frequency functions, and decision making. The applications of statistical methods include the fields of biology, social science, economics, business, etc. Prerequisite: Mathematics 1304.

Math. 1387. ELEMENTARY ANALYSIS (HONORS PLAN).

The purpose of this course is to introduce the ideas of limits, derivatives and integrals with their principal interpretations and integration of elementary functions. The student will be given an introduction not only to the applications of calculus, but also the techniques of mathematical reasoning. Prerequisites: three and one-half units of high school mathematics and admission to the Honors Program or by invitation.

Math. 1388. CONCEPTS OF MATHEMATICS (HONORS PLAN).

The purpose of this course is to present to the student computationally oriented studies of numerical techniques: probability, series, linear algebra, mathematical models, and computer theory will be introduced as needed. Prerequisite: Math. 1310 or by invitation.

Math. 2301. CALCULUS II.

This course is a continuing study of the limit, derivative, differential and the integral as applied to many types of functions. It contains a study of areas, volume, differentiation of implicit functions, special devices of integration with

applications to work, pressure, center of gravity and moments of inertia. Prerequisites: Mathematics 1307, 1308 or 1387, 1388.

Math. 2303. MATHEMATICS FOR BUSINESS ANALYSIS.

A course designed for students who plan to major in Business Administration. The study includes: linear equations, matrices, linear programming, logarithms, compound interest, annuities, amortization, differentiation, integration, probability, and Boolean algebra. Prerequisite: Math. 1304.

Math. 3300. CALCULUS III.

This course covers continuity; indeterminate forms; partial differentiation; multiple integration; line, surface and space integrals; series and hyperbolic functions. Prerequisite: Mathematics 2301. May be taken as a sophomore.

Math. 3301. DIFFERENTIAL EQUATIONS.

This course contains a study of ordinary differential equations, formulation of practical problems, methods of solving type forms, systems of equations, singular solutions and methods of approximations. Prerequisite: Mathematics 3300. May be taken as a sophomore.

Math. 3302. VECTOR ANALYSIS.

A study of the application of vector methods to the problems of mathematics and physics. Topics discussed include elementary operations, vector and scalar products, differentiation of vectors, differential operations and integral theorems. Prerequisite: Mathematics 3300.

Math. 3303. HISTORY OF MATHEMATICS.

This course is a study of the sources of mathematical principles, growth of mathematical knowledge, and the contributions of outstanding mathematicians. Prerequisite: 12 semester hours of mathematics.

Math. 3304. MATHEMATICS FOR SECONDARY TEACHERS.

This course covers the objectives and content of the various courses taught in high school. A variety of mathematical topics are covered to insure the understanding of each and to vitalize the teaching of mathematics. Emphasis is given to subject matter. Prerequisites: 12 semester hours of mathematics.

Math. 3306. FUNDAMENTAL CONCEPTS OF GEOMETRY.

A modern introduction to axiomatic systems for plane and solid geometry. Topics selected from Euclidean and non-Euclidean; synthetic and analytical. Designed for mathematics majors and prospective secondary teachers of geometry, to bridge the gap between classical Euclidean and modern abstract geometry. Prerequisites: credit for high school geometry and 12 hours of mathematics.

Math. 3307. TOPICS IN DIFFERENTIAL EQUATIONS.

An introduction to the use of integral transforms in the solution of differential equations. Particular emphasis is given to the Laplace and Fourier transforms. Sturm-Liouville systems, Green's Functions, and the Eigen Value problem are discussed with application to sets of orthogonal functions. The facilities of the computer center and the digital computer will be used to develop approximations and numerical solutions. Prerequisite: Math 3301.

Math. 4302. THEORY OF NUMBERS.

This is a study of the properties of integers. The course topics include: Peano's postulates, mathematical induction, prime and composite integers, divisibility properties, number-theoretic functions, bracket functions, diophantine equations, Euler's phi-function, and congruence notation. Prerequisites: 12 semester hours of mathematics.

Math. 4303. LINEAR ALGEBRA.

This course includes the following topics: vector spaces, linear transformation and matrices, bilinear and quadratic forms, characteristic values and vectors of linear transformations, and similarity of matrices. Prerequisite: Mathematics 2301.

Math. 4304. MODERN ALGEBRA.

This course includes a study of the basic number system of algebra, group theory, vectors and vector spaces, the algebra of matrices, linear groups, determinants and canonical forms. Prerequisite: 12 semester hours of mathematics.

Math. 4305. ADVANCED CALCULUS.

An introduction to the methods of classical analysis as applied to the calculus. Topics covered include infinite sequence, series, functions of one and several variables, proper and improper integrals, and functions defined by integrals. Prerequisite: Mathematics 3300 and 3301.

Math. 4306. ADVANCED MATHEMATICS WITH APPLICATIONS.

Course includes basic theory, with applications to physics and engineering, of: series solutions; Gamma, Bessel, and Legendre functions; partial differential equations; Hermite, La Fuelle, and Chebychev polynomials; introductory Fourier series; and Laplace transform. Prerequisite: Mathematics 3301.

Math. 4307. NUMERICAL ANALYSIS.

This course covers curve fitting, series solutions, iteration processes, and computer operations. Specific topics included are: solutions to high degree algebraic equations and transcendental equations, numerical differentiation and integration, numerical solutions to differential equations, construction of mathematical models, and error analysis. Prerequisite: Math. 3301.

Math. 4308. MATHEMATICAL STATISTICS I.

Topics covered include probability densities, mathematical expectation, the distribution of linear combinations of random variables, and the central limit theorem. Prerequisite: Math. 3300. Credit cannot be counted by students with previous credit in Math. 4301.

Math. 4309. MATHEMATICAL STATISTICS II.

Topics covered include sampling distributions estimation, tests of hypotheses, correlation and regression and the analysis of variance. Prerequisite: Math. 4308.

Math 4312. INTRODUCTION TO GENERAL TOPOLOGY.

Topics covered are set theory, wrappings, and functions, metric spaces, compact spaces and connected spaces. Prerequisites: Math. 3300 and 4304.

DEPARTMENT OF PHYSICAL SCIENCE

Professor L. A. Youngman, Head

The department of Physical Science consists of the subject areas of astronomy, engineering, geology, physics, and physical science. The Bachelor of Science degree is offered with a major in astronomy or physics. The Department offers a minor in astronomy, geology, and physics and courses in engineering and physical science.

Astronomy students may elect curriculum for a major in astronomy.

The Department offers a two-year program in pre-engineering. The student may complete work offered the first two years by most engineering schools.

Geology students may elect a minor in geology or an earth science elementary or secondary teaching plan.

Physics students may elect a curriculum for a major in physics or a physics elementary or secondary teaching plan.

Courses in physical science are offered for those desiring to take these courses to satisfy the general education science requirement.

ASTRONOMY

Degree Requirements

Major

A minimum of 30 hours in astronomy, including 15 advanced hours, will make up the major. Either of two options may be chosen: The Planetarium Option or the Astrophysics Option. It is suggested the Planetarium Option be accompanied by a minor in Education and in a teaching field, such as geology or mathematics. A minor in Business Administration would be useful to students desiring to be planetarium directors. The Astrophysics Option must be accompanied by 30 hours in physics, including advanced courses in the following subjects: thermodynamics, classical electromagnetic theory, modern physics, quantum mechanics, and classical mechanics, plus the prerequisites for these courses.

PLANETARIUM OPTION

Courses Required

Astro. 2405 Solar System
Astrophysics.
Astro. 2406 Stellar and Galactic
Astrophysics.
Astro. 3101, 3102 Junior Lab.
Astro. 3301 History of Astronomy.
Astro. 3305 Planetarium Astronomy.
Astro. 3201 Laboratory Optics.
Astro. 4101, 4102 Senior Lab.
Astro. 4306 Planetarium Management.

ASTROPHYSICS OPTION

Courses Required

Astro. 2405 Solar System
Astrophysics.
Astro. 2406 Stellar and Galactic
Astrophysics.
Astro. 3101, 3102 Junior Lab.
Astro. 3301, History of Astronomy.
Astro. 4101, 4102 Senior Lab.
Astro. 4304 Radio Astronomy.
Astro. 4307 Celestial Mechanics.
Astronomy, 9 hours of which 2 must
be advanced.

Astro., 7 hours.
Plus courses to meet general education requirements.

Plus 30 hours of physics including advanced courses in thermodynamics, classical electromagnetic theory, modern physics, quantum mechanics, classical mechanics, and physics prerequisites for these courses, and in addition courses to meet general education requirements.

Geology 3403, Oceanography/Meteorology, is recommended to accompany the Planetarium Option. Mathematics 1309, Computer Programming, is recommended for the Astrophysics Option. Astro. 1401, 1402 are recommended for the Planetarium Option but will not count toward the Astrophysics Option.

Minor

A minimum of 18 hours in astronomy, including six advanced hours, will make up a minor. Astronomy 2405 and 2406 are recommended.

SUGGESTED CURRICULUM

Astronomy Major—Planetarium Option

Freshman Year

Eng. 1301, 1302.
Math. 1304, 1305.
Art 1301.
Physics 1401, 1402.
Astro. 1401, 1402.
P.E., 2 hours.

Junior Year

Astro. 3301 History of Astro.
Astro. 3305 Planetarium Astronomy.
Astro. 3101, 3102 Junior Lab.
Astro. 3201 Laboratory Optics.
Geol. 3403 Oceanography/
Meteorology.
Music 2307.
Minor, 6 hours.
Electives*, 10 hours.

Sophomore Year

Astro. 2405 Solar System Astrophysics.
Astro. 2406 Stellar & Galactic Astrophysics.
Eng., 6 hours, sophomore literature.
Geol. 1401.
P.E., 2 hours.
Elective, 6 hours*.
Minor, 6 hours.

Senior Year

Astro. 4306, Planetarium Management.
Astro. 4101, 4102, Senior Lab.
Astro., 3 hours advanced.
Minor, 6 hours advanced.
Electives, 12 hours, 7 of which must be advanced*.

*Must include Hist. 2313 or 2333, 2314; Govt. 2313, 2314; 6 hours foreign language.

SUGGESTED CURRICULUM

Astronomy Major—Astrophysics Option

Freshman Year

Eng. 1301, 1302.
 Math. 1307, 1308.
 Math. 1309.
 Phys. 1403.
 Music 2307.
 Art 1301.
 P.E., 2 hours.
 Hist. 2313 or 2333, 2314.

Junior Year

Astro. 3301, History of Astronomy.
 Astro. 4305, Celestial Mechanics.
 Astro. 3101, 3102, Junior Lab.
 Astro., 3 hours.
 Govt. 2313, 2314.
 Math. 3301.
 Phys. 3305, Mechanics.
 Phys. 3301, Electromagnetic Theory.
 Phys. 3402, Modern Physics.
 Electives, 3 hours.

Sophomore Year

Astro. 2405, Solar System
 Astrophysics.
 Astro. 2406, Stellar & Galactic
 Astrophysics.
 Phys. 2401, 2402.
 Math. 2301.
 Math. 3300.
 Eng., sophomore literature, 6 hours.
 P.E., 2 hours.

Senior Year

Astro. 3201, Lab Optics.
 Astro. 4304, Radio Astronomy.
 Astro. 4101, 4102, Senior Lab.
 Astro., 6 hours advanced.
 Foreign Language, 6 hours.
 Phys. 3303, Thermodynamics.
 Phys. 4303, Quantum Physics.
 Phys., 3 hours advanced.
 Electives, 3 hours.

Astro. 1401. GENERAL ASTRONOMY.

A study of basic concepts in astronomy and of the solar system. Telescopes and other instruments, including the planetarium, are used as an integral part of the course. Three hours lecture and three hours laboratory. Prerequisite: credit in or enrollment in a mathematics course. \$4.00 laboratory fee.

Astro. 1402. GENERAL ASTRONOMY.

A study of the stellar universe. Telescopes and other instruments, including the planetarium, are used as an integral part of the course. Three hours lecture and three hours laboratory. Prerequisite: credit in or enrollment in a mathematics course. \$4.00 laboratory fee.

Astro. 2405. SOLAR SYSTEM ASTROPHYSICS.

A basic introductory course designed for students with a background in one of the sciences. Coordinate systems, Kepler's laws, telescopes, the moon and planets, eclipses, space physics, and the interplanetary medium are topics discussed in this course. Three hours lecture and three hours laboratory. Prerequisite: credit or concurrent enrollment in physics. \$4.00 laboratory fee. Credit cannot be given for both Astro. 2405 and Astro. 3302.

Astro. 2406. STELLAR AND GALACTIC ASTROPHYSICS.

Parallax distance measurement, photometry, spectroscopy, stellar atmospheres and interiors, the HR diagram, luminosity function, and galactic structure are discussed. Three hours lecture and three hours laboratory. Prerequisite: credit or concurrent enrollment in physics. \$4.00 laboratory fee. Credit cannot be given for both Astro. 2406 and 3303.

Astro. 3101. JUNIOR LABORATORY.

This course is designed to acquaint the student with the experimental method. Experiments and observational work are chosen to cover as many fields of astronomy, astronautics, and planetarium sciences as possible in keeping with the background and abilities of the students. Three hours laboratory. Required of all astronomy majors. Prerequisites: eight hours of astronomy (or mathematics or physics majors). \$4.00 laboratory fee.

Astro. 3102. JUNIOR LABORATORY.

A continuation of Astro. 3101. \$4.00 laboratory fee.

Astro. 3201. LABORATORY OPTICS.

A detailed study of optics from the laboratory approach. The application of theory to the development of practical optical instruments. Telescopes, projectors, and spectrometers are among the fundamental devices examined. One hour lecture and two hours laboratory. Prerequisite: Astro. 2405, 2406. \$4.00 laboratory fee.

Astro. 3301. HISTORY OF ASTRONOMY.

The development of astronomical and astronautical thought will be traced, and its impact on other sciences and on philosophy will be studied. Attention will be given to important astronomers and to their discoveries. Contemporary developments in astronautics will be included. Three hours lecture. Prerequisite: eight semester hours of astronomy. Not given each year.

Astro. 3305. PLANETARIUM ASTRONOMY.

This course is concerned with the teaching of astronomy and space science at all levels using the planetarium and its auxiliary equipment. Special emphasis will be given to such topics as programming, operations and maintenance of equipment, and the technical aspects of the planetarium field. Especially recommended for planetarium directors. Required of all astronomy majors with planetarium option. Three hours lecture. Prerequisites: eight semester hours of astronomy. Credit cannot be given for both Astro. 3305 and Astro. 3304.

Astro. 3401. ASTRONAUTICS.

This course is concerned with the development of astronautics with emphasis on the extension of aviation into aerospace and the impact of the space age on our society and culture; fundamentals of the rocket and space vehicle development; space medicine and extraterrestrial life; and transfer orbits and space navigation. Rocket experiments at the Astro-Science Laboratory at Moore Air Base are an integral part of the course. Required of all astronomy majors with planetarium option. Three hours lecture and three hours laboratory. Prerequisite: credit or enrollment in a calculus course. \$6.00 laboratory fee. Astro. 3401 can be substituted for 2403 or 2404, listed in previous catalogues; however, credit cannot be given for all three of the courses Astr. 2403, 2404, and 3401.

Astro. 4101. SENIOR LABORATORY.

The student performs experiments, and observational work of greater complexity and difficulty than those in the Junior Laboratory. In addition, the student is encouraged to design and carry out original study in his field of interest. Three hours laboratory. Required of all astronomy majors. Prerequisites: Astro. 3101 and 3102. \$4.00 laboratory fee.

Astro. 4102. SENIOR LABORATORY.

A continuation of Astro. 4101. \$4.00 laboratory fee.

Astro. 4304. RADIO ASTRONOMY.

This course is concerned with the reception, reduction, and interpretation of radio frequency emission from members of the solar system, from constituents of the galaxy, and from extra-galactic objects. Thermo-dynamics of antennas, receiver noise, discrete sources and extended sources, the hydrogen lines, OH radiation, and emission mechanisms are discussed. Attention is given to correlations between the optical universe and the radio universe. Three hours lecture. Prerequisites: eight semester hours of astronomy (or mathematics or physics major), credit in or concurrent enrollment in Physics 2402 and Math 2301. Not given each year.

Astro. 4306. PLANETARIUM MANAGEMENT.

This course is concerned with the administration, supervision, and management of planetariums in school, college, and museum situations involving such topics as role and scope, personnel, budgets, publicity, planning and use of planetariums in the contemporary scene. Especially recommended for planetarium directors. Required of all astronomy majors with planetarium option. Three hours lecture. Prerequisites: eight semester hours of astronomy.

Astro 4307. CELESTIAL MECHANICS.

This course includes such topics as transformation of coordinate systems and orbital elements, two-body problems and Laplace's method, perturbations, virial theorem, galactic rotation, and motion where mechanical energy is not constant, such as rocket in flight. Three hours lecture. Prerequisites: eight semester hours of astronomy (or mathematics or physics major), Physics 1401, 1402 or 1403; Math. 2301. Not given each year.

ENGINEERING

Since Pan American University does not offer a degree in engineering, IT IS THE RESPONSIBILITY OF EACH STUDENT TO ARRANGE HIS COURSES IN ACCORDANCE WITH THE CATALOG REQUIREMENTS OF THE INSTITUTION TO WHICH HE PLANS TO TRANSFER. For those students who have not selected the institution to which they plan to transfer, the following curriculum is recommended for the first two years. It includes the basic courses taken during the first two years at most colleges of engineering. Credit will not be given for both Engineering 1301 and Engineering 1303.

SUGGESTED ENGINEERING PROGRAM

Freshman Year

Eng. 1301, 1302.
Engr. 1201.
Engr. 1301, 1302*.
Chem. 1401, 1402.
Math. 1307, 1308, 2301.
Phys. 1403, 2401.
P.E., two hours.

Sophomore Year

Eng., sophomore literature, six hours.
Math. 1309***
Math. 3300, 3301.
Chem. 2401.**
Govt. 2313, 2314 or Hist. 2313, 2314.
Phys. 2402, (3402)****.
P.E., two hours.

Chemical and Petroleum Engineers must take Chem. 1401, 1402 during the Freshman year. Others may take either Chemistry or Engr. Drawing.

*Curricula requiring only three semester hours of Engineering Drawing should include Engr. 1303, in place of Engr. 1301 and 1302.

**Chemical and Petroleum Engineers.

***Required on Columbia University Plan.

****Recommended but usually not required. Required on Columbia University Plan.

Columbia University Plan requires one year of Physical Chemistry for the chemical sequence.

NOTE TO ENGINEERS:

All engineering students should know how to use the slide rule.

Only those students satisfying the mathematics entrance requirement with a B or better average in mathematics will be allowed to take the prescribed curricula. Students who have an average of less than B in their high school math, even though they satisfy the math entrance requirements, should take Math. 1312 the summer prior to enrollment at Pan American University. Otherwise, their program will be delayed one semester.

Students having only one year of high school algebra should enroll for Math. 1304.

Those lacking Trigonometry should take Math. 1305.

Math. 1309 is recommended for all Engineers.

Students must assume responsibility for checking eventual graduation requirements at the school of their choice.

Engr. 1303 may meet requirements rather than Engr. 1301, 1302.

COLUMBIA UNIVERSITY PLAN

Students may major in chemistry, mathematics, or physics, and later obtain an engineering degree from Columbia University. In the 3-2 Plan students attend Pan American University for 3 years, majoring in one of the above. At the end of 3 years, students will attend Columbia for 2 years. Students will receive a B.S. in engineering from Columbia and transfer credit back to Pan American University in order to receive a B.S. in chemistry, math, or physics. In the 4-2 Plan students will complete the B.S. requirements and the pre-engineering curricula at Pan American University. After two years at Columbia, the successful student will receive a Master's degree in engineering from Columbia.

Engr. 1201. ENGINEERING ANALYSIS.

Introduction to engineering analysis affording practice in analyzing and solving engineering problems including computational methods and devices.

Engr. 1301. ENGINEERING DRAWING.

A course in which emphasis is placed upon the fundamentals and principles of engineering drawing as used to describe shape and size of structures and

mechanisms. Two hours lecture and four hours laboratory weekly. \$2.00 laboratory fee.

Engr. 1302. DESCRIPTIVE GEOMETRY.

A course involving the principles and application of orthographic projection; space relationships of points, lines, and surfaces; the true length of lines in space; space surfaces-their intersections and development. Prerequisite: Engr. 1301. Lecture, two hours weekly; laboratory four hours weekly. \$2.00 laboratory fee.

Engr. 1303. ENGINEERING GRAPHICS.

Engineering Graphics includes the total field of graphical problem solving. The two major areas of specialization are descriptive geometry and working drawings but included are diverse areas such as nomography, vector analysis, empirical equations, technical illustrations, etc. It is recommended the student have had trigonometry. Two hours lecture and four hours laboratory weekly. Credit cannot be counted for both Engr. 1301 and 1303. \$2.00 laboratory fee.

Engr. 2303. STATICS AND ELEMENTARY KINEMATICS.

Elementary vector algebra. Center of mass. Equations of equilibrium. Friction. Kinematics of particles and rigid bodies. Prerequisite: Physics 1403.

Engr. 2304. DYNAMICS.

Newton's equation of motion of a particle. Motion of a particle in a non-Newtonian frame. Moments of inertia. Equations of motion of a rigid body. Prerequisite: Engr. 2303.

GEOLOGY

Degree Requirements

Minor in Geology:

20 semester hours in geology, of which eight semester hours must be advanced; must include: Geology 1401, 1402, 2402, 3401, 3402.

Teacher Certification in Geology:

Elementary Plan II: 24 semester hours in geology, of which nine semester hours must be advanced; must include Geology 1401, 1402, 2401 or 2402, 3401, 3402 and 3403.

Secondary Plan I: May be counted as second teaching field only. 24 semester hours in geology, of which nine semester hours must be advanced; must include Geology 1401, 1402, 2401 or 2402, 3401, 3402, and 3403.

Geol. 1401. PHYSICAL GEOLOGY.

Involves a comprehensive description of materials composing the earth, and deals with the classification and analysis of geologic agents responsible for the origin, structure, and sculpturing of the earth's crust. Three hours lecture and recitation, and three hours laboratory and field trips. Students are expected to furnish their own transportation on field trips. \$4.00 laboratory fee.

Geol. 1402. HISTORICAL GEOLOGY.

A course dealing with the geological history of the earth and its inhabitants as revealed by fossil record with emphasis on North America. Three hours lecture and recitation, and three hours laboratory and field trips. Students are expected to furnish their own transportation on field trips. \$4.00 laboratory fee.

Geol. 2401. GEOMORPHOLOGY.

A course designed for sophomore geology majors and teachers of earth science. An analysis of land forms of the earth and processes by which they are formed. Also, comparative studies of lunar-earth land forms. Emphasis will be placed on mapping and interpretation of local geomorphology. Three hours lecture and three hours laboratory and field trips. Students are expected to furnish their own transportation on field trips. Prerequisite: Geol. 1401. \$4.00 laboratory fee.

Geol. 2402. STRUCTURAL GEOLOGY.

A course designed for geology majors, minors, and teachers of earth science. A study of the architecture of the earth, including the causes of deformation, resulting structures and their inter-relationships. Three hours lecture and three hours laboratory and field trips. Students are expected to furnish their own transportation on field trips. Prerequisites: Geol. 1401, 1402. \$4.00 laboratory fee.

Geol. 3401. MINERALOGY.

A course designed for geology majors, minors, or teachers of earth science. A study of the major mineral groups, their atomic structure composition, external forms, properties, and environmental interpretations. Three hours lecture and three hours laboratory and field trips. Students are expected to furnish their own transportation on field trips. Prerequisite: Geology 1401 or Chemistry 1401, 1402. \$4.00 laboratory fee.

Geol. 3402. INVERTEBRATE PALEONTOLOGY.

A course designed for geology majors, minors, or teachers of earth science. An introduction to the study of fossils, including comparison of living and fossil forms, their morphology, classification, ecology, and geologic history. Three hours lecture and three hours laboratory and field trips. Students are expected to furnish their own transportation on field trips. Prerequisite: Geology 1402 or Biology 1401, 1402. \$4.00 laboratory fee.

Geol. 3403. OCEANOGRAPHY-METEOROLOGY.

A course designed for teachers of earth science. A study of large scale ocean atmosphere interactions, especially water and air mass circulations and effects on the lithosphere. Weather observations and coastal field trips included. Three hours lecture and three hours laboratory and/or field trips. Students are expected to furnish their own transportation on field trips. Prerequisite: Geol. 1401 or advanced hours in any of the related sciences. \$4.00 laboratory fee.

Geol. 3404. STRATIGRAPHY-SEDIMENTATION.

A study of sedimentary processes and principles of stratigraphy, followed by

a survey of stratified rocks of North America, their correlation, stratigraphic relations, and guide fossils. Three hours lecture and three hours laboratory and/or field trips. Students are expected to furnish their own transportation on field trips. Prerequisites: Geol. 1401, 1402, 2402, 3401. \$4.00 laboratory fee.

Geol. 3405. PETROLOGY.

A course designed for geology majors or minors, or teachers of earth science. A study of the major rock groups, their origin, classification, and chemical and physical properties. Both megascopic and petrographic techniques will be emphasized. Three hours lecture and three hours laboratory and field trips. Students are expected to furnish their own transportation on field trips. Prerequisite: Geol. 3401. \$4.00 laboratory fee.

PHYSICS

Degree Requirements

Those students desiring a major, minor or Teacher Certification in physics who have taken Physics 1401 or 1402 may substitute Physics 1401 for 1403 and Physics 1402 for 2401 upon recommendation of their instructor in either of these courses and approval of the department head. Credit may not be counted for more than one of the following: Physics 1401, 1403 and 1405. Credit may not be counted for both Physics 1402 and 2401. Physics 4304 may be counted only toward a major or minor in physics when part of an approved teacher certification program with physics as a teaching field. It is recommended that one take either French or German to satisfy the foreign language requirement.

Major in Physics:

36 semester hours in physics, of which 24 semester hours must be advanced; must include Physics 1403, 2401, (see above), 2402, 3101, 3102, 3402, 4101, 4102 and 16 advanced semester hours. Mathematics 1307, 1308 or 1310, 1311; 2301, 3300, 3301, are required. The following mathematics courses are recommended: Math. 2201, 3302, 4301, 4305, 4306, 4307.

Minor in Physics:

18 semester hours in physics, of which six semester hours must be advanced; must include Phys. 1403, 2401, (see above), 2402, and 3402. Mathematics 1307, 1308 or 1387, 1388, are required.

Teacher Certification in Physics:

Elementary Plan I: 21 semester hours in Physics, of which nine semester hours must be advanced; must include Phys. 1403, 2401, (see above), 2402, and 3402.

Elementary Plan II: 24 semester hours in Physics, of which 12 semester hours must be advanced; must include Phys. 1403, 2401, (see above), 2402, and 3402.

Secondary Plan I: 24 semester hours in Physics, of which 12 semester hours must be advanced; must include Phys. 1403, 2401, (see above), 2402, and 3402.

SUGGESTED CURRICULUM

PHYSICS MAJOR

Freshman Year

Eng. 1301, 1302.
 Phys. 1403, 2401.
 Math. 1307 and 1308 or 1387 and
 1388.
 Math. 2301.
 Foreign Language, six hours.
 (French or German recommended).
 Art 1301.
 Mus. 2307.
 P.E., two hours, activities.

Junior Year

Minor, advanced, six hours.
 Phys. 3101, 3102, and twelve
 advanced hours.
 Govt. 2313, 2314.
 Electives, three hours*.

Sophomore Year

Eng., sophomore literature, six hours.
 Math. 3300, 3301.
 Phys. 2402, 3402.
 Hist. 2313 or 2333, 2314.
 Elective, eight hours*.
 P.E., two hours, activities.

Senior Year

Phys. 4101, 4102, and eight advanced
 hours.
 Minor, twelve hours.

*Chemistry 1401, 1402 recommended—other suggested electives Chem. 4401;
 second year of foreign language; Astro. 4304.

Math 1309 is recommended and should be taken as early as possible.

CO-OPERATIVE PROGRAM IN MATHEMATICS AND PHYSICS

Pan American University has a co-operative program with the National Aeronautics and Space Administration in Houston. To be eligible, students must be majoring in either mathematics or physics. A grade average of *B* or better must be maintained and the student must have a minimum of thirty hours, fifteen of which must be from Pan American University. Students interested in the program should contact the Director of Co-operative Education in the Engineering Building at least one semester prior to the time they wish to enter the program. Students who have more than 72 hours are not eligible.

Phys. 1401. GENERAL PHYSICS.

A presentation of the fundamental principles of mechanics, heat, and sound. Three hours lecture, two hours laboratory and one hour quiz section. \$4.00 laboratory fee.

Phys. 1402. GENERAL PHYSICS.

A presentation of the fundamental principles of light, electricity, and modern physics. Three hours lecture, two hours laboratory and one hour quiz section. Prerequisite: Physics 1401 or 1403. \$4.00 laboratory fee.

Phys. 1403. MECHANICS.

This section is for engineers, chemistry, mathematics, and physics majors. Three hours lecture, two hours laboratory, and one hour quiz section. Corequisites: Math 1307, 1308 or 1310, 1311; high school physics is recommended. \$4.00 laboratory fee.

Note: Students taking the Physics sequence 1403, 2401, 2402 cannot receive credit in Physics 1401 or 1402. Any deviation from this requirement must have Department Head approval. See degree requirements page —.

Phys. 1405. PHYSICS OF THE ENVIRONMENT I.

This course is designed to meet the needs of the Liberal Arts Major. Fundamental concepts of physics necessary for the understanding of our environment will be treated with a minimum use of mathematics. 3 hours lecture and 3 hours laboratory. \$4.00 lab. fee.

Phys. 1406. PHYSICS OF THE ENVIRONMENT II.

This course is designed to meet the needs of the Liberal Arts Major. Applications of physics to the study of our environment will be treated with special emphasis on current problems. Prerequisite: Physics 1405, or 4 hours of Physics. 3 hours lecture and 3 hours laboratory. \$4.00 lab. fee.

Phys. 2401. HEAT, WAVE MOTION, SOUND, AND LIGHT.

This course is for engineers, chemistry, mathematics, and physics majors. Three hours lecture, two hours laboratory, and one hour quiz section. Prerequisite: Physics 1402 or 1403. \$4.00 laboratory fee.

Phys. 2402. ELECTRICITY AND MAGNETISM.

Designed for engineers, chemistry, mathematics, and physics majors. Three hours lecture, two hours laboratory, and one hour quiz section. Prerequisite: Physics 1402 or 1403. \$4.00 laboratory fee.

Phys. 3101. JUNIOR LABORATORY.

The course is designed to acquaint the student with the experimental method. Experiments are chosen to cover as many fields of physics as possible in keeping with the background and abilities of the students. Three hours laboratory. Credit, one hour. Prerequisite: 12 semester hours of physics. \$4.00 laboratory fee.

Phys. 3102. JUNIOR LABORATORY.

A continuation of Phys. 3101. \$4.00 laboratory fee.

Phys. 3301. ELECTROMAGNETIC THEORY.

Theory of electrostatics, electromagnetics, magnetic properties of materials, units, and thermoelectricity, simple treatment of alternating current, oscillating circuits, electromagnetic radiation, and Maxwell's equation. Three hours lecture. Prerequisites: 12 semester hours of physics and Math. 3301, which may be taken concurrently.

Phys. 3303. HEAT AND THERMODYNAMICS.

Study of heat measuring devices, thermal expansion, behavior of gases, elementary thermodynamics, change of state, specific heats, and transfer of heat. Three hours lecture. Prerequisites: 12 semester hours of physics and Math 3301, which may be taken concurrently.

Phys. 3304. OPTICS.

A study of physical optics, including diffraction, interference, polarization, and the beginning of spectroscopy together with some geometrical optics. Three

hours lecture. Prerequisites: 12 semester hours of physics and Math 3301, which may be taken concurrently.

Phys. 3305. MECHANICS I.

A rigorous treatment of the motion of a particle in one, two, and three dimensions; the motion of a system of particles with a detailed treatment of the conservation laws; the statics of fluids and solids; an introduction to the motion of rigid bodies. Three hours lecture. Prerequisites: 12 semester hours of physics; Math. 3301, which may be taken concurrently.

Phys. 3401. ELECTRONICS.

Study of the phenomena of electronics including the application of electronic devices. Three hours lecture and three hours laboratory. Prerequisite: Physics 1402 or 2402. \$4.00 laboratory fee.

Phys. 3402. MODERN PHYSICS.

A continuation of the introductory program for engineers, chemistry, mathematics, and physics majors. Three hours lecture, two hours laboratory, and one hour quiz section. Prerequisite: Physics 2402. \$4.00 laboratory fee.

Phys. 4101. SENIOR LABORATORY.

The student performs experiments of greater complexity and difficulty than those in Junior laboratory. In addition, the student is encouraged to design and carry out original experiments in his field of interest. Three hours laboratory. Prerequisites: Physics 3101, 3102. \$4.00 laboratory fee.

Phys. 4102. SENIOR LABORATORY.

A continuation of Phys. 4101. \$4.00 laboratory fee.

Phys. 4103. SENIOR LABORATORY.

A continuation of Phys. 4102. \$4.00 laboratory fee.

Phys. 4301. TOPICS IN MODERN PHYSICS.

A study of recent developments in physics, including atomic energy, nuclear structure, X-rays, cosmic rays, and radioactivity. For chemistry, mathematics, and physics majors. Three hours lecture. Prerequisite: Physics 3402.

Phys. 4302. NUCLEAR PHYSICS.

Fundamentals of nuclear physics. Two hours lecture and three hours laboratory. Prerequisite: 12 semester hours of physics. \$4.00 laboratory fee.

Phys. 4303. QUANTUM PHYSICS.

Fundamentals of quantum mechanics with applications to the solution of problems in modern physics. Three hours lecture. Prerequisite: Math 3301, which may be taken concurrently.

Phys. 4304. PHYSICS FOR SECONDARY TEACHERS.

A study of the material, techniques, and procedures involved in the teaching of high school physics. May be counted only toward a major or minor in physics when part of an approved teacher certification program with physics or mathematics as a teaching field. Two hours lecture and three hours laboratory. Prerequisite: 12 semester hours of physics. \$4.00 laboratory fee.

Phys. 4306. MECHANICS II.

A continuation of Physics 3305 into selected advanced topics: gravitation; moving coordinate systems; an introduction into the mechanics of continuous media; generalized coordinates and the Lagrangian and Hamiltonian formulations of mechanics; an introduction to tensors with applications to the rotation of rigid bodies; the theory of small vibrations. Three hours lecture. Prerequisite: Physics 3305. Credit cannot be given for both Phys. 3306 and 4306.

Phys. 4307. INTRODUCTORY SOLID STATE PHYSICS.

Description of crystal structures and an introduction to the basic theories of the thermal, magnetic, and electrical properties of solids. Prerequisite: Physics 4303.

Phys. 4308. SEMINAR IN PHYSICS.

Investigations of problems and progress in contemporary physics will be undertaken. Individual research and reporting will be emphasized. Prerequisite: Physics 3402.

PHYSICAL SCIENCE

Physical Science 1301, 1302, or an approved substitute, is required of Elementary Education majors, but does not meet the General Education Requirements for other majors. Physical Science 1303, 1304 meets the General Education Requirements for only non-science majors.

Phys. Sci. 1301, 1302. PHYSICAL SCIENCE FOR ELEMENTARY TEACHERS.

A course in physical science designed for elementary education majors. Will not satisfy the general education requirement of other majors. Two hours lecture and two hours laboratory. \$4.00 laboratory fee.

Phys. Sci. 1303, 1304. PHYSICAL SCIENCE.

A course in science designed for the general education of non-science majors. Selected subjects from astronomy, geology, meteorology, physics, and chemistry illustrate the methods of science, and the capabilities and limitations of methods in solving problems in science and other fields. Relations between scientific development and cultural, political, and industrial development are studied. Two hours lecture and two hours laboratory. Prerequisite: credit or concurrent enrollment in a mathematics course. \$4.00 laboratory fee.



It is time for a smoke or just plain relaxation between classes as these students wait for the next period to begin. This scene is in the Science Building patio.

ACADEMIC INSTRUCTIONAL STAFF

ACADEMIC INSTRUCTIONAL STAFF

1971-72

- ALLISON, TERRY *Biology*
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- ANDERSON, NOEL W. *Serials Librarian*
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- BEAUDRY, EILLEN *French*
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- BLACKBURN, HELEN J. *Mathematics*
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- BROUGH, ROYCE D. *Business Administration*
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- BUDD, OTIS T. *Physical Education*
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- CAIN, ROY *Psychology*
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- CAMERON, LEONA B. *Mathematics*
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- *CANTY, DEAN R. *Music*
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- CARARAS, SANDRA ANN *English*
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- CHANCE, JOSEPH E. *Mathematics*
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- *CLARK, SHARON WAITE *History*
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- CLOSE, ROBERT A. *Mathematics*
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- COCKRUM, O. D. *Biology*
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- CONNER, DENNIS E. *Physical Education*
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- CORNS, J. B. *Geography*
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- CORTEZ, CARLOS *Spanish*
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- CRAIG, JENNIE E. *Art*
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- CRANE, ROBERT H. *Data Processing*
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- CREWS, RAYMOND M. *Business Administration*
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- CROFTS, ALFRED E., Jr. *Mathematics*
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- *CRUZ, GILBERT *History*
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- DANIEL, TED C. *English*
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- DAVIS, VIRGINIA L. *Education*
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- DAVIS, WILLIAM *English*
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- DEAN, PAULA FIX *English*
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- DE HARO, RAFAEL *Business Administration*
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- DE LA PENA, ANTONIO M. *Biology*
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- DRAKELEY, RAY K. *Music*
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- DREYER, FERNE *English*
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- ELLIOTT, J. LELL *Chemistry*
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- ELLIS, FRED E. *Astrophysics*
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- ENGLE, PAUL R. *Astronomy, Astronautics*
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- ESPARZA, ESTHER *Education*
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- ESPARZA, THOMAS *Physical Education*
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- ESTRADA, ANDRES *Chemistry*
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- EVANS, JAMES LEROY *English*
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- FARMER, CAROL W. *Chemistry*
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- FERGUSON, WILLIAM C. *Education*
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- FOSSUM, PATRICIA ANN** *Nursing Education*
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 Ph.D., University of Texas
- GREER, THOMAS H. *Music*
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- HALL, HARRY H. *Government, History*
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- HARDY, LLOYD L. Jr. *Business Administration*
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- HEARTFIELD, GILBERT B. *Spanish*
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- HODGES, DE WAYNE L. *Mathematics*
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- HODGES, H.A. *Social Studies, Vice President Emeritus*
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- HOLDER, JAMES R. *Business Administration*
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- HOLLIDAY, JACK *English*
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- HUBER, DWIGHT *English*
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- HYSLIN, RICHARD P. *Art*
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- ISBELL, CHRISTOPHER C. *Social Studies*
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- JUDD, FRANK W. *Biology*
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- *KENDRICK, SHERRILL *Psychology*
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- KINARD, MARTHA T. *Education*
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- LARY, MARGARET *Nursing Education*
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- LEE, KUO-WEI *Government*
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- LEE, WILFORD F. *Education*
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- LERMA, ANDREA Y. *Nursing Education*
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- LEVINE, BERT D. *Education*
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- LIPFORD, MARY ANN *Education*
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- LONARD, ROBERT *Biology*
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- LYLES, DONALD J. *Biology*
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- RAU, SANDRA K. *Nursing Education*
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B.S., Tarleton State; M.S., Texas Tech University
- SIMMEN, EDWARD *English*
B.A., M.A., University of Texas; Ph.D., Texas Christian University
- SIMMONS, THOMAS *Education*
B.A., Pan American College; M.S., Texas Arts and Industries University
- SKAINES, JAMES MARVIN *Physical Education*
B.S., University of Houston; M.Ed., Sam Houston State College
- SLACUM, DONALD S. *Business Administration*
B.B.A., University of Oklahoma; M.B.A., D.B.A., Mississippi State University
- SMITH, MARIAN M. *Speech*
B.S., M.S., Fordham University; Ph.D., Cornell University

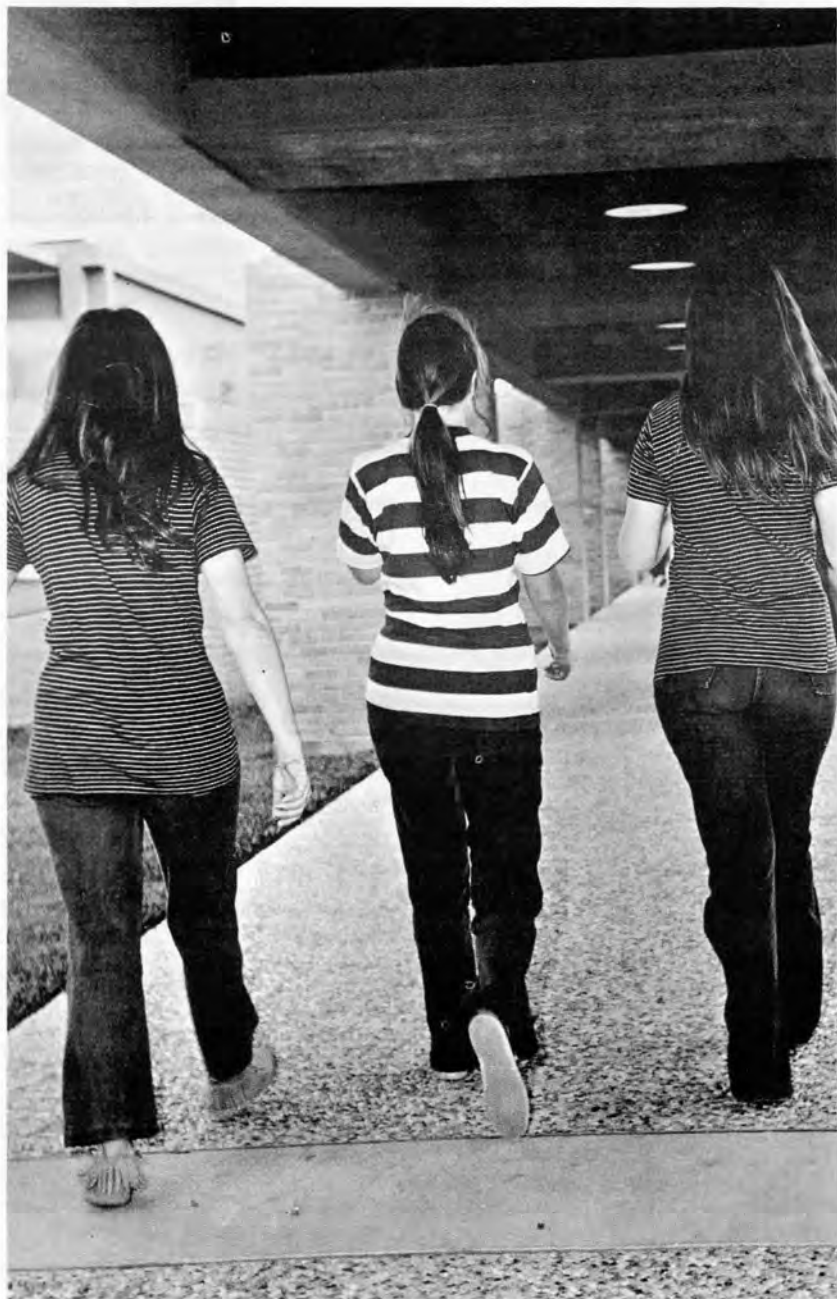
*On leave

- SMITHER, NANCY *Education*
 B.A., M.A., University of Tulsa
- SNODGRASS, NANCY *Social Studies*
 B.A., M.A., University of New Mexico; Ph.D., University of Illinois, Urbana
- SOLIS, JUAN S. *Education*
 B.A., University of Texas; M.A., Texas Arts and Industries University
- SORENSEN, LAZERN O. *Biology*
 B.S., Nebraska State; M.S., Ph.D., University of Nebraska
- SOUTHWICK, RUTH *Biology*
 B.A., Pan American College; B.B.A., Texas Christian University; M.S.,
 Texas Arts and Industries University
- SPELLMANN, JOHN *Mathematics*
 B.A., Texas Lutheran; M.A., Ph.D., Emory University
- *STEVENS, DAVID K. E. *Music*
 B.Mus., Oberlin College; M.M., University of Illinois
- STOVER, JAMES A. *Music*
 B.S., M.A., Columbia University
- STRATTON, PORTER A. *History*
 B.A., University of New Mexico; M.A., Eastern New Mexico University;
 Ph.D., Texas Tech University
- STRAUSS, PAUL K. *Speech*
 B.A., M.A., University of Texas
- STURDIVANT, DIANE *Physical Education*
 B.A., University of Tulsa; M.S., Kansas State Teacher's College
- SWENSON, SANDRA *Art*
 B.A., University of Colorado; M.A., Colorado State College
- TALLANT, JOSEPH S. *Business Administration, Government*
 B.A., M.A., J.D., University of Texas
- THOMAS, AMILDA *Physical Education*
 B.S., M.A., Texas State College for Women; Ph.D., Texas Woman's Uni-
 versity
- THOMPSON, BARRY *Education*
 B.S., Texas Tech University; M.S., East Texas State University
- TINSMAN, WILLIAM A. *Reference Librarian*
 B.S., Kent State University; M.S., University of Kentucky
- TIPTON, ROBERT *English*
 B.A., Abilene Christian College; M.A., Texas Arts and Industries University
- TOLAR, ROGER *Education*
 B.S., M.Ed., University of Texas
- *URAND, MARTIN *Physical Education*
 B.S., Pan American College; M.Ed., Sam Houston State College

- VALESCU, FRANCES *Education Librarian*
B.A., St. Mary's University of San Antonio; M.L.S., Texas Woman's University
- VASSBERG, DAVID *Social Studies*
B.A., M.A., Ph.D., University of Texas at Austin
- *VINCENT, VERN C. *Mathematics*
B.S., West Texas State; M.S., Washington State
- VON ENDE, FREDERICK *English*
B.A., McMurry College; M.A., Texas Christian University
- WADE, SETH *English*
A.B., University of Kentucky; M.A., Louisiana State University
- WALDMAN, LUCILA MONTOYA *Fine Arts*
A.B., Hunter College; M.M., Manhattan School of Music
- WALLACE, CHARLES *Biology*
B.A., M.S., University of Arkansas; Ph.D., University of Nebraska
- WARE, WILLIAM S. *Biology*
B.S., Ph.D., University of California
- WELCH, RAYMOND P. *Social Studies*
B.A., University of Buffalo; A.M., Ph.D., University of Pennsylvania
- WELLER, LE GRAND J. *Social Studies*
B.A., Louisiana State University; A.M., Duke University
- WESTBROOK, VELMA BREAUX *Nursing Education*
B.S., Northwestern College of Louisiana
- *WHITE, OPAL T. *Speech*
B.A., University of Iowa; M.A., North Texas State University
- WHITE, T. LAWRENCE *History*
B.A., M.A., Ph.D., University of Texas
- WILLIAMS, SAM *Physical Education*
B.S., Texas Christian University; M.S., North Texas State College
- WILLIAMSON, JAMES L. *Education*
B.A., Baylor University; M.Ed., Ed.D., North Texas State University
- WILSON, JOE *Government, History*
B.A., Florida Southern College; M.A., Ph.D., University of Georgia
- WISENER, ROBERT H., III *Psychology*
B.A., M.A., Texas Tech University
- WORMAN, HAROLD L. *Music*
B.M.E., M.M.E., University of Wichita

*On leave

-
- WRIGHT, CARL C. *English*
B.A., Southwest Texas State College; M.A., University of Texas
- YOUNGMAN, L. A. *Physics, Physical Science*
B.A., M.Ed., Phillips University
- YUNDT, CHARLES *Business Administration*
A.B., M.B.A., University of Chicago



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