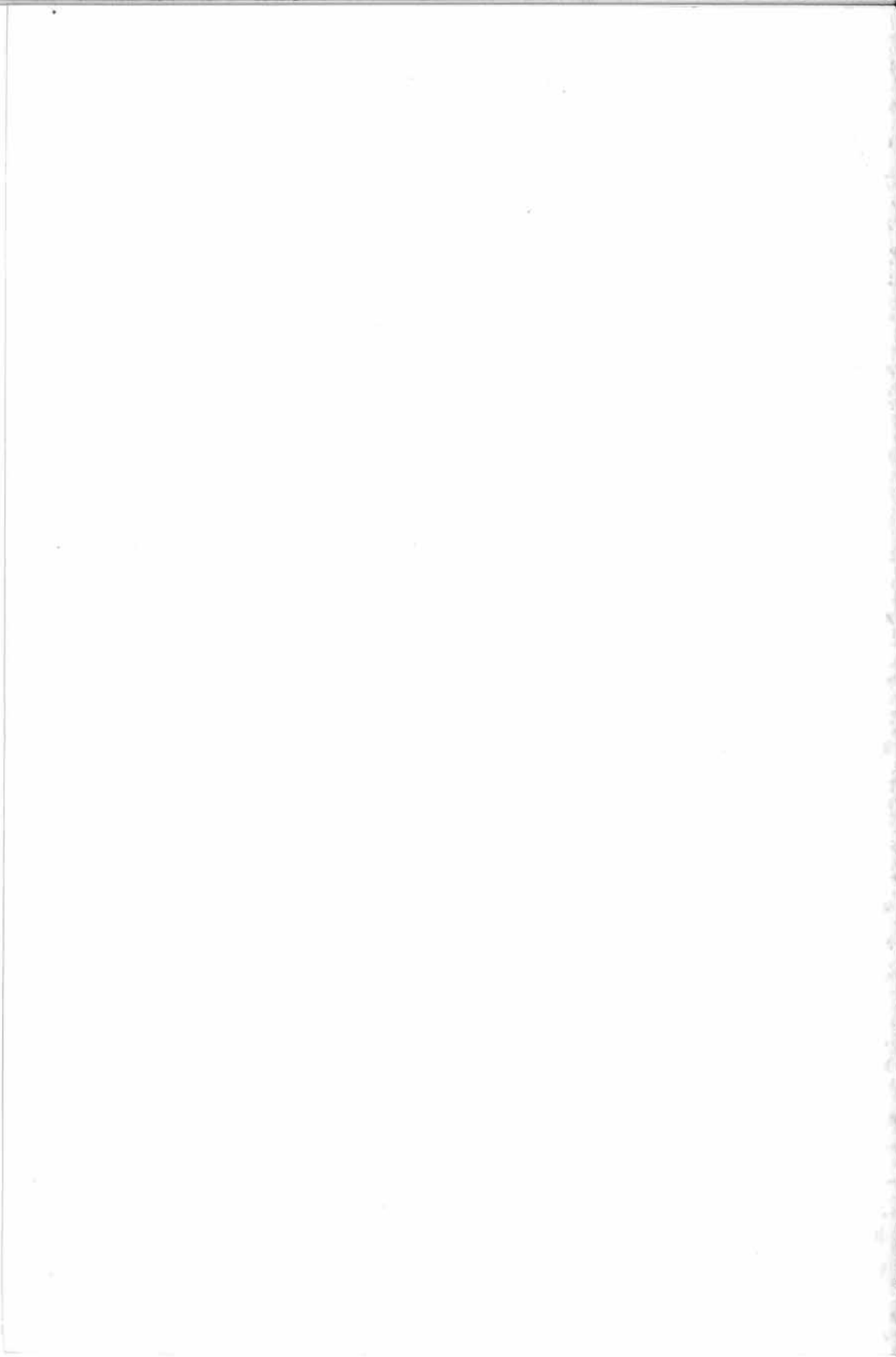


# **UH** **CLC** **BULLETIN** **1977-78**



*University of Houston at Clear Lake City*





**University of Houston  
at Clear Lake City**

*Information concerning the administration, organization, admissions and graduation requirements, and courses of instruction for the 1977-78 academic year.*

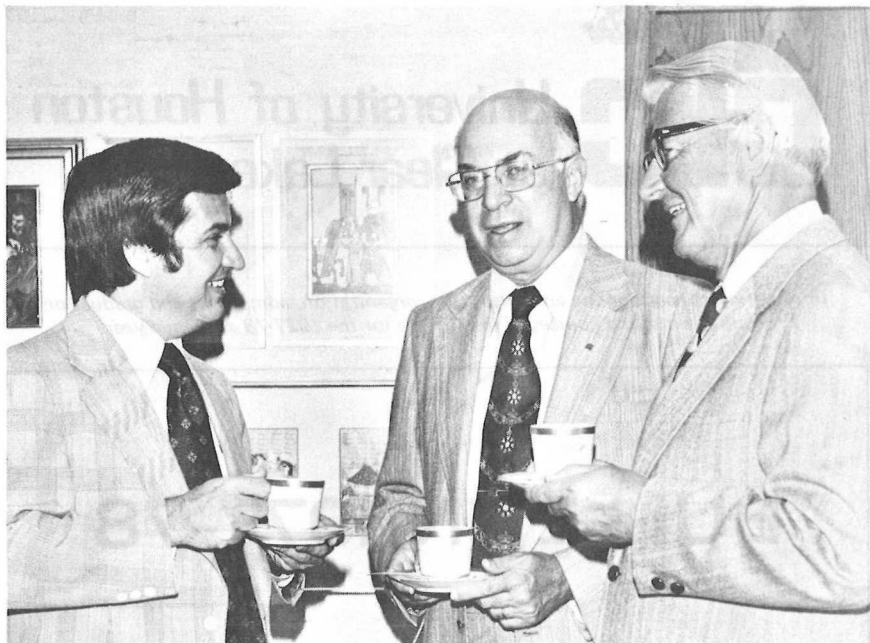
# **BULLETIN 1977-78**

**Volume 4 — April, 1977 — Number 1**

Published quarterly in January, April, July, and October.

**Bulletin of the  
University of Houston at Clear Lake City  
2700 Bay Area Boulevard  
Houston, Texas 77058**

*The University of Houston at Clear Lake City actively subscribes to the provisions of Title VI of the Civil Rights Act of 1964 and any other legislation intended to protect the equality of citizens' rights and privileges. It is the philosophy and practice of UH/CLC to provide equal educational and employment opportunities for all, irrespective of sex, race, creed, color, or national origin.*



*Right to left, Dr. Philip G. Hoffman, President of University of Houston, Dr. Alfred R. Neumann, Chancellor, UH/CLC, Dr. Roger L. Singleton, Vice President for Academic Affairs, UH System.*



*During its third year of operation, in December 1976, the University of Houston at Clear Lake City was awarded full accreditation by the Southern Association of Colleges and Schools, thus completing the first phase of its development. An outstanding faculty has been assembled, major construction is finished and in use, a 380,000 volume library is on the shelves, and the initial roster of program offerings has been established and accepted by an enthusiastic student body. Now comes a period of consolidation and maturation, based on these sound beginnings.*

*Symbolically and physically, seeds have been sown for the long future of a viable institution. At midwinter, the campus received an award for environmental improvement from the Associated Landscape Contractors of America, presented in person by Lady Bird Johnson. UH/CLC was the only collegiate institution so honored this year and received the only award given in the south central region. Yet this plaque means more than just trees planted and preserved. The 540 mature trees and the 1500 flowering shrubs and trees added to the campus in the first phase of landscaping symbolize the efforts of this institution to plan for future personal, educational, and physical development.*

*But trees are not the only accomplishment. In these three years, the faculty has published 21 books (at the time of writing), an astonishing number when we remember that most academic publishing activity is in journal articles rather than between hard covers and that UH/Clear Lake City is mainly a teaching institution.*

*During this same period our student body has reached 4,180, as of spring 1977. At a time when national enrollment figures have almost stood still, the dynamic growth of the Houston-Galveston area has justified the wisdom of those who envisioned the need for this new campus in the Bay Area of Texas.*

*Highly motivated students, a carefully selected faculty, and a delightfully natural environment have combined to create a new atmosphere for learning and research. The new spirit of earnest inquiry and study that is emerging affirms the solidly established foundations of this campus, and augurs well for the future of the institution.*

*Come visit our campus, see our woods and bayou, read our faculty publications, and share the joy of learning with our students. Consider Clear Lake, and share our pride.*

*Alfred R. Neumann  
Chancellor*

# University of Houston

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 Leonard Rauch, Assistant Secretary

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# ACADEMIC CALENDAR

JANUARY	MAY	SEPTEMBER
S M T W T F S	S M T W T F S	S M T W T F S
1	1 2 3 4 5 6 7	1 2 3
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23 24 25 26 27 28 29	27 28 29 30 31	24 25 26 27 28 29 30
30		31

Any change to the Academic Calendar will be announced publicly.

## FALL SEMESTER 1977

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August 23	BEGINNING OF FALL SEMESTER REGISTRATION. Tuesday. (Specific days, times and conditions published separately by the Registrar.)
August 29	CLASSES BEGIN. Monday.
September 1	LAST DAY FOR STUDENT SCHEDULE MODIFICATION. Thursday.
September 3,5	LABOR DAY HOLIDAYS. Saturday, Monday.
September 30	LAST DAY TO APPLY FOR FALL SEMESTER GRADUATION. Friday.
October 17-22	MIDTERM EVALUATIONS. Monday through Saturday.
October 28	LAST DAY TO WITHDRAW FROM A COURSE WITHOUT EVALUATION. Friday.
November 3	DEADLINE FOR SUBMITTING FINAL DRAFT OF THESIS TO THE DEAN FOR FALL GRADUATION. Thursday.
November 23-26	THANKSGIVING HOLIDAYS. Wednesday through Saturday.
December 2	LAST DAY TO WITHDRAW FROM A COURSE. Friday.
December 5	DEADLINE FOR SUBMISSION OF ORIGINAL AND TWO COPIES OF APPROVED THESIS FOR BINDING TO DEAN'S OFFICE. Monday. 4:00 p.m.
December 10	LAST DAY OF CLASSES. Saturday.
December 12-17	FINAL EXAMINATION PERIOD. Monday through Saturday.
December 19	OFFICIAL CLOSING OF THE FALL SEMESTER. Monday.

## SPRING SEMESTER 1978

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January 10	BEGINNING OF SPRING SEMESTER REGISTRATION. Tuesday. (Specific days, times, and conditions published separately by the Registrar.)
January 16	CLASSES BEGIN. Monday.
January 19	LAST DAY FOR STUDENT SCHEDULE MODIFICATION. Thursday.
February 3	LAST DAY TO APPLY FOR SPRING SEMESTER GRADUATION. Friday.
March 6-11	MIDTERM EVALUATIONS. Monday through Saturday.
March 17	LAST DAY TO WITHDRAW FROM A COURSE WITHOUT EVALUATION. Friday.
March 20-25	SPRING HOLIDAYS. Monday through Saturday.

<b>April 3</b>	<b>DEADLINE FOR SUBMITTING FINAL DRAFT OF THESIS TO THE DEAN FOR SPRING GRADUATION.</b> Monday.
<b>April 28</b>	<b>LAST DAY TO WITHDRAW FROM A COURSE.</b> Friday.
<b>May 3</b>	<b>DEADLINE FOR SUBMISSION OF ORIGINAL AND TWO COPIES OF APPROVED THESIS FOR BINDING TO DEAN'S OFFICE.</b> Wednesday. 4:00 p.m.
<b>May 3</b>	<b>LAST DAY OF CLASSES.</b> Wednesday.
<b>May 4,5</b>	<b>READING DAYS.</b> Thursday and Friday.
<b>May 6-12</b>	<b>FINAL EXAMINATION PERIOD.</b> Saturday through Friday.
<b>May 13</b>	<b>OFFICIAL CLOSING OF THE SPRING SEMESTER.</b> Saturday.
<b>May 14</b>	<b>COMMENCEMENT.</b> Sunday. 3:00 p.m.

#### **SUMMER SESSION 1978**

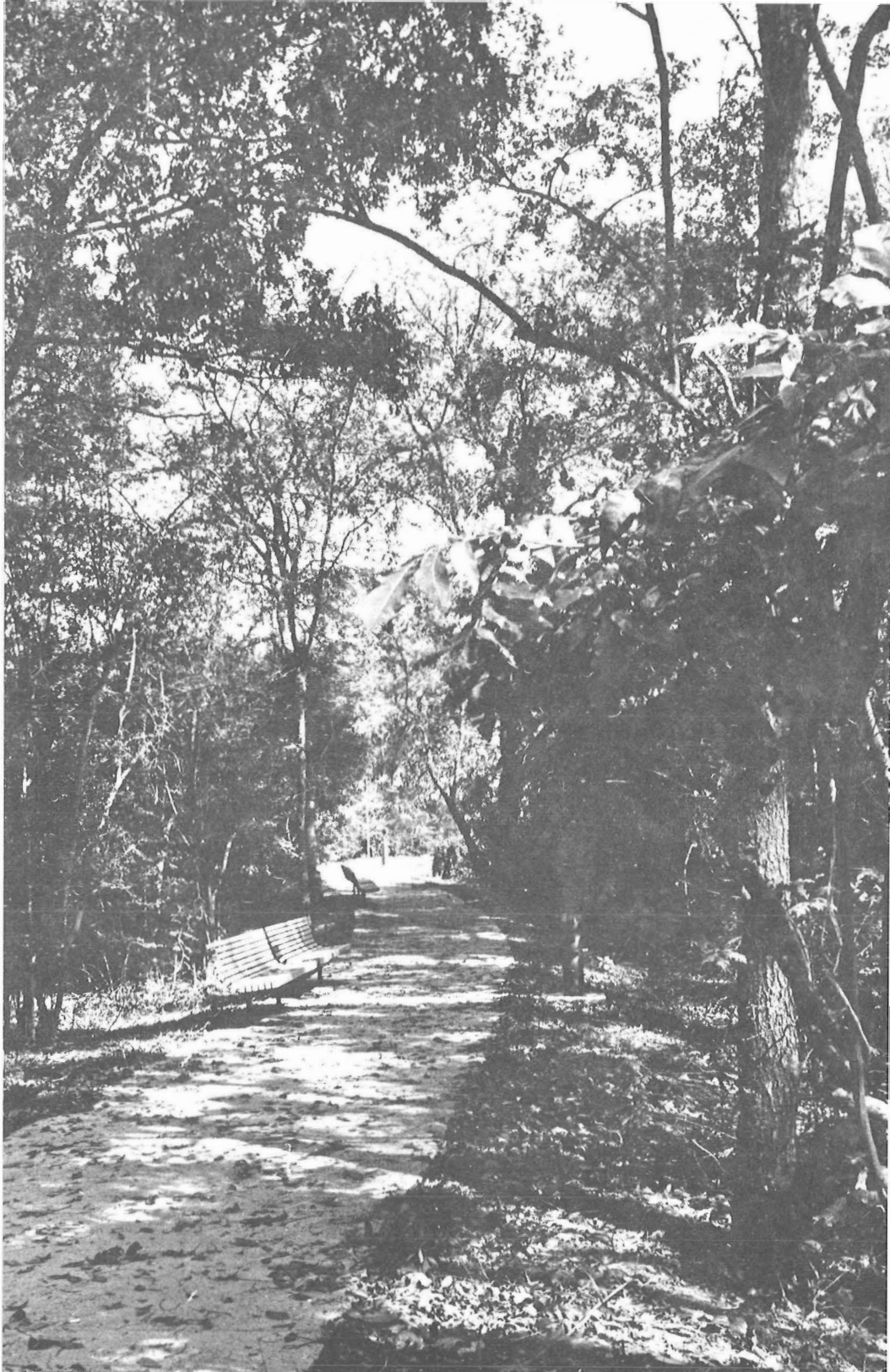
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<b>May 31</b>	<b>BEGINNING OF SUMMER SESSION REGISTRATION.</b> Wednesday. (Times and conditions published separately by the Registrar.)
<b>June 5</b>	<b>CLASSES BEGIN.</b> Monday.
<b>June 8</b>	<b>LAST DAY FOR STUDENT SCHEDULE MODIFICATION.</b> Thursday.
<b>June 16</b>	<b>LAST DAY TO APPLY FOR SUMMER GRADUATION.</b> Friday.
<b>June 28-July 3</b>	<b>MIDTERM EVALUATIONS.</b> Wednesday through Monday.
<b>July 4</b>	<b>INDEPENDENCE DAY HOLIDAY.</b> Tuesday.
<b>July 7</b>	<b>LAST DAY TO WITHDRAW FROM A COURSE WITHOUT EVALUATION.</b> Friday. (for 9-week courses; deadlines for shorter term courses will be announced separately by the Registrar.)
<b>July 7</b>	<b>DEADLINE FOR SUBMITTING FINAL DRAFT OF THESIS TO THE DEAN FOR SUMMER GRADUATION.</b> Friday.
<b>July 28</b>	<b>DEADLINE FOR SUBMISSION OF ORIGINAL AND TWO COPIES OF APPROVED THESIS FOR BINDING TO DEAN'S OFFICE.</b> Wednesday. 4:00 p.m.
<b>August 1</b>	<b>LAST DAY OF CLASSES.</b> Tuesday.
<b>August 2</b>	<b>BEGINNING OF FINAL EXAMINATION PERIOD.</b> Wednesday.
<b>August 5</b>	<b>OFFICIAL CLOSING OF THE SUMMER SESSION.</b> Saturday.



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# General Information

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## HISTORY AND FUTURE

The University of Houston at Clear Lake City was authorized in 1971 by House Bill 199 of the 62nd Legislature of the State of Texas. This Authorization arose from a 1968 report of the Coordinating Board, Texas Colleges and Universities, calling for the creation of a second campus of the University of Houston to offer upper-level and graduate curricula to commuting students within the Houston metropolitan area. The legislative act is reproduced in the Appendix of this bulletin.

An operationally distinct institution of higher education, UH/CLC is governed by the Board of Regents and the President of the University of Houston. Administrative responsibility is vested in a Chancellor, who has the benefit of advice from a statutory advisory council composed of the president, or his designated representative, of each public community junior college in an eight-county region.

In 1973, Senate Bill 2 was passed by the 63rd Legislature, authorizing the sale of \$40,000,000 in tuition revenue bonds for the construction of a permanent campus of UH/CLC. The first phase of construction commenced in early 1974, with part one of the first phase of the Bayou Building completed in August, 1975. The second portion of the structure was completed in the summer of 1976. The campus is located on a tract of 487 acres donated by the Friendswood Development Corporation, adjacent to the NASA Lyndon B. Johnson Space Center and the Armand Bayou Preservation Project, in the center of a population of approximately 550,000.

UH/CLC began offering a regular schedule of classes in September, 1974, to an opening day enrollment of 1,096. Classes were held in the Arbor Building on Bay Area Boulevard, and administration and faculty were officed at the Vanguard Building on Gemini Avenue. Additional classroom space was acquired in the Atlas Building on Buccaneer, and when the spring semester of 1975 opened, UH/CLC was able to accommodate 1,355 registrants.

By the fall of 1975, enrollment at UH/CLC doubled. With partial completion and occupancy of the Bayou Building occurring in late August, the University was able to initiate its full-scale academic programming and enrolled 2,632 students during its second year of operation. Registration for the spring 1976 semester reached 2,875, and more than 4,000 students enrolled for the fall, 1976 semester. Registration for the spring, 1977 semester reached 4,180.

Full accreditation was granted to the University by the Southern Association of Schools and Colleges in the fall, 1976.

## PURPOSE AND PHILOSOPHY

The University of Houston at Clear Lake City is an upper-level and graduate institution extending educational opportunity to those who have completed two or more years of college. Responding to contemporary needs by offering curricula more innovative than traditional, the University seeks to meet the special educational needs of the Bay Area--Gulf Coast Region of Texas. By law, the University complements the two-year community junior colleges within an eight-county area, assuming the role of a "community university" for commuting students.

The University is dedicated to the concept of integrated studies, to the interweaving of clusters of knowledge. It shares the common concern of all higher education for the formation of values, development of critical thinking, and the extension and mastery of practical knowledge.

The University comprises three Schools--Human Sciences and Humanities; Professional Studies; and Sciences and Technologies.

These Schools offer closely related programs to meet the educational and career objectives of each student.

The University values the individual--melding the traditional roles of instruction, research, and service into whatever pattern is appropriate to that individual's needs, whether student, faculty, or staff.

Paramount emphasis is placed on excellent teaching, successful teaching being understood as not merely an imparting of held knowledge but as a helping to learn. The University professes that productive stimuli to learning are rooted in humane as well as expert methods; that the role of research is an integral part of teaching rather than an independent privilege accompanying professorial status.

Faculty are appointed on an at-large basis to reflect the integration of disciplines and to emphasize free intellectual interchange. Their individual competencies and talents are available as resources to be tapped by whatever programs may benefit. Their obligation is to share with students in whatever forum presents itself.

UH/CLC is conceived as a community of scholars in a very real sense: persons of varying levels of intellectual attainment who, regardless of their designation as faculty or students, affect one another intellectually and humanly, and thereby affect the University and the greater society. The facilities of the University are dedicated to lead faculty and students to make of their academic lives something more than a series of reactions to chance encounters; it is an environment for mutual enrichment, for selecting the significant from wisdom old and new, and for shared achievement and social contribution.

The University is authorized to award bachelor's and master's degrees of considerable diversity. However, the degrees it confers are intended not merely to symbolize a student's success in completing certain courses over a designated period, but to testify that the graduate has been a contributing participant in a project of shared intellectual development; that the University itself has been enriched by the student's individual presence; that the student becomes not only

a graduate of the University but a permanent extension of its intellectual community.

## **DEGREES OFFERED 1977-78**

The following programs have been authorized by the Coordinating Board, Texas College and University System.

- Accounting (BS, MS)
- Administration of Health Services (BS, MS)
- Allied Health Sciences (BA, BS)
- Applied Design and Visual Arts (BA)
- Avionics Instrumentation (BS, MS)
- Behavioral Sciences (BA, BS, MA)
- Biological Sciences (BA, BS, MS)
- Business and Industrial Management (BBA, MBA)
- Computer Applications to Industrial Processes (BS, MS)
- Economics (BS, MS)
- Educational Management (MS)
- Education-Related Sciences (MS)
- Electro-Optical Technology (BS, MS)
- Environmental Management (BA, BS, MS)
- Finance (BS, MS)
- Health, Leisure, and Sports (BS)
- Historical Studies (BA, MA)
- Human Resource Management (BA, BS, MA)
- Humanities (BA, MA)
- Information Systems and Retrieval (BA, MA)
- Law and the Citizen (BS)
- Literature (BA, MA)
- Mathematical Sciences (BA, BS, MS)
- Oceanographic Instrumentation (BS, MS)
- Physical Sciences (BA, BS, MS)
- Process Monitoring and Control (BS, MS)
- Public Management (BA, MA)
- Resource Utilization (BA, BS)
- Studies of the Future (MS)
- Teaching: College (MA, MS)
- Teaching: Middle through High School (MA, MS)
- Teaching: Preschool and Elementary (BS, MS)
- Theatre Arts (BA)
- Transportation (BA, BS, MS)
- Urban and Regional Planning (MA)

### **Bachelor of General Studies Program**

The Bachelor of General Studies degree (BGS) is intended to be an effective way of organizing multidisciplinary course selection for the purposes of

personal enrichment rather than as a foundation for graduate study. BGS programs are under the supervision of the Deans. Students interested in the BGS program should consult the appropriate academic dean.

## **Accreditation**

The University of Houston at Clear Lake City is fully accredited by the Southern Association of Schools and Colleges. It is a member of the American Council on Education, the American Association of State Colleges and Universities, and the Association of Texas Colleges and Universities.

## **Computing Services**

To aid the academic, research and administrative needs of the University, an HP2000/Access Computer System is located in the Computing Center.

The system, with a disc storage capacity of 60 million characters, supports up to 32 terminals simultaneously and is connected to a wide variety of plotting equipment and terminals. The system may be used as a remote job entry station to communicate with large-scale computers such as those situated on the central campus of the University of Houston. Labs and work areas are adjacent to the center and telephone lines provide access to the system.

The UH/CLC system is available to students, faculty, staff and time-sharing users. Analysis, programming, and technical support services also are available through the Computing Center.

## **Library Resources**

The University accepts the premise that library resources are a significant measure of the institution's scope and quality, and that library facilities, themselves, should represent the best the institution can offer to its constituents. The UH/CLC Library occupies approximately 100,000 square feet on the second and third floors of the Bayou Building. The library collection contains approximately 250,000 volumes of books and bound periodicals, 47,046 reels of microfilm, and 532,207 pieces of microfiche, or the equivalent of 380,000 bound volumes. The library currently subscribes to 1,800 separate titles of periodicals, newspapers, and scholarly journals.

Books are on open shelves, and study areas are available throughout the library. Smoking lounges are located on both floors and conference rooms are available for group study and small meetings.

Students have access to microfilm readers, reproduction facilities, typing facilities, and other services designed for the convenience of a commuting student body. Students and faculty may also use the resources of other libraries within the University of Houston system.



## **STUDENT SERVICES**

Student Services is a segment of the University which provides to students various services designed to best supplement their educational programs. These services take into account the unique characteristics of the student population, the needs and interests of individuals and student groups, and the creation of an environment where the learning process is enhanced to a maximum degree. Major program areas included in Student Services are Student Activities, Health Services, Placement Services, and Counseling and Psychological Services.

### **Student Placement**

Student Placement recognizes the importance of being able to find careers related to the degrees students have earned. The Placement Center was created to help achieve this goal. Credentials files are maintained for students who desire such a service. The Student Placement Office also supplies reading material for research on career opportunities in the Houston-Galveston area. The Center also assists students on how to write a resume and provides workshops on what to expect in an employment interview. The Placement Service is located in Bayou Building 2-107. (Telephone: 488-9219)

### **Student Activities**

The Student Activities Office recognizes the importance of organized student programs as part of the educational process. Social, cultural, and recreational activities are planned through various student and University committees. Information on programming, student organization, the UHCLidian, and various resources are available in this office. Student Activities also provides housing and tutoring referrals, activity calendars, student ID cards, new student orientation, student handbook, and "This Week at UH/CLC." The student Information desk is a focal point for services, programs and events, student organizations, and general student information. Students are encouraged to take advantage of the various extra-curricular opportunities. Suggestions for new programs are always welcomed. The Student Activities office is located in Bayou Building 1-614. (Telephone: 488-9218).

### **Health Center**

The University Health Center is designed to protect the student's health and to provide first aid to anyone who becomes acutely ill or injured while on campus. Blood pressure screenings and weight recordings are an on-going service. Referral and health counseling services are also available. Educational health seminars and workshops are sponsored by this office periodically or upon specific request from faculty, staff, or students. The Health Center is located in Bayou Building 1-405. (Telephone: 488-9204)

## Counseling and Psychological Services

Individual and group counseling related to academic vocational, and personal development opportunities is available through the Counseling Center. The Center provides services to help students make satisfying career decisions and life plans as well as to deal with emotional concerns and behavior problems. Counseling seminars on topics relevant to the expressed needs of students are conducted periodically. Other services include crisis counseling, consultation for organization development, examinations for academic credit (CLEP), the Graduate Record Examination (GRE), and the Graduate Management Admission Test (GMAT). The Counseling Center is located in Bayou Building 2-107. (Telephone: 488-9215)

## Housing

No student housing facilities are owned or operated by UH/CLC. Each student makes individual arrangements for suitable living quarters which are available within a few minutes of the campus. Information and assistance may be obtained from the Coordinator of Student Activities.



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# Glossary of Terms

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**Academic Year.** That period of time extending from the opening of a fall semester to the closing of the succeeding spring semester; often referred to as the "nine-month academic year," specifically excluding the summer session.

**Activity Courses.** Courses not generally considered to be academic in substance, such as physical education activities required at the lower level; band or chorus activities not qualifying as substantive courses in music; ROTC/military science courses that constitute military training activity rather than academic work; orientation courses that may carry credits but are not commonly considered applicable to degree programs.

**Advisement.** Any service provided by the Counseling Center, a faculty advisor, or a general counselor; specifically, the process by which a matriculated student obtains an appropriate permit to register.

**Cancellation.** During the registration period, but before the first class day, students who have registered and paid fees may effect the cancellation of registration by so informing the Registrar. Such students are entitled to 100% refund of tuition and fees.

**Candidacy.** An agreement between a student and the University formalized in a Candidate Plan of Studies, whereby the University commits itself to award the student a specific degree when the student has fulfilled all requirements prescribed in the Candidate Plan of Studies as well as the University's general requirements for the degree. The agreement is invalidated if the student fails to preserve candidate status.

**Class Schedule.** The list of courses and sections offered in a given term, together with the days, hours, and places of meeting and names of instructors.

**Concentration, Area of.** Those courses prescribed in a Candidate Plan of Studies which reflect the student's primary academic interests. Area of Concentration also refers to one of the designated curricula leading to a degree which the University has been authorized to confer.

**Corequisite.** A course in which a student is required to be enrolled concurrently with enrollment in a specific course.

**Course.** A module or unit of academic work in a particular subject, normally of one term's duration, in terms of which a student's performance is evaluated.

**Course Load.** The number of semester credit hours associated with the academic work in which a student is enrolled in any given term.

**Credit.** Certification given for successful completion of academic work.

**Dismissal.** Action resulting in the termination of a student's eligibility to register for courses at the University; terminating a student's matriculated status and causing this student to be ineligible for readmission without due process.

**Encumbrance.** A student's record may be encumbered and permission to register for courses may be denied when he or she becomes delinquent in meeting any University obligations. Encumbrances may be authorized through the Office of Admissions, Business Office, Office of Financial Assistance, Student Services, or the Library. It is the student's responsibility to see that the conditions of his or her encumbrance are met and that the encumbrance has been removed by the issuing office.

**Faculty Advisor.** A faculty member who provides a candidate or provisional candidate the advisement necessary for the formulation and pursuit of a plan of studies.

**Full-time Student.** During a long semester, any undergraduate student registered for 12 or more semester credit hours, or any graduate student registered for 9 or more semester credit hours; during a summer session, any student registered for 6 or more semester credit hours; irrespective of classification. This definition is for administrative reporting purposes and does not imply any standard course load for individual students.

**Graduate Council.** The Graduate Council determines policy for graduate studies and monitors graduate degree programs and requirements. Its members are the Vice Chancellor and Provost (chairperson), deans of the schools, and a faculty member from each school.

**Graduate Student.** A student who has earned a bachelor's degree, has been accepted for matriculation as a graduate student.

**Laboratory.** A course involving supervised experimentation or practice related to academic work in a particular subject; laboratories generally involve the use of equipment and materials and are usually corequisites of other courses.

**Letter of Standing.** Upon written request from the student, the Registrar will issue to another institution or agency a Letter of Standing: an official document indicating the student's current standing in addition to a list of courses in progress.

**Lower-Level Course.** Any course offered by a college or university and classified as freshman or sophomore level.

**Matriculation.** Acceptance by the University for the purpose of enrolling in courses for academic credit. Matriculated status is prerequisite to permission to register and to apply for degree candidacy. Unless terminated by the student or the University, matriculated status entails continuing eligibility to register.

**Parent Institution.** That institution at which a student is pursuing a degree. Students whose parent institution is UH/CLC are transients while temporarily enrolled at other institutions.

**Permanent Record.** A cumulative and chronological account of a student's academic work (completed and/or attempted) including the associated marks, academic standing, changes of status, actions taken, honors bestowed, and degree(s) conferred.

**Prerequisite.** A course to be completed successfully or a condition to be met before one is eligible to enroll in a specific course.

**Readmission.** The process by which a student applied for admission to UH/CLC after matriculated status has lapsed because of dismissal or because of failure to maintain required academic standards.

**Re-entry.** The process by which a student applied for admission to UH/CLC after matriculated status has lapsed due to (1) completion of all requirements for a degree, (2) voluntary interruption of enrollment for one or more semesters (including all cancellations), or (3) failure to register for classes following original acceptance for matriculation.

**Registration.** The process by which a matriculated student is actually enrolled in classes and assessed tuition and fees at the beginning of any term.

**School.** One of three major programmatic divisions of UH/CLC; responsibility for a School's programs is vested in a dean.

**School of Professional Studies Appeals Board.** The School of Professional Studies Appeals Board is designed for students who do not meet the minimum requirements in terms of their grade point average and GMAT or GRE scores. Its members include the dean, three program directors, and five faculty members from the School of Professional Studies.

**Semester.** An enrollment period (term) of fifteen to eighteen weeks duration (e.g., fall semester or spring semester), the inclusive dates of which are shown in the Academic Calendar.

**Semester Credit Hours.** Units of academic credit awarded for the successful completion of academic work. Students' progress toward fulfilling curricular and degree requirements is customarily measured in terms of semester credit hours.

**Student Schedule.** For any given term, the list of classes for which an individual student is registered, together with section numbers, hours and days of meeting, and places of instruction.

**Summer Session.** An enrollment period (term) of approximately nine weeks duration, normally opening in early June and closing in early August.

**Term.** An enrollment period; a fall semester, spring semester, or summer session.

**Transcript.** An official copy of a student's permanent academic record.

**Undergraduate Student.** A matriculated student who has not earned a bachelor's degree or who has earned a bachelor's degree but is a candidate for an additional bachelor's degree.

**University Life Council.** The University Life Council is responsible for recommending through the Dean of Student Services, to the Chancellor, the formulation of University Life policies. Any proposed modification of University Life policies not originating in the University Life Council will be referred to the Council for review. Request for exceptions to University Life policies will be made to the University Life Council. Copies of the University Life Policies Manual are available in the Student Services office.

**University Review Board.** The University Review Board is responsible for hearing appeals related to all academic matters within the University. All appeals for readmission into the University are directed to the board. The review board includes the Vice Chancellor and Provost (chairperson), the deans of the three schools, and a faculty member from each school. These seven members are voting members of the board. The Dean of Student Services serves in an ex officio (nonvoting) capacity to the board.

**Upper-Level Course.** Any course offered for academic credit; any course offered by an accredited college or university and classified as junior level or above.





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# Admissions, Advisement, and Registration

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## REQUIREMENTS FOR MATRICULATION

Favorable action on an application depends on the satisfaction or requirements for matriculation. Matriculation is defined as permission to enroll in courses for academic credit. Matriculation in the University is prerequisite to, but does not include, admission to any degree candidacy.

### Undergraduate Students

Undergraduate applicants may be accepted for matriculation upon satisfying all of the following requirements:

1. evidence of ability to do upper-level college work of satisfactory quality as demonstrated by
  - a) an associate degree from an accredited institution of higher education or
  - b) at least 54 semester hours of college credits, exclusive of activity courses, with grades of C or better, from accredited institutions of higher education;
2. evidence of eligibility to return to the last institution attended; and
3. proof of immunizations against tetanus and diphtheria, as required by the Texas Education Code, Section 2.09.

### Concurrent Enrollment Policy (Undergraduate Students)

Undergraduate students who, by the beginning of the term they wish to enter, have not earned the associate degree and have not accumulated at least 54 hours credit, exclusive of activity credit, may, on an individual approval basis, be approved for matriculation subject to the following conditions:

1. the student must concurrently enroll for resident credit at an accredited institution other than UH/CLC for a sufficient number of credit hours so that by the conclusion of the semester of concurrent enrollment, the student will have accumulated at least 54 hours of C or better exclusive of any credit earned at UH/CLC; and
2. the community junior college student must have the permission of the chief academic officer of his or her institution.
3. the student must have accumulated at least 48 hours credit exclusive of activity credit, with grades of C or better.

Undergraduate students who wish to take freshman or sophomore courses while attending UH/CLC are encouraged to enroll for such lower-division courses at one of the eight community junior colleges within commuting range of the campus. Students should consult with their advisors before taking such courses to ascertain their suitability in their plan of study. UH/CLC encourages students to complete all requirements for the associate degree whenever possible.

## **Graduate Students**

Any applicant who has earned at least a bachelor's degree from an accredited college or university and who is eligible to return to the last institution attended may be accepted for matriculation as a graduate student, but such acceptance does not presuppose eligibility for admission to candidacy for a master's degree in any program. (Prospective students wishing to pursue a master's degree should refer to the description of specific degree programs for explanations of other requirements.) Applicants must also submit proof of immunizations as required by State law (see above).

## **Categories of Matriculation**

Applicants for matriculation are categorized on the first level as undergraduate or graduate and on the second level as degree-seeking (DS) or non-degree-objective (NDO).

1. A degree-seeking applicant certifies his or her intention of applying for admission to a degree program immediately upon acceptance for matriculation.
2. A non-degree-objective applicant certifies that he or she wishes to take courses for reasons other than in pursuit of any degree, i.e., that he or she does not anticipate applying for admission to any degree program at this institution at any time in the future.

## **Support Documentation**

All applicants for matriculation—as undergraduates or graduates—must present documented evidence that they meet the appropriate requirements for matriculation as stated above. The type of documentation varies with the second level of matriculation categorization:

1. Degree-seeking applicants must furnish the Office of Admissions complete official transcripts from all collegiate institutions ever attended. Unofficial or "student's copy" transcripts are not acceptable. The transcripts must be requested by the applicant of the Registrar of each separate institution attended and must be mailed from the Registrar of each institution directly to the Office of Admissions, UH/CLC.

To assure timely processing of an application, transcripts should reach the Office of Admissions at least (30) days in advance of the beginning of the terms for which the applicant first intends to register. If extenuating circumstances delay the receipt of complete documentation, the applicant may request special dispensation from the Director of Admissions, be permitted to sign a temporary waiver agreement, and register for classes under the provision (1) that documentation will be completed as soon as possible and before the end of the term, and (2) that if the completed documentation indicates that requirements for matriculation were not in fact met, the student's matriculated status may be cancelled forthwith.

If an applicant is enrolled in another collegiate institution at the time application for matriculation is filed, he or she must arrange for the Registrar of that institution to submit a statement of courses in progress, to be followed by an official transcript at the end of the term.

If an applicant knowingly withholds the information that he or she has ever been enrolled at any other collegiate institution, the application for matriculation may be disqualified.

2. Non-degree objective applicants must furnish the Office of Admissions a transcript indicating that the requirements for matriculation as an undergraduate or graduate student have been met, plus a statement of standing from the last institution attended. Graduate students need only submit a transcript showing the highest degree held. Undergraduate students must submit transcript(s) from previous institutions showing evidence of at least 54 hours of credit earned. Transcripts for non-degree-objective applications do not have to be official, but may be copies of official transcripts. However, such copies must be legible and not defaced. If the transcripts provided are unofficial, UH/CLC requires a statement of standing from the last institution attended. If the transcript submitted by the applicant is official, a statement of standing is not required. Note: For a transcript to be official it must be sent directly from the previous institution attended directly to the UH/CLC Admissions Office. (University requirements on transcripts and statement of standing from the last institution attended may be waived temporarily under extenuating circumstances, but in all instances must be met before the end of one term in order for the student to be granted official NDO status.) The applicant also must sign an NDO Matriculation Agreement in which it is declared that UH/CLC is under no obligation to recognize credits earned by an NDO student as applicable to any degree.

## **Changing Categories of Matriculated Status**

### **1. Voluntary**

A student may at any time file an Academic Record Change request form asking that his or her matriculated status be changed to a different category. If a degree-seeking student wishes to change to NDO status, no other procedure is necessary except the signing of an NDO Matriculation Agreement.

If an NDO student wishes to become a degree-seeking student, he or she must, in addition to the above, obtain all the official documentation required of a degree-seeking applicant (see Supporting Documentation above) and await its complete evaluation by the Office of Admissions before being granted DS status. It is understood that the student will at the same time apply to the appropriate office for admission to the degree program of his or her choice but that achieving DS status in no way presupposes admission to any degree program.

### **2. Administrative**

Degree-seeking students will be changed to NDO status at the end of their first full semester of enrollment if a Candidate Plan of Studies has not been filed and approved. Degree-seeking students should apply for admission to a specific degree candidacy without delay so that their initial UH/CLC credits may be applicable to the desired degree. To avoid delay, DS applicants must insure that all supporting documents are promptly filed with the Office of Admissions.

## **International Students**

An admission/evaluation fee of \$15.00 U.S. must accompany the application for matriculation. Applicants who are not citizens of the United States and are in the United States on a student visa or visa other than one entitling them to immigrant status should contact the Director of Admissions for additional information. International applicants should be aware that their applications cannot be completed and ruled on in the same amount of time as those of domestic students. All required matriculation credentials must be submitted at least 60 days prior to the beginning of the terms of desired entry. Also, if credit is to be transferred or recognized from institutions of higher education outside the United States, the time required for obtaining and evaluating the necessary documentation may be lengthy. International students may not be permitted to enroll nor may I-20's be issued on a conditional or probationary basis.

NOTE: International students are not eligible to apply for matriculation as non-degree-objective students. International students must apply for degree-seeking status and for a specific degree candidacy.

## Notification of Action

As soon as the application and all supporting materials have been received by the Office of Admissions, a determination is made regarding the applicant's eligibility for matriculated status. The Director of Admissions will notify the applicant of this determination as soon as possible.

If an applicant is rejected, he or she will be informed of the right to petition the University Review Board for a reconsideration of application, based on the relevance of previous scholastic performance to the stated educational objective at UH/CLC. However, the applicant should be able to judge the validity of the petition by reading the Requirements for Matriculation, which constitute university policy to which exception will not be made without substantial cause.

If an applicant is accepted, he or she will receive information regarding additional procedures to be followed prior to registration.

## Re-entry or Readmission (Former Students)

Former students are defined as those who have once held matriculated status and have been registered for classes at UH/CLC but have allowed their matriculated status to lapse. Students applying for admission after having once held matriculated status fall into two categories:

1. **Re-entry Students:** those students who have allowed matriculated status to lapse due to (a) having completed all requirements for a degree, (b) voluntary interruption of enrollment for one or more semesters (including all cancellations and withdrawals), or (c) failure to register for classes following original acceptance for matriculation;
2. **Readmission Students:** candidates for readmission are those whose matriculated status has lapsed due to (a) dismissal in accordance with UH/CLC policies, or (b) cancellation of permission to register under the provisions of UH/CLC's Academic Standards.

Students applying for re-entry or readmission must file an Application for Matriculation with the Office of Admissions at least thirty (30) days before the beginning of the term for which they wish to register. Former students who have been dismissed from UH/CLC for any reason are not eligible for readmission without due process.

If a former student has registered for courses at another institution(s) since he or she was enrolled at UH/CLC, complete official transcripts must be submitted of all work attempted.

## Examinations for Graduate Candidacies

For admission to candidacy in certain programs, scores on the Graduate Record Examination or the Graduate Management Admission Test are required. Minimum scores acceptable are determined by each School. Information on the GRE and applications for the tests may be obtained from the Counseling Center

or Educational Testing Service, Box 1502, Berkeley, California 94701. For the GMAT, the address is Educational Testing Service, Princeton, New Jersey 08540. The institutional code number for UH/CLC is R6916 for the GMAT, and 6916-1 for the GRE.

### **University Policy on Discretionary Authority**

The University reserves the right, in every case, to reject any applicant whose records do not indicate potential success in the University environment, notwithstanding the completion of other requirements.

The University also reserves the right to examine further any applicant by the use of psychological, achievement, and/or aptitude tests and personal interviews.

## **TRANSFER OF CREDIT**

### **Undergraduate**

An upper-level institution is unlike all others in that every entering student has previously earned credits at another college or university and must therefore submit transcripts as part of the application process. Furthermore, "transfer" to an upper-level institution from any other college or university, at the undergraduate level, is not directly analogous to transfer, in the traditional sense, between four-year institutions. The principal reason is that UH/CLC does not teach freshman or sophomore courses and cannot equate lower-level courses of other institutions with courses at UH/CLC.

The important thing for an undergraduate degree-seeking applicant to understand is that UH/CLC does not in fact "equate" lower-level credits. Instead it does two things:

- (1) recognizes a specific number of lower-level credits as counting towards the total number of hours required for a bachelor's degree; and
- (2) evaluates the adequacy of certain courses as providing sufficient preparation for undertaking advanced study in a desired concentration.

It should be noted under the General Requirements for the Bachelor's Degree that "grades of A, B, or C must be earned for at least 54 hours of upper-level course work." Furthermore, whereas "at least 120 hours of applicable college credits" are required for the bachelor's degree, the requirements specific to a major area of concentration may result in a degree plan that exceeds that number.

In short, the undergraduate degree-seeking student should approach a career at UH/CLC not in terms of what has been done elsewhere but in terms of what remains to be done at UH/CLC. This is entirely a matter of satisfying (1) the General Requirements for the Bachelor's Degree and (2) the terms of an individually designed Candidate Plan of Studies within the context of the area of concentration.



The undergraduate applicant who has previously earned upper-level credits should be aware of the following University policy:

upper-level credits earned more than seven (7) years prior to admission to undergraduate study at UH/CLC may not be counted towards fulfilling the required number of hours unless special dispensation is granted by the dean. It is the prerogative of the dean to determine (1) whether the courses for which such credits were earned are by current standards of the discipline in fact of upper-level substance, and (2) whether the student can demonstrate sufficient retention of the substance to apply it in the present.

## Graduate

Master's degree programs require a minimum of 30 semester hours; in some instances they extend to 42 hours inclusive of Option 4. (See section on Degree Requirements) In all cases, at least the final 24 hours must be resident credits earned at UH/CLC, and University policy interprets this last requirement to be exclusive of hours earned under Option 4. Therefore, the possibility of transferring credit towards a master's degree is limited to no more than 12 hours and in most instances may not exceed 6.

Previously earned graduate credits are not necessarily applicable:

- (1) only graduate courses in which grades of A or B were earned are eligible for evaluation;
- (2) it is the prerogative of the dean to determine whether the contents of such courses are pertinent to the degree objective;
- (3) courses completed more than five (5) years prior to admission to graduate study at UH/CLC may not be counted towards fulfilling the required number of hours unless special dispensation is granted by the appropriate dean; and
- (4) credits previously applied to a graduate degree already earned may not be counted towards any additional degree.

## ADVANCED PLACEMENT CREDIT

1. **Lower-Level Credit:** The Office of Admissions, in accordance with established policy, will evaluate the individual's transcript in regard to College Level Examination Program (CLEP) credit and recognize as legitimate lower-level credit any CLEP examinations for which another institution has awarded credit.
- (2) **Upper-Level Credit:** In accordance with established policies, students desiring to be awarded upper-level credit for the College Level Examination Program subject area examinations must submit official CLEP score reports to the Counseling Center. Upon receipt of such scores the center will evaluate them and forward to the students and the Office of Admissions a copy of the evaluation to be posted on the student's permanent records as being CLEP credit awarded in terms of equivalent courses offered at UH/CLC.

## NON-TRADITIONAL CREDIT

Credit for non-traditional educational experiences will be recognized under certain circumstances. Any non-traditional credit so recognized will be treated as transfer credit and may be considered for matriculation purposes and is *eligible for consideration* for degree purposes.

At the present time, credit is recognized only for non-traditional learning experiences described by the American Council on Education in the publications entitled: *A Guide to Educational Programs in Non-Collegiate Organizations*, or *A Guide to Evaluation of Educational Experiences in the Armed Services*. The recommendations of the American Council on Education are followed as closely as possible in considering the amount, level, and type of credit to be recognized.

The Office of Admissions will evaluate non-traditional learning experience in accordance with the foregoing upon receipt of the appropriate supporting credentials and petition by the student.

## PREROGATIVES OF MATRICULATED STATUS

1. Degree-seeking students (i.e., provisional candidates and candidates) must select courses that comply with the provisions of their Candidate Plan of Studies. Degree-seeking students who have not filed an approved Candidate Plan of Studies as of their first term of enrollment are restricted to an approved course list prepared by their advisor.
2. Non-degree-objective students are free to register on a space-available basis for any course offered by the University as long as prerequisites have been met and the following provisions are observed:
  - a) undergraduate NDO students are restricted to courses at the 3000 or 4000 level;
  - b) graduate NDO students may take courses at any level, but in any given term at least one of their courses must be of the 5000 or 6000 level.

NOTE: Non-degree-objective students are subject to the University's Academic Standards and do not differ from degree-seeking students in regard to the requirements of any other University policies.

## REGISTRATION

Enrollment is necessary for every period of attendance. The official days for registration are specified in the Academic Calendar in this bulletin. Registrar's announcements will specify times and places and give other instructions for completing the enrollment process. Registration materials and class schedules may also be obtained from the Registrar's Office.

Registration is not complete until the student's tuition and fees have been paid in full. Students who do not complete the process of registration within the

officially designated period will be charged a non-refundable late registration fee and may be required to resection all courses. Questions regarding registration should be directed to the Registrar's Office.

### **Auditing Courses (General)**

Approval to audit courses can be granted to individuals who meet general admission requirements. Persons wishing to take courses on an audit basis need to sign a statement indicating that they meet the admission requirements in the University's bulletin. Additionally, they must obtain the approval of the instructor in the particular courses.

Application forms to audit a course may be obtained from the appropriate dean's office. Registration to audit a course is on a space available basis; only after the conclusion of the regular registration period and the determination that there is space available will an audit individual be assigned to the particular course.

Auditing status provides only the privilege of class attendance and does not include taking of examinations, submission of papers, participation in laboratories, field work, or receipt of a grade in the course. State law provides that individuals auditing courses will pay the regular tuition and student services fee as well as other applicable fees indicated in this bulletin.

An individual with an audit status will not be given credit for the course nor will the person be permitted to change from an audit to a credit status after the individual has registered on an audit basis. Records of the individual having audited a course will not be maintained by the University.

### **Auditing Courses (Senior Citizens)**

Senior citizens, 65 years of age or over, may be permitted to audit, on a space available basis, any course offered without payment of a fee (Section 54-210, Texas Education Code). Applicants need to provide evidence of age. Other than for fees and age requirement, the general regulations and procedures applying to audit individuals also are applicable to senior citizens.

### **Availability of Courses**

The University does not guarantee that courses listed in this bulletin will be offered in any given term or year. Registration for a particular section will be permitted only until available classroom space has been filled. The University also reserves the right to cancel any course or section for which enrollment is insufficient according to State policies.

### **Class Membership**

Membership in a class is achieved only as the result of proper registration or schedule revision procedures. The instructor receives the student's name by official notice from the Registrar and in no other way. A student will not receive credit for a course for which he or she is not registered.

## Late Registration

No student may register after the beginning of the term except under unusual circumstances, and then only with the approval of the student's advisor and the Registrar.

## Schedule Revision

Schedule revision (drop/add) may be made during the first week of classes of a specific term. Times and dates will be announced by the Registrar.

## Cancellation of Registration

A student may cancel his/her registration and be entitled to a full refund if he/she follows the proper procedures through the Registrar's Office before the first class day of the term. In such an instance, no entry will be made on the student's permanent record. The student may reenter the University only after filing an Application for Matriculation accompanied by transcripts from all colleges or universities attended after leaving UH/CLC.

Requests for cancellation must be made in writing and, if mailed, *received* in the Registrar's office prior to the first class day of the term.



# Financial Information

## TUITION AND FEES

The Schedule of Charges and Special Fees shall apply, where applicable, to all students. These tuition and fee charges are assessed according to the number of semester credit hours for which the student enrolls and are payable at the time of registration.

A student is not registered and is not entitled to University privileges until tuition and fees have been paid in full. If payment is made by check or money order, such check or money order must be payable to the University of Houston at Clear Lake City, or UH/CLC.

The charges quoted are those authorized at the time of publication of this bulletin but are subject to change without notice as necessitated by University or legislative action.

## SCHEDULE OF CHARGES\*

Number of Hours	R	Tuition N/F	F†	Student Service Fees	Medical†† Service Fee	Building Use Fee	R	Total N/F	F
1	50	40	200	2.50	4	40	96.50	86.50	246.50
2	50	80	200	5.00	4	40	99.00	129.00	249.00
3	50	120	200	7.50	4	40	101.50	171.50	251.50
4	50	160	200	10.00	4	50	114.00	224.00	264.00
5	50	200	200	12.50	4	50	116.50	266.50	266.50
6	50	240	200	15.00	4	50	119.00	309.00	269.00
7	50	280	200	17.50	4	90	161.50	391.50	311.50
8	50	320	200	20.00	4	90	164.00	434.00	314.00
9	50	360	200	22.50	4	90	166.50	476.50	316.50
10	50	400	200	25.00	4	90	169.00	519.00	319.00
11	50	440	200	27.50	4	90	171.50	561.50	321.50
12	50	480	200	30.00	4	90	174.00	604.00	324.00
13	52	520	200	30.00	4	90	176.00	644.00	324.00
14	56	560	200	30.00	4	90	180.00	684.00	324.00
15	60	600	210	30.00	4	90	184.00	724.00	334.00
16	64	640	224	30.00	4	90	188.00	764.00	348.00
17	68	680	238	30.00	4	90	192.00	804.00	362.00
18	72	720	252	30.00	4	90	196.00	844.00	376.00
19	76	760	266	30.00	4	90	200.00	884.00	390.00
20	80	800	280	30.00	4	90	204.00	924.00	404.00
21	84	840	294	30.00	4	90	208.00	964.00	418.00
22	88	880	308	30.00	4	90	212.00	1004.00	432.00

CODE R — Texas residents; N — Nonresidents who are U.S. Citizens; F — Nonresidents who are citizens of another country.

\*The University may change tuition rates and other charges without notice, when so directed by the Board of Regents.

N/F — Tuition for students who are citizens of any country other than the U.S.A. is the same as that required of other nonresident students when entering a Texas public college or university for the first time after June 19, 1975.

F† — Tuition rates for foreign citizens who entered a Texas public college or university before June 19, 1975, may qualify under other provisions of Section 54, Texas Education Code.

†† — The Medical Service Fee, as authorized by State law and approved by the Board of Regents, is required of all students and is pledged to support health and hospital services.

## SPECIAL FEES

Certificates, Teacher: Provisional .....	\$2.00
Professional .....	3.00
Duplicate records, each .....	2.00
Field trips, each, when required for any given course: an amount sufficient to defray the cost of the trip	
General property deposit (first-time enrollment only) .....	10.00
Graduation, application (includes diploma but not cap and gown) .....	10.00
International Student Application/Evaluation Fee .....	15.00
Laboratory, per course .....	8.00
Late registration .....	10.00
Returned checks, per check .....	5.00
Student teaching, per credit hour .....	5.00
Thesis binding, per volume .....	6.00
Thesis only - per credit hour .....	4.00
Transcripts, each .....	1.50

## Definitions and Regulations

All charges for tuition and fees are as permitted or directed by State law and as promulgated by the Board of Regents of the University of Houston.

### Tuition

Tuition is assessed each student according to residence classification and the number of semester credit hours for which he or she registers, subject to the statutory provisions of House Bill No. 43, 62nd Legislature:

**Residents of Texas** will be charged tuition at the rate of \$4.00 per semester credit hour, but the total of such charge will not be less than \$50.00 per semester or nine-week summer session.

**Nonresidents of Texas** will be charged tuition at the rate of \$40.00 per semester credit hour.

An alien who has been lawfully admitted for permanent residence in the United States shall not, by reason of that status alone, be disqualified from classification as a resident, provided, however, that aliens who are present in the United States on a temporary or student visa shall not be eligible for classification as residents.

## **Student Service Fees**

The Student Service Fee, as authorized by State law, is required of all students. The income from this fee supports recreational activities, health and hospital services, artist and lecture series, cultural entertainment series, student publications and government, enforcement and administration of parking regulations, and other student services as authorized by State law.

## **Building Use Fee**

The Building Use Fee, as authorized by State law and approved by the Board of Regents, is required of all students and is pledged to the retirement of bonded indebtedness for building construction.

## **General Property Deposit**

Students registering for the first time will be required to pay and maintain a \$10.00 General Property Deposit. This deposit is to insure the University against losses, damages, and breakage in libraries and laboratories. This deposit will be refunded only upon written request made within four years from date of last attendance at UH/CLC.

## **Parking Fee**

A parking fee of \$10.00 for each semester and \$6.00 for each 9-week session will be assessed each student who operates a motor vehicle on the campus or on properties leased by the University. If students have two vehicles to be registered, they must present the Title of each vehicle, and a fee of \$2.00 will be charged for the second registration. A maximum of two vehicles may be registered at any time during a term.

Any vehicle not having a valid UH/CLC decal will be ticketed unless special arrangements have been made with Security to park on campus without such decals.

Lost or stolen decals may be replaced for \$2.00. A change of vehicle registration may be accomplished free of charge when the remnants of the original decal are presented in the Security Office.

## **Student Financial Responsibility**

Students must be in good financial standing with the University at all times. Failure to meet financial responsibilities to the University may subject students to withdrawal and disqualification for registration for a subsequent term. Statements of credits or transcripts shall not be given to or on behalf of a student until all financial responsibilities to the University have been met.

## **Residence Regulations**

It is important for students to know whether they will be classified as residents of the State of Texas. Students who do not qualify as bona fide residents at the time they register must pay the non-resident tuition fee. A complete set of the regulations for determining residence status for tuition purposes is presented in Appendix B of this bulletin.

An official determination of the student's residence status is made in the Office of Admissions at the time the Application for Matriculation and support documents are received. If a student expects a change in residence status prior to first registration, this should be indicated on the application. If a change in residence status occurs after submitting the application, the student must inform the Director of Admissions. It is the student's continuing responsibility to register under and to maintain the correct residence classification.

If there is any question concerning an individual's eligibility for classification as a resident of Texas at the time of registration, or any time thereafter, it is the student's responsibility to consult with the Director of Admissions. All requests for reclassification should be submitted at least 30 days prior to the registration period in question.

### **Appeal of Residence Status**

Any student who believes he or she has been misclassified may petition the Director of Admissions for reclassification. The student may be required to furnish evidence in support of an appeal.

## **REFUNDS**

Students who pay tuition and fees for any term and who subsequently cancel their registration through the Registrar's Office prior to the first day of classes for that term are entitled to a full refund.

Students who officially withdraw from the University after classes begin may be eligible for a partial refund of tuition, the Student Services Fee, and the Building Use Fee. The applicable refund is based upon the courses in which the student is enrolled on the date of official withdrawal. Application for withdrawal must be made to the Registrar's Office. Withdrawals by letter are effective on date of receipt. The University reserves the right to deduct from the refund any outstanding financial obligations to the University.

No refund will be made to students who reduce their schedules after registration or to students who leave the University without officially withdrawing.



Refunds are made in accordance with the following schedule:

#### Fall and Spring Semesters

On or before the 14th class day .....	80%
15th through 20th class day .....	60%
21st through 25th class day .....	40%
26th through 30th class day .....	20%
Thereafter .....	No refund

#### Nine Week Summer Term

During first week .....	60%
During second week .....	20%
Thereafter .....	No refund

Class days, excluding only Sundays and University holidays, are counted from the day classes begin as specified in the Academic Calendar.

Refund checks will be mailed to the student's officially listed address within 25 days after official withdrawal.

## STUDENT FINANCIAL ASSISTANCE

The University recognizes that not all students command personal and family resources sufficient to defray the total costs of a college education. Students may therefore seek financial assistance in the form of loans, grants, scholarships, part-time employment, or combinations thereof. Student financial assistance is predicated on demonstrated need, and every effort is made to cover the actual difference between the cost of attending UH/CLC and the amount of support that a student or family can reasonably be expected to provide. In the event that the University's available resources are inadequate to meet the total demand of all qualified applicants, academic promise may also be a criterion in the selection of financial aid recipients.

The University endeavors to insure that all applications for financial assistance are evaluated in a consistent manner, based on a consistent interpretation of need. The student may submit the Financial Aid Form (FAF) to the College Scholarship Service. This form may be obtained from the institution where the applicant is currently enrolled or from the Office of Admissions and should be filed as far as possible in advance of the term for which assistance is needed but no less than six weeks before the beginning of the term. A renewal FAF is required for each subsequent year.

Although applications for financial assistance can be processed entirely by mail, the Director of Admissions welcomes the opportunity to confer with applicants personally. If there are any special circumstances that might affect eligibility or contribute to a determination of the most appropriate form of assistance, the applicant should not hesitate to make an appointment for a personal conference.

No action on initial requests for financial assistance can be taken before the Office of Admissions has received an Application for Matriculation. If all required documentation has been submitted in timely fashion the University will endeavor to notify the applicant simultaneously regarding action taken on the Application for Matriculation and the request for financial assistance.

For further information, prospective students should contact the Financial Aid Counselor, Office of Admissions, UH/CLC, 2700 Bay Area Boulevard, Houston, Texas 77058.

## **Competitive Scholarships**

The following information is reprinted in part from Rules and Regulations for Determining Residence Status, published by the Coordinating Board, Texas College and University System, and pursuant to Title 3, Texas Education Code.

Statute: Section 54.051(p) A nonresident student holding a competitive scholarship of at least \$200.00 for the academic year or summer for which he is enrolled is entitled to pay the fees and charges required of Texas residents without regard to the length of time he has resided in Texas, provided that he must compete with other students, including Texas residents, for the scholarship and that the scholarship must be awarded by a scholarship committee officially recognized by the administration of the institution of higher education.

## **Exemption From Tuition and Fees**

The statutes of the State of Texas describe certain instances in which students may be exempted from tuition and/or certain fees. The various types of exemptions are described below; however, in each case it is the student's responsibility to initiate the action of applying for an exemption through the Office of Admissions and Records and to provide evidence that all conditions required for the exemption have been met. Until such time as the exemption is established, a student will be required to pay all tuition and fees. Students should apply to the Office of Admissions at least one month prior to registration for the term in which they plan to utilize the exemption provision.

### **Exemption of Texas Ex-Servicemen (Hazlewood Act)**

A legal resident of Texas may be exempted from tuition and certain required fees, but not from deposits, when he or she meets all of the following criteria:

- (1) he or she has resided in Texas for a period of not less than twelve (12) months prior to the date of registration;
- (2) he or she served in the armed forces or in certain auxiliary services in World War I, World War II, the Korean conflict, or any time thereafter. If service was subsequent to the Korean conflict, he or she must have served on active military duty (other than for training) for more than 180 days;

- (3) he or she was a bona fide legal resident of the State at the time of entering service;
- (4) he or she was honorably discharged from service (those who served in World War II and who were discharged because of being over the age of 38 or because of personal request are not eligible for this exemption); and
- (5) he or she is not eligible for educational benefits provided for veterans by the United States Government.

### **Benefits for Children of Texas Veterans**

Exemption from payment of tuition and certain fees extends to children of members of the armed forces who were killed in action or died while in service in World War II or in the Korean conflict or in any subsequent action and to orphans of members of the Texas National Guard and the Texas Air National Guard killed since January 1, 1946, while on extended active duty.

### **Exemption of Children of Certain Disabled Public Employees**

Children of certain eligible firemen, peace officers, employees of the Texas Department of Corrections, and game wardens who have suffered injury resulting in death or disability sustained in the line of duty may under certain conditions be exempted from payment of all tuition and certain fees.

### **Exemption of Certain Deaf and Blind Students**

Blind or deaf persons who are Texas residents may, under certain conditions, be exempted from payment of tuition and certain fees.

### **Children of Prisoners of War or of Persons Missing in Action**

A dependent child under 18 years of age, or a person under 25 years of age who receives the majority of his or her support from his or her parent or parents, may be exempted from the payment of tuition and certain fees if he or she is the dependent child of any person who is a domiciliary of Texas on active duty as a member of the armed forces of the United States and who at the time of registration is classified by the Department of Defense as a prisoner of war or as missing in action.

### **Veterans**

Students eligible for veterans educational benefits under federal programs should obtain information regarding certification from the nearest Veterans Administration Office. After approval for educational benefits by the Veterans Administration, the student should present his or her Certificate of Eligibility to the Veterans Counselor in the Office of Admissions and Records prior to registration.

A veteran is considered to be a full-time student if he or she enrolls for 12 credit hours in undergraduate studies or 9 credit hours in graduate studies.

## **Social Security**

Persons eligible for educational benefits under the Social Security Administration Program should contact their nearest Social Security Office. The Social Security Office will provide the student with a form which must be submitted to the Director of Admissions and Records for certification of the student's current enrollment status.

## **Vocational Rehabilitation**

The Texas Rehabilitation Commission offers assistance for tuition and required fees to students who have certain physical or emotional handicaps, provided the vocational objective selected by the handicapped person has been approved by an appropriate representative of the Commission. Through this State agency, other rehabilitation services are available to assist handicapped persons to become employable.

Application for this type of assistance should be made to the nearest rehabilitation office. Inquiries may be addressed to the Commissioner, Texas Rehabilitation Commission, Medical Park Tower, 1301 West 38th Street, Austin, Texas 78705.



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# Academic Policies

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The regulations and provisions contained in this bulletin are based upon present conditions and are subject to change without notice. The University reserves the right to modify any statement as necessitated by unforeseen conditions or by legislative action.

Each student is responsible for knowing the current regulations of the University. Current regulations are applicable to all students regardless of the date of matriculation. Interpretations or explanations contrary to the regulations in this bulletin are not binding upon the University.

## COURSE LOAD

The University does not delimit a permissible course load for students. In evaluating their ability to carry a certain course load, students should consider the following:

- (1) the time available to them for class preparation;
- (2) whether an excessive load might endanger their academic standing;
- (3) their own physical and mental stamina; and
- (4) the economics of accelerating or decelerating their progress toward a degree in terms of commuting costs, tuition, fees, and personal budget.

Entering undergraduate students should be aware that their academic work will be of an advanced level and may impose demands on their abilities and time quite different from those to which they have been accustomed. Superior students may be justified in carrying a greater load than students who find academic work more difficult. Entering graduate students should give similar consideration to their individual abilities or limitations when determining an appropriate course load.

## CLASS ATTENDANCE

Regular class attendance is expected of all students. What constitutes an acceptable rate of class attendance is a matter between individual students and their instructors, although the University expects instructors to maintain reasonable standards of class attendance. Whenever an instructor determines that an individual student's absences have been excessive, he or she will request that the Registrar remove the student's name from the class roster, in which case the student will receive the appropriate withdrawal mark (see **Marking System**). The student has the right to appeal such action to the University Review Board.

## MISSED EXAMINATIONS

Students are expected to be present at all announced examinations, including final examinations. Unless satisfactory alternate arrangements are made with the instructor, missed examinations may be considered as failed.

## MARKING SYSTEM

The University uses nine marks for recording outcomes of student course enrollments on grade reports and transcripts; these marks are A, B, C, D, F, I, WX, WS, and WU. The nine possible marks may be divided into the following three categories.

### Final Marks

Final marks are "grades" for completed courses. The following final marks and definitions are employed in evaluating student performance:

- A: Superior performance
- B: Good performance
- C: Average performance
- D: Marginal performance
- F: Unsatisfactory performance

### Incomplete Mark

The student who does not withdraw from a course but who fails to complete the work necessary for final evaluation may, at the discretion of the instructor, be given a mark of I or "Incomplete." When assigning the mark of I, the instructor will provide the student with a definite outline of the work to be accomplished before the I can be converted to a final mark and will specify a deadline date; the outline constitutes an agreement between the instructor and the student, with copies sent to the student's advisor(s) and the Registrar. A mark of I must be resolved within the time limit set by the instructor; however, such limit may not be extended beyond the last day of classes of the next long semester following the term in which the I was incurred. Failure to resolve an I will result in its conversion to a final mark of F on the student's permanent record. An I can be converted to a "final mark" only. For other implications, see Academic Standards.

### Withdrawal Marks

Students who drop a course or withdraw from all courses after the last

date for schedule modification (see Academic Calendar) receive one of the following marks:

WX: Withdrew without evaluation

WS: Withdrew, performance satisfactory

WU: Withdrew, performance unsatisfactory

The mark of WX implies no evaluation of the student's performance prior to withdrawal, but the student may retain auditing privileges with the instructor's consent. The last date to withdraw with evaluation is specified in the Academic Calendar. Following this date, it is the responsibility of the instructor to assign a mark of WS or WU according to the student's standing in the course as of the effective date of withdrawal.

Students wishing to drop a course must do so before the deadline cited in the Academic Calendar. Student-initiated drops and withdrawals are irrevocable. Retroactive drops or withdrawals are not permitted.

## **Repeated Courses**

1. A mark once earned and entered upon a student's permanent record will not be removed. If a student repeats a course it is with the understanding that the last mark earned in the course is the one to be counted toward fulfillment of degree requirements.
2. With prior approval of the appropriate program director (undergraduates), or dean (graduate students), a student may repeat a course at another college or university to raise a mark, including F or WU, earned at UH/CLC. However, the original marks earned at UH/CLC will remain a part of the student's permanent record.
3. Courses repeated at other institutions are treated as transfer credit and will not be considered as residence credit.

## **Voluntary Withdrawal**

Applications for official withdrawal from a course or from the University must be made to the Registrar's Office. Withdrawals by letter are effective on date of receipt.

## **Administrative Withdrawal**

The University reserves the right to withdraw a student from a class or classes if, in the judgment of University officials, such withdrawal is in the best interest of the student or the University.

## **ACADEMIC STANDARDS**

The University expects students to meet certain standards of academic performance in order to maintain matriculated status and applicable degree candidacy. These standards are implicitly defined by the following:

## Policies for Undergraduate Students

1. Accumulation of 6 hours of F's and/or WU's will result in termination of permission to register at the University and cancellation of bachelor's degree candidacy. Students may petition the University Review Board for reinstatement, presenting new evidence of ability to do upper-level college work of satisfactory quality. If approved, reinstatement is provisional and degree-seeking students must re-establish candidacy. If candidacy is not re-established, the student has NDO status. Accumulation of 6 additional hours of F's and/or WU's will result in dismissal from the University.
2. It is recommended that students who have accumulated two or more unresolved marks of "I" not register for additional courses until all such "I's" have been resolved.
3. Students who have earned a bachelor's degree and are enrolled in a bachelor's degree program at UH/CLC will be considered as undergraduates rather than graduate students.

## Policies for Graduate Students

1. Candidacy for graduate degrees will be cancelled upon accumulation of 9 hours of C, D, F and/or WU, and the student will revert to NDO status.
2. After a student accumulates a total of 12 hours of C, D, F, and/or WU he or she may not register for additional courses without the approval of the University Review Board.
3. It is recommended that students who have accumulated two or more unresolved marks of I in courses other than Master's Thesis not register for additional courses until all such I's have been resolved.

## RESIDENT CREDIT

Resident credit may be defined in either of two ways:

1. credit awarded for successful completion of academic work undertaken at UH/CLC; or
2. credit awarded for successful completion of academic work undertaken at another college or university by a student matriculated in absentia at UH/CLC, provided that
  - (a) the student is a candidate for a degree at UH/CLC;
  - (b) the student had the written approval of both the faculty advisor and the appropriate program director before undertaking the academic work at another institution.

Students should be aware that credits earned elsewhere without prior approval from UH/CLC are not considered credits "earned in residence" for the purpose of fulfilling general degree requirements.



Students should also be aware that marks received for work taken under provision (2) are counted as determinants of their academic standing at UH/CLC (see Academic Standards).

## **CONCENTRATION OR DEGREE CHANGES**

A student who wishes to change an area of concentration or degree objective must obtain the Academic Record Change form at the Registrar's Office. He or she will then be directed to appropriate persons for approval of the proposed change. The change is not official until the required form has been completed, approved, and filed with the Registrar. The student is responsible for initiation of this process.

## **NAME AND ADDRESS CHANGES**

University records of a student's name and address are based upon the information given on the Application for Matriculation. Subsequent changes must be reported in writing to the Registrar.

Any communication from the University mailed to the name and address on record is considered to have been properly delivered, and the student is responsible therefor.

## **TRANSCRIPTS**

Students may obtain official copies of their transcript from the Office of the Registrar at a cost of \$1.50 per copy. Requests for transcripts must be in writing and must bear the signature of the student whose record is requested. Telephone requests cannot be honored. Students whose permanent records have been encumbered will be denied transcript services until the specific obligations have been met.

Transcripts from other institutions submitted to UH/CLC will become the property of the University and will not be reproduced and/or mailed to other institutions. Upon written request of the student, a statement of work in progress (i.e., a listing of classes in which the student is currently enrolled) will be included with the transcript.

## **POLICY ON RELEASE OF STUDENT RECORDS**

The Family Educational Rights and Privacy Act of 1974 is a Federal law which states (a) that a written institutional policy must be established and (b) that a statement of adopted procedures covering the privacy rights of students be made available. The law provides that the institution will maintain the confidentiality of student education records.

UH/CLC accords all the rights under the law to students who are declared independent. No one outside the institution shall have excess to nor will the

institution disclose any information from students' education records without the written consent of students except to personnel within the institution, to officials of other institutions in which students seek to enroll, to persons or organizations providing students financial aid, to accrediting agencies carrying out their accreditation function, to persons in compliance with a judicial order, and to persons in an emergency in order to protect the health or safety of students or other persons. All these exceptions are permitted under the ACT.

Within the UH/CLC community, only those members individually or collectively, acting in the students' educational interest are allowed access to student education records. These members include personnel in the offices of the Chancellor, Vice Chancellor and Provost, Vice Chancellor for Financial Services, Deans, Program Directors, Student Services, Admissions and Records, Financial Aid, Veterans Affairs, Computing Services, Bursar, Accounting, Student Placement, Student Activities, Health Center, Counseling Center, and academic personnel within the limitations of their need to know.

At its discretion the institution may provide Directory information in accordance with the provisions of the Act to include; student name, address, telephone number, date and place of birth, major field of study, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended by the student, participation in officially recognized activities and sports. Students may withhold Directory information by notifying the Registrar in writing within five days of the first class day of each term.

Request for non-disclosure will be honored by the institution for only one term; therefore, authorization to withhold Directory information must be filed each term the student enrolls in the Office of the Registrar.

The law provides students with the right to inspect and review information contained in their education records, to challenge the contents of their education records, to have a hearing if the outcome of the challenge is unsatisfactory, and to submit explanatory statements for inclusion in their files if they feel the decisions of the hearing panels to be unacceptable. The Registrar at UH/CLC has been designated by the institution to coordinate the inspection and review procedures for student education records, which include admissions, academic, and financial files, and placement records. Students wishing to review their education records must make written requests to the Registrar listing the item or items of interest. Only records covered by the Act will be made available within forty-five days of the request. Students may have copies made of their records with certain exceptions. These copies would be made at the students' expense at prevailing rates which are listed in the current bulletin. Education records do not include records of instructional, administrative, and educational personnel which are the sole possession of the maker and are not accessible or revealed to any individual except a temporary substitute, records of the law enforcement unit, student health records, employment records or alumni records. Health records, however may be reviewed by physicians of the students' choosing.

Students may not inspect and review the following as outlined by the Act; financial information submitted by their parents; confidential letters and recommendations associated with admissions, employment or job placement or honors to which they have waived their rights of inspection and review; or education records containing information about more than one student in which case the institution will permit access only to the part of the record which pertains to the inquiring student. The institution is not required to permit students to inspect and review confidential letters and recommendations placed in their files prior to January 1, 1975, provided those letters were collected under established policies of confidentiality and were used only for the purposes for which they were collected.

Students who believe that their education records contain information that is inaccurate or misleading, or is otherwise in violation of their privacy or other rights may discuss their problems informally with the Registrar. If the decisions are in agreement with the students' requests, the appropriate records will be amended. If not, the students will be notified within a reasonable period of time that the records will not be amended; and they will be informed by the Registrar of their right to a formal hearing. Student requests for a formal hearing must be made in writing to the Vice Chancellor and Provost who, within a reasonable period of time after receiving such requests, will inform students of the date, place, and the time of the hearing. Students may present evidence relevant to the issues raised and may be assisted or represented at the hearings by one or more persons of their choice, including attorneys, at the students' expense. The members of the hearing panels which will adjudicate such challenges will be appointed by the Vice Chancellor and Provost.

Decisions of the hearing panels will be final, will be based solely on the evidence presented at the hearing, and will consist of written statements summarizing the evidence and stating the reasons for the decisions, and will be delivered to all parties concerned. The education records will be corrected or amended in accordance with the decisions of the hearing panels, if the decisions are in favor of the students. If the decisions are unsatisfactory to the students, the students may place with the education records statements commenting on the information in the records, or statements setting forth any reasons for disagreeing with the decisions of the hearing panels. The statements will be placed in the education record, maintained as part of the students' records, and released whenever the records in question are disclosed.

Students who believe that the adjudications of their challenges were unfair, or not in keeping with the provisions of the Act may request in writing, assistance from the Chancellor. Further, students who believe that their rights have been abridged, may file complaints with the Family Educational Rights and Privacy Act Office (FERPA), Department of Health, Education, and Welfare, Washington, D.C. 20201, concerning the alleged failures of UH/CLC to comply with the Act.

Revisions and clarifications will be published as experience with the law and institution's policy warrants.

## STUDENT CONDUCT

The University expects that the products of a student's efforts in a course reflect solely the work of that student unless otherwise authorized. Students who are observed cheating or plagiarizing in a course may be awarded a failing grade or referred to the University Review Board.

## STUDENT RESPONSIBILITY

The student is held responsible for knowing degree requirements and enrolling for courses that fit the chosen degree program. He or she is likewise held responsible for knowing the University regulations in regard to student affairs and the standard of course work required for continuance in the University. Information regarding degree requirements and academic work standards may be obtained from the appropriate dean or program director. Student Affairs information may be obtained from the Student Services office.



# Degree Requirements

## GENERAL REQUIREMENTS FOR THE BACHELOR'S DEGREE (Minimum Standards)

The following general requirements for the bachelor's degree (BA, BS, or BBA) are minimum standards established by the University; individual programs may impose additional, more specific requirements that will be incorporated into an approved Candidate of Plan of Studies.

1. Fulfillment of the statutory requirements of the State of Texas, as follows:

Credit for 6 hours, or its equivalent, in American history and 6 hours in the Constitutions of the United States and Texas; 3 hours of each 6-hour requirement may be satisfied by advanced placement or advanced standing examination; 3 hours in Texas history may be applied toward satisfying the history requirement.

2. Evidence of written and oral proficiency in the English language, as demonstrated by
  - (a) successful performance as recognized by the University or as demonstrated on examination or
  - (b) 6 hours in English with grades of C or better, however, some UH/CLC programs require additional hours. We recommend where possible that students earn 12 hours of English before enrolling.
3. Completion of an approved Candidate Plan of Studies subject to the following provisions:
  - (a) at least 120 hours of applicable college credits, exclusive of activity courses, must be earned;
  - (b) no more than 18 hours of previously earned lower-level credit, to be counted toward the degree, may represent work accomplished by correspondence and/or extension.
  - (c) at least the final 30 hours must be taken in residence;
  - (d) at least 12 hours in the major area of concentration must be taken in residence; and
  - (e) grades of A, B, or C must be earned for at least 54 hours of upper-level course work; work accomplished by correspondence and/or extension may not be counted in fulfilling this requirement.
4. Satisfaction of requirements specific to the major area of concentration.

5. The undergraduate applicant who has previously earned upper-level credits should be aware of the following University policy:

Upper-level credits earned more than seven (7) years prior to admission to undergraduate study at UH/CLC may not be counted towards fulfilling the required number of hours unless special dispensation is granted by the dean. It is the prerogative of the dean to determine (1) whether the courses for which credits were earned are by current standards of the discipline in fact of upper-level substance, and (2) whether the student can demonstrate sufficient retention of the substance to apply it in the present.

## **GENERAL REQUIREMENTS FOR THE MASTER'S DEGREE** (Minimum Standards)

The following general requirements for the master's degree (MA, MS, and MBA) are minimum standards established by the University; individual programs may impose additional, more specific requirements that will be incorporated into an approved Candidate Plan of Studies.

1. Completion of an approved Candidate Plan of Studies of 30 or more semester hours, subject to the following provisions:
  - (a) at least the final 24 hours must be taken in residence;
  - (b) at least 24 hours must represent courses from the 5000 and 6000 series;
  - (c) six hours must be satisfied through one of the Master's Degree Options;
  - (d) grades of A or B must be earned for at least 24 hours of course work;
  - (e) no grade below C may be applied towards the degree;
  - (f) credits earned by correspondence and/or extension may not be applied towards the degree; and
  - (g) no more than 6 hours of C may be applied toward an advanced degree. On the accumulation of 9 hours of C, candidacy will be canceled. Upon the accumulation of 12 hours of C, a student may not re-enroll.
2. Satisfaction of requirements specific to the major area of concentration.
3. Courses completed more than five (5) years prior to admission to graduate study at UH/CLC may not be counted towards fulfilling the required number of hours unless special dispensation is granted by the appropriate dean.
4. One or more of the following options are available for each program leading to a master's degree. Choice of option requires the dean's approval, and not all options are made available.

**Option 1. Master's Thesis:** requires continuous registration in the appropriate thesis research course until completion, for a minimum of 6 hours. Objective: the master's thesis must present evidence of (a) a thorough review and understanding of the literature, (2) the ability to do independent research, and (3) the preparation of a manuscript which conforms to generally recognized standards of scientific and scholarly writing in the discipline. The dean of each school will provide on request a copy of the procedures for selecting an advisor and thesis committee, writing a proposal in advance of starting work, preparing the manuscript, presenting the thesis for approval, binding copies of the completed thesis, and registering for thesis work.

**Option 2. Master's Project:** requires 6 hours in an approved project as prescribed by the individual program; "mini-thesis" included. Objective: the master's project is a sustained work that intellectually supports the degree program but which cannot be readily regarded as a thesis or an internship. The project may be widely and variously conceived; however, it must provide evidence of the ability and effort to carry out a major application of theory or advanced methods relative to master's level course. The dean of the school will provide a copy of detailed procedures.

**Option 3. Graduate Internship:** requires 6 hours in an appropriate graduate internship as prescribed by the individual program. Objective: the master's internship is designed to provide an important learning experience complementary to the academic preparation gained in course work. In general, the internship must represent application of master's level instruction to materials or situations that are new to the student. The internship should provide an opportunity for the student to evaluate the relevance of theoretical or academic perspectives to the real-world environment. The dean of the school will provide a copy of detailed procedures.

**Option 4. Extended Course Work:** requires 6 hours, in addition to all other semester hours requirements, in courses approved by the appropriate program director and dean. A maximum of 12 hours of approved 4000 level courses may be applied to a 36 hour master's degree.

**Appeals:** a student may appeal previous academic actions or decisions by faculty members regarding Master's Degree Options 1, 2, or 3 by writing to the University Review Board, in care of the Provost's Office, asking for further consideration.

## 5. Requesting and Repeating Comprehensive Examinations

Students who have selected degree programs requiring comprehensive examinations are responsible for requesting in writing said examinations from the dean of their school at least ten (10) days prior to the examination. Program directors and/or chairpersons of the student's master's degree committee will offer guidance concerning the student's readiness for the examination and the form of the request.

Students who have been reported to a dean for failing a comprehensive examination may request a second comprehensive

examination no sooner than one full semester after the semester in which the examination was failed initially. Comprehensive examinations normally will not be administered more than two times. Appeals to this policy are heard by the University Review Board.

## **UNDERGRADUATE INTERNSHIP**

The same procedures and written requirements apply to undergraduate internships as to master's internships, except that the level of difficulty of work or other activity required of the interning student will be appropriate to the undergraduate level and to the particular degree program. The dean of the school will provide a copy of detailed procedures.

## **SPECIAL REQUIREMENTS**

Students should be aware of two categories of special requirements that may be imposed beyond the University's general requirements for a bachelor's or master's degree.

### **Requirements Specific to the Major Area of Concentration**

Admission to candidacy in a specific degree program presupposes the establishment of a Candidate Plan of Studies which must include whatever requirements have been officially approved for a program area. Such requirements are shown in the program descriptions in subsequent sections of this bulletin.

If such requirements include an undergraduate internship, the same procedures and written requirements apply to undergraduate internships as to master's internships, except that the level of difficulty of work or other activity required of the interning student will be appropriate to the undergraduate level and to the particular degree program.

### **Foundation Requirements**

It is possible for students to be accepted for matriculation in the University as either undergraduate or graduate students without demonstrating all the foundation requirements for admission to candidacy in a specific degree program. Depending on the major area of concentration, students may be required to take specific courses at an accredited community junior college or at this institution in order to complete foundation requirements before being admitted to degree candidacy. Credits so earned may be in addition to the requirements for the degree itself.



## ADDITIONAL BACHELOR'S DEGREES

Students possessing a bachelor's degree from UH/CLC or another accredited college or university may earn an additional bachelor's degree in a different area of concentration by satisfying the following general requirements:

- (1) fulfillment of the statutory requirements of the State of Texas for history and Constitution, as follows:

Credit for 6 hours, or its equivalent, in American history and 6 hours in the Constitutions of the United States and Texas; 3 hours of each 6-hour requirement may be satisfied by advanced placement or advanced standing examination; 3 hours in Texas history may be applied toward satisfying the history requirement.

- (2) completion of an approved Candidate Plan of Studies subject to the following provisions:
  - (a) at least 30 hours of applicable college credits must be earned;
  - (b) at least the final 30 hours must be taken in residence;
  - (c) at least 24 hours in the major area of concentration must be taken in residence; and
  - (d) grades of A, B, or C must be earned for at least 30 hours of upper-level course work.

- (3) satisfaction of requirements specific to major area of concentration.

Students pursuing an additional bachelor's degree will be classified as undergraduate for all purposes, including standards for academic performance.

Note: Credits earned and applied toward any degree previously earned may not be applied toward a second or additional degree.

## ADDITIONAL MASTER'S DEGREES

Students possessing a master's degree from UH/CLC or another accredited college or university may earn an additional master's degree in a different area of concentration by satisfying the General Requirements for the Master's Degree.

Note: Credits earned and applied toward any degree previously earned may not be applied toward a second or additional master's degree.

## GRADUATION UNDER A PARTICULAR BULLETIN

Students are entitled to graduate under the provisions of the bulletin in effect at the time the Candidate Plan of Studies is filed. With the approval of the student's advisor, program director and dean (graduate students only), the Candidate Plan of Study may be amended to comply with the provisions of bulletins issued *subsequent but not prior* to the initial filing of the Candidate Plan. In no instance, however, may a student earn a bachelor's degree under the provisions of a bulletin more than seven (7) years old or a master's degree under the provisions of a bulletin more than five (5) years old. In the event a student

exceeds these time limits, upper-level and graduate credits earned more than seven or five years previously, whether at UH/CLC or another institution, will no longer be considered applicable to fulfilling total semester hour requirements unless special dispensation is granted by the student's dean and approved by the University Review Board. A student exceeding the time limits will also automatically come under the provisions of a more recent bulletin, the specific edition to be determined by the University Review Board.

## **APPLYING FOR GRADUATION**

Degree candidates must officially apply for graduation at the Registrar's Office during the term in which they plan to graduate. Applications must be filed no later than the date specified in the Academic Calendar. A non-refundable fee of \$10.00 is required. If a student does not graduate at the close of the term for which he or she has applied, it is necessary to apply again and pay the \$10.00 fee during the subsequent term in which he or she intends to graduate.

## **GRADUATION WITH HONORS**

Subject to the approval of the appropriate dean, undergraduate students who complete their degree requirements with exceptionally high scholastic averages will be eligible for bachelor's degrees with honors. Those who are in the top 2.5 percent of their class will be eligible to be graduated summa cum laude; those in the next 2.5 percent, magna cum laude; and those in the next 5.0 percent, cum laude.

Bachelor's degree candidates who have earned one or more grades below C will be ineligible for honors unless they are recommended for honors by their dean.

Rank in the graduating class will be calculated only for work completed at the University of Houston at Clear Lake City.





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# School of Human Sciences and Humanities

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Of all human knowledge, the knowledge of man is the most deserving of his study. Yet this knowledge is not the most cultivated or the most developed which we possess. The generality of men neglect it completely. And even among those who busy themselves with this knowledge, there are very few who dedicate themselves to it.

Malebranche, *In Search of Truth*, 1674

The School of Human Sciences and Humanities is dedicated to the study of people: their individual and social condition, their beliefs, values, aspirations, institutions, cultural achievements, their varied capacity for good and evil, for community and conflict, and with special contemporary urgency, their future potentialities.

The criteria for programs and courses are their relevance to fundamental human concerns, their capacity to deal with things one needs to know in order to live more fully, and the degree to which they illuminate the human condition generally.

The structure of the School of Human Sciences and Humanities is designed to help realize these aims. Instead of many separate departments, there are two interrelated program clusters: Humanities and Human Sciences. Within these programs students may develop either a broadly interdisciplinary plan of study or one that is more narrowly focused and resembles the traditional departmental major. With the help of a faculty advisor, each student develops the kind of program most supportive of his or her own interests and goals.

## ENGLISH PROFICIENCY REQUIREMENT

All degree-seeking undergraduate students enrolled in the School of Human Sciences and Humanities will be required to demonstrate proficiency in writing English. Ordinarily this requirement will be fulfilled by passing, with a grade of C or better, the course in Advanced Writing (COMM 3037). With the permission of the appropriate program director, this proficiency may be demonstrated by other means, such as passing, with an acceptable score, the CLEP Examination in English Composition. Students are urged to fulfill the English proficiency requirement as early as possible.

## **WOMEN'S STUDIES**

The concentration in Women's Studies is intended to allow individuals to study traditional and changing sex roles in various societies, the roles of women from the perspective of different disciplines, and new alternatives for women and men in our society. It is available at both the graduate and undergraduate levels in programs such as Literature, Historical Studies, Humanities, Behavioral Sciences, and Business and Industrial Management. In addition to requirements established by the Women's Studies committee, students must fulfill all requirements set by the program of concentration.

Application and inquiries should be addressed to the dean, School of Human Sciences and Humanities.

## **PROGRAMS IN HUMAN SCIENCES**

Programs in Human Sciences are designed to help the student explore a number of significant human issues: to understand one's self in relation to others; to distinguish what is genuinely personal from what is societal; to help in the difficult processes of value formation and critical thinking; to come to a more subtle appreciation of collective ideals and notions of the good life, the nature of happiness and how to secure it; to cope more intelligently with the complexities and problems of modern society; and to give serious and sustained attention to our collective future, examining means of coping with the unexpected and attempting predictions on which to base rational plans for future development and growth.

Programs in Human Sciences have both strong theoretical and applied orientations. At the same time that they seek better understanding of self and society, they are equally intended to prepare students for a variety of professional careers, ranging from social work and human service agencies to recreation development, and to planning and forecasting. For specific information regarding careers in any of the Human Sciences, students should consult the program director or an appropriate faculty advisor.

### **Behavioral Sciences (Undergraduate)**

The undergraduate program in Behavioral Sciences allows students to combine courses in anthropology, psychology, and sociology according to their interests and goals. Where student interests are centered in one of these fields, the equivalent of a traditional major can be obtained. The faculty have prepared a series of suggested course sequences for students with particular interests; these model programs may be obtained from the program director. Each student is assigned a faculty advisor upon admission to the program, and the faculty advisor works with the student to draw up an appropriate selection of courses.

## **Student Preparation**

Although no specific courses are required prior to admission to the program, the introductory courses in psychology and sociology are strongly recommended. Any additional course work which the student is able to complete in anthropology, psychology, sociology, or the humanities is recommended.

## **Program Requirements**

Courses on the Candidate Plan of Studies will be selected by the student in consultation with the advisor. The Behavioral Sciences major consists of no less than 24 nor more than 42 upper-level hours in anthropology, psychology, and/or sociology. The only requirement for all majors is the 6-hour course in Research Design and Statistical Measurement, which may be taken for credit in either psychology (PSYC 4661) or sociology (SOCI 4061). (This requirement may also be met by taking STAT 3231 and either PSYC 4731 or SOCI 4631 or their equivalents.) Students are strongly encouraged to take course work in areas outside the behavioral sciences, particularly in the humanities.

Students seeking approval for teacher education must have advisement in both education and the field of certification. Students planning to use psychology or sociology as teaching fields must complete a minimum of 24 hours in the chosen specialty in addition to the required hours for a second teaching field and the professional courses in education.

Inquiries should be addressed to the Human Sciences program director.

## **Behavioral Sciences (Graduate)**

The graduate program in Behavioral Sciences leads to the Master of Arts degree. The program is a vehicle for advanced study of human behavior. Although course work is taken primarily in psychology and sociology, students are encouraged to take additional course work in other appropriate areas. Most applicants should have strong undergraduate preparation in the behavioral sciences; those with less than 12 upper-level hours will be required to take additional undergraduate course work before beginning graduate work.

Admission is granted by the dean upon the advice of a faculty admissions committee. The ordinary standard for admission to degree candidacy is at least a 3.0 grade point average. Where there is question of a student's ability to do successful graduate work, admission to degree candidacy will be deferred until the applicant has successfully completed three graduate courses with grades of A or B. Students are assigned to an advisor upon admission to the program.

Applications and inquiries should be addressed to the dean, School of Human Sciences and Humanities.

## **Degree Requirements**

The general requirement for a Master of Arts in the Behavioral Sciences is completion of a minimum of 36 hours, of which 6 hours must be in Master's Degree Option 1, 2 or 3. Option 4 (course work only) is ordinarily not available. The only course required of all majors is the 6-hour course in Research Design and Statistical Measurement, which may be taken for credit in either psychology (PSYC 5065) or sociology (SOCI 5065). This requirement may also be fulfilled by taking STAT 5031 and either PSYC 5034 or SOCI 5231 or their equivalents, or by examination.

The faculty has designed certain sequences of courses in areas such as art therapy and clinical psychology which involve additional required courses, and course work beyond the 36-hour minimum. Inquiries about these sequences should be addressed to the dean, School of Human Sciences and Humanities. The faculty also has prepared a series of suggested course sequences within the 36-hour minimum for students with particular interests. Copies of these model programs may be obtained from the program director.

## **Health, Leisure, and Sports (Undergraduate)**

The program in Health, Leisure, and Sports is designed for students who wish either to study health, leisure, and sports for goals of personal growth or for those students with professional interests in recreation/health services. As a professional program, the emphasis will be on the recreational use of leisure from sociological, psychological, economic, and environmental points of view. Although the program involves significant study of both personal and community health, students interested primarily in health services or health instruction are usually better accommodated in other programs at UH/CLC: Administration of Health Services, Allied Health, or Health Education.

## **Student Preparation**

Although no specific prerequisites must be met prior to admission to the program, a background in the social sciences is strongly recommended.

## **Program Requirements**

All students seeking the Bachelor of Science degree in Health, Leisure, and Sports must complete the following courses or their approved equivalents: HLTH 3031: Health, Emergency Care, and First Aid; HLTH 3041: Physiology of Exercise; HLTH 3042: Biomechanics; PSYC 4535: The Psychology of Play; and SOCI 4036: Sociology of Leisure. Students will take additional courses depending on their concentration in areas of Health, Exercise Science, or Leisure Services. The Candidate Plan of Studies must contain a minimum of 26 upper-level hours in the major.



## **Studies of the Future (Graduate)**

The program in Studies of the Future, which leads to a Master of Science degree, is multidisciplinary, drawing on a variety of subject areas. Unique programs of study may be created to suit individual interests. Students may elect to concentrate in the more quantitative aspects of futures research, forecasting and planning, and are advised to do so if they ultimately intend to seek careers with universities, corporations, or government. Students interested in adding another dimension to their present careers such as teaching at the secondary or community/junior college level, working in the media, or in community organizations may wish to emphasize the study of future trends and substantive issues.

Admission to degree candidacy is granted by the Dean, School of Human Sciences and Humanities, on the advice of the faculty admissions committee. Students with weak undergraduate records will have formal admission to degree candidacy postponed until the first three graduate courses are completed with grades of A or B.

Applications and inquiries should be addressed to the dean, School of Human Sciences and Humanities.

### **Degree Requirements**

Courses are selected with the help of a program advisor assigned upon admission. The Candidate Plan of Studies will include a minimum of 33 hours. Three courses are required: SOCI 4136: Introduction to Futures Studies; SOCI 6331: Forecasting Techniques; and SOCI 6731: Seminar in Futures Studies. Six hours for Master's Degree Options 1, 2, or 3 are included in the 33-hour minimum for the degree. Option 4 (course work only) is ordinarily not available.

Graduate students are invited to participate in on-going research projects sponsored by the Futures Research Committee. Futures-oriented internships are also available in businesses and agencies in the greater Houston-Galveston area.

## PROGRAMS IN HUMANITIES

Liberal Education, viewed in itself, is simply the cultivation of the intellect . . . and its object is nothing more or less than intellectual excellence.

John Henry Newman, *The Idea of a University*

A man that has a taste of music, painting, or architecture, is like one that has another sense, when compared with such as have no relish of those arts.

Joseph Addison, *The Spectator*

The programs in Humanities bring together, in interdisciplinary union, such related and complementary areas of study as literature, history, art, theatre, music, philosophy, religion, languages, and the composite field of "communications." Since these disciplines represent the core of what has traditionally been called the Liberal Arts, the programs in Humanities constitute in part the Liberal Arts College within the larger University.

The programs in Humanities, in identifying with the liberal arts tradition, view education as not merely the business of transmitting knowledge and imparting skills. Going beyond that, the Humanities are dedicated to a set of common principles: that the educational process be intellectually stimulating and challenging; that it insist on clarity of thought, speech, and writing, and encourage the formation of enlightened attitudes, concerns, and values; and, most importantly, that it help develop to the utmost the critical and creative faculties of each student.

### Applied Design and Visual Arts (Undergraduate)

The program in Applied Design and Visual Arts offers studio courses in ceramics, design, drawing, painting, and printmaking as well as a variety of courses in art history and art education. Depending on the availability of facilities and equipment, additional studio courses (e.g. in sculpture and jewelry-making) may be introduced in the future.

The program in Applied Design and Visual Arts is designed to serve the needs of a wide range of students, from those who wish to study art for purposes of personal growth and enrichment, to others who wish to use it in school settings, or to combine it with training in psychology in order to qualify for the practice of art therapy, to those, finally, who wish to lay the foundation for a professional career in art.

Although the Visual Arts program does not offer a graduate degree, qualified students have the option of earning graduate-level credit and applying it toward an M.A. in Humanities.

For additional information, call or write the director, programs in Humanities.

## Student Preparation

Although there are no specific prerequisites for admission to the program, it is highly recommended that students have experience (or at least strong interest) in some area of art.

## Program Requirements

The courses to be included in the Candidate Plan of Studies will be selected by the student and his or her advisor to meet individual interests and needs. Students interested in art education must discuss their curriculum with advisors in both the art and professional education programs; those interested in art therapy must be sure to plan their curriculum with the appropriate advisor in the Behavioral Science program.

## Historical Studies (Undergraduate)

The program in Historical Studies is broadly conceived to include all aspects of human development and heritage, whether political, social, religious, cultural, or philosophical. Hence an undergraduate degree program in Historical Studies is not limited to history courses but should draw from the entire range of related offerings, such as for instance, anthropology, art, and economics. Students who plan to teach history and/or government in secondary school should select this program area.

To graduate with a degree in Historical Studies, students must have successfully completed at least 24 semester hours in history, of which at least 18 hours must be upper-level and at least 12 must be taken at UH/CLC. Among the courses at UH/CLC must be at least one semester of *Basic Texts in the Western Tradition* (HIST 3031 or 3033). Students are also required to fulfill, as are all bachelor's degree candidates in the School of Human Sciences and Humanities, the English proficiency requirement.

For additional information, call or write the director, programs in Humanities.

## Student Preparation

There are no specific prerequisites for admission to the program other than intellectual curiosity and a lively interest in how ideas, institutions, societies, and individuals change and have changed over time.

## Program Requirements

The specific courses to be included in the Candidate Plan of Studies will be selected by students and their advisors to meet individual needs and interests. Students who choose a conventional history concentration will probably want to emphasize either America or Europe; among more unconventional options could

be a regional or thematic concentration in, for instance, the South, religious movements in Europe and America, etc.

Students who plan to teach social science (history and/or government) in secondary school must have dual advisement, both in the subject field(s) and in professional education.

Qualified students are encouraged to include the Undergraduate Honors Thesis in their Plan of Studies.

## **Historical Studies (Graduate)**

The graduate program in Historical Studies leads to the Master of Arts degree. Since the program is designed to facilitate an advanced level of historical inquiry, applicants for graduate degree candidacy should have had considerable undergraduate training in history. Students who lack sufficient background may be required to take supplementary course work before being admitted to candidacy.

### **Degree Requirements**

Each master's degree candidate devises his or her own Plan of Studies, with the assistance and approval of a faculty advisor. The plan must include a minimum of 30 semester hours of credit, inclusive of Master's Degree Options 1 or 2, or a minimum of 36 hours inclusive of Option 4.

For the successful completion of Master's Degree Option 1, the Master's Thesis, the student will be expected to do original work in some field of historical inquiry. Emphasis should be placed on the creative use of materials and methods, including those which can be appropriately borrowed from complementary disciplines such as literature, art, sociology, and psychology. The presentation of the thesis need not be limited to the traditional style. It may include forms such as film, videotape, or theatre.

For the successful completion of Master's Degree Option 4, comprehensive examinations will be required.

## **Humanities (Undergraduate)**

The undergraduate program in Humanities leads to the Bachelor of Arts degree. The program is designed to accommodate students who seek a general and unitive understanding of the liberal arts. Since a humanities concentration allows the student to draw from the entire range of courses offered by the University, it also imposes the responsibility for putting together a Plan of Studies which demonstrates an adventurous balance between variety and coherence.

Some humanities students may wish to specialize in American or European Studies. These options provide a broad perspective on America or Europe by bringing together literature, history, anthropology, philosophy, religion, art, music, theatre, and the social sciences--as they contribute to the examination of critical issues in these cultures.

The openness of this degree program offers endless possibilities for devising integrative, creative Plans of Studies suited to individual needs and interests. In addition to the thematic concentration mentioned above, a student could specialize in Women's Studies, the philosophical and religious concepts underlying Western civilization, or a combination of art and music (since the University offers courses but no degree in music).

For additional information, call or write the director, programs in Humanities.

### **Program Requirements**

Candidates for the bachelor's degree in Humanities are required to take both semesters of *Basic Texts in the Western Tradition* (HIST or LITR 3031, 3033). Students must also fulfill, as do all B.A. candidates in the School of Human Sciences and Humanities, the English proficiency requirement.

Other courses to be included in the Candidate Plan of Studies will be selected by the student in consultation with his or her advisor. Qualified students are encouraged to include the Undergraduate Honors Thesis in their Plans of Studies.

### **Student Preparation**

While there are no specific prerequisites for admission to the program, a background in the humanities and an interest in making conceptual connections among two or more of the program areas are desirable.

### **Humanities (Graduate)**

The graduate program in Humanities leads to the Master of Arts degree. Applicants should have a strong background in literature, history, philosophy, religion, or the arts and be prepared to formulate and carry through, on an advanced level, the kinds of integrative studies suggested at the undergraduate level. Applications and all inquiries should be addressed to the dean, School of Human Sciences and Humanities.

### **Degree Requirements**

The Candidate Plan of Studies will include a minimum of 30 semester hours inclusive of Master's Degree Option 1 or 2 or a minimum of 36 hours inclusive of Option 4.

### **Literature (Undergraduate)**

The undergraduate program in Literature leads to the Bachelor of Arts degree. Students entering the program may choose from a variety of curricular options ranging from an individualized Plan of Studies designed

to meet a student's particular interests and needs to more traditional concentrations in American, English, European, or Comparative Literature.

Creative writing and journalism courses are listed under Communications (COMM) and may be incorporated in a Literature concentration.

All students concentrating in Literature are required to take at least one semester of *Basic Texts in the Western Tradition* (LITR 3031 or 3032). Students must also fulfill, as do all bachelor's degree candidates in the School of Human Sciences and Humanities, the English proficiency requirement.

Students who plan to teach English in secondary schools should select this program area.

For information, call or write the director, programs in Humanities.

### Student Preparation

There are no specific prerequisites for admission to the program other than intellectual curiosity, love of reading, and a strong foundation in English composition. Students who plan to teach English in secondary school should have dual advisement, both in their subject field and in professional education.

### Program Requirements

Students who choose the American Literature option will explore native traditions in poetry, fiction, drama, biography, and the essay. English Literature offers the full range of British and Irish works from the Middle Ages to the present. The Comparative Literature option allows students with strong literary inclinations to pursue the coordinated study of two or more national literatures. Students have the option of planning concentrations around a central theme (e.g. Women in Literature).

Qualified students are encouraged to include the Undergraduate Honors Thesis in their Plan of Studies.

### Literature (Graduate)

The graduate program in Literature leads to the Master of Arts degree. Students may study literature from the distant past to the immediate present, or they may specialize in the literature of a single period. They may choose to read widely in a number of literatures, spreading their course selections among American, British, Continental, and Russian authors, for example, or they may work intensively with the literature of a single nation—normally England or the United States.

Applicants for graduate degree candidacy in Literature should have had considerable undergraduate training in literature. Students who lack a

sufficient background may be required to take additional courses before admission to candidacy. Applications and all inquiries should be addressed to the dean, School of Human Sciences and Humanities.

### **Degree Requirements**

Each master's degree candidate in Literature creates his or her own Candidate Plan of Studies with the assistance and approval of a faculty advisor. The plan must include a minimum of 30 semester hours inclusive of Master's Degree Option 1 or 2 or a minimum of 36 hours inclusive of Option 4. For the successful completion of Option 1, the Master's Thesis, students will be expected to write an original essay in literary criticism and/or scholarship. Option 2, the Master's Project, offers students the choice of completing their degree by doing some other substantive, original work of a literary nature. Although normally this will be a piece of creative writing, such as a long short story, a one-act play, a collection of poems, etc., students may work out, with their faculty advisor, still other approaches to the Master's Project.

Wherever appropriate, students are encouraged to elect graduate courses in complementary disciplines (e.g. communications, history, anthropology, sociology, and psychology).

All master's degree candidates are required to pass a comprehensive examination. This examination will be designed to reflect and support the course of study the student has chosen.

### **Theatre Arts (Undergraduate)**

The undergraduate program in Theatre Arts leads to the Bachelor of Arts degree. As an area of study in the Humanities, the Theatre program offers students the opportunity of combining thorough training in dance and/or drama with extensive work in literature, art, history, psychology, music, and/or other subjects of interest or relevance from the whole range of the University's course offerings.

Students may wish to enter the Theatre program for various reasons: either because they are considering a career in dance or drama or the arts, because they are preparing to teach, or simply to be involved in the theatre for personal enrichment and pleasure.

Although the Theatre Arts program does not offer a graduate degree, qualified students have the option of earning graduate-level credit and applying it toward an M.A. in Humanities or Literature.

The program in Theatre Arts is conducted in a professionally equipped theater facility with a large proscenium stage, scene and costume shops, and a house seating 510. Prospective students are invited to visit the theater and discuss their academic and career plans with the staff.

For appointments and information, call or write the director, programs in Humanities.

### **Student Preparation**

While there are no specific prerequisites for admission to the program, prospective students should have some experience or at least strong interest in theatre.

### **Program Requirements**

The course and projects in Theatre Arts to be included in the Candidate Plan of Studies will be selected by the student and his or her advisor to reflect individual needs and program objectives.





# School of Professional Studies

The School of Professional Studies prepares leaders for the marketplace, schools, and government. Three program clusters form the School: (1) Business and Industry; (2) Professional Education; and (3) Public Affairs. Each program cluster consists of a complex of studies traditionally separated into discrete departments. These clusters are unified in their objective to provide specialized skills associated with the management and services of both public and private institutions.

In keeping with the philosophy of preparing students for employment, there is close exchange between the programs and the community. Working professionals in business, education, and government are invited to share their expertise with faculty and students; it is believed that active professionals have much to share with potential professionals.

## Programs in Business and Industry

Programs in Business and Industry are designed to prepare middle and higher-echelon administrators and managers. Students may select one of the following concentrations: Accounting and Finance (BS, MS); Business and Industrial Management (BBA, MBA); Economics (BBA, MS); or Transportation (BS, MS). Specialization within these programs is possible to the extent described below under each program heading.

## Student Preparation (Undergraduate)

All degree-seeking students in the Business and Industry cluster should complete the following in preparation for upper-level study:

Accounting Principles	6 hours
Behavioral Sciences	6 hours
Economic Principles	6 hours
Mathematics	6 hours
Natural Sciences	6 hours

Students who do not have the recommended preparation and who cannot demonstrate proficiency through examination may be required to take additional courses before enrolling for core or concentration requirements.

## Student Preparation (Graduate)

Students applying for graduate degree candidacies in Business and Industry should possess a bachelor's degree in the same or closely related field. Applicants

whose undergraduate degrees are in fields others than business may apply, but preparatory work may be required before admission to candidacy. All students seeking a master's degree must submit scores on the Graduate Management Admissions Test (GMAT) during the first academic year of enrollment. Admission to candidacy is generally based on a GMAT score of 450 and a grade point average (GPA) of 2.50, where a GPA of 3.0=B.

### Core Requirements (Undergraduate)

The courses below or their approved equivalents constitute the required core. Students with excellent preparation or those who demonstrate advanced proficiencies through special examination may already have satisfied portions of these requirements.

ACCT	3331*		MGMT	3231
COMM	3133		MGMT	3232*
FINC	3131 or ECON	3331	MGMT	4132
FINC	3331		MGMT	4534
MGMT	3031		MKTG	3031
MGMT	3033		STAT	3231
MGMT	3131**		STAT	3232*

\*To be taken for Accounting and Finance concentrations only.

\*\*To be taken for concentrations other than Accounting and Finance.

### Accounting (Undergraduate)

The program in Accounting leads to the Bachelor of Science degree and is administered by the director of programs in Business and Industry in the School of Professional Studies. Students specializing in Accounting follow a curriculum with the guidelines of The Accounting Laws and Rules of the State of Texas, Board of Accountancy, as preparation for the C.P.A. examination.

### Concentration Requirements

The concentration consists of the following courses plus the number of hours in approved electives necessary to complete general degree requirements.

ACCT	3333	ACCT	4331
ACCT	3431	ACCT	4431
ACCT	3432	ACCT	4532

## Finance (Undergraduate)

The program in Finance leads to the Bachelor of Science degree and is administered by the director of programs in Business and Industry in the School of Professional Studies. Students specializing in Finance are prepared for careers in commerce and industry calling for knowledge of the organization of financial aspects of the business world and the impact of monetary and fiscal policies on the business community.

### Concentration Requirements

The concentration consists of the following courses plus the number of hours in approved electives necessary to complete general degree requirements.

ACCT 3431

ACCT 3432

FINC 4332

6 semester hours of Finance electives

## Accounting (Graduate)

The graduate program in Accounting leads to the Master of Science degree and is administered by the dean of the School of Professional Studies.

### Preparatory Requirements

Students with undergraduate degrees in Business may have satisfied many of these requirements or their equivalents.

ACCT 3431

ACCT 3432

ACCT 4532

ACCT 5031

ECON 5031

FINC 5031

MGMT 5031

MGMT 5035

MKTG 5031

STAT 5031

### Degree Requirements

The Candidate Plan of Studies will include a minimum of 30 hours, inclusive of Master's Degree Option 1 or 2; or 36 semester hours, inclusive of Option 4, with specific requirements as follows:

ACCT 5132

ACCT 5331

ACCT 5332

ACCT 6731

The remaining hours will be elective hours, at least 6 of which must be in Accounting, exclusive of a thesis if that Option is chosen. A student whose

previous work does not include ACCT 5131, or equivalent, may include this course as an Accounting elective.

## Finance (Graduate)

The graduate program in Finance leading to the Master of Science degree is administered by the dean of the School of Professional Studies.

### Preparatory Requirements

Students with undergraduate degrees in business may have satisfied many of these requirements or their equivalents.

ACCT	3431	MGMT	5031
ACCT	3432	MGMT	5032
ACCT	5031	MGMT	5035
ECON	5031	MKTG	5031
FINC	5031	STAT	5031

### Degree Requirements

The Candidate Plan of Studies will include a minimum of 30 hours, inclusive of Master's Degree Option 1 or 2; or, 36 hours, inclusive of Option 4, with specific requirements as follows:

Finance Concentration			Banking Option	
FINC	5131		FINC	6131
FINC	5133	or	FINC	6132
FINC	6731		FINC	6532

The remaining hours will be elective hours, at least 9 of which must be in Finance. If the Thesis Option is chosen, these 6 hours credit may be counted as Finance electives.

## Business and Industrial Management (Undergraduate)

The program in Business and Industrial Management leading to the Bachelor of Business Administration degree is administered by the director of programs in Business and Industry in the School of Professional Studies. Students have the choice of pursuing a general business curriculum; specializing in the industrial, marketing, and personnel aspects of management; or in economics.

## Concentration Requirements

The concentration consists of the courses from one of the following specialization groups plus the number of semester hours in approved electives necessary to complete general degree requirements.

### General Business

15 hours  
of Business and  
Industry electives

### Industrial

ACCT 3333  
MGMT 3332  
MGMT 4131  
MGMT 4332  
Business and Industry  
elective.

### Marketing

MKTG 3131  
MKTG 3331  
MKTG 3531  
MKTG 4131  
MKTF 4631

### Personnel

ECON 4331  
MGMT 3331  
MGMT 3531  
MGMT 4531  
Business and Industry  
elective.

### Economics

ECON 3332  
ECON 4731  
Nine (9) semester hours  
of Economics electives.

## Business and Industrial Management (Graduate)

The graduate program in Business and Industrial Management leading to the Master of Business Administration degree is administered by the dean of the School of Professional Studies.

### Preparatory Requirements

Students with undergraduate degrees in Business may have satisfied many of these requirements or their equivalents:

ACCT 5031  
ECON 5031  
FINC 5031  
MGMT 5031

MGMT 5032  
MGMT 5035  
MKTG 5031  
STAT 5031

## Degree Requirements

The Candidate Plan of Studies will include a minimum of 30 hours, inclusive of Master's Degree Option 1, 2, or 3; or 36 hours, inclusive of Option 4. The following courses are required of all candidates:

ACCT	5131	MGMT	5132
ECON	5136	MGMT	5431
FINC	5133	MGMT	6731
MGMT	5134	MKTG	5332

## Transportation (Undergraduate)

The program in Transportation leading to the Bachelor of Science degree is administered by the director of programs in Business and Industry in the School of Professional Studies. This concentration includes an analysis of the transportation services and management problems—with specific emphasis on pricing, financing, organization—of the five modes of transportation and the regulation of transportation in our economy. The effective management of transportation involves a study of the components of physical distribution, logistics and its interaction with procurement, the level and control of inventories, warehousing, material handling, transport, and data processing.

The curriculum in Transportation is designed to prepare students to assume responsible positions with carriers, government agencies, and traffic and physical distribution management in industry.

### Concentration Requirements

The concentration consists of the following courses plus the number of hours in approved electives necessary to complete general degree requirements.

TRAN	3131	6 hours of
TRAN	4332	Transportation electives
TRAN	3132 or 4731	

## Transportation (Graduate)

The graduate program in Transportation leading to the Master of Science degree is administered by the dean of the School of Professional Studies. The program prepares students for managerial and executive positions in transportation. Maximum flexibility is allowed in that the student may concentrate during the latter part of the program in either the physical distribution/logistics or the transportation systems aspect of the industry. The program also serves as a function for pursuit of doctoral programs in Transportation.

### Preparatory Requirements

Students with undergraduate degrees in business may have satisfied many of these requirements or their equivalents:

ACCT	5031	MGMT	5032
ECON	5031	MGMT	5035
FINC	5031	MKTG	5031
MGMT	5031	STAT	5031

### Degree Requirements

The Candidate Plan of Studies will include a minimum of 30 hours, inclusive of Master's Degree Option 1 or 3; or 36 hours, inclusive of Option 4. The following courses are required of all candidates:

TRAN	5332	6 hours
TRAN	5133	selected from
TRAN	5331	TRAN 6733, 6734,
		6735, 6736, 6731,
		or 6931

If Option 4 is chosen, the student must choose 9 hours from the following list in addition to the 15 hours required above:

TRAN 4331, 4332, 5131, 5132, 5331, 5531, 6734,  
6735, 6736, 6731, GEOG 5334.

### Economics (Graduate)

The graduate program in Economics leading to the Master of Science degree is administered by the dean of the School of Professional Studies. Depending on student interest, either business or social science components of economics may be emphasized. The program is a foundation for those who may pursue doctoral training in economics.

### Preparatory Requirements

Students with undergraduate degrees in business may have satisfied many of these requirements or their equivalents:

ACCT	5031	MGMT	5032
ECON	5031	MGMT	5035
FINC	5031	MKTG	5031
MGMT	5031	STAT	5031

### Degree Requirements

The Candidate Plan of Studies will include 30 hours, inclusive of the Master's Degree Option 1 or 2; or 36 hours, inclusive of Option 4, with specific requirements as follows:

ECON	5333
ECON	5334
ECON	5533

The remaining hours will be elective hours, at least 12 of which must be in economics. If the Thesis Option is chosen, these 6 hours may be counted as economics electives.





## **PROGRAMS IN PROFESSIONAL EDUCATION**

Programs in Professional Education offer preparation in the academic and teaching specialties for careers ranging from kindergarten through community junior college levels of teaching and administration. The objective is to provide future and practicing educators with the highest professional qualifications through on-campus classroom and laboratory activities and off-campus field experiences.

Undergraduate students may select from a variety of areas of specialization in both elementary and secondary education. Students who already hold or who are qualifying for provisional certificates may seek the following endorsements: bilingual, early childhood for exceptional children, kindergarten and language/learning disabilities. Graduate students with provisional certificates may qualify for advanced certificates while meeting requirements for the master's degree or they may enter master's degree programs not related to certification.

All programs in professional education are under the supervision of the director of programs in Professional Education. Questions and correspondence should be addressed to the director.

### **Preparation for Teaching Elementary Level**

Students preparing to teach at the elementary level should have a broad understanding of cultural heritage and of the physical and social development of children. In addition to these foundations, students should become proficient in professional aspects of teaching and select areas of specialization and support to accompany the foundation and professional training. Areas of specialization available to students working toward elementary certificates include bilingual teaching, biology, earth science, English, geography, government, health education, history, life/earth middle school science, mathematics, psychology, reading, sociology, and Spanish.

### **Undergraduate Students**

A concentration in elementary education leading to the Bachelor of Science degree and qualifying a successful student for a provisional certificate is administered by the director of programs in Professional Education. The program has been prepared within the guidelines of the Texas Education Agency.

### **Student Preparation**

The academic foundation every student is expected to have before entering the elementary education program corresponds to the core curriculum prescribed by the Coordinating Board, Texas College and University System, for the community junior college students in Arts and Sciences preparing to transfer

to a senior college or university. The following are suggested as an appropriate preparation.

English	12 hours
American History	6 hours
U.S. and Texas Government	6 hours
Mathematics for Elementary Teachers	6 hours
Science or Foreign Language	6 hours from one
Fine Arts or Classics	3 hours
Behavioral Sciences	6 hours
Multicultural Studies	3 hours
Oral Communications	3 hours

In addition, students are encouraged to earn an additional 9 to 12 hours in one of the areas of specialization for elementary education. Students who do not meet all of the recommended lower division preparation and who cannot demonstrate proficiency through special examination may be required to take additional courses before being approved for teacher education.

### **Professional Courses**

The professional courses for students preparing for careers in elementary education are the following.

EDUC 30v1	ELEM 3361
ELEM 3131	ELEM 3391
ELEM 3331	ELEM 3561
ELEM 3332	

### **Areas of Specialization**

Most of the areas of specialization for elementary education have options and special requirements; a total of 18 to 24 hours (at least half of which must be in upper-level courses) constitutes an area of specialization. Since individuals vary widely in previous preparation and in fields of interest, the requirements and options for each specialization area are not given here. Students should discuss specialization with advisors at the University in order to determine precise requirements.

### **Support Areas**

A total of 12 to 18 hours are required in educational support areas. GEOG 3137 or its equivalent and READ 4131 or its equivalent are required of all students; other support areas include earth science, economics, geography, health education, linguistics, psychology, reading, sociology, and courses for elementary teachers in art, music, and physical education.

## Completion of the Program

After matriculation as an undergraduate, a student must be admitted to candidacy for the program in elementary education. Individuals having the recommended academic foundations and meeting the general requirements for matriculation may be admitted to degree candidacy in elementary education.

After admission to degree candidacy, each student must make formal application for teacher education; information and forms are available in the Office of the Director of Programs in Professional Education. During the first full semester (or first nine hours of course work attempted), the student must maintain a grade point average of 3.00 (B=3.00) in all professional education courses including EDUC 30v1 and a grade point average of 2.50 in the academic specialization area. Grades lower than C in professional courses do not satisfy certification requirements. Students who maintain high standards of academic performance in the program will be permitted to remain in candidacy and in teacher education. Students who complete all requirements will be recommended to the Texas Education Agency for certification.

## Graduate Students

It is possible that individuals who already possess a bachelor's degree in a field other than elementary education will wish to satisfy certification requirements of the Texas Education Agency. A sequence of courses which will meet these requirements is administered by the director of programs in professional education. A maximum of 30 hours in professional education is required; in addition, the development of an area of specialization of 18 hours may be required to prepare such persons as elementary teachers. This mode of qualifying for certification does not necessarily lead to a master's degree and the courses taken strictly for certification are not necessarily applicable to a graduate degree.

Students who wish to qualify for an elementary certificate in this manner must submit official transcripts from all institutions attended to the Office of Admissions for determination of grade point average. Students seeking graduate certification must have maintained a minimum grade point average of 2.50 (B=3.00) in the last 60 hours of course work. In course work at UH/CLC, students must maintain a 3.00 average in professional education courses and 2.50 in their area of specialization in order to be recommended for certification.

The courses taken by graduate students in order to qualify for a provisional certificate at the elementary level are selected from the following:

EDUC 4131	*ELEM 5131	ELEM 6331
EDUC 5031	*ELEM 5132	HLTH 6031
EDUC 6031	*ELEM 5133	READ 4533
EDUC 6332	ELEM 57v9	
EDUC 6333	PSYC 5031 or 5033 or 5034 or 5132	

For students without teaching experience, ELEM 57v9 is required.

\*required methods courses

## Certificate Endorsements

Teachers who already possess provisional certificates may add endorsements through sequences of courses which will meet requirements of the Texas Education Agency. Course work leading to these endorsements is administered by the director of programs in Professional Education. Qualifying for endorsements does not lead to a master's degree; individuals who wish endorsements as additions to bachelor's degree programs or in conjunction with earning the master's degree should determine precise requirements for such combinations through conference with an advisor.

## Bilingual Endorsement

Individuals seeking the bilingual endorsement must demonstrate written and oral proficiency in Spanish and English. The requirement for endorsement is 24 hours, including a practicum in a bilingual setting for those without teaching experience. All students must take LING 4331: Teaching English as a Second Language. The remaining hours are to be selected, with consent of the advisor, from the following list of courses to include three hours from each of the components.

### Foundation Component

BLNG 4931  
EDUC 3531  
EDUC 5032  
EDUC 5731  
SOCI 5331

### Psychological Component

BLNG 5031  
PSYC 4134  
PSYC 4135  
PSYC 4931  
PSYC 5031

### Linguistics Component

LING 4331  
LING 5031  
LING 5032

### Cultural Component

EDUC 3531  
EDUC 5331  
LITR 4331  
SOCI 4532  
SPAN 4032  
SPAN 4331  
SPAN 4332

### Methodology Component

BLNG 5032  
BLNG 5931  
EDUC 4131  
EDUC 4931  
EDUC 5132

## Kindergarten Endorsement

### Undergraduate Students:

Individuals who wish to qualify for an elementary provisional certificate and kindergarten endorsement must

- a) complete all requirements for an elementary provisional certificate with three hours in student teaching (ELEM 3731);
- b) complete all requirements for kindergarten endorsement with three hours in student teaching (ECED 3731). The kindergarten endorsement requirement comprises 12 hours in early childhood courses including EDEC 4031: Teaching Preschool Children. Other courses applicable to the endorsement include the following:

ECED 4032  
ECED 4131

ECED 4132  
ECED 4931

### Graduate Students:

Individuals who already possess a provisional certificate and are seeking the kindergarten endorsement need a total of 18 hours, including ECED 5031: Teaching Young Children and ECED 57v9 (practicum in a kindergarten setting for those without teaching experience). Other courses applicable to the endorsement include the following.

ECED 5032  
ECED 5131  
ECED 5132

ECED 5331  
ECED 5931  
ECED 59v9

## Early Childhood Education for Exceptional Children Endorsement

Individuals holding the LLD endorsement will complete the ECED component; those holding the kindergarten endorsement will complete the LLD component to qualify for certification in early childhood education for Exceptional Children. Prerequisite to this endorsement are a bachelor's degree and an elementary teaching certificate.

All students must complete 12 hours in ECED courses and 12 hours in DIAG courses, including ECED 57v9 or DIAG 57v9 (practicum in a kindergarten setting for those without teaching experience) selected from the following.\*

*ECED 5031	ECED 5132 or DIAG	5032
*DIAG 5031	ECED 5032 or DIAG	5331
*DIAG 5133	ECED 5331 or DIAG	5131
	ECED 5131 or DIAG	5132

\*required courses

## Language/Learning Disabilities Endorsement

### Undergraduate Students:

Individuals who wish to qualify for an elementary provisional certificate and language/learning disabilities endorsement must

- a) complete all requirements for an elementary provisional certificate with three hours in student teaching (ELEM 3731);
- b) complete all requirements for L/LD endorsement with three hours in student teaching (DIAG 3731). The L/LD endorsement requirement comprises 12 hours in diagnostic courses, including DIAG 4031 and DIAG 4032. Other courses applicable to the endorsement include the following.

DIAG 4131  
DIAG 4132

DIAG 4133  
DIAG 4931

### Graduate Students:

Individuals who already possess a provisional certificate and are seeking the language/learning disabilities endorsement need a total of 21 hours, including DIAG 5031, DIAG 5032, and DIAG 57v9 (practicum in a diagnostic setting for those without teaching experience). Two courses or their equivalents are prerequisite to work toward the endorsement: PSYC 5031 and PSYC 5034. Other courses applicable to the endorsement include the following:

DIAG 5131  
DIAG 5132  
DIAG 5133

DIAG 5331  
DIAG 5931  
DIAG 59v9

## All-Level Learning Resources Endorsement (Formerly Library Science Endorsement)

Individuals seeking the all-level learning resource endorsement need both a bachelor's degree and a Texas teaching certificate. They must complete 21 hours of specialized work, including 3 hours in school library practice. Prerequisite to certification is READ 4532 or READ 4533 or an equivalent.

Courses applicable to certification are the following:

ADMN 6334  
EDUC 4132  
EDUC 5031  
LIBR 6131

LIBR 6132  
LIBR 6133  
LIBR 6739

This endorsement is intended for students who plan careers as school librarians. Students who plan careers in other library settings should seek special advisement.

## Advanced Programs: Elementary Level

Graduate students have two opportunities to earn the master's degree in elementary education. Experienced elementary teachers may wish to earn the master's degree and to qualify for the professional certificate in elementary education in a single sequence of courses; others may wish to earn the master's degree without satisfying special requirements for an advanced certificate. Students should discuss educational objectives with an advisor before making a choice to avoid non-applicable courses.

### Master's Degree and Professional Certificate

A concentration in elementary leading to the Master of Science degree is administered by the director of programs in Professional Education and the Dean of the School of Professional Studies. The program provides training at an advanced level in elementary education and qualifies students having the provisional certificate and a minimum of three years teaching experience for the professional certificate.

Applicants for candidacy must have an appropriate background in elementary education, areas of specialization, and related fields. Admission to candidacy for the M.S. degree with concentration in elementary education is restricted to students with a minimum grade point average of 3.00 (B=3.00) in the last 60 hours of course work.

This program requires a total of 36 hours, including Option 4, from the University's general requirements for the master's degree. A total of 12 hours are to be selected from one of the following areas of specialization: English, geography, government, history, mathematics, psychology, reading, sociology, or Spanish. Three hours must be selected from a resource area such as the humanities, the behavioral sciences, or multicultural studies. Nine hours are to be selected from the following professional methods courses:

EDUC 6332	ELEM 6331
ELEM 5131	HLTH 6031
ELEM 5132	PSYC 5033
ELEM 5133	READ 5433

Courses required of all candidates are EDUC 6132, EDUC 6333, EDUC 6531, and either PSYC 5031 or PSYC 5132. All candidates are required to perform at a satisfactory level on a comprehensive examination.

### Master's Degree in Elementary Education

A concentration in elementary education leading to the Master of Science degree is administered by the director of programs in Professional Education and the Dean of the School of Professional Studies. The program provides a comprehensive graduate specialization in elementary education, including the

application of theory to classroom situations. Although it is anticipated that the majority of students will have backgrounds in elementary education, students with undergraduate degrees in other fields may enter the program. Individuals with minimal previous training in education may be required to complete preparatory work prior to achieving candidacy. Admission to candidacy for the degree is restricted to students with a minimum grade point average of 3.00 (B=3.00) in the last 60 hours of course work.

The Candidate Plan of Studies will include 36 hours of credit, including Master's Degree Option. Students must earn 12 hours in courses chosen with the consent of the advisor; these courses are to be related to the student's specific interests in elementary education. An additional 12 hours must be earned in EDUC 6132, EDUC 6333, EDUC 6531, and either PSYC 5031 or PSYC 5132.

If Option 2 is chosen, at least 6 hours must be earned in EDUC 6839: Master's Project. Applied Field Research. If Option 4 is chosen--a student in Education is satisfying requirements for certification. A student must complete 6 hours in graduate courses approved by the appropriate dean.

## **Preparation for Teaching Secondary Level**

Students preparing to teach at the secondary level should have strong academic backgrounds in their teaching fields, proficiency in professional aspects of teaching, and directed field experiences in the classroom setting. Areas of specialization available to students working toward secondary certificates include biology, chemistry, earth science, economics, English, geography, government, health education, history, life/earth middle school science, mathematics, physical sciences, physics, psychology, reading, science (composite), social science, sociology, and Spanish.

## **Undergraduate Students**

Students who wish to prepare for careers as secondary teachers are expected to become candidates for the bachelor's degree in one or more subject matter fields and to qualify for the teaching certificate by meeting the requirements of the Texas Education Agency. All students who wish to become secondary teachers will have dual advisement; the professional education elements are administered by the director of programs in Professional Education while the academic areas are administered by the appropriate program directors. The professional education sequence for secondary education students has been prepared within the guidelines of the Texas Education Agency.

## **Student Preparation**

The academic foundation which every student should have before entering the secondary education sequence corresponds to the core curriculum prescribed by the Coordinating Board, Texas College and University System, for community junior college students in the arts and sciences preparing to transfer



to a senior college or university. The following are suggested as an appropriate preparation:

English	12 hours
American History	6 hours
U.S. and Texas Government	6 hours
Mathematics, Science or Foreign Language	12 hours from two
Fine Arts and Classics	3 hours
Behavioral Sciences	6 hours
Multicultural Studies	3 hours
Oral Communications	3 hours

In addition to this preparation, students are encouraged to have earned at least 12 additional hours in each of two of the areas of specialization for secondary teachers. Students who have not had all of the recommended preparation and who cannot demonstrate proficiency through special examination may be required to enroll in additional courses before being approved for teacher education.

### **Professional Courses**

The professional courses for students preparing themselves for secondary education are EDUC 30v1, SCED 3161, and SCED 3561.

### **Areas of Specialization**

For secondary education, each area of specialization consists of a minimum of 24 hours in an academic area. Students are expected to have two areas of specialization except for a few areas where a single broad field of specialization of a minimum of 48 hours is acceptable. Since areas of specialization have specific requirements and since individual students vary widely in preparation, the requirements for each area of specialization are not given here. Students should discuss areas of specialization with both academic and professional education advisors to determine precise requirements.

### **Qualifying for Certification**

After matriculation as an undergraduate, a student must be admitted to candidacy for the degree program in an academic specialty. Individuals having the recommended academic foundations may enroll in professional education courses as soon as the Candidate Plan of Studies is approved by the education advisor. After being admitted to degree candidacy, each student must make formal application for teacher education; information and forms are available in the Office of the Director of Programs in Professional Education. During the first full semester (or first nine hours attempted), the student must maintain a

grade point average of 3.00 (B=3.00) in all professional education courses, including EDUC 30v1, and a grade point average of 2.50 in both academic areas. Grades lower than C in professional courses do not satisfy certification requirements. Students who maintain high standards of academic performance in the program will be permitted to remain in teacher education. Students who complete all requirements will be recommended to the Texas Education Agency for certification.

### **Graduate Students**

It is possible that individuals who already possess a bachelor's degree in an academic field will wish to satisfy certification requirements of the Texas Education Agency. A sequence of courses which will meet those requirements is administered by the director of programs in Professional Education. A total of 18 hours of course work in professional education is required in addition to such courses as may be necessary to develop two areas of specialization.

This mode of qualifying for secondary certification does not necessarily lead to a master's degree and the courses taken strictly for certification are not necessarily applicable to a graduate degree.

Students who wish to qualify for a secondary certificate in this manner must submit official transcripts from all institutions attended to the Office of Admissions for determination of grade point average. Students seeking graduate certification must have maintained a minimum grade point average of 2.50 (B=3.0) in the last 60 hours of course work. In course work at UH/CLC, students must maintain a 3.00 average in professional education courses and 2.50 in their area of specialization in order to be recommended for certification.

The professional courses to be taken in qualifying for a provisional certificate at the secondary level by graduate students are selected from the following:

EDUC 4131	SCED 5131	PSYC 5031 or
EDUC 5031	SCED 5132	PSYC 5034 or
EDUC 6031	SCED 5031	PSYC 5132 or
EDUC 6332	SCED 57v9	PSYC 5331
EDUC 6333		

For students without teaching experience, SCED 57v9 is required.

### **Advanced Programs: Secondary Level**

Graduate students have two modes for earning the master's degree in secondary education. Experienced high school teachers may wish to earn the master's degree and to qualify for the professional certificate in secondary education in a single sequence of courses; other students may wish to earn the master's degree without satisfying special requirements for an advanced certificate. Students are urged to discuss educational objectives with an advisor before making a choice to avoid non-applicable courses.

## **Master's Degree and Professional Certificate**

A concentration in secondary education leading to the Master of Arts degree is administered by the director of programs in Professional Education and the dean of the School of Professional Studies. The program provides training at an advanced level in secondary education and qualifies students having the provisional certificate and a minimum of three years of successful teaching experience for the professional certificate.

Applicants for candidacy show evidence of ability to do graduate work and must have an appropriate background in professional education, areas of specialization, and related fields. Admission to candidacy for the M.A. degree with concentration in secondary education is restricted to students with a minimum grade point average of 3.00 (B=3.00) in the last 60 hours.

This program requires a total of 36 hours, including Option 4, from the University's general requirements for the master's degree. A total of 18 hours is to be selected from an area of specialization in which the student has 24 undergraduate hours: economics, English, geography, government, history, psychology, reading, social sciences, sociology, or Spanish. Six hours must be selected from the resource areas of humanities, the behavioral sciences, or multi-cultural studies. Twelve hours are required of all candidates in EDUC 6132, EDUC 6333, EDUC 6531, and either PSYC 5031 or PSYC 5132. All candidates are required to perform at a satisfactory level on a comprehensive examination.

## **Master's Degree in Secondary Education**

A concentration in secondary education leading to the Master of Arts degree is administered by the director of programs in Professional Education and by the dean of the School of Professional Studies. The program provides a strong graduate specialization in secondary education, including the application of educational theory in learning situations.

Although it is anticipated that most students will have backgrounds in secondary education, students with training in education may be required to complete preparatory courses prior to achieving candidacy. Admission to candidacy for the degree is restricted to students with a minimum grade point average of 3.00 (B=3.00) or higher on the last 60 hours attempted.

The Candidate Plan of Studies will include a minimum of 36 hours, including Master's Degree Option. Students must earn 12 hours in courses chosen with the consent of the advisor; these courses are to be related to the student's specific interests in secondary education. An additional 12 hours must be earned in EDUC 6132, EDUC 6333, EDUC 6531, and either PSYC 5031 or PSYC 5132.

If Option 2 is chosen, at least 6 hours must be earned in EDUC 6838; 6839: Master's Project. Applied Field Research. If Option 4 is chosen--a student in Education is satisfying requirements for certification. A student must complete 6 hours in graduate courses approved by the appropriate dean.

## **Preparation for College Teaching**

Two master's degree objectives are available in higher education; both are administered by the director of programs in Professional Education and the dean of the School of Professional Studies. The program leading to the Master of Arts degree is designed to serve needs of instructors in community junior colleges who desire graduate training in a specific teaching field in conjunction with professional education courses related to community junior college teaching. The program leading to the Master of Science degree is designed for the individual who wishes to earn a master's degree with the academic specialty in higher education.

### **Master of Arts in College Teaching**

Applicants for candidacy for the Master of Arts degree with a concentration in college teaching must have an appropriate undergraduate background in an academic teaching specialty. Admission to candidacy for the M.A. degree is restricted to students with a minimum grade point average of 3.00 (B=3.00) on the last 60 hours of course work.

The program requires a minimum of 36 hours, including either Option 1 (thesis), Option 2 (project), or Option 3 (internship) from the University's general requirements for the master's degree. The Candidate Plan of Studies must contain 12 hours of core courses, including EDUC 6132, EDUC 6333, EDUC 6531, and 3 hours in an approved HRED selection; must contain 18 to 24 hours of graduate credit in a selected academic teaching field; and must contain 6 hours that will fulfill requirements for the Master's Option.

The option requirement may be satisfied by EDUC 6939: Master's Thesis Research, followed by a successful defense of the thesis, for students who are approved for Option 1. If Option 2 is approved, students are expected to complete HRED 6731: Seminar in Higher Education and EDUC 6839: Master's Project. Students having Option 3 approved are expected to complete HRED 6731: Seminar in Higher Education and HRED 6731: Seminar in Higher Education and HRED 6739: Internship in Higher Education. All candidates are expected to perform at a satisfactory level on a comprehensive examination.

### **Master of Science in College Teaching**

Applicants for the M.S. degree with concentration in college teaching are expected to have earned a minimum grade point average of 3.00 (B=3.00) on the last 60 hours of course work. It is anticipated that the majority of students will have some undergraduate preparation in education and a background for developing an acceptable teaching field at the community junior college level. However, this degree is designed primarily for students anticipating career opportunities in essentially non-teaching positions in the community junior college. Individuals having a minimum of previous training in education may be required to complete preparatory work before they can achieve candidacy for the degree.

The M.S. degree with concentration in college teaching requires a minimum of 36 hours. It is assumed that candidates for the M.S. degree already have completed sufficient hours in a teaching concentration and are in need of additional preparation. Each Candidate Plan of Studies must contain 12 hours in core courses, including EDUC 6333, EDUC 6531, 3 hours in an approved HRED selection, and either EDUC 6132 or an approved substitute; must contain 18 hours chosen to meet the student's objectives of which at least 6 hours must be in the teaching specialty; and must contain 6 hours satisfying requirements for Master's Option 2 (project) or 3 (internship). Students choosing Option 2 will complete HRED 6731: Seminar in Higher Education and EDUC 6839: Master's Project. Those choosing Option 3 will complete HRED 6731: Seminar in Higher Education and HRED 6739: Internship in Higher Education. All candidates are expected to perform satisfactorily on a comprehensive examination.

## **Educational Management**

Educational management focuses on the diverse problems of administration of contemporary educational institutions of all types. Management, supervision, personnel, and fiscal operations are areas of program emphasis.

### **Master of Science in Educational Management**

Although it is anticipated that the majority of students will have backgrounds in education, students with undergraduate training in other fields may enter the program. Admission to candidacy for the M.S. degree is restricted to students with a minimum grade point average of 3.00 (B=3.00) on the last 60 hours of course work.

The program requires a total of 36 hours, including Option 1 (thesis), Option 2 (project), Option 3 (internship), or Option 4 (extended course work) from the University's general requirements for the master's degree. The following 12 hours are required of all candidates: EDUC 6132, EDUC 6333, EDUC 6531, and either PSYC 5031 or PSYC 5132. An additional 18 hours are to be selected from graduate courses designed to develop administrative competencies and understandings in administrative theory and practice, curriculum theory, and school business management. A minimum of 9 hours from this group of 18 hours must be earned in advanced courses from such academic areas as business administration, computer science, economics, psychology, or sociology. In addition to all other requirements, candidates must perform at a satisfactory level on a comprehensive examination.

## **Education-Related Sciences**

The program in Education-Related Sciences (philosophy of education, educational psychology, educational sociology, and educational technology) examines modern-day educational institutions, public and private, from

elementary school through university. The latest technological and pedagogical advances are studied and applied with opportunity for in-service training, special workshops, and consultative activity.

## **Master of Science in Education-Related Sciences**

Applicants for candidacy for the M.S. degree are expected to have earned a minimum grade point average of 3.00 (B=3.00) on the last 60 hours of course work. The concentration in education-related sciences requires a minimum of 36 hours of credit, including the Master's Degree Option. The following 12 hours are required of all candidates: EDUC 6132, EDUC 6333, EDUC 6531, and either PSYC 5031 or PSYC 5132.

Candidates for the M.S. degree may select either Option 1 (thesis) or Option 2 (project) from the University's general requirements for the master's degree. All candidates are required to perform at a satisfactory level on a comprehensive examination.

## **Master's Degree in Education with Specialization in Future Studies**

This interdisciplinary program integrates the study of alternatives in education with societal/global futures. Although it is anticipated that most students will have backgrounds in education, students with preparation in other fields may enter the program. Some individuals with minimal experience in education may be required to complete preparatory courses prior to achieving candidacy.

The Candidate Plan of Studies will normally encompass 36 hours including Master's Degree Option. Students must complete 12 hours of professional core courses. Students may select approximately 18 hours from a broad range of courses. Some of these options are:

ANTH	5531	GOVT	5532	SOCI	4136
ECON	5135	HIST	5832	SOCI	6332
EDUC	5031	LITR	4536	SOCI	6333
EDUC	6031	LITR	5134	SOCI	6334
EDUC	6731	RSCE	5531	SOCI	6731
				URBI	6131

Students with specialization in Future Studies may select Option 1 (thesis) or Option 2 (project) and complete a minimum of 36 hours. If Option 1 is chosen, at least 6 hours are required in EDUC 6939: Master's Thesis Research, followed by successful defense of the thesis. If Option 2 is chosen, at least 6 hours must be taken in EDUC 6839: Master's Project: Applied Field Research. Each candidate is required to perform at a satisfactory level on a comprehensive examination.

## Professional Certification

Professional certification requires a master's degree. Individuals seeking professional certification as Counselor, Educational Diagnostician Mid-Management (Principal), Reading Specialist, or Supervisor may apply the requirements for certification towards a master's degree.

### Certification for Counselors

Individuals seeking professional certification as counselors need 28 hours from the counseling core. Prerequisites include 12 hours of psychology, a minimum of three years in classroom teaching and a valid Texas teaching certificate. Required courses are:

EDUC	5231	EDUC	6334
EDUC	6132	DIAG	5031
PSYC	5741	EDUC	5031
PSYC	6232	EDUC	57v9

An additional 9 hours are to be selected from one of the following related areas:

Elementary	Culturally Different Students
Secondary	Higher Education
Special Education	

Students seeking certification as a Psychological Associate should determine precise requirements through conference with an advisor.

### Certification for Educational Diagnostics

Persons seeking professional certification as educational diagnosticians need a total of 36 hours, including an internship in a concentrated evaluative setting. Prerequisites include a special education certificate, a minimum of three years teaching experience, and DIAG 5131 or its equivalent. Required courses are:

DIAG	5531	DIAG	67v9	
DIAG	6531	PSYC	5132	or PSYC 5741
DIAG	5031	or PSYC	5131	
DIAG	5032	or PSYC	5531	
PSYC	5034	or PSYC	5331	
ECED	5331	or PSYC	5031	or PSYC 6132
EDUC	6131	or EDUC	5132	or EDUC 5731
PSYC	6031			

An additional 6 hours are to be selected from the following.

DIAG	5132	EDUC	5331
DIAG	5133	EDUC	5033 or ELEM 5131

Appropriate course substitutions may be made, depending upon student background. If courses are selected judiciously, students may become eligible to take the examination for psychological associates. Students wishing to apply the Educational Diagnostician Certificate courses to a master's degree must complete EDUC 6333 and EDUC 6531 as a part of the program.

### **Certification for Mid-Management (Principal)**

Individuals who wish to enter a program for certification in mid-management (principal) must have a Texas teaching certificate, a bachelor's degree, and a minimum of two years' creditable classroom teaching experience. They must complete a master's degree, a certificate program, and an approved administrative internship prior to certification.

The mid-management certificate program consists of 45 hours of graduate credit (applicable to a master's degree). Course work includes 18 hours of approved core courses such as the following:

ADMN	6131	EDUC	6231	LEGL	6131
ADMN	6332	EDUC	6535	MGMT	5034

Nine to 12 additional hours of graduate credit must be earned in academic areas of study such as anthropology, sociology, economics, psychology, business administration, or a computer science.

Specialized preparation for principals includes 15 to 18 hours from the following:

FINC	5032	ADMN	6431	ADMN	6432
ADMN	6132	EDUC	6334	READ	5132
ADMN	6333	HMRS	5132 or	HMRS	5731

Three hours of graduate credit must be earned in an approved internship (ADMN 6739). A student wishing to receive a master's degree and mid-management certification must complete all requirements for the master's degree and the certificate (48 hours).

### **Certification for Supervision**

Students desiring certification as supervisors must meet the requirements for a master's degree, for professional certification, and have three years of successful classroom teaching experience. Course work includes 9 hours in the



area of leadership for instructional improvement selected from the following.

EDUC 6031	EDUC 6431	or	EDUC 6432
EDUC 6032	EDUC 6231		

An additional 21 hours are to be earned from graduate courses in resource areas selected from the courses such as the following.

EDUC 5031	EDUC 5731	or	EDUC 5033
EDUC 6033	EDUC 6332	or	EDUC 6535
EDUC 6132	PSYC 5031	or	PSYC 5132
EDUC 6333	SOCI 6133	or	SOCI 5331
EDUC 6335	EDUC 6531	or	SOCI 5333

Six hours may be selected from an academic specialization or from resource courses such as EDUC 6332 and EDUC 6533.

### **Certification for Reading Specialist**

Persons seeking professional certification as reading specialists must meet the requirements for a master's degree and have three years of successful classroom teaching experience.

The program requires a total of 36 hours of credit. A student wishing to qualify as a reading specialist must complete 18 hours in the academic specialization area from the following:

READ 5031	READ 5931	or	READ 6131
READ 5132	READ 6731		
READ 5133	READ 6732		

Nine hours must be selected from the following resource areas:

LING 4331	or	LITR 5731	or	SOCI 5731	or	EDUC 5031
READ 4531						
DIAG 5032	or	DIAG 5132				

An additional 9 hours must be selected from the following professional education courses:

READ 4532	or	READ 4533
READ 6531	or	EDUC 6531

and 3 hours from a selected list of courses.

## Teacher Center

The Teacher Center is a confederation composed of designated representatives from the University of Houston at Clear Lake City, the professional organizations, and the following 16 independent school districts: Alvin, Brazosport, Clear Creek, Deer Park, Dickinson, Friendswood, Galena Park, Galveston, Goose Creek, Hitchcock, LaMarque, LaPorte, Pasadena, Pearland, Santa Fe, and Texas City. This body determines policy and procedures for observation in the public school classrooms, internships, and the student teaching program.





# GRADUATE STUDIES IN PUBLIC MANAGEMENT AND HUMAN RESOURCES

## — A Schematic—

### Admission

Admission of those qualified by academic achievement. Undergraduate work may have been in any field—though engineering, physical science, economics, business, and social science are highly desirable. Students who have not had the following prerequisite courses may take them after admission to the graduate program:

Political Science or Government	6 s.h.
Economics	3 s.h.
Statistics	3 s.h.
Total	12 s.h.

### Common Core Courses

Public Administration	3 s.h.
Human Resources Management (Public or Private Sector)	3 s.h.
Budgetary Systems (Public or Private Sector)	3 s.h.
Research Methods	3 s.h.
Total	12 s.h.

### Degree Options

M.A. in  
Public Management

M.A. in  
Human Resources  
Utilization

### Concentrations

Course concentrations of 18 s.h. are individually tailored to the needs and interests of the student in consultation with the faculty advisor. Typical concentration options include:

- general management
- policy analysis
- financial management
- urban systems management
- criminal justice management

Course concentrations of 18 s.h. are individually tailored to the needs and interests of the student in consultation with the faculty advisor. Typical concentration options include:

- organizational development
- personnel management
- public employment program
- labor relations

### Options

Internship, thesis, project, or  
extended coursework (6 s.h.)

Degree Awarded

## PROGRAMS IN PUBLIC AFFAIRS

The seven interdisciplinary professional programs offered in Public Affairs are based on the belief that public decision makers share with their business colleagues a need for the managerial skills required to administer most organized enterprises. Beyond this commonality, however, lies a critically unique imperative—the new generation of public executives must have a broad knowledge of the political process and must be able to anticipate and solve the increasingly complex problems that affect society. As students sharpen their decision-making tools, so too must they develop special abilities to enhance the quality of public services through responsive, concerned, and creative administration. The aim of all programs in Public Affairs is to create an understanding of basic managerial skills and an appreciation of the social, economic, and political environment of public affairs.

Each plan of study, through the core curriculum, provides a common framework basic to the study of Public Affairs. In addition, students are allowed considerable flexibility in molding their programs with a faculty advisor to their individual needs and interests. Research and training in research are fundamental in all graduate programs.

Applicants for candidacy to any graduate program in Public Affairs must submit scores on the Graduate Record Examination. Plans of study will not be developed until a student has met this requirement. Students who have more than 24 hours of grade level work at an accredited institution in a relevant field are exempt from this requirement. This test is used as a part of the process by which candidates are selected and is considered one element of evidence of an applicant's ability to do graduate work. In most cases, an overall undergraduate grade point average of 2.50 (B=3.00) or a 2.75 average for the last 60 hours work is expected of all applicants.

All programs in Public Affairs are under the supervision of the director of programs in Public Affairs and the dean of the School of Professional Studies.

### Administration of Health Services (Undergraduates)

The undergraduate program in the Administration of Health Services leads to the Bachelor of Science degree. The program develops managerial skills and abilities. It provides special knowledge and competencies for enhancing the quality of patient care and delivery of health care services in a variety of settings including hospitals, nursing homes and other extended care facilities, health departments, planning agencies, health maintenance organizations and other types of medical group practice and ambulatory care systems, and mental health institutions and agencies.

The curriculum includes the study of the social, political, economic, and technological forces that influence the development of health care delivery systems and that shape the problem-solving and decision-making processes of health care resources management.

## Degree Requirements

Requirements for the bachelor's degree include at least the following 45 hours of course work or their approved equivalents.

ACCT	3033	ADHS	4531	GOVT	4531
ADHS	3131	BIOL	3335	MKTG	4332
ADHS	3531	GOVT	3031	SOCI	3534
ADHS	37v9	GOVT	3532	SOCI	3535
ADHS	4132			STAT	3231

In addition to these courses, the student must take sufficient elective work to meet the University's general requirements for the bachelor's degree. In the event a student's background is weak in the areas of accounting, economics, computer science, or statistics, the faculty advisor will probably recommend specific preparatory courses as a part of elective work.

## Administration of Health Services (Graduate)

The graduate program in the Administration of Health Services develops conceptual, analytical, and administrative abilities for application in planning, organizing, controlling, and evaluating the utilization of resources within community, regional, or national health care delivery systems.

The curriculum includes the study of the social, political, and economic forces that influence the development of health care delivery systems and that shape the problem-solving and decision-making processes of health care resources management.

The program leads to the Master of Science degree. Applicants for candidacy should have the following courses or their recognized equivalent: ACCT 5031, ECON 5031, MGMT 5031, MGMT 5032, MGMT 5132, and MGMT 5431. Otherwise, they may be prohibited from enrolling in some of the required degree courses.

## Degree Requirements

The Candidate Plan of Studies must include a minimum of 36 hours of course work. The following courses represent a typical selection for 30 of the required hours:

ADHS	4332	ADHS	5331	ADHS	6732
ADHS	5031	ADHS	6131	ENVR	5132
ADHS	5131	ADHS	6731	MKTG	4332
ADHS	5231				

In addition to courses listed, each student must complete ADHS 59v9 and ADHS 67v9 as integral elements of the graduate program.

## Human Resources Utilization (Undergraduate)

The undergraduate program in Human Resources Utilization leads to the Bachelor of Arts degree. The program prepares students for careers in public and private manpower administration. Students have an opportunity to emphasize either the social sciences or business management in planning their individual sequences of courses.

### Student Preparation

Students should have acquired a background in principles of economics and the behavioral sciences, including human psychology. Students who do not have the recommended preparation and who cannot demonstrate proficiency through special examination may be required to take additional courses before enrolling in the required ones.

### Core Requirement

The courses listed below, or their approved equivalents, constitute the core requirements. Students with strong preparation or those who demonstrate advanced proficiencies through special examination may already have satisfied portions of the core requirement.

ACCT	3033	FINC	3332 or GOVT 4532
GOVT	3532	STAT	3231; 3232 or RSCE 3531
GOVT	4531		

### Concentration Requirements

The following 9 hours, plus 12 hours of approved course work in business and the social sciences, are to be included in all plans of study: HMRS 3331, HMRS 4031, and HMRS 4331.

## Human Resources Utilization (Graduate)

The graduate program in Human Resources Utilization leads to the Master of Arts degree. The program allows students to pursue individual objectives within the framework of human resource activities. Students may prepare for careers in personnel administration, human resources management, training, or planning, either with private firms or governmental agencies. The program provides exposure to manpower planning, employment, salary and action, and safety. Individual concentration is available in the following areas:

- labor relations,
- public employment programs,
- organization development, and
- personnel.

## Student Preparation

Students entering this program should have completed the following undergraduate course work or its equivalent:

Economics	3 hours
Political Science or Government	6 hours
Statistics	3 hours

Deficiencies in these areas may be made up through completion of approved course work at UH/CLC, chosen in consultation with the student's advisor.

## Degree Requirements

Each candidate's Plan of Studies will include a minimum of 36 hours inclusive of Master's Degree Option. The specific courses within the Plan of Studies will be selected in consultation with an advisor and will be subject to the approval of the director of programs in Public Affairs.

All Plans of Studies must include at least 3 hours of work in each of the following areas:

- public administration,
- human resources management,
- budgetary systems, and
- research methods.

## Environmental Management (Undergraduate)

The undergraduate program in Environmental Management leads to the Bachelor of Science degree. The program's goal is to prepare students for positions involving management of natural resources, but the curriculum has sufficient breadth to provide the students with the tools necessary for middle management and staff positions in a variety of public and private settings.

## Student Preparation

Although there are no specific courses that must be completed prior to admission to the program, there are courses that would be helpful to the student preparing for the environmental management program. Strong backgrounds in either the natural sciences or the social sciences are highly desirable; other relevant courses include accounting, statistics, speech, geography, management, finance, computer science, and legal studies. Students who do not have adequate preparation in the sciences may be required to take additional courses before enrolling for the required core.



## Concentration Requirements

The following courses are to be included in all Candidate Plans of Study: ENVR 3131, ENVR 4331, ENVR 4131, ENVR 4132, and ENVR 4133. An internship, or its equivalent, is required of all degree candidates. Remaining courses are selected through consultation with the advisor.

## Environmental Management (Graduate)

The graduate program in Environmental Management leads to the Master of Science degree and is designed to prepare managers of operations that involve the natural environment. The program focuses on the interaction of science, technology, and public policy in a complex, highly industrialized setting. It seeks to train talented and competent decision makers for solving complex environmental problems; developing national, state, and local strategy options; evaluating needs for standards; and assessing the state-of-the-art.

## Degree Requirements

The Candidate Plan of Studies will include a minimum of 30 hours inclusive of Master's Degree Option 1, 2, or 3, or a minimum of 36 hours inclusive of Option 4. All candidates must complete at least 15 hours of environmental management course work, including ENVR 5131, 5331, 6131, and 6132. All candidates must perform satisfactorily on a comprehensive examination.

## Public Management (Undergraduate)

The undergraduate program in Public Management leads to the Bachelor of Arts degree and is designed to prepare students for careers in public management. The profession may include persons elected to public office, individuals appointed to executive positions, and career civil servants promoted through the ranks. They may serve in the legislature, the executive branch, or in large nonprofit institutions. All will share the common experience of holding positions of responsibility involving planning, policy making, and administration.

ACCT	3033	FINC	3332 or GOVT 4532
GOVT	4531	MGMT	3033
GPVT	3532	RSCE	3531 or equivalent

## Core Requirements

The courses listed below, or their approved equivalents, constitute the core requirements. Students with strong preparations or those who demonstrate advanced proficiencies through special examinations may already have satisfied portions of the core requirement.

## Student Preparation

Applicants should have 6 hours of introductory economics. Students deficient in this prerequisite will be expected to include appropriate ECON courses among their electives.

## Core Requirements

The courses listed below, or their approved equivalents, constitute the core requirements. Students with strong preparation or those who demonstrate advanced proficiencies may already have satisfied portions of the core requirement.

ACCT	3033	GOVT	4531
GOVT	3531	FINC	3332 or GOVT 4532
GOVT	3532	STAT	3232 or RSCE 3531

## Concentration Requirements

The courses included in the Candidate Plan of Studies are selected by the student and an advisor to meet individual interests and needs. A minimum of 18 hours must be selected from courses offered in government, the behavioral sciences, environmental management, human resources, legal studies, and management.

## Public Management (Graduate)

The graduate program in Public Management leads to the Master of Arts degree. It prepares students to occupy influential positions of responsibility involving planning, financing, and implementing public sector programs and projects. Students may develop concentrations in the following areas:

- public management,
- policy analysis,
- financial management,
- urban systems management, and
- criminal justice resources management.

## Student Preparation

Students entering this program should have completed the following undergraduate course work or its equivalent:

Economics	3 hours
Political Science or Government	6 hours
Statistics	3 hours

Deficiencies in these areas may be made up through the completion of approved work at UH/CLC, chosen in consultation with the student's advisor.

## **Degree Requirements**

Each candidate's Plan of Studies will include a minimum of 36 hours, inclusive of Master's Degree Option. Specific courses will be selected in consultation with an advisor and will be subject to the approval of the director of programs in Public Affairs.

All Plans of Studies must include at least 3 hours in each of the following areas:

- public administration,
- human resources management,
- budgetary systems, and
- research methods.

## **The Law and the Citizen (Undergraduate)**

The Law and the Citizen program leads to the Bachelor of Science degree and provides two areas of specialization: (1) Administration of Criminal Justice, and (2) Government.

Courses in The Law and the Citizen may constitute a major part of a political science concentration for future teachers, may be clustered as an area of specialization for students in related programs, or may be organized as a pre-law curriculum.

Applicants' previous college work should include courses from the fields of criminology, economics, government, history, natural sciences, psychology, and sociology.

### **Administration of Criminal Justice**

The Administration of Criminal Justice concentration is intended primarily for students whose interests lie in one or more of the following areas: law enforcement, court management, criminal justice planning, corrections, adult and juvenile probation, parole and any of the related social service agencies. Emphasis is given to studies in the behavioral sciences, substantive and procedural criminal law, public administration, law enforcement, criminology, and correctional counseling. Students interested in professional careers in any aspect of the criminal justice system, juvenile justice system, or future studies in law, particularly criminal law, will find this concentration appropriate for their needs. The Texas Commission on Law Enforcement Officer Standards and Education has certified this program for career law enforcement.

The following courses, or their approved equivalents, constitute the core requirement: LEGL 3033 - Criminal Justice in America, LEGL 3031 - American Constitutional Law, GOVT 4531 - Government Managerial Processes, GOVT 3031 - Political Institutions, and LEGL 4231 - Data Analysis for Decision Making. Degree plan concentrations, which are designed to meet specific career objectives, include courses selected from the following listings:

Social Sciences

ECON	4534
ANTH	4634
GEOG	4133
PSYC	4531
PSYC	3334
PSYC	4131
PSYC	3332
PSYC	4532
SOCI	3532
SOCI	3335
SOCI	3132
SOCI	4133
SOCI	4331

Management

GOVT	3531
GOVT	3532
GOVT	3533
MGMT	4534
MGMT	4333
MGMT	3033
GOVT	4532
SOCI	4035

Legal

GOVT	4133
LEGL	3131
LEGL	3534
LEGL	4131
LEGL	4132
LEGL	4531
LEGL	4731
GOVT	4336
LEGL	4431
LEGL	4432
LEGL	4534
LEGL	4332

Six hours of internship credit may be earned by each student as part of the degree program.

**Government**

The Government concentration is intended for students who desire a degree in the traditional areas of government or political science. It is especially relevant to the interests of those students wishing to teach government, to enter law school, or to enter graduate studies in political science.

This concentration consists of 24 hours of approved government and legal courses which must include GOVT 3031, GOVT 4131, GOVT 3532, and LEGL 3031, or their equivalents. In addition, the student will be required to complete 12 hours in related course work drawn from economics, history, and sociology. The specific courses to be taken in these fields will be selected by the student in consultation with an advisor.

**Urban and Regional Planning (Graduate)**

The Master of Arts in Urban and Regional Planning degree program is designed to prepare students for careers as professional planners. Emphasis is on regional planning but community and site planning are also considered.

The program recognizes social, economic, environmental, and political aspects and their interaction in the planning process. The program offers professional preparation in a variety of planning environments through a

combination of course work and interaction with practicing professional planners. It is one of several multidisciplinary professional programs in Public Affairs in the School of Professional Studies and is in compliance with current professional accreditation requirements.

The objective of the program is to provide professional planners for city, regional, state, and federal planning agencies; private consultants; public service foundations; and other public or private institutions.

Professional preparation may be chosen in one of several of the following:

- (a) planning process/management,
- (b) modelling,
- (c) complexes/centres/satellites planning,
- (d) social planning,
- (e) housing planning,
- (f) transportation planning,
- (g) parks planning, and
- (h) land resources planning.

### **Student Preparation**

All degree candidates will be required to show proof of having completed an introductory statistics course, an introductory economics or public finance course, and an introductory course in American or state government before entering the program or will be required to complete such courses during their first year in the program. No credit toward the Master of Arts in Urban and Regional Planning degree will be given for completion of these preparatory courses.

### **Degree Requirements**

The master's degree requires successful completion of 45 hours including 36 hours in class and seminar work at the 5000 and 6000 level (a maximum of 6 hours of 3000 or 4000 level course work is allowed), 3 hours in internship, and 6 hours in thesis or project.

Of the 36 hours of class and seminar work, 24 hours must be in the following areas: Planning Theory and Methodology; Quantitative and Qualitative Statistical Methods for Planning Studies and Projects; Enabling Planning Law and Land Use Regulations; Regional, Community, and Site Planning Elements; Regional Analytical Methods and Modeling; Social Planning; Environmental Management; and Public Management. The following courses are designed to meet the above requirements: URBN 5131, 5132, 5432, 6131, 6132, and 6334; ENVR 5131; and (one of the following) GOVT 3531, 4531, 4532, 5331, or 6731.

The remaining twelve hours of class and seminar work may be chosen from generic and supportive courses. Such courses should help the participant develop an area of specialization.

## Resource Utilization (Undergraduate)

The undergraduate program in Resource Utilization leads to a Bachelor of Science degree. The student may pursue either a general plan of studies, designed to provide an overview of the availability and utilization of resources, or a more specialized one, centered on energy problems. The latter would emphasize the analysis of the implication of such new energy sources as geothermal and solar. Students will also be able to concentrate on energy economics, energy conversion, and resource transportation.

### Student Preparation

Although there are no specific courses that must be completed prior to admission to the program, there are courses that would be helpful to the student preparing for the resource utilization program. Strong backgrounds in either the natural sciences or economics are highly desirable; other relevant courses include accounting, statistics, geography, management, finance, computer science, and legal studies. Students who do not have adequate preparation in the sciences may be required to take additional courses before enrolling for the required core.

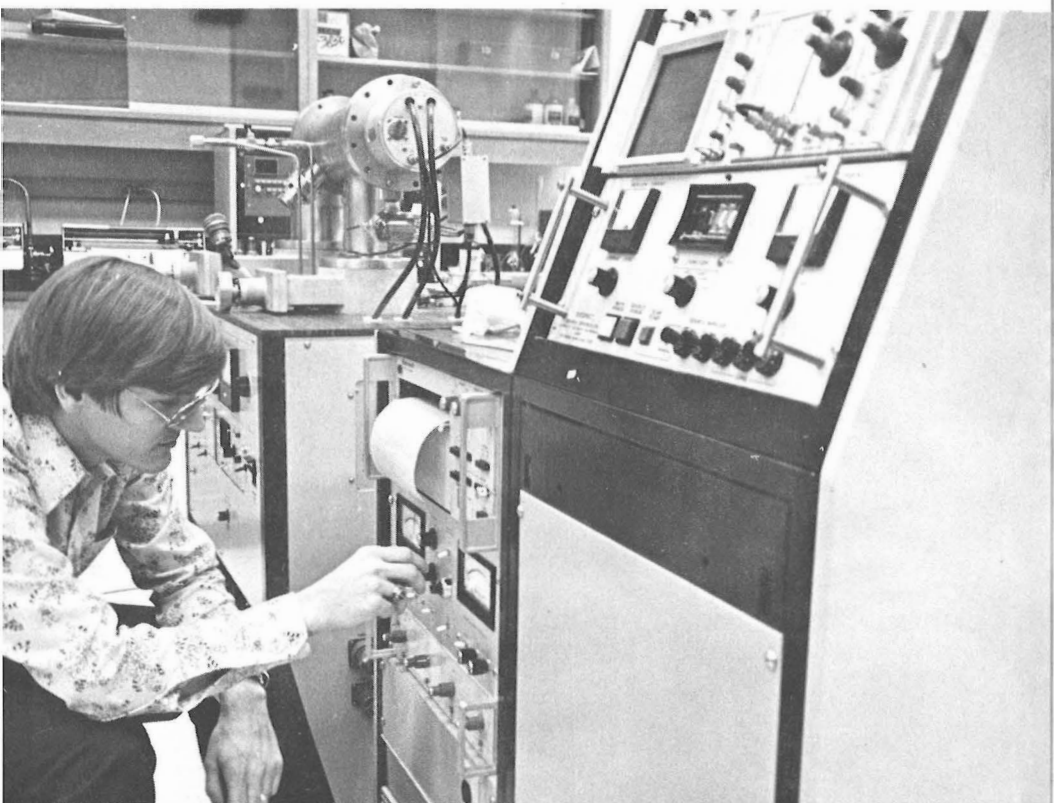
### Core Requirements

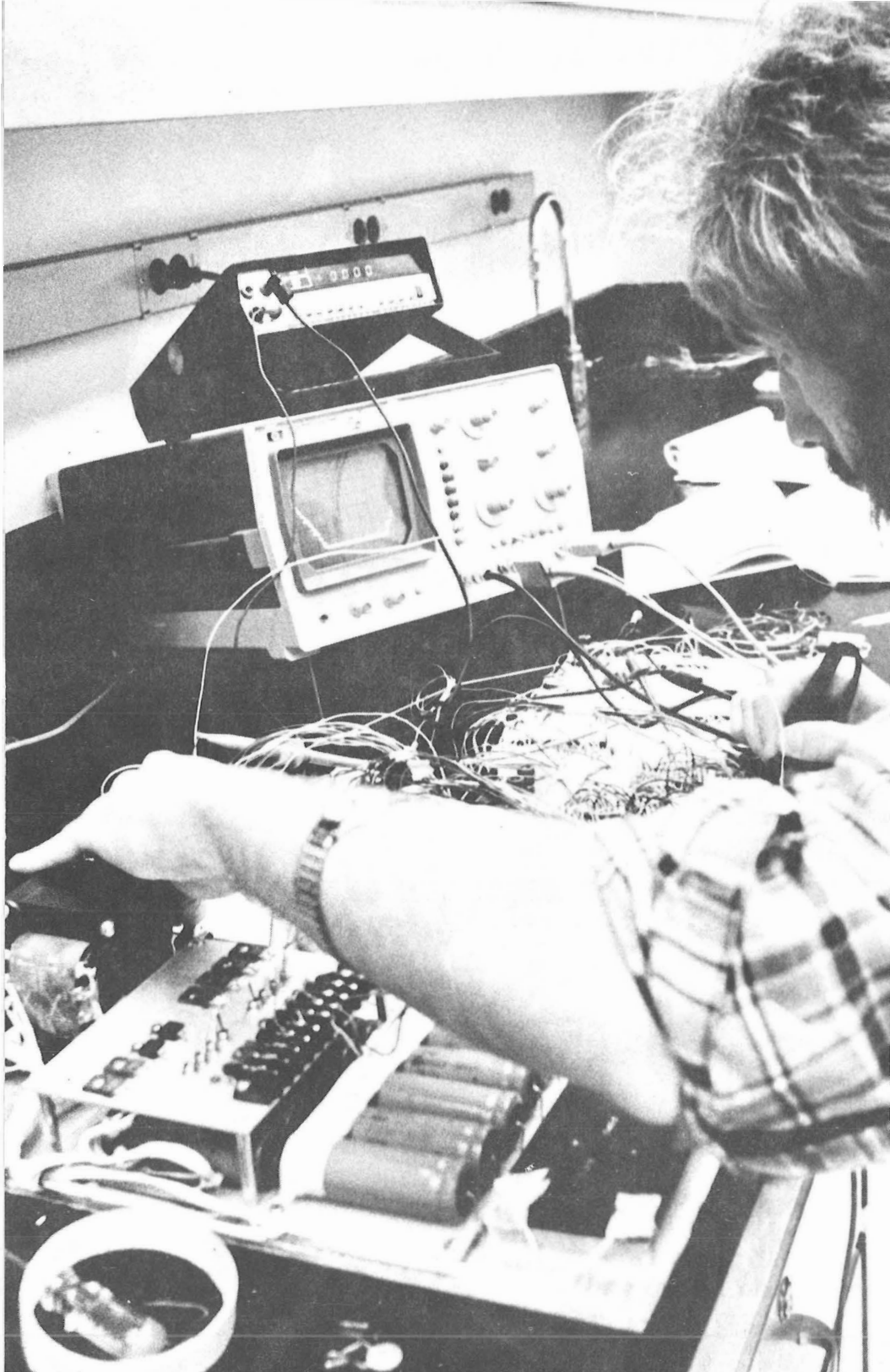
The courses listed below, or their approved equivalents, constitute the core requirements. Students with strong preparations or those who demonstrate advanced proficiencies through special examinations may already have satisfied portions of the core requirement.

ACCT	3033	FINC	3332 or GOVT 4532
GOVT	3532	MGMT	3033
GOVT	4531	STAT	3231; 3232 or RSCE 3531

### Concentration Requirements

Completion of 24 hours in addition to the core constitutes the concentration. The following three courses are to be included in all Candidate Plans of Study: RSCE 3131, 3331, and 4032; remaining courses are selected in consultation with the advisor.







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# School of Sciences and Technologies

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The School of Sciences and Technologies produces graduates qualified to contribute to the technological-scientific-industrial growth of the greater Gulf Coast, Texas, the United States, and the international community. The School has a cluster of programs in Science for society and a cluster in Technologies.

The Director of Programs in Science for Society administers concentrations in the applied biological, mathematical, physical, and the allied health sciences. These sciences include studies in environment, analysis, chemical synthesis and materials, geological advancements in subsidence and estuarine knowledge, marine sciences, atmosphere, medical technological and records sciences, and mathematical modeling - all examples of current national needs. Orientation is for undergraduates and graduates preparing for satisfying careers, or for immediate value to their present employers and to themselves.

The Director of Programs in Technologies administers concentrations in technological fields needed by modern industry, governmental agencies, and research and development institutions. Specialists in automatic control devices, oceanographic instrumentation, electro-optical devices, and computer applications to industrial systems will see opportunities with area industrial, scientific, and related organizations.

Following admission to the University, a student should request the assignment of an advisor from the office of the appropriate Program Director in the School, for first course selection. The advisor may then aid the student in designing a Candidate Plan of Studies for entry to a program leading to a degree. The Candidate Plan of Studies will delineate the requirements specific to the major area of concentration, as opposed to the concept of a major and minor; thus, the program results in a degree most applicable to the student's needs. Undergraduate students enrolled in the School of Sciences and Technologies are required to include Technical Writing (COMM 3135) or its equivalent in their Plans of Studies.

Graduate students may elect to seek candidacy for a degree (entry to a program) via the Candidate Plan of Studies, or may elect *not* to seek a degree when choosing non-oriented studies. The specific *Standards* for graduate programs, including admission to degree candidacy in a program, are included at the end of the section for the School of Sciences and Technologies. Note within the Standards the requirement for Graduate Record Examination (GRE).

## PROGRAMS IN SCIENCE FOR SOCIETY

Undergraduate concentrations include the allied health, mathematical, physical, and biological sciences. Students enrolled in Science programs generally earn the B.S. degree (132 semester hours), although a B.A. degree (120 semester hours) is available. Graduate programs are offered in physical, biological, and mathematical sciences.

It is important to note that programs in sciences at UH/CLC do not require a minor as is typical in other universities; the University considers the effort traditionally expended on a minor is better utilized for further study in our interdisciplinary programs.

### Allied Health Sciences (Undergraduate)

Two programs leading to the Bachelor of Science degree in Allied Health Sciences are offered. Concentrations in Medical Record Administration and Medical Technology are structured within the professional guidelines of the appropriate accrediting organizations: The American Society of Clinical Pathologists (ASCP), National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), National Certification Agency for Medical Laboratory Personnel (NCAMLP), American Medical Record Association (AMRA), and American Medical Association (AMA).

#### Medical Record Administration

Applicants for candidacy in the Medical Record concentration should have completed the courses outlined below:

Chemistry	6 hours
Biology and/or Life Sciences (exclusive of anatomy or physiology)	6 hours
Microbiology	3 hours
Statistics	3 hours

Additional courses in computer science, philosophy or sociology, psychology, accounting, and office administration are highly desirable and useful. Students who do not have the recommended preparation may need to take appropriate courses for entry into this concentration.

Students pursuing a concentration in Medical Record Administration will learn both traditional and computerized record-keeping methods and will be introduced to the medical, clinical, and legal aspects of record administration. Graduates of this concentration are expected to be prepared for registration by the AMRA as a Registered Record Administrator (RRA). See the Coordinator of Medical Record Administration for a listing of suggested courses and requirements.

## Medical Technology

Applicants for candidacy in the Medical Technology concentration should have completed the courses outlined below:

Organic or Biological Chemistry	6 hours
Biology and/or Life Sciences (exclusive of anatomy or physiology)	6 hours
Microbiology	3 hours
Statistics or College Algebra	3 hours

Additional courses in physics and computer science are recommended, and courses in psychology and philosophy or sociology are particularly useful. Students who do not have the recommended preparation may need to take appropriate courses for entry into the concentration.

Students pursuing this concentration will gain a background in anatomy, physiology, immunology, parasitology, histology, hematology, and chemistry which will prepare them for a career as a medical technologist. Alternatively, this concentration offers an excellent foundation for entrance into medical or dental school.

Medical technology graduates will be prepared to sit for registry examinations for certification as Medical Technologists (MT). A suggested course listing and degree requirements are available from the Coordinator of Medical Technology.

## Biological Sciences (Undergraduate)

The program leading to the Bachelor of Science or Bachelor of Arts degree in Biological Science is designed to prepare the student for continuing advanced study or for technical positions in environmental or biomedical research. The concentration in biomedical science is particularly applicable to students preparing for the health professions, while the concentrations in environmental or marine biology are more appropriate for those interested in applied sciences in industry. A concentration in general biological sciences is particularly valuable for students interested in teaching biology or pursuing further graduate studies.

In addition, concentrations in biology and life/earth science are offered as specializations under the program in Elementary Education (For further information, see the section on Professional Education in this bulletin). Other education specializations at the secondary level are discussed in a subsequent section on Mathematics Education and Science Education.

### Student Preparation

Applicants for degree candidacy in the biological sciences should have completed the courses outlined below in preparation for upper-level study:

Chemistry	12 hours
Biology	6 hours

It will also be to the student's advantage to have basic courses in both physics and calculus. Students who do not have the recommended preparation may be counseled to take additional courses.

### Core Requirements

Three courses in cellular biology and ecology plus statistics and technical writing, or their approved equivalents, (17 hours) constitute the core requirements for a B.S. degree in Biological Sciences. Students interested in a B.A. degree should set up a specific curriculum to meet their needs in consultation with their advisors.

### Concentration Requirements

The concentration consists of 24 hours selected by the student in consultation with his or her advisor from four specialization groups:

- Group A    Biomedical Science  
Human physiology, immunology, or epidemiology will be included in a typical course of study.
- Group B    Environmental Biology  
Examples of subjects studied are pollution biology, aquatic micro-organisms, entomology, and climatology.
- Group C    Marine Biology  
Typical courses include the physiology of marine invertebrates and fishes and the study of oceanographic instruments
- Group D    General Biological Science  
Studies may include courses in genetics, histology, plant anatomy, and microscopic analysis.

An advisor will provide a complete listing of suggested courses for a concentration; substitutions may be made with the advisor's approval.

## Biological Sciences (Graduate)

The graduate program in Biological Sciences leads to the Master of Science degree. Applicants for candidacy should have a bachelor's degree in biology, although applicants with other degrees may apply if their degrees or preparations include a substantial number of advanced credits in the biological sciences.

The Candidate Plan of studies must include a minimum of 30 hours under Options 1 or 2 or a minimum of 36 hours under Option 4 (see Degree Requirements in this bulletin). Of these semester hours, a minimum of 24 hours must be the 5000 and 6000 levels and consist of a minimum of 18 hours in biological sciences or nutrition. The remaining graduate hours may be taken in related areas. A candidate's particular academic emphasis will be arranged with the advisor in preparing the Candidate Plan of Studies. Areas of graduate specialization include: Environmental Biology, Nutritional Science, Neuroscience, and General Biological Science.

## Mathematical Sciences (Undergraduate)

The undergraduate program in Mathematical Sciences leads to the Bachelor of Science or Bachelor of Arts degree. Emphasis is on applications of mathematics, and students may specialize in applied mathematics, mathematical modeling or general mathematical science.

A specialization in mathematics education is offered under the program in Elementary Education (For further information see the section on Professional Education in this bulletin). Other education specializations at the secondary level are discussed in a subsequent section on Mathematics Education and Science Education.

## Student Preparation

Degree-seeking students in Mathematical Sciences should have completed the following in preparation for upper-level study:

Differential and Integral Calculus	6 hours
College Physics	6 hours
Computer Science	3 hours

Students who do not have the recommended preparation may be counseled to take additional courses.

## Core Requirements

Courses in linear algebra, differential equations, analysis, number theory, probability and statistics, and functions of more than one variable, plus technical writing, or their approved equivalents, (27 semester hours) comprise the core requirements for a B.S. degree in Mathematical Science. Students interested in a

B.A. degree should set up a specific curriculum to meet their needs in consultation with their advisors.

### **Concentration Requirements**

The concentration consists of 18 hours chosen from one of the following groups:

- Group A    **Applied Mathematics**  
Studies might typically include numerical analysis, linear programming, and functions of a complex variable.
  
- Group B    **Mathematical Modeling**  
Theory of models, sampling theory, and applications of models to managerial and applied science are examples of subjects which might be studied.
  
- Group C    **General Mathematical Science**  
Typical courses might include complex analysis, number theory, and logic analysis with Boolean algebra.

A complete listing of suggested courses is available from a program advisor: substitutions may be made with the advisor's approval.

### **Mathematical Sciences (Graduate)**

The graduate program in Mathematical Sciences leads to the Master of Science degree. Applicants for candidacy should have a bachelor's degree in mathematics. Applicants with another degree may apply if the degree or preparation includes a substantial number of advanced credits in mathematics.

The Candidate Plan of Studies must include a minimum of 30 semester hours under Master Degree Options 1 or 2, or a minimum of 36 hours under Option 4. (See Degree Requirements in this bulletin.) Of these semester hours, a minimum of 24 hours must be at the 5000 or 6000 levels and consist of a minimum of 18 hours in mathematical sciences which includes courses in mathematics, statistics, and related courses in computer science and computer technology. The remaining hours are to be selected in consultation with the advisor. A candidate's particular academic emphasis will be arranged with the advisor in preparing the Candidate Plan of Studies.

### **Physical Sciences (Undergraduate)**

Concentrations in Physical Sciences lead to the Bachelor of Science or Bachelor of Arts degree. Emphasis is placed on interdisciplinary applications of physics, chemistry, and/or geology appropriate to a career in research, industry,

or teaching. Students may specialize in energy/earth science, environmental science, or analysis/synthesis.

Earth science is offered as a specialization under the program in elementary education (For further information, see the section on Professional Education in this bulletin). Other education specializations at the secondary level are discussed in a subsequent section on Mathematics Education and Science Education.

### **Student Preparation**

Applicants for degree candidacy in the physical sciences should have completed the courses outlined below in preparation for upper-level study:

General Chemistry	6 hours
Differential and Integral Calculus	6 hours
College Physics	6 hours

Courses in geology, computer science, and quantitative or organic chemistry are also highly recommended. Students who do not have the recommended preparation may be counseled to take additional courses.

### **Core Requirements**

The core requirements for a B.S. degree in Physical Science consists of six hours of chemistry and/or geology (e.g., stereochemistry, environmental geology, physical chemistry, or approved equivalents) plus three hours each in mathematics, physics, and technical writing (a total of 15 hours). Students interested in a B.A. degree should set up a specific curriculum to meet their needs in consultation with their advisors.

### **Concentration Requirements**

The concentration consists of 27 hours selected by the student in consultation with his or her advisor from three specialization groups:

- Group A    **Energy/Earth Science**  
Courses in mineralogy, petroleum geology, and natural resources might be included in a typical plan of study.
- Group B    **Environmental Science**  
Examples of course subjects are oceanography, environmental biology, and weather and climate.
- Group C    **Analysis/Synthesis**  
Studies might include courses in organic synthesis, instrumental analysis, or industrial processing systems.

A complete list of suggested courses in a concentration can be obtained from a program advisor; substitutions may be made with the advisor's approval.

## **Physical Sciences (Graduate)**

The graduate program in Physical Sciences leads to the Master of Science degree. Applicants for candidacy should have the bachelor's degree in one of the physical sciences, although applicants with other degrees may apply if preparation has included substantial numbers of advanced credits in the physical sciences.

The Candidate Plan of Studies must include a minimum of 30 hours under Options 1 or 2, or a minimum of 36 hours under Option 4. (See Degree Requirements in this bulletin.) Of these hours, a minimum of 24 hours must be at the 5000 or 6000 levels and consist of a minimum of 18 hours in the physical sciences. The remaining graduate hours may be taken in related areas. A candidate's particular academic emphasis will be arranged with the advisor in preparing the Candidate Plan of Studies. Areas of graduate specialization include: Astronomy/Space Science, Environmental Science, and Analysis/Synthesis.

## **Mathematics Education and Science Education**

The Bachelor of Arts degree is offered in each of the following areas: Biological Science, Mathematical Science, and Physical Science with specializations in the educational aspects of each area at the secondary level. Simultaneously, while pursuing the degree, the student completes the studies necessary for acquiring certification at the secondary teaching level. Thus, a B.A. degree in Mathematical Science may be obtained with a specialization in mathematical education along with a secondary teaching certificate. A B.A. degree in Biological Sciences is available with an education specialization in biology. A specialization in life/earth middle school science may be used as a secondary teaching field for certification. In Physical Sciences, the B.A. degree is offered with education specializations in chemistry, earth science, physical sciences, physics, or science (Composite).

Degree programs in science education or mathematics education require a minimum of 24 hours in each of two teaching fields. Thus, depending on the student's choice of specialization, a minimum of 24 hours including lower- and upper-level studies in a science or mathematics is required.

A student should see his or her advisor or the director of programs in Professional Education to set up a specific curriculum. Additional information on the requirements for obtaining a secondary teaching certificate are discussed in this bulletin in the section on Professional Education.



## PROGRAMS IN TECHNOLOGIES

Students desiring to concentrate in technologies may choose any one of five general programs at either the undergraduate or graduate level, with opportunity for specialized concentration within the selected program. Applicants should consult the Director of Programs in Technologies for additional information.

### Avionics Instrumentation (Undergraduate)

A concentration in Avionics instrumentation leading to the Bachelor of Science degree is administered by the Director of Programs in Technologies. The program is designed to qualify graduates to assemble, install, test, maintain, and adapt avionics instrumentation systems as found in modern airborne and ground support avionics for guidance, control, monitoring, and communications. Students should contact their advisor concerning licensing and certification requirements necessary for certain aspects of this field.

#### Student Preparation

Students planning to concentrate in avionics instrumentation should have the courses outlined below in preparation for upper-level study:

Fundamentals of Instrumentation	3 hours
Solid State Devices	4 hours
Electronic Circuits	12 hours
College Physics	6 hours
Calculus	6 hours
Computer Science	3 hours

Students who do not have the recommended preparation may be counseled to take additional courses before enrolling certain courses of the required core.

#### Core Requirements

Core courses or their approved equivalents are listed below. They are designed to provide a fundamental background in digital hardware and software techniques, linear hardware techniques, and avionics, as related to instrumentation systems.

AVIN 3122	CTEC 3130	PROC 3114
AVIN 3133	CTEC 3132	PROC 3132
AVIN 4131	CTEC 3331	PROC 3331
AVIN 4132	CTEC 3531	PROC 3130
CSCI 3131	MATH 3333	PROC 3431
CTEC 3131		

NOTE: Students without credit for the equivalents of CSCI 3132 or MATH 3332 must take these courses or pass equivalency exams.

In addition, the student may select 12 hours of electives, as endorsed by an advisor, from ACCT, ECON, ENVR, FINC, MGMT, PSYC, SOCI, and STAT.

### Concentration Requirements

Completion of 12 hours beyond the core, with grades of C or higher, constitute the concentration. These 12 hours are to be selected from the following:

AVIN	39v9	AVIN	4332	CTEC	4532
AVIN	4133	AVIN	4531	PROC	4331
AVIN	4134	AVIN	4931	PROC	4330
AVIN	4331	AVIN	4939	MATH	4134

The balance of hours may consist of free electives. Humanities courses are especially recommended.

### Avionics Instrumentation (Graduate)

A concentration in Avionics Instrumentation leads to the Master of Science degree. The program prepares students for professional and managerial positions in education, science, and industry.

### Candidate Preparation

Students aspiring to graduate degree candidacy are advised to complete the following courses or their equivalent and to gain computer programming proficiency in a compiler language: Navigation Systems, Control Systems, Linear Systems Analysis, Communications Theory, and Computer Architecture.

### Degree Requirements

The Candidate Plan of Studies must include a minimum of 30 hours credit inclusive of Master's Degree Option 1 or 2. All candidates must complete a minimum of 9 hours from both of the following lists of courses:

#### Group A

AVIN	5131	AVIN	59v9
AVIN	5332	AVIN	6131
AVIN	5531	AVIN	6331
AVIN	5931	PROC	5332

### Group B

AVIN 5331

CTEC 5331

CTEC 5332

## Computer Applications to Industrial Processes (Undergraduate)

Concentrations in Computer Applications leading to the Bachelor of Science degree, are administered by the Director of Programs in Technologies in the School of Sciences and Technologies. The program prepares students to assemble, install, test, maintain, and adapt large and small computer systems for industrial and scientific purposes. Students may select from concentrations in hardware (Peripherals or Process Control) and/or software (Information and Computer Science). All concentrations emphasize the use of microprocessors and minicomputers in real time, time share, and computer network applications.

### Student Preparation for Computer Hardware Concentrations

Students planning to concentrate in Computer Peripherals or Computer Process Control should have completed the following courses or their equivalents in preparation for upper-level study:

Solid State Devices	4 hours
Electronic Circuits	12 hours
College Physics	6 hours
Calculus	6 hours
Computer Science	3 hours

Students who do not have the recommended preparation may be counseled to take additional courses before enrolling in certain courses of the required core.

### Requirements for Computer Hardware Concentrations

In addition to meeting the general requirements for a B.S., the student must meet the following special requirements:

#### Core requirements:

CTEC 3130	CTEC 4134
CTEC 3131	CTEC 4532
CTEC 3132	CTEC 4131
CTEC 3331	CSCI 3131
CTEC 3531	CSCI 3331
CTEC 4133	PROC 4114

**Technical Electives (18 hours)**

- (1) 6 hours in Math beyond 3332
- (2) 6 hours in CSCI
- (3) 6 hours from a related science or technology.

The balance of hours may consist of free electives. Humanities courses are recommended.

NOTE: Student without credit for the equivalents of CSCI 3132 and MATH 3332 must take these courses or take the equivalency exams.

Students may select 12 hours, as endorsed by an advisor, from ACCT, ECON, ENVR, FINC, MGMT, MKTG, PSYC, SOCI, and STAT.

**Student Preparation for Computer Software Concentration**

Students planning to concentrate in Information and Computer Science should complete the following courses or their equivalents in preparation for upper-level study.

Introduction to Digital Logic	4 hours
Electronic Circuits	7 hours
College Physics	6 hours
Calculus	6 hours
Computer Science	12 hours

Students who do not have the recommended preparation may be counseled to take additional courses before enrolling in certain courses of the required core.

**Requirements for Computer Software Concentration****Core requirements:**

CSCI 3131	CSCI 4532
CSCI 3231	CSCI 4533
CSCI 3331	CTEC 3130
CSCI 3332	CTEC 3131
CSCI 4332 or 4534	CTEC 3132
CSCI 4531	PROC 3114

**Technical Electives (18 hours)**

- (1) 6 hours in Math beyond 3332
- (2) 6 hours in CTEC
- (3) 6 hours in PROC

The balance of hours may consist of free electives. Humanities courses recommended.

NOTE: Students without credit for the equivalents of CSCI 3132 and

MATH 3332 must take these courses or pass equivalency exams. Students may select 12 hours as endorsed by his advisor, from ACCT, ECON, ENVR, FINC, MGMT, MKTG, PSYC, SOCI and STAT.

## **Computer Applications To Industrial Processes (Graduate)**

Concentrations in computer applications lead to the Master of Science degree. The program prepares students for professional and managerial positions in education, science, or industry. Both concentrations emphasize the use of microprocessors and minicomputers in real time, time share and computer network applications.

### **Candidate Preparation**

Students aspiring to graduate degree candidacy with concentration in Computer Process Control should have completed the following courses or their equivalents and have gained computer programming proficiency in a compiler language: Computer Architecture, Interface Synthesis, Computer Automation, Data Structures, and Linear Systems Analysis.

Students aspiring to graduate degree candidacy with concentration in Information and Computer Science should have completed the following courses or their equivalents: Computer Architecture, Computer Automation, Formal Languages, Data Structures, Interpreters and Compilers, Linear Systems Analysis, Mathematical Modeling Theory, and Systems Programming.

### **Degree Requirements**

The candidate Plan of studies should include a minimum of 30 hours inclusive of Master's Degree 1 or 2.

#### **Computer Process Control**

- 12 hours of 5000-6000 level CTEC courses
- 6 hours of 5000-6000 level CSCI courses
- 6 hours of 4000-6000 level courses in a related science or technology
- 6 hours of thesis or project

#### **Information and Computer Science**

- 12 hours of 5000-6000 level CSCI courses
- 6 hours of 5000-6000 level CTEC courses
- 6 hours of 4000-6000 level courses in a related science or technology
- 6 hours of thesis or project

## Electro-Optical Technology (Undergraduate)

A concentration in electro-optical technology leading to the Bachelor of Science degree is administered by the Director of Programs in Technologies in the School of Sciences and Technologies. The program qualifies graduates to assemble, install, test, maintain, and adapt electro-optical instrument systems as found in process monitoring and control, precision measurement and tracking, telemetry and communications, non-destructive testing, optical memory systems and biomedical diagnostics.

### Student Preparation

Students planning to concentrate in electro-optical technology should complete the following courses or their equivalents in preparation for upper-level study:

Solid State Devices	4 hours
Electronic Circuits semester hours	8 hours
Communications Hardware	4 hours
College Physics	6 hours
Calculus	6 hours
Computer Science	3 hours

NOTE: Students without credit for the equivalents of CSCI 3132 and MATH 3332 must take these courses or pass equivalency exams.

Students who do not have the recommended preparation and who cannot demonstrate proficiency through special examination may be required to take additional courses before enrolling in certain courses of the required core.

### Core Requirements

The courses listed below, or their approved equivalents, constitute the core requirements.

CSCI	3131	EOPT	4132	PROC	3114
CTEC	3131	EOPT	3131	PROC	3132
CTEC	3130	EOPT	3132	PROC	3130
CTEC	3132	EOPT	3431	EOPT	4111
EOPT	4332	MATH	3333		

Students may select 12 hours, as endorsed by an advisor, from ACCT, ECON, ENVR, FINC, MGMT, MKTG, PSYC, SOCI, and STAT.

## Concentration Requirements

Completion of 12 hours beyond the core, with grades of C or higher, constitutes the concentration. These 12 hours are to be selected from one of the following two specialization groups and the common group. At least six hours, as endorsed by the advisor, must be chosen from one of the specialization groups.

### Group A (Biomedical Instrumentation)

EOPT	4231	EOPT	4234	BIOL	3611
EOPT	4232	EOPT	4331	BIOL	3632
EOPT	4233	BIOL	3631	BIOL	3612

### Group B (Electro-Optical Instrumentation)

CTEC	3331	EOPT	4331	EOPT	4533
CTEC	3531	EOPT	4431	OCIN	4331
CTEC	4333	EOPT	4531	EOPT	4432
EOPT	4111	EOPT	4532		

### Common Group

EOPT	39v9	EOPT	4931	MATH	4131
EOPT	4534	EOPT	4939	PROC	3134

The balance of hours may consist of free electives, Humanities courses are recommended.

## Electro-Optical Technology (Graduate)

The Graduate program in Electro-Optical Technology leads to the Master of Science degree and prepares students to enter science and industry with expectations for rapid advancement in research, education, or in management and supervision of an electro-optical enterprise.

### Candidate Preparation

Students aspiring to graduate degree candidacy should have completed the following courses or their equivalents and have gained computer programming proficiency in a compiler language: Digital Logic Analysis, Communications Theory, Linear Systems Analysis, Lasers and Masers, Wave Optics, and Fourier Optics.

## Degree Requirements

The Candidate Plan of Studies will include a minimum of 30 hours inclusive of Master's Degree Option 1 or 2. All candidates must complete a minimum of 9 hours from both of the following lists of courses.

### Group A

EOPT	5131	EOPT	5332	EOPT	6331
EOPT	5231	EOPT	5931	EOPT	6431
EOPT	5331	EOPT	59v9	EOPT	5332
CTEC	5331	EOPT	5132		

### Group B

EOPT	5130	CTEC	5332	EOPT	5431
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## Oceanographic Instrumentation (Undergraduate)

A concentration in Oceanographic Instrumentation leading to the Bachelor of Science degree is administered by the Director of Programs in Technologies in the School of Sciences and Technologies. The program is designed to qualify graduates to assemble, install, test, maintain, and adapt modern oceanographic instrumentation systems. Students should contact their advisors concerning licensing and certification requirements necessary for certain aspects of this field.

### Student Preparation

Students planning to concentrate in oceanographic instrumentation should complete the courses outlined below in preparation for upper-level study:

Chemistry	3 hours
Fundamentals of Instrumentation	3 hours
Electronic Circuits	8 hours
Calculus	6 hours
Computer Science	3 hours
Physics	6 hours

**NOTE:** Students without credit for the equivalents of CSCI 3132 and MATH 3332 must take these courses or pass equivalency exams.

Students who do not have the recommended preparation may be counseled to take additional courses before enrolling in certain courses of the required core.



## Core Requirements

The courses listed below, or their approved equivalents, constitute the core requirements and are designed to provide the student with a fundamental background in digital hardware and software techniques, linear hardware techniques, and oceanography.

CSCI	3131	GEOL	3032	OCIN	4231
CTEC	3131	MATH	3333	PROC	3114
CTEC	3130	OCIN	3131	PROC	3132
CTEC	3132	OCIN	3130	PROC	3130
CTEC	3331	OCIN	3231	PROC	3531
CTEC	3531				

Students may select 12 semester hours, as endorsed by an advisor, from ACCT, ECON, ENVR, FINC, MGMT, MKTG, PSYC, SOCI, and STAT.

## Concentration Requirements

Completion of 12 hours beyond the core, with grades of C or higher, constitutes the concentration. These 12 hours are to be selected from one of the following four specialization groups and the common group. At least six hours, as endorsed by the advisor, must be chosen from one of the specialization groups.

### Group A (Shipboard Systems)

AVIN	4331	OCIN	4232	OCIN	4234
BIOL	4132	OCIN	4233	PROC	3331

### Group B (Offshore Drilling)

OCIN	4131	OCIN	4433	PROC	4232
OCIN	4331	PROC	4231		

### Group C (Offshore Production/Pipeline)

AVIN	3133	OCIN	4434	PROC	4231
AVIN	4331	OCIN	4231	PROC	4233
				PROC	4234

Group D  
(Offshore Seismic)

OCIN 4433  
OCIN 4431

OCIN 4432  
PROC 4231

Group E

(Offshore Petro/Chemical Technology: Selections from Group  
B, C, and D)

Common Group

CTEC 4532  
OCIN 39v9

OCIN 4931  
OCIN 4939

PROC 3134  
MATH 4134

The balance of hours may consist of free electives. Humanities courses are recommended.

### **Oceanographic Instrumentation (Graduate)**

The graduate program in Oceanographic Instrumentation leads to the Master of Science degree and prepares the student for a career in research, education or management of shipboard system, or offshore petrochemical automation systems.

#### **Candidate Preparation**

Students aspiring to graduate degree candidacy should have completed the following courses or their equivalents and have gained computer programming proficiency in a compiler language: Computer Architecture, Control Systems, Oceanographic Instruments, and Navigation Systems.

#### **Degree Requirements**

The Candidate Plan of Studies must include a minimum of 30 hours inclusive of Master's Degree Option 1 or 2. All of the courses from one of the following two specialization groups and the common group should be included.

Group A  
(Offshore Petrochemical System)

OCIN 5431

OCIN 5432

**Group B**  
**(Shipboard Systems)**

OCIN 5232

OCIN 6431

**Common Group**

CTEC 5331

OCIN 5231

OCIN 5131

OCIN 5331

## **Process Monitoring and Control (Undergraduate)**

The undergraduate program in Process Monitoring and Control leads to the Bachelor of Science degree and prepares students for careers in process automation as encountered in a variety of industrial settings.

### **Student Preparation**

Students planning to concentrate in process monitoring and control should complete the following courses in preparation for upper-level study:

Fundamentals of Electronics	4 hours
Industrial Instrumentation	12 hours
College Physics	6 hours
General Chemistry	3 hours
Calculus	6 hours
Computer Science	3 hours

Students who do not have the recommended preparation may be counseled to take additional courses before enrolling in certain courses of the required core.

### **Core Requirements**

The courses listed below, or their approved equivalents, constitute core requirements.

CSCI 3131	CTEC 4532	PROC 3331
CTEC 3131	MATH 3333	PROC 3431
CTEC 3130	PROC 3132	PROC 3531
CTEC 3132	PROC 3114	
CTEC 3531	PROC 3130	

NOTE: Students without credit for the equivalents of CSCI 3132 and MATH 3332 must take these courses or pass equivalency exams.

Students may select 12 hours, as endorsed by an advisor, from ACCT, ECON, ENVR, FINC, MGMT, MKTG, PSYC, SOCI, and STAT listings.

### Concentration Requirements

Completion of 18 hours beyond the core, with grades of C or higher, constitutes the concentration. These 18 hours are to be selected from one of the following three specialization groups and the common group. At least six hours as endorsed by the advisor, must be taken from one of the specialization groups.

#### Group A (Automatic Machine Systems)

PROC 4131  
PROC 4434

PROC 4435  
PROC 4436

#### Group B (Electric Power)

PROC 4031  
PROC 4431

PROC 4432  
PROC 4433

PROC 4434  
PROC 3332

#### Group C (Petrochemical Processes)

PROC 4231  
PROC 4232

PROC 4233  
PROC 4234

PROC 4235  
OCIN: 4431

#### Common Group

MATH 4134  
CTEC 4531  
PROC 4330

PROC 4134  
PROC 39v9  
PROC 4331

PROC 4931  
PROC 4939  
CSCI 3332

The balance of hours may consist of free electives. Humanities courses are recommended.

### Process Monitoring and Control (Graduate)

The graduate program in Process Monitoring and Control leads to the Master of Science degree and is designed to prepare students for professional and managerial positions in education, science, or industry. All concentrations emphasize modern hardware and software techniques for process automation.

### Candidate Preparation

Students aspiring to graduate degree candidacy should have completed the following courses or their equivalents and have gained computer

programming proficiency in a compiler language: Computer Architecture, Computer Automation, Control Systems, Linear Systems Analysis, Probability, and Statistics.

### Degree Requirements

The Candidate Plan of studies must include a minimum of 30 hours inclusive of Master's Degree Option 1 or 2. All of the courses from the common group and three of the courses from one of the following two specialization groups should be included:

#### Group A (Electrical Power)

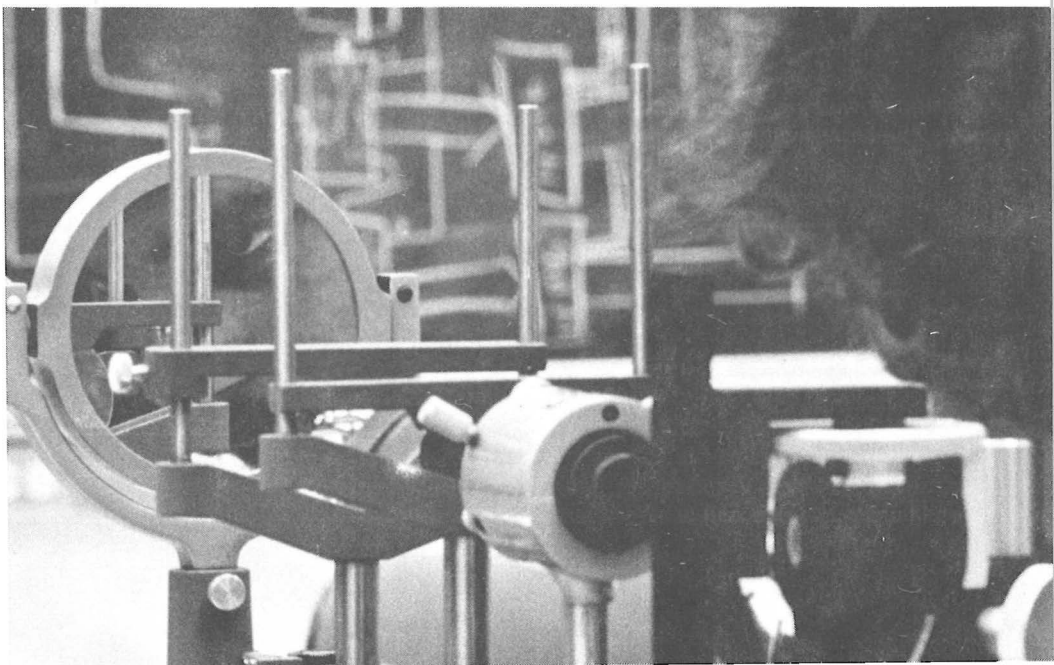
PROC	5332	PROC	5433	PROC	6531
PROC	5432	PROC	5931	PROC	6533

#### Group B (Petrochemical Processes)

AVIN	5331	PROC	5332	PROC	6533
CTEC	5531	PROC	6532	OCIN	5432
PROC	5233	PROC	5232		

#### Common Group

CTEC	5331	CTEC	5332	PROC	5531
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## **Standards for Graduate Programs in the School of Sciences and Technologies**

### **Admissions**

#### **Grade Point Average**

For admission to graduate degree candidacy the student must have a grade point average of at least 3.0 (A = 4.0) on the most recently earned 60 hours. The student whose grade point average is below 3.0 and better than 2.6 must earn B or better on all of the first 9 hours of attempted science/technology courses at UH/CLC prior to admission to candidacy; these courses are to be appropriate to the area of study and are to be approved by the advisor, program director, and dean. They may apply toward the degree. The student whose grade point average is below 2.6 may submit appropriate letters of recommendation and be interviewed by an evaluating committee consisting of the faculty advisor, program director, and a third faculty member appointed by the program director. If the student is evaluated as likely to succeed in graduate studies, the committee may specify additional course requirements and/or other conditions for candidacy prior to submission of the candidacy to the dean, requesting approval.

#### **Graduate Record Examination**

Graduate applicants must submit scores (verbal, quantitative, and advanced) on the Graduate Record Examination (GRE). The advanced test may be taken in a subject of the student's choice, not necessarily the intended area for future study. The GRE should be completed prior to or during the first semester at UH/CLC and must be completed prior to acceptance of the Candidate Plan of Study. The GRE scores do not necessarily determine or assure eligibility for graduate candidacy but provide additional evidence of the student's likelihood of succeeding in graduate studies.

#### **University General Admissions Requirements**

See sections in this bulletin on Admissions, Advisement, and Registration, and on Degree Requirements.

## **Master's Degree Options 1, 2, or 3: Thesis, Project, or Internship**

### **Thesis, Project, or Internship Committee**

As early as feasible in a master's degree program, the student must request of the program director the formation of a committee. The Thesis, Project, or Internship Committee will usually consist of three faculty members, one to be the student's supervising professor who will also be the chairperson of the committee. The candidate may request a particular faculty member or members to serve on the committee, subject to final approval by the program director and dean.

### **The Proposal**

The candidate must submit to the Thesis, Project, or Internship Committee a written proposal of a thesis topic or project, stating the nature and scope of work, the significance of the proposed work, justification through survey of pertinent literature, and the planned approach; if the study is one of an experimental nature, the equipment and material supplies anticipated should also be discussed in the proposal. The student may begin his or her thesis or project work following approval by this committee and subsequent approval of the program director and dean and enrollment in the appropriate thesis or project course.

### **Candidate Enrollment**

The candidate is normally expected to prepare his or her proposal no later than the first term after completing 12 hours toward the degree. The candidate must register for the appropriate research course no later than the first term after the committee has approved his or her proposal or may in some circumstances enroll in a thesis or projects course prior to approval of a proposal or statement of the work program, in which case his or her first obligation will be to complete the proposal and obtain approval. Continuous registration is required in the research course until completion for the required six hours to be credited toward completion of the degree. A grade of "I" (Incomplete) will be recorded for each term of registration until a final grade is determined for the completed thesis or project. The candidate is normally expected to complete the thesis or project within four years after his or her proposal has been approved, and although more than six hours may be registered for the thesis research or project course, only six hours may be applied toward the degree.

The graduate candidate following the internship option must obtain approval of his or her work program prior to enrolling in an internship course, which is available only under special circumstances. Under an approved

internship option a candidate must have an Internship Committee consisting of the principal advisor, as chairperson, and at least one other full-time faculty member chosen by the chairperson in consultation with the dean. The student's supervisor from the institution (outside the University) where the internship is being pursued will normally be an advisor to the committee.

### **The Document**

A written document (thesis or formal report) is required under option 1, 2, or 3 for the Master's degree. The document must represent the candidate's ability to do independent research or development in an applications area. It must present evidence of a mastery of the literature on the selected topic and related subject areas, and provide some aspect of originality or unique contribution beneficial to the technical, scientific, or medical communities. The document must conform to the Science and Technology section of the University Style Manual for Theses. Alternatively, the document must conform to the style manual of a professional society from an appropriate discipline as determined by the dean (e.g., American Physiological Society, American Institute of Physics, American Psychological Association, American Chemical Society, Geological Society of America, or Federation of American Societies of Experimental Biology).

### **Document Submittal**

The final draft of the document must be completed and submitted to the Thesis, Project, or Internship Committee at least two weeks before the oral presentation. A minimum of three copies of the document, approved and signed by the appropriate committee, must be submitted to the program director and dean for final signatures.

### **Oral Presentation:**

After committee approval of the written document the candidate must satisfactorily conduct a seminar on the thesis, project, or internship topic. This seminar shall be open to the public.

### **Timing**

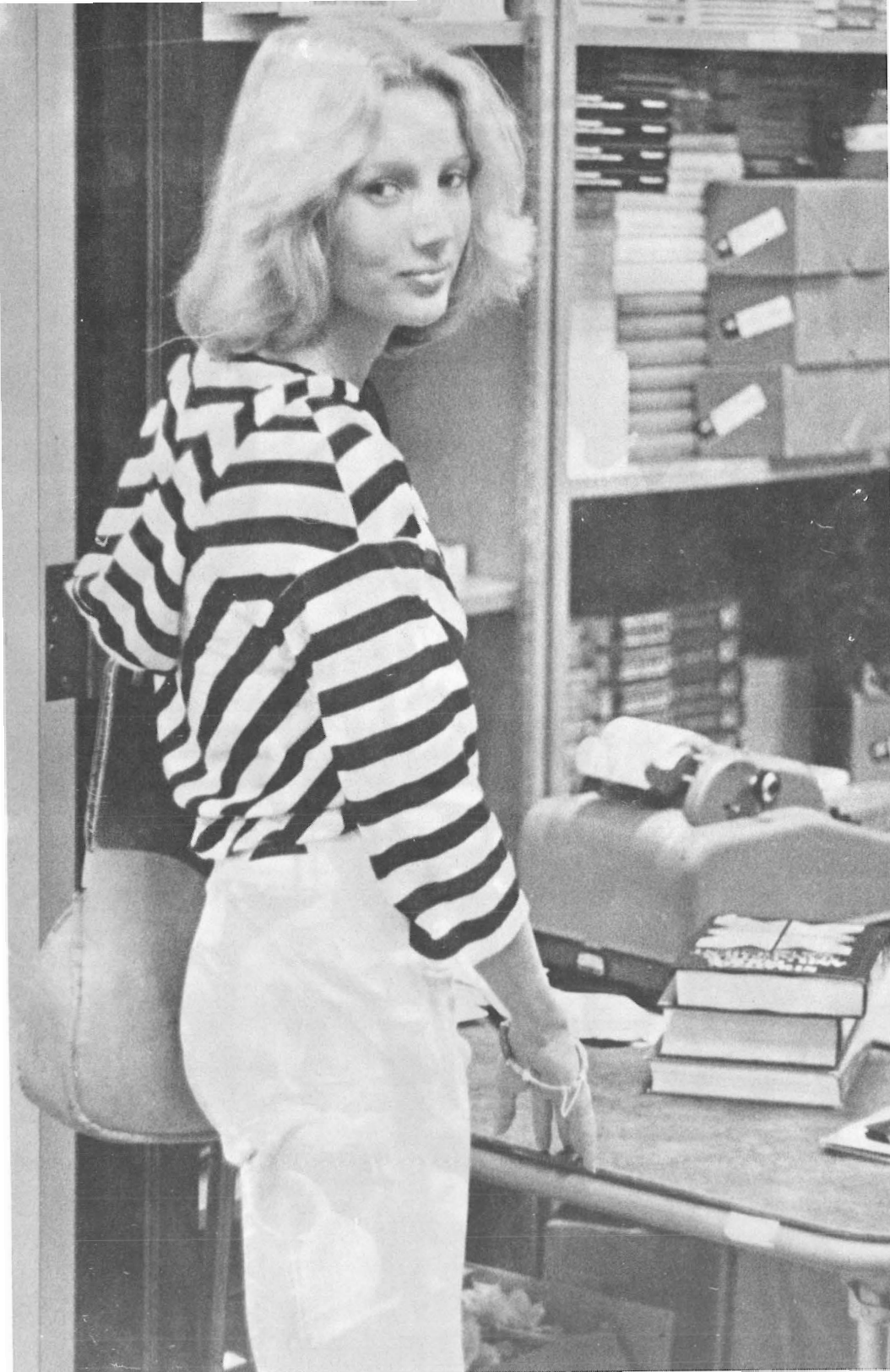
The above requirements must be met by the date set by the University calendar for graduation. The dean certifies completion of the degree after all of the requirements have been met.

## **Master's Degree Option 4**

This option is for graduate courses in lieu of options 1, 2, or 3. Candidate plans of study for students choosing Option 4 must contain a minimum of 36 hours, with no more than 12 hours at the 3000 and 4000 level. Entry into Option 4 is subject to approval of program director and dean.







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# Roster of Courses

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## COURSE NUMBERING

All courses offered at the University of Houston at Clear Lake City are identified by a four-letter abbreviation of an academic discipline plus a four-digit number; e.g., ACCT 3031 identifies an accounting course.

The first digit of a course number indicates scholastic level and also provides information regarding restriction to undergraduate and/or graduate student enrollment:

3000 series courses—intermediate level undergraduate; normally open to undergraduates only;

4000 series courses—advanced level undergraduate; open to undergraduates and to graduate students within the limitations imposed by master's degree requirements;

5000 series courses—beginning level graduate;

6000 series courses—intermediate level graduate.

The second digit provides coding information for administrative purposes and has no significance for the student.

The third digit indicates the number of semester credit hours associated with the course. When the letter "v" appears in place of a third digit, the course is offered for variable credit, and the actual number of credits for which the student registers is subsequently inserted on the student's record by the Registrar.

The fourth digit provides sequential coding information for administrative purposes and has no significance for the student.

EXAMPLES: MGMT 4331 is an advanced undergraduate course in management, carrying 3 semester credit hours; LITR 6533 is an intermediate level graduate course in literature, carrying 3 semester credit hours; BIOL 3312 is an intermediate level undergraduate course in biology, carrying 1 semester credit hour.

## COURSE PUNCTUATION

When two or more course numbers are separated by semicolons (;), latter courses may not be taken until credit is earned for previous ones. When a single course is followed by a colon (:), the course may be taken as an independent one-semester course.

## AVAILABILITY OF COURSES

The University does not guarantee in advance that courses listed in this bulletin will be offered in any specific term or year.

## ACCOUNTING

### **ACCT 3033: MEASUREMENT AND REPORTING OF BUSINESS INFORMATION**

The nature of the accounting process and the uses of accounting information. *Not intended for students majoring in accounting.*

### **ACCT 3331: MANAGERIAL ACCOUNTING**

*Prerequisite: Principles of Accounting or equivalent.* Analysis of financial statements; income and capital budgeting, cost concepts, interpretation and relationship of financial information in managerial control and planning. *Not intended for students concentrating in accounting.*

### **ACCT 3332: INSTITUTIONAL ACCOUNTING**

*Prerequisite: Principles of Accounting or equivalent.* The use of accounting in governmental organizations; allocation of funds, disbursements, administrative control, and legal requirements.

### **ACCT 3333: COST ACCOUNTING**

*Prerequisite: Principles of Accounting or equivalent.* Analysis of cost systems and preparation of cost statements.

### **ACCT 3431;3432: INTERMEDIATE ACCOUNTING THEORY**

*Prerequisite: Principles of Accounting or equivalent.* Concepts and procedures underlying the measurement and reporting of financial information.

### **ACCT 3739: UNDERGRADUATE INTERNSHIP IN ACCOUNTING**

*Prerequisites: 15 hours of upper-level credit and approval of program director.* Six hours of supervised work experience each week in an approved accounting firm, governmental agency, or business.

### **ACCT 39v9: PROJECTS IN ACCOUNTING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in accounting.

### **ACCT 4331: FEDERAL INCOME TAXES**

Analysis of the Internal Revenue Code as applied to individuals.

### **ACCT 4332: FINANCIAL INFORMATION SYSTEMS**

*Prerequisite: ACCT 3432 or equivalent.* Methods and procedures through which accounting information is provided for managerial planning and control.

### **ACCT 4431;4432: AUDITING**

*Prerequisite: ACCT 3432 or equivalent.* Auditing theory, procedures, and problems; examination of working papers and reports; governmental auditing practices.

### **ACCT 4532: ADVANCED FINANCIAL ACCOUNTING**

*Prerequisite: ACCT 3432 or equivalent.* Problems in financial accounting; partnerships, corporations, consolidated statements, and fiduciary accounting.

### **ACCT 4533: ADVANCED TAX ACCOUNTING**

*Prerequisite: ACCT 4331 or equivalent.* The Internal Revenue Code as applied to fiduciary relationships, partnerships, and corporations; preparation of income, gift, estate, and inheritance tax returns.

**ACCT 4534: ADVANCED COST ACCOUNTING**

*Prerequisite: ACCT 3333 or equivalent.* Intensive examination of cost systems, cost behavior, and approaches to cost statements; implications for managerial planning and control.

**ACCT 4731: SEMINAR IN ACCOUNTING**

*Prerequisite: ACCT 3432 or equivalent.* The development of accounting theory; AICPA research bulletins and opinions; statements of the Financial Accounting Standards Board; pronouncements of other authoritative accounting bodies.

**ACCT 4931: SELECTED TOPICS IN ACCOUNTING**

*Identified by specific title each time course is offered.*

**ACCT 5031: ACCOUNTING CONCEPTS FOR MANAGERS**

*For students with no previous training in accounting.* Methods and procedures for communicating financial information, planning, analyzing business activity, and establishing controls.

**ACCT 5131: ACCOUNTING FOR ADMINISTRATIVE CONTROL**

*Prerequisite: ACCT 5031 or equivalent.* Cost concepts and behavior, performance measurement, and analytical uses of accounting data for administrative decisions.

**ACCT 5132: FEDERAL INCOME TAX ACCOUNTING**

Federal income tax accounting applied to individuals and corporations.

**ACCT 5331: ACCOUNTING ANALYSIS FOR MANAGEMENT DECISIONS**

*Prerequisite: ACCT 5131 or equivalent.* Pricing, cost analysis, process evaluation, managerial control, and planning for business decisions.

**ACCT 5332: ACCOUNTING INFORMATION SYSTEMS**

*Prerequisite: ACCT 3432 or equivalent.* Concept, design, and operational relationships of accounting information systems to the flow of data in business organizations.

**ACCT 5333: COST ACCOUNTING SYSTEMS**

*Prerequisite: ACCT 5131 or equivalent.* Cost accounting systems and their applications to generation of data for inventory evaluation, decision-making, and control.

**ACCT 5531: INTERNATIONAL ACCOUNTING**

Analysis and application of accounting principles as utilized by multi-national business firms; case study method emphasized.

**ACCT 5931: RESEARCH TOPICS IN ACCOUNTING**

*Identified by specific title each time course is offered.*

**ACCT 59v9: PROBLEMS IN ACCOUNTING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**ACCT 6731: SEMINAR IN FINANCIAL ACCOUNTING THEORY**

*Prerequisite: ACCT 3432 or equivalent.* Theoretical approaches to the solution of current problems in financial reporting.

**ACCT 6732: SEMINAR IN AUDITING THEORY AND PRACTICE**

*Prerequisite: ACCT 4431 or equivalent.* Standards and procedures as currently accepted by independent public accountants; ethics, responsibilities, audit programs, and reporting dimensions.

**ACCT 6733: SEMINAR ON TAXATION**

*Prerequisite:* ACCT 5132 or equivalent. Recognition and analysis of the tax implications of business decisions; tax research and planning for the business enterprise.

**ACCT 67v9: GRADUATE INTERNSHIP IN ACCOUNTING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* master's degree candidacy and approval of advisor and dean. Supervised internship with an approved financial institution or firm; written and oral reports required.

**ACCT 6939: MASTER'S THESIS RESEARCH****ADMINISTRATION OF HEALTH SERVICES****ADHS 3131: FOUNDATIONS OF HEALTH SERVICES ADMINISTRATION**

The administration of health care services and basic principles of organization for patient care including financial, manpower and systems development and control considerations in meeting health requirements at community, state, regional, and national levels.

**ADHS 3531: HOSPITAL ORGANIZATION AND MANAGEMENT**

*Prerequisite:* ADHS 3131 or equivalent. Structure, organization, and management of hospitals; ownership, administration, professional and nonprofessional department, and personnel staff.

**ADHS 37v9: INTERNSHIP IN HEALTH SERVICES ADMINISTRATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* 30 hours of upper-level credit and approval of program director. Supervised field experiences with an approved public or private health facility, agency, or planning council.

**ADHS 39v9: PROJECTS IN HEALTH CARE ADMINISTRATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* approval of advisor and project director. Individual projects and planned readings in the administration and delivery of health care; written reports required.

**ADHS 4131: HEALTH SERVICE INFORMATION SYSTEMS**

Gathering, analyzing, and reporting information in health institutions; computer applications to patient, personnel, and financial records and reports.

**ADHS 4132: HEALTH CARE PLANNING**

*Prerequisite:* ADHS 3131 or equivalent. Concepts of planning and their application to the delivery of health care; community health needs, and resources planning.

**ADHS 4133: HOSPITAL PLANNING, CONSTRUCTION, AND DESIGN**

*Prerequisite:* ADHS 3131 or equivalent. Planning, financing, and constructing health-care facilities; roles of consultants and architects; location and community involvement.

**ADHS 4134: EXTENDED CARE FACILITIES**

*Prerequisite:* ADHS 3131 or equivalent. Planning, financing, and administering extended care services; contrasting problems of short-term and long-term care and rehabilitation.

**ADHS 4332: LEGAL DIMENSIONS OF HEALTH SERVICES ADMINISTRATION**

Legal aspects of the doctor-patient-nurse-other health professional relationships; individual, corporate, and institutional liability and responsibility.

**ADHS 4531: FINANCIAL DIMENSIONS OF HEALTH SERVICES ADMINISTRATION**

*Prerequisite: Principles of Accounting and ADHS 3131 or equivalent.* Analysis of the financial framework within which health care organizations and facilities operate; sources and flow of funds, cost information systems, and capital budgeting.

**ADHS 4731: SEMINAR IN THE ADMINISTRATION OF HEALTH CARE**

*Prerequisite: 12 hours in ADHS.* Current problems, policies, and procedures in health care; survey of recent professional literature and research.

**ADHS 4931: SELECTED TOPICS IN HEALTH SERVICES ADMINISTRATION**

*Identified by specific title each time course is offered.*

**ADHS 5031: FINANCIAL MANAGEMENT OF HEALTH SERVICES**

*Prerequisite: ACCT 5031 or equivalent.* Principles of finance and accounting as applied to health service delivery systems.

**ADHS 5131: HEALTH SERVICE SYSTEMS**

Managerial and administrative processes in hospitals and health care facilities; staffing, budgeting, and organizational policy formation.

**ADHS 5231;5232: GOVERNMENT HEALTH SERVICE PROGEAMS**

Analysis of federal, state, and local health service programs, with international comparisons and public health policy implications.

**ADHS 5331: THE PATIENT**

Analysis of the process, strategies, and techniques of health care planning; study of the current issues related to assessing needs, setting objectives, and evaluating services.

**ADHS 5931: RESEARCH TOPICS IN HEALTH SERVICES ADMINISTRATION**

*Identified by specific title each time course is offered.*

**ADHS 59v9: PROBLEMS IN HEALTH SERVICES ADMINISTRATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of academic advisor and residency preceptor.*

**ADHS 6131: ECONOMICS OF HEALTH CARE SYSTEMS**

Financing health service institutions and comparison of public and private organizations and structures; project in local health agency arranged.

**ADHS 6731: HEALTH SERVICES PERSONNEL ADMINISTRATION**

Problems of personnel management in health service organizations with emphasis on labor-management relations in health care industry.

**ADHS 6732: SEMINAR IN HEALTH SERVICES ADMINISTRATION**

Current issues and practices in health services administration.

**ADHS 67v9: GRADUATE RESIDENCY IN HEALTH ADMINISTRATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: master's degree candidacy and approval of advisor and dean.* Supervised residency with an approved health agency or organization; written and oral reports required.

**ADHS 6939: MASTER'S THESIS RESEARCH**

## ADMINISTRATION, EDUCATIONAL

### **ADMN 5931: RESEARCH TOPICS IN EDUCATIONAL ADMINISTRATION**

*Identified by specific title each time course is offered.*

### **ADMN 59v9: PROBLEMS IN EDUCATIONAL ADMINISTRATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

### **ADMN 6131: PRINCIPLES OF EDUCATIONAL ADMINISTRATION**

Principles and theory of administration; educational management and personnel relations.

### **ADMN 6132: PUBLIC SCHOOL ORGANIZATION AND ADMINISTRATION**

Relationships of principles and supervisors to a school district; applications of principles and theory of administration to problem-solving and decision-making.

### **ADMN 6331: ORGANIZATION AND ADMINISTRATION OF THE INSTRUCTIONAL IMPROVEMENT PROGRAM**

*Prerequisites: PSYC 5031 and either EDUC 6231 or 6232.* System-wide curriculum and instructional improvement programs; principles and procedures of their organization and administration.

### **ADMN 6332: ADMINISTRATION OF SPECIAL AND COMPENSATORY EDUCATION**

Program evaluation, administration, and supervision; study of state and national plans, surveys of local needs, and program evaluation and improvement.

### **ADMN 6333: ADMINISTRATION AND SUPERVISION IN SPECIAL EDUCATION**

*Prerequisite: DIAG 5031 or equivalent.* Philosophy, concepts, and problems in the administration and supervision of special education programs.

### **ADMN 6334: ADMINISTRATION OF LIBRARY SERVICES**

Principles and illustrative practices in the organization, budgeting, and staffing of learning resource centers.

### **ADMN 6335: ORGANIZATION AND ADMINISTRATION OF PUPIL PERSONNEL AND GUIDANCE SERVICES**

Models, management techniques, and methodology for student personnel and guidance services in schools.

### **ADMN 6431;6432: ROLE OF THE PUBLIC SCHOOL PRINCIPAL**

Two semesters devoted to developing the technical, human, and conceptual skills required of the new school executive.

### **ADMN 6731: ISSUES IN SCHOOL ADMINISTRATION**

Contemporary issues in educational administration; implications for planning, organizing, and controlling public schools.

### **ADMN 6739: INTERNSHIP IN EDUCATIONAL ADMINISTRATION**

*May be repeated for a maximum of six credits.*

*Prerequisite: approval of Dean.* Supervised internship in an approved educational environment; written and oral reports required.



## ANTHROPOLOGY

### ANTH 3131: CULTURAL ANTHROPOLOGY

The comparative study of "culture" as manifested in technology, language, personality, and religion and in the social, economic, and political organization of societies.

### ANTH 3132: STRUCTURE OF SOCIAL SYSTEMS

A cross-cultural study of kinship, marriage, property, law, religion, education, and groups such as the family, descent groups, social strata, associations, and the state.

### ANTH 3231: HUMAN ORIGINS

The genetic and learned capacities acquired by human beings, those shared with other animals, and those uniquely reflected in the rise of civilization.

### ANTH 3332: AFRO-AMERICAN ANTHROPOLOGY

Afro-American culture extending from Brazil through the Caribbean into the United States, with emphasis on the African heritage as it has survived in music, art, and social systems.

### ANTH 37v9: UNDERGRADUATE PRACTICUM

*(Variable credit, 1-6 semester hours)*

*Prerequisite: 12 semester hours of appropriate upper-level work and approval of instructor. Written report required.*

### ANTH 39v9: PROJECTS IN ANTHROPOLOGY

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director. Individual projects and planned readings in anthropological inquiry.*

### ANTH 4331: INDIANS OF NORTH AMERICA

The cultures of the native societies of North America and the history of their reaction to European culture.

### ANTH 4332: PEOPLES OF MESO-AMERICA

Meso-American Indians; the cultures of the native and Hispanized societies of Mexico, Guatemala, and northern Central America.

### ANTH 4334: HIGH CIVILIZATIONS OF MESO-AMERICA

The pre-Hispanic cultures of Mexico and northern Central America; their art, architecture, writing, astronomy, and calendar; the social, economic, and political bases for high civilization.

### ANTH 4431: WOMEN IN SOCIETY

A cross-cultural study of the environmental, biological, and cultural factors in the division of labor and assignment of roles, male and female.

### ANTH 4432: PEOPLES OF THE PACIFIC

A survey of the cultures of Australia, New Guinea, New Zealand, and the Pacific, with special interest in cultural migration and isolation.

### ANTH 4434: PEOPLES OF AFRICA

The native cultures of Africa from earliest history to the great black civilizations, with special emphasis on music, art, and political organization.

**ANTH 4435: PRIMATE BEHAVIOR**

A review of the literature on the behavior of monkeys and apes; their capacities and social organization as related to the genetic and behavioral character of human beings.

**ANTH 4531: DESCRIPTIVE LINGUISTICS**

A practical study of the description and analysis of the elements of any language; theories of phonemics, grammar, and semantics.

**ANTH 4632: PSYCHOLOGICAL ANTHROPOLOGY**

A study of the effects of culture on personality, socialization, perception, cognition, and psychopathology.

**ANTH 4634: ANTHROPOLOGY OF LAW**

The relationship of non-Western legal phenomena to modern law; the universality of "law," moral rules, "justice," and legitimacy; evolution and comparison of legal systems.

**ANTH 4931: SELECTED TOPICS IN ANTHROPOLOGY**

*Identified by specific title each time course is offered.*

**ANTH 5531: MULTICULTURALISM AND THE FUTURE**

Contemporary perspectives on the future of pluralism in America.

**ANTH 5732: RESEARCH SEMINAR**

Collaboration on research concerning a particular topic. *May be repeated for credit.*

**ANTH 57v9: GRADUATE PRACTICUM**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*

**ANTH 59v9: PROBLEMS IN ANTHROPOLOGY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*

**ANTH 5931: RESEARCH TOPICS IN ANTHROPOLOGY**

*Identified by specific title each time course is offered.*

**ANTH 6331: COGNITIVE ANTHROPOLOGY**

An investigation into the cultural systems of symbolizing; universals of human thought.

**ANTH 67v9: GRADUATE INTERNSHIP**

*(Variable credit, 1-9 semester hours)*

*Prerequisites: 12 hours of graduate level course work and approval of Internship Committee. Minimum of two days a week in an approved internship setting. Written report required.*

**ANTH 68v9: MASTER'S PROJECT RESEARCH**

*(Variable credit, 1-6 semester hours)*

**ANTH 69v9: MASTER'S THESIS RESEARCH**

*(Variable credit, 1-6 semester hours.)*

## ARTS

Please note: Lab fee may be charged in all Studio courses.

### **ARTS 3133: ADVANCED DESIGN I**

Emphasis on specific two-dimensional design projects.

### **ARTS 3135: ADVANCED DESIGN II**

Emphasis on specific three-dimensional design projects.

### **ARTS 3231: CERAMICS**

Study of ceramic design as related to tools, materials, and processes; handbuilding and potter's wheel.

### **ARTS 3233: INTERMEDIATE CERAMICS**

*Prerequisite: ARTS 3231 or permission of instructor.* Forming techniques determined by individuals. Glaze technology, clay body construction, firing methods.

### **ARTS 3331: INTERMEDIATE DRAWING I**

*Prerequisite: Permission of instructor.* Principles of space relationship and composition using recognizable forms.

### **ARTS 3332: INTERMEDIATE DRAWING II**

*Prerequisite: ARTS 3331 or permission of instructor.* A continuation of ARTS 3331.

### **ARTS 3335: INTERMEDIATE PAINTING I**

*Prerequisite: ARTS 3133 and ARTS 4133 or permission of instructor.* Exploration of the techniques and methods of painting; either in oils or acrylics and works on paper.

### **ARTS 3336: INTERMEDIATE PAINTING II**

*Prerequisite: permission of instructor.* A continuation of ARTS 3335.

### **ARTS 3431: INTERMEDIATE PRINTMAKING I**

*Prerequisite: permission of instructor.* Exploration of printing techniques in relief, woodcuts, and dry point.

### **ARTS 3432: INTERMEDIATE PRINTMAKING II**

*Prerequisite: ARTS 3431 or permission of instructor.* A continuation of ARTS 3431.

### **ARTS 3831: WESTERN ART THROUGH THE MIDDLE AGES**

Development of art from prehistory through the late Middle Ages, with attention to ways in which they reflect the cultures that produced them.

### **ARTS 3832: WESTERN ART: RENAISSANCE TO MODERN**

European art from the Renaissance to the beginning of the modern era, with attention to the intellectual, political, and social context.

### **ARTS 3834: PRE-COLUMBIAN ART**

Arts of the high civilization of Meso-America up to the Spanish conquest; anthropological and formal approaches; lectures, class discussions, and individual projects.

### **ARTS 3835: PRIMITIVE ART**

The arts of North America, Africa, and Oceania; anthropological and formal aesthetic approaches; lectures, class discussions, field trips, and individual projects.

**ARTS 3837: ART IN TEXAS**

Development of architecture, painting, sculpture, and art collections in Texas, lectures, class discussions, and field trips in Houston and Galveston.

**ARTS 39v9: PROJECTS IN ART**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.* Individual projects and planned readings in art education, art history, or studio.

**ARTS 4031: ART AND EDUCATION**

Art expression based on an understanding of child development; laboratory with two and three dimensional media, class discussions, and field experience.

**ARTS 4032: CRAFTS FOR TEACHERS**

Contemporary crafts for teachers; media, techniques, and design; attention to crafts in diverse cultures. Laboratory and field experience.

**ARTS 4033: ADVANCED CRAFTS FOR TEACHERS**

*Prerequisite: ARTS 4032 or permission of instructor.*

**ARTS 4035: FIBER CRAFTS FOR TEACHERS**

Selected fiber crafts for all levels of teaching; may include spinning, dyeing, batik, on-loom and off-loom weaving, crochet, macrame, basketry, stitchery, applique, trapunto, rug-making, and soft sculpture.

**ARTS 4133: COLOR**

*Prerequisite: ARTS 3133 or permission of instructor.* Color theory; elements and principles of color design.

**ARTS 4233: ADVANCED CERAMICS**

*Prerequisite: ARTS 3233 or permission of instructor.* Ceramics workshop with emphasis on individual projects. *May be repeated for credit.*

**ARTS 4331: ADVANCED DRAWING**

*Prerequisite: ARTS 3332 or permission of instructor.* Principles of space relationship and composition, with emphasis on creative expression. *May be repeated for credit.*

**ARTS 4335: ADVANCED PAINTING**

*Prerequisite: ARTS 3336 or permission of instructor.* Exploration of the techniques and methods of painting either in oils or acrylics, with emphasis on creative expression. *May be repeated for credit.*

**ARTS 4431: ADVANCED PRINTMAKING**

*Prerequisite: ARTS 3432 or permission of instructor.* Exploration of printmaking techniques in etching, monotypes, and viscosity, with emphasis on creative expression. *May be repeated for credit.*

**ARTS 4731: ART EDUCATION SEMINAR**

Investigation of new ideas in art education; curriculum development; the creative process; laboratory with mixed media; individual projects; field experience.

**ARTS 4732: SEMINAR ON THE ART OF FILM**

Dramatic, narrative, and visual aesthetics of cinematic art; critical viewing of selected film classics.

**ARTS 4831: MODERN ART**

The great revolutionary moments in modern art from the 19th century to the present, with attention to changes and conflicts in society. Lectures, class discussions, individual projects, and field trips.

**ARTS 4832: AMERICAN ART**

Architecture, painting, sculpture, and crafts in the United States; emphasis on 20th-century American art. Lectures, class discussions, individual projects, and field trips.

**ARTS 4833: CONTEMPORARY ART**

Survey of problems in contemporary art from 1945 to the present. Emphasis on the American art scene.

**ARTS 4834: ANCIENT ART**

The arts of Egypt, Mesopotamia, and the Aegean; Greek and Roman architecture, sculpture, and painting. Lectures, class discussions, and individual museum projects.

**ARTS 4835: MEDIEVAL ART**

Painting, sculpture, and architecture of the Early Christian, Byzantine, Romanesque, and Gothic periods. Lectures, class discussions, and individual museum projects.

**ARTS 4836: RENAISSANCE ART**

Painting, sculpture, and architecture of the 14th through the 16th centuries. Differing emphasis on Italy or northern Europe. Lectures, class discussions, and individual museum projects. *May be repeated for credit.*

**ARTS 4837: BAROQUE AND ROCOCO ART**

Painting, sculpture, and architecture of the 17th and 18th centuries. Lectures, class discussions, and individual museum projects.

**ARTS 4931: SELECTED TOPICS IN ART**

*Identified by specific title each time course is offered.*

**ARTS 49v9: PROJECTS IN ART**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*

**ARTS 5231: CERAMIC STUDIO**

*Prerequisite: permission of instructor.* Supervised projects. *May be repeated for credit.*

**ARTS 5331: PAINTING-DRAWING**

*Prerequisite: permission of instructor.* Supervised projects. *May be repeated for credit.*

**ARTS 5431: PRINTMAKING**

*Prerequisite: permission of instructor.* Supervised projects. *May be repeated for credit.*

**ARTS 5931: RESEARCH TOPICS IN ART**

*Prerequisite: permission of instructor.* *Identified by specific title each time course is offered.*

**ARTS 59v9: PROBLEMS IN ART**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*

**ARTS 6231: CERAMIC STUDIO**

*Prerequisite: permission of instructor.* Independent study. *May be repeated for credit.*

**ARTS 6331: PAINTING-DRAWING**

*Prerequisite: permission of instructor.* Independent study. *May be repeated for credit.*

**ARTS 6431: PRINTMAKING**

*Prerequisite: permission of instructor.* Independent study. *May be repeated for credit.*

## **ASTRONOMY AND SPACE SCIENCE**

**ASTR 3131:3132: MODERN ASTRONOMY I AND II**

Current knowledge and theories in astronomy; formation of galaxies, stars, and planets; black holes, pulsars, quasars; gravitation, celestial mechanics. (I - an overview; II - more detailed study of selected subjects)

**ASTR 39v9: PROJECTS IN ASTRONOMY AND SPACE SCIENCE**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*

**ASTR 4231: INTRODUCTION TO WEATHER AND CLIMATE**

*Prerequisite: General Physics.* Weather and society, atmospheric physical processes, atmospheric circulation, weather phenomena, applications.

**ASTR 4232: APPLIED CLIMATOLOGY**

*Prerequisite: ASTR 4231 or approval of instructor.* Study of climate; climate change; applications of climate to agriculture, hydrology, human comfort, health, architecture, and engineering; climate classification.

**ASTR 4332: INTRODUCTION TO EARTH OBSERVATION**

*Prerequisite: General Physics.* Survey of techniques used to detect and to measure phenomena on earth from earth orbiting satellites and spacecraft. Emphasis on applications to meteorology, oceanography, hydrology, agriculture, geology, and environmental sciences.

**ASTR 4931: SELECTED TOPICS IN SPACE SCIENCE**

*Identified by specific title each time course is offered.*

**ASTR 5132: INTERSTELLAR AND INTERPLANETARY MEDIUM**

Composition of the interstellar and interplanetary medium; analysis of data from interplanetary probes, satellites, and radio and ground observations.

**ASTR 5134: INTRODUCTION TO ASTROPHYSICS**

*Prerequisite: PHYS 3431 or 3432 or equivalent.* Energy transport mechanisms; nuclear energy generation; stellar structure and evolution; white dwarfs, neutron stars, and black holes; supernova explosions; nucleosynthesis; binary stars and x-ray sources.

**ASTR 5231: RADIO AND MICROWAVE TECHNIQUES IN SPACE**

*Prerequisite: PHYS 3431 or equivalent.* Principles of radio receivers and telescopes; radiative transfer; Bremsstrahlung and synchrotron emission; discrete sources; microwave spectroscopy.

### **ASTR 5331:5332: REMOTE SENSING INSTRUMENTATION AND TECHNIQUES I AND II**

*Prerequisites: calculus, PHYS 3432 or equivalent.* Fundamentals of remote sensing; radiative quantities; radiative transfer theory and applications; interaction mechanisms; applications to the development of uses for remote sensing systems from spacecraft and aircraft.

### **ASTR 5931: RESEARCH TOPICS IN SPACE SCIENCE**

*Identified by specific title each time course is offered.*

### **ASTR 59v9: PROBLEMS IN SPACE SCIENCE**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

### **ASTR 6131: PLANETOLOGY AND ORIGIN OF THE SOLAR SYSTEM**

*Prerequisite: ASTR 5134 or equivalent.* Planetary geochemistry and geophysics; planetary atmospheres; new knowledge from meteorites, lunar samples, and interplanetary probes; comparative planetology.

### **ASTR 6132: COSMOLOGY**

*Prerequisite: ASTR 5134 or equivalent.* General relativity, world models and their observable properties, and cosmic evolution.

## **AVIONICS TECHNOLOGY**

### **AVIN 3122: INTRODUCTION TO AVIONICS**

*Prerequisites: General Physics, DC and AC circuit theory.* Functions and operations of aircraft electronic systems; related FCC and FAA regulations and procedures.

### **AVIN 3133: MICROWAVE SYSTEMS**

*Prerequisites: PROC 3135; corequisite or prerequisite; MATH 3333.* microwave circuits, radiating systems and waves.

### **AVIN 39v9: PROJECTS IN AVIONICS INSTRUMENTATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and laboratory investigations in avionics instrumentation.

### **AVIN 4131: AIRCRAFT COMMUNICATION SYSTEMS**

*Prerequisite or corequisite: AVIN 3122, PROC 3135, or equivalents.* Aircraft VHF, UHF, HF, and interphone systems; test equipment techniques and requirements for FCC licensing. *Laboratory instruction.*

### **AVIN 4132: AIRCRAFT NAVIGATION SYSTEMS**

*Prerequisites: AVIN 3122, CTEC 3331, PROC 3135.* VOR, ILS, ADF, DME, glidescope, marker beacon, and integrated navigation systems. *Laboratory instruction.*

### **AVIN 4133: AIRCRAFT RADAR SYSTEMS**

*Prerequisites: AVIN 3122, CTEC 3331, PROC 3135.* Weather radar, radio altimeters, Doppler navigation systems, and ATC transponders. *Laboratory instruction.*

### **AVIN 4134: AIRCRAFT ELECTRICAL AND INSTRUMENT SYSTEMS**

*Prerequisites: AVIN 3122 and CTEC 3331 or equivalents.* Aircraft electrical power sources, wiring requirements, monitoring and alarm systems, compasses, and autopilot systems. *Laboratory instruction.*

**AVIN 4331: TELEMETRY SYSTEMS**

*Prerequisite:* CTEC 3331 or equivalent. Transmitting and receiving data over digital channels; encoding, quantization, and channel coding strategies.

**AVIN 4332: ANTENNAS**

*Prerequisites:* CTEC 3331, MATH 3333, and PROC 3135 or equivalents. Radiation from point sources, lines, apertures, arrays, and networks.

**AVIN 4531: INSTALLING AND MAINTAINING AVIONICS SYSTEMS**

*Prerequisites:* AVIN 3122 and CTEC 3331 or equivalents. Modern hardware and software techniques for installing, checking out, and troubleshooting avionic systems. *Laboratory instruction.*

**AVIN 4931: SELECTED TOPICS IN AVIONICS**

*Identified by specific title each time course is offered.*

**AVIN 4939: UNDERGRADUATE HONORS PROJECT**

*Prerequisites:* 36 hours of upper-level credit and approval of program director.

**AVIN 5131: MICROWAVE TRANSMITTERS AND RECEIVERS**

*Prerequisites:* Electromagnetic waves, linear systems analysis, probability, and statistics. Study of modern hardware techniques employed in microwave transmitters, and receivers; emphasis on solid state devices.

**AVIN 5331: TECHNIQUES OF DIGITAL SIGNAL PROCESSING**

*Prerequisite or corequisite:* MATH 4134, CTEC 5331; *Prerequisites:* Linear systems analysis and compiler language proficiency. Sampling, Fourier and Hilbert Transforms, FFT's, Matrix Treatments.

**AVIN 5332: ADVANCED ANTENNA THEORY**

*Prerequisites:* CTEC 5331 and electromagnetic waves. Comparative characteristics of modern antennas; electrically small antennas, arrays, and aperture antennas, with emphasis on measurement and evaluation.

**AVIN 5531: COMPUTER MODELING OF AVIATION PROCESSES**

*Prerequisites:* previous work in avionics, linear systems analysis, and computer language proficiency. Applications of computer modeling to aviation processes; materials, structures, and flight dynamics. *Laboratory instructions.*

**AVIN 5931: RESEARCH TOPICS IN AVIONICS INSTRUMENTATION**

*Identified by specific title each time course is offered.*

**AVIN 59v9: PROBLEMS IN AVIONICS INSTRUMENTATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* approval of advisor and project director.

**AVIN 6131: INTEGRATED AVIONICS INSTRUMENTATION SYSTEMS**

*Prerequisites:* AVIN 5331 and CTEC 5332. Modern integrated aircraft instrumentation systems; computer monitoring of navigation, communications, meteorology, and flight control.

**AVIN 6331: AEROSPACE COMMUNICATIONS AND TELEMETRY TECHNIQUES**

*Prerequisites:* AVIN 5331 and CTEC 5331. Problems and techniques encountered in space communications and telemetry systems; long distance transmission, wave propagation, and spacecraft guidance and control.

**AVIN 6939: MASTER'S THESIS RESEARCH**



## BILINGUAL EDUCATION

### **BLNG 3731: BILINGUAL STUDENT TEACHING**

*Corequisite: ELEM 3731 or SCED 3731.* Supervised field experiences in mechanics of teaching in the bilingual classroom.

### **BLNG 39v9: PROJECTS IN BILINGUAL EDUCATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in bilingual education.

### **BLNG 4931: SELECTED TOPICS IN BILINGUAL TEACHING**

*Identified by specific title each time course is offered.*

### **BLNG 5031: INSTRUCTIONAL PROBLEMS OF THE BILINGUAL CLASSROOM**

Specialized techniques, processes, and materials designed to meet the unique needs of the non-English-speaking child.

### **BLNG 5032: CURRICULUM PROBLEMS IN EDUCATING THE BILINGUAL**

Comparative study of traditional curriculum and curriculum of bilingual education program; emphasis on programmatic considerations in designing effective curricula for bilingual children.

### **BLNG 57v9: PRACTICUM IN BILINGUAL TEACHING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.* Directed field experiences in a bilingual educational setting.

### **BLNG 5931: RESEARCH TOPICS IN BILINGUAL EDUCATION**

*Identified by specific title each time course is offered.*

### **BLNG 59v9: PROBLEMS IN BILINGUAL EDUCATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

## BIOLOGY

### **BIOL 3032: FUNDAMENTALS OF LIFE SCIENCE**

Similarities and differences in structure, function, and life cycles of living matter as related to man-initiated disruptions of eco-systems.

### **BIOL 3033: HUMAN ANATOMY**

*Corequisite: BIOL 3013;* Fundamentals of human anatomy and physiology; emphasis on etiology and functions of anatomical systems.

### **BIOL 3013: LABORATORY FOR HUMAN ANATOMY**

*Corequisite: BIOL 3033. Three laboratory hours per week.*

### **BIOL 3036: DEVELOPMENT OF THE SCIENCES**

Temporal relationships of major figures, theories, and discoveries with the emergence of modern concepts in the sciences.

### **BIOL 3038: DATA TECHNIQUES IN THE SCIENCES**

*Not available for credit to students with more than three hours of calculus.* Applications of algebraic, trigonometric, and geometric equations; series; vectors; integrals; and derivatives to problems in science.

**BIOL 3132: GENERAL ENTOMOLOGY**

*Prerequisite: General Biology; post or corequisite: BIOL 3112.* Biology of insects; form, function, classification, behavior, and ecological relationships including effects on man.

**BIOL 3112: LABORATORY FOR GENERAL ENTOMOLOGY**

*Corequisite: BIOL 3132. Three laboratory hours each week.*

**BIOL 3133: PLANT ANATOMY**

*Prerequisite: General Biology.* Structures, tissues, and cells of vegetative organs related to concepts of growth, differentiation, and organization.

**BIOL 3113: LABORATORY FOR PLANT ANATOMY**

*Corequisite: BIOL 3133. Three laboratory hours each week.*

**BIOL 3134: PLANT PHYSIOLOGY**

*Prerequisites: General Biology and General Chemistry.* Physiological processes of plants.

**BIOL 3114: LABORATORY FOR PLANT PHYSIOLOGY**

*Corequisite: BIOL 3134. Three laboratory hours each week.*

**BIOL 3331: GENETICS**

*Prerequisite: 8 semester hours in biology.* The principles of genetics, including genetics and evolution of populations.

**BIOL 3332: BIO-ECOLOGY**

*Prerequisite: General Biology.* Relation of organisms to their environments.

**BIOL 3333: ENVIRONMENTAL BIOLOGY**

*Not applicable for biology majors.* Effects of pollutants on organisms and the ecology.

**BIOL 3334: PUBLIC HEALTH MICROBIOLOGY**

*Prerequisite: General Biology.* Identification and control of infectious diseases important in protecting public health.

**BIOL 3335: EPIDEMIOLOGY**

The incidence, causes, and control of diseases in population.

**BIOL 3431: INTRODUCTION TO MEDICINE**

Physiological, anatomical developments in disease or injury; care and management; and the clinical environment.

**BIOL 3531: BIOMEDICAL TERMINOLOGY**

Word construction and clinical terms in diagnosis, pharmacology, and classifications of diseases.

**BIOL 3631;3632: PRINCIPLES OF HUMAN PHYSIOLOGY**

*Prerequisite: General Biology.* Neuromuscular, heart and circulatory and endocrine systems; brain and special senses; body fluids and kidney functions; respiration; digestion; temperature; and metabolism.

**BIOL 3611;3612: LABORATORY FOR PRINCIPLES OF HUMAN PHYSIOLOGY**

*Prerequisite or corequisite: BIOL 3631;3632. Three laboratory hours each week.*

**BIOL 3831: INTRODUCTION TO CLINICAL HEMATOLOGY**

Study of blood cell maturation and function including homeostasis and coagulation.

**BIOL 3811: LABORATORY FOR INTRODUCTION TO CLINICAL HEMATOLOGY**

*Corequisite: BIOL 3831.* Three laboratory hours per week.

**BIOL 3832: INTRODUCTION TO CLINICAL SEROLOGY**

A study of the immunologic host mechanisms and their relationship to disease detection.

**BIOL 3812: LABORATORY FOR INTRODUCTION TO CLINICAL SEROLOGY**

*Corequisite: BIOL 3832.* Three laboratory hours per week.

**BIOL 3823: INTRODUCTION TO URINOLOGY AND CLINICAL MICROSCOPY**

Study of the chemical and cellular characteristics of urine and body fluids.

**BIOL 3813: LABORATORY FOR INTRODUCTION TO URINOLOGY AND CLINICAL MICROSCOPY**

*Corequisite: BIOL 3823.* Three laboratory hours per week.

**BIOL 3824: INTRODUCTION TO DIAGNOSTIC PARASITOLOGY**

A study of the characteristics and life cycles of clinically significant parasites.

**BIOL 3814: LABORATORY FOR INTRODUCTION TO DIAGNOSTIC PARASITOLOGY**

*Corequisite: BIOL 3824.* Three laboratory hours per week.

**BIOL 3835: INTRODUCTION TO DIAGNOSTIC MICROBIOLOGY**

A study of the morphology and cultural characteristics of clinically significant microorganisms.

**BIOL 3815: LABORATORY FOR INTRODUCTION TO DIAGNOSTIC MICROBIOLOGY**

*Corequisite: BIOL 3835.* Three laboratory hours per week.

**BIOL 3836: INTRODUCTION TO CLINICAL IMMUNO-HEMATOLOGY**

A study of the immunological and serological relationships and their significance in blood transfusions.

**BIOL 3816: LABORATORY FOR INTRODUCTION TO CLINICAL IMMUNO-HEMATOLOGY**

*Corequisite: BIOL 3836.* Three laboratory hours per week.

**BIOL 3837: INTRODUCTION TO CLINICAL CHEMISTRY**

A study of the Biochemical assays used in diagnosing disease.

**BIOL 3817: LABORATORY FOR INTRODUCTION TO CLINICAL CHEMISTRY**

*Corequisite: BIOL 3837.* Three laboratory hours per week.

**BIOL 39v9: PROJECTS IN BIOLOGY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individualized projects and planned readings in the biological sciences.

**BIOL 4031;4032: LIFE SCIENCES FOR TEACHERS I AND II**

*Corequisite: BIOL 4011;4012.* Recent developments in plant and animal physiology, ecology, and environmental science; emphasis on approach to biology from a contemporary standpoint.

**BIOL 4011;4012: LABORATORY FOR LIFE SCIENCE FOR TEACHERS I AND II**

*Corequisite: BIOL 4031;4032.*

**BIOL 4130: CELLULAR BIOCHEMISTRY**

*Prerequisite: General Biology, organic chemistry.* Study of cellular biochemical components and metabolism.

**BIOL 4110: LABORATORY FOR CELLULAR BIOCHEMISTRY**

*Prerequisite or corequisite: BIOL 4130.*

**BIOL 4131: CELLULAR PHYSIOLOGY**

*Prerequisite: BIOL 4130.* Cell structure and function; emphasis on cytological, biochemical, genetical, and developmental perspectives.

**BIOL 4111: LABORATORY FOR CELLULAR PHYSIOLOGY**

*Prerequisite or corequisite: BIOL 4131. Three laboratory hours each week.*

**BIOL 4231: MARINE BIOLOGY**

*Prerequisites: General Biology and chemistry.* Study of marine organisms and their environment. *Laboratory required.*

**BIOL 4211: LABORATORY FOR MARINE BIOLOGY**

*Prerequisite or corequisite: BIOL 4231. Three laboratory hours each week.*

**BIOL 4232: MARINE INVERTEBRATE PHYSIOLOGY**

*Prerequisites: General Biology and chemistry.* Physiological adaptations of marine invertebrates.

**BIOL 4233: PHYSIOLOGY OF FISHES**

*Prerequisites: General Biology and chemistry.* Study of organ systems of fishes.

**BIOL 4234: AQUATIC MICROORGANISMS**

Microorganisms in fresh, brackish, and saline environments.

**BIOL 4214: LABORATORY FOR AQUATIC MICROORGANISMS**

*Prerequisite or corequisite: BIOL 4234. Three laboratory hours each week.*

**BIOL 4235: POLLUTION BIOLOGY**

*Prerequisite: 12 hours in Biology or Chemistry.* Physiological and systemic interaction of environmental pollutants with plants and animals.

**BIOL 4331: IMMUNOLOGY**

*Prerequisite: General Biology.* Microbiological and immunological aspects of infectious diseases.

**BIOL 4311: LABORATORY FOR IMMUNOLOGY**

*Prerequisite or corequisite: BIOL 4331. Three laboratory hours each week.*

**BIOL 4332: HISTOLOGY**

*Prerequisite: General Biology.* Microscopic study of animal tissues.

**BIOL 4312: LABORATORY FOR HISTOLOGY**

*Prerequisite or corequisite: BIOL 4332. Three laboratory hours each week.*

**BIOL 4333: HUMAN BIOLOGY: EMPHASIS ON WOMEN**

*Not applicable for biology majors.* General concepts of human biology relating to genetics, hormones, metabolism, nutrition, and development. Particular emphasis on comparative aspects of female/male similarities and differences.

**BIOL 4531: MICROSCOPIC ANALYSIS**

Analytical applications of the scanning electron microscope. *Laboratory instruction.*

**BIOL 4631: THE CENTRAL NERVOUS SYSTEM**

*Prerequisite: BIOL 3631 or 3033 or equivalent.* Organization and function of the brain and spinal cord; regions and pathways, neural interaction, reflexes, and neuro-electrical activity.

**BIOL 4634: BRAIN AND BEHAVIOR**

*Prerequisite: General Biology.* Neuronal and hormonal bases of coordinated movement, perception, and intelligent behavior; measuring and interpreting behavioral manifestations of neural activity.

**BIOL 47v9: INTERNSHIP IN LIFE SCIENCES**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: 30 hours of upper-level credit and approval of program director.* Supervised field experiences with an approved health facility, agency, laboratory, hospital or clinic.

**BIOL 4811: ADVANCED CLINICAL HEMATOLOGY**

*Prerequisite: BIOL 3831, 3811.* An in depth study of hematopoiesis and coagulation with emphasis on techniques.

**BIOL 4821: LABORATORY FOR ADVANCED CLINICAL HEMATOLOGY**

*Corequisite: BIOL 4811.* Six laboratory hours per week.

**BIOL 4812: ADVANCED CLINICAL SEROLOGY**

*Prerequisite: BIOL 3832, 3812.* A detailed study of serological and immunological methods of clinical significance.

**BIOL 4822: LABORATORY FOR ADVANCED CLINICAL SEROLOGY**

*Corequisite: BIOL 4812.* Six laboratory hours per week.

**BIOL 4813: LABORATORY FOR ADVANCED CELLULAR IDENTIFICATION**

*Prerequisite: BIOL 3823, 3813.* Detailed study of synovial, cerebrospinal and seminal fluids. Three laboratory hours per week.

**BIOL 4814: LABORATORY FOR ADVANCED DIAGNOSTIC PARASITOLOGY**

*Prerequisite: BIOL 3824, 3814.* An in depth study of the morphology and identification techniques used to diagnose parasites that infect man. Three laboratory hours per week.

**BIOL 4815: ADVANCED DIAGNOSTIC MICROBIOLOGY**

*Prerequisite: BIOL 3835, 3815.* A detailed study of the isolation and identification of pathogenic microorganisms.

**BIOL 4825: LABORATORY FOR ADVANCED MICROBIOLOGY**

*Corequisite: BIOL 4815.* Six laboratory hours per week.

**BIOL 4816: ADVANCED IMMUNO-HEMATOLOGY**

*Prerequisite: BIOL 3836, 3816.* Detailed study of blood compatibility testing, antibody screening and blood fractionation.

**BIOL 4826: LABORATORY FOR ADVANCED IMMUNO-HEMATOLOGY**

*Corequisite: BIOL 4816.* Six laboratory hours per week.

**BIOL 4817: ADVANCED CLINICAL CHEMISTRY**

*Prerequisite: BIOL 3837, 3817.* A detailed study of the theory and techniques used in diagnosing biochemical abnormalities in man.

**BIOL 4827: LABORATORY FOR ADVANCED CLINICAL CHEMISTRY**

*Corequisite: BIOL 4817.* Six laboratory hours per week.

**BIOL 4931: SELECTED TOPICS IN THE BIOLOGICAL SCIENCES**

*Identified by specific title each time course is offered.*

**BIOL 5031;5032: ADVANCED LIFE SCIENCE FOR TEACHERS I AND II**

*Corequisite: BIOL 5011, 5012.* Advanced topics in plant and animal structure and physiology, ecology, and environmental science.

**BIOL 5011;5012: LABORATORY FOR ADVANCED LIFE SCIENCE FOR TEACHERS I AND II**

*Corequisite: BIOL 5031, 5032.*

**BIOL 5134: ANALYSIS OF ECOSYSTEMS AND BIOLOGICAL POPULATIONS**

Study of the interactions of plant and animal populations with their environment.

**BIOL 5231: MOLECULAR GENETICS**

Study of structure and function of genetic material; effects of radiation and other mutagens.

**BIOL 5331: PHYSIOLOGICAL EFFECTS OF POLLUTANTS**

Study of physiological and biochemical effects of pollutants on plants and animals.

**BIOL 5333: INDUSTRIAL MICROBIOLOGY**

Microbiological processes having significant economic interest to man; fermentation, deterioration, waste disposal, food spoilage, and drug preparation.

**BIOL 5335: PHYSIOLOGICAL AND BIOCHEMICAL ADAPTATIONS TO THE ENVIRONMENT**

Study of mechanisms used by living organisms to adapt to changing or stressful environments.

**BIOL 5431: PRINCIPLES OF PHARMACOLOGY AND TOXICOLOGY**

Emphasis on principles for evaluating the effects of drugs and poisons.

**BIOL 5631: STRUCTURE AND FUNCTION OF THE NERVOUS SYSTEM**

Anatomical structure and bioelectric activity of the brain and spinal cord.

**BIOL 5632: THE NEURON**

The integrative role of the nerve cell: structural and functional elements of neurons, neurotransmitters, neural conduction and synaptic communication.

**BIOL 5633: NEUROCHEMICAL PROCESSES**

Excitable membranes and neurotransmitters; biogenic amines, lipids, proteins, peptides, and nucleic acids in neural function.

**BIOL 5635: PSYCHOACTIVE DRUGS AND MENTAL DYSFUNCTION**

Effects of psychoactive drugs on the central nervous system and behavior; genetic and biochemical factors in mental disorders.

**BIOL 5931: RESEARCH TOPICS IN BIOLOGY**

*Identified by specific title each time course is offered.*

**BIOL 59v9: PROBLEMS IN BIOLOGICAL SCIENCES**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**BIOL 6939: MASTER'S THESIS RESEARCH**

## CHEMISTRY

**CHEM 3121: STEREOCHEMISTRY**

*Prerequisite: General Chemistry.* Applications of steric factors in molecular structure to physical properties and chemical reactivity; emphasis on biochemical and polymerization reactions.

**CHEM 3331: INDUSTRIAL MATERIALS**

*Prerequisite: General Chemistry.* Chemical and physical properties of structural materials; implications for construction and industrial plant equipment.

**CHEM 39v9: PROJECTS IN CHEMISTRY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.*

**CHEM 4031;4032: CHEMISTRY FOR TEACHERS I AND II**

*Corequisites: CHEM 4011;4012.* Modern concepts in inorganic, physical, and organic chemistry and in biochemistry; emphasis on teaching chemistry from a contemporary standpoint. *Laboratory required.*

**CHEM 4011;4012: LABORATORY FOR CHEMISTRY FOR TEACHERS I AND II**

*Corequisite: CHEM 4031;4032.*

**CHEM 4231;4232: PHYSICAL CHEMISTRY**

*Prerequisites: General Chemistry, calculus, and College Physics or equivalent.* States of matter, thermodynamics, kinetics, solutions, phase equilibria, and molecular structure. *Laboratory required.*

**CHEM 4211;4212: LABORATORY FOR PHYSICAL CHEMISTRY**

*Prerequisite or corequisite: CHEM 4231;4232. Three laboratory hours each week.*

**CHEM 4331: BIOLOGICAL CHEMISTRY**

*Prerequisite: BIOL 4130 or equivalent.* Chemistry of constituents of living systems; regulation of vital processes at the cellular and multicellular levels. *Laboratory required.*

**CHEM 4321: LABORATORY FOR BIOLOGICAL CHEMISTRY**

*Prerequisite or corequisite: CHEM 4331. Six laboratory hours each week.*

**CHEM 4335: INORGANIC CHEMISTRY**

*Prerequisite or corequisite: CHEM 4232.* Concepts and systems of inorganic chemistry; atomic structure, molecular structure and bonding, ionic crystals, defect solid state, and coordination compounds.

**CHEM 4441: SYNTHETIC ORGANIC CHEMISTRY**

*Prerequisites: Organic Chemistry and CHEM 3121.* Concepts of synthesis planning; methods of organization in a multistep reaction sequence.

**CHEM 4423: LABORATORY FOR SYNTHETIC CHEMISTRY**

*Prerequisite or corequisite: CHEM 4441.* Experimental applications of synthetic and analytic methods in preparation of complex organic and inorganic compounds. *Six laboratory hours each week.*

**CHEM 4521: INSTRUMENTAL METHODS OF ANALYSIS**

*Prerequisite: CHEM 4232.* Theory of optical, chromatographic, and electroanalytical methods of chemical analysis. *Laboratory required.*

**CHEM 4522: INSTRUMENTAL METHODS LABORATORY**

*Prerequisite or corequisite: CHEM 4521;* Application of instrumental methods of chemical analysis. *Six laboratory hours each week.*

**CHEM 4634: POLYMERIZATION PROCESSES**

*Prerequisite or corequisite: CHEM 4632 or equivalent.* Synthesis and technology of polymers.

**CHEM 4614: LABORATORY FOR POLYMERIZATION PROCESSES**

*Prerequisite or corequisite: CHEM 4634.* *Three laboratory hours each week.*

**CHEM 4637: INDUSTRIAL CHEMISTRY**

The investigation of case studies in the development of industrial chemical manufacturing plants.

**CHEM 4645/4646: CHEMICAL SEPARATION AND IDENTIFICATION**

*Prerequisites: Organic Chemistry and PROC 3131 or PROC 3133.* Techniques for identifying and separating mixtures; chemical and instrumental methods *Laboratory instruction.*

**CHEM 4931: SELECTED TOPICS IN CHEMISTRY**

*Identified by specific title each time course is offered.*

**CHEM 5131: SCIENCE OF SURFACES**

*Prerequisite: PHYS 4335.* Characteristics and properties of materials surfaces; theories of adsorption; heterogeneous catalysis.

**CHEM 5133: SPECTROSCOPIC IDENTIFICATION OF ORGANIC COMPOUNDS**

*Prerequisite: CHEM 4645 or equivalent; corequisite CHEM 5113.* Theory and practice of structure determination using IR, UV-VIS, PMR, and MS techniques. *Laboratory required.*

**CHEM 5113: LABORATORY FOR SPECTROSCOPIC IDENTIFICATION OF ORGANIC COMPOUNDS**

*Corequisite: CHEM 5133.* Practical use of the techniques of IR, UV-VIS, PMR, and MS instruments.



**CHEM 5235: KINETICS OF CHEMICAL REACTIONS**

*Prerequisite: CHEM 4232 or equivalent.* The theory and practice of chemical kinetics and the use of kinetics in the practical design of industrial reactors.

**CHEM 5337: CHEMICAL STRUCTURE AND MOLECULAR ORBITAL THEORY**

*Prerequisite: PHYS 3432 or equivalent.* The study of chemical bonding and structure as applied to practical chemical problems.

**CHEM 5635: PROPERTIES OF POLYMERS**

*Prerequisite: Organic Chemistry.* Classification of polymers, polymerization kinetics, copolymers, and cross-linking; physical and chemical properties of natural and synthetic polymers.

**CHEM 5931: RESEARCH TOPICS IN CHEMISTRY**

*Identified by specific title each time course is offered.*

**CHEM 5949: PROBLEMS IN CHEMISTRY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**CHEM 6939: MASTER'S THESIS RESEARCH****COMMUNICATIONS****COMM 3031: SPEECH FOR PROSPECTIVE TEACHERS**

The speech communication process: principles of verbal and non-verbal communication. Emphasizing the role and function of the teacher as an effective communicator.

**COMM 3037: ADVANCED WRITING**

From invention of ideas to strategies appropriate to various kinds of writing. Models of organization, analysis of style, role and importance of mechanics and syntax.

**COMM 3131: ORAL COMMUNICATIONS IN BUSINESS**

Oral requirements in business situations; conference leadership, interviews, proposal presentations, and negotiations.

**COMM 3132: WRITTEN COMMUNICATIONS IN BUSINESS**

Theory and practices of business communications; preparation of effective letters, policy statements, procedures, reports, and related documents.

**COMM 3133: ORGANIZATIONAL COMMUNICATION**

A study of theories and practices in organizational communication; dissemination of information in organizational settings; effectiveness, relative costs, and feedback potential.

**COMM 3135: TECHNICAL WRITING**

Approaches, through good models and bad, to the writing of proposals, reports, recommendations, and descriptions of mechanisms and process. The technical article and the abstract. The oral presentation.

**COMM 3231: WRITING FOR THE MEDIA**

Introduction to the fundamental writing and fact-gathering skills of journalism, advertising, and public relations for print and electronic media.

**COMM 3431: THE HISTORY OF MASS MEDIA**

Development of the media as they have been shaped by political, cultural, and social factors; philosophies of exploitation and censorship, from the first printing press to the present.

**COMM 3531: THE MASS MEDIA AND SOCIETY**

Aims and influences of newspaper and magazine publication, mass-advertising, especially television-radio-film. Case study approach: newspaper policies and the federal government, magazines and their readers, consumer emotions, social implication of TV and film stereotypes and biases.

**COMM 3533: UNDERSTANDING ADVERTISING**

Scrutiny of advertising assumptions and approaches, means and ends. Contributions of economic planning, psychology, and technology to the systematic direction of consumer behavior.

**COMM 3535: THE TELEVISION CULTURE**

Analysis of the impact of television on modern life. Case study approach; early TV, live vs. tape and film, the genesis and appeal of "hits," TV and schools, network fare vs. educational broadcasting.

**COMM 3731: SEMINAR IN CREATIVE WRITING**

*Prerequisite: permission of instructor.* Practice in writing fiction, poetry, or drama; emphasis on critical discussion of participants' work.

**COMM 37v9: UNDERGRADUATE PRACTICUM**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: 12 hours of appropriate upper-level work and/or approval of instructor.* Written report required.

**COMM 4031: JOURNALISM FOR THE HIGH SCHOOL TEACHER**

Principles of journalistic writing; emphasis on problems of supervising student newspaper, yearbooks, and other school publications.

**COMM 4231: POETRY WRITING**

Theory, practice, and criticism in the atmosphere of a group workshop.

**COMM 4233: FICTION WRITING**

Theory, practice, and criticism in the atmosphere of a group workshop.

**COMM 4235: PLAYWRIGHTING**

Theory and practice of dramatic composition. Exercises in plot-construction, characterization, handling of stage-business. Successful and unsuccessful examples from dramatic literature, both contemporary and earlier.

**COMM 4331: THE CRITICAL REVIEW**

Composing reviews of movies, television programs, drama productions, recent literature, and the arts. Analysis of good and bad models in newspaper, magazines, and television.

**COMM 4333: SCRIPT WRITING**

Generation of ideas, model forms: film, TV, radio-news, entertainment, documentary.

**COMM 4531: NEWS**

Selection of what is newsworthy, editorial and report writing, news styles, investigative reporting, the problem of verification, impact on audience and newsmakers.

**COMM 4533: POPULAR JOURNALISM**

Definitions of "popular" and "serious," analysis of popular myths created in magazines and newspapers, topology, sensitivity of popular culture to social aims and anxieties, the New Journalism, "gonzo" and other subjectivist approaches.

**COMM 4535: COMMUNITY JOURNALISM**

Organization and production of neighborhood journalism, roles and functions of local newspapers and dispersal of local information, community involvement of amateurs and semi-professionals.

**COMM 4631: THE DOCUMENTARY**

Development of documentary film and video tape for industrial, political, educational, and cultural uses. Critical viewing of major works.

**COMM 4633: FILM PROPAGANDA**

History of the propaganda film, analysis of rhetoric and content, effects on public life. Critical viewing of classics: Soviet revolutionary films by Eisenstein, Pudovkin, and Dovzhenko; Nazi publicity by Leni Riefenstahl and German war newsreels; American WWII mobilization of Hollywood, documentaries of the 60's and 70's.

**COMM 4731: SEMINAR IN THE ART OF FILM**

Dramatic, narrative, and visual aesthetics of cinematic art; critical viewing of selected film classics.

**COMM 4931: SELECTED TOPICS IN COMMUNICATIONS**

*Identified by a specific title each time course is offered.*

**COMM 49v9: PROJECTS IN COMMUNICATIONS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: permission of advisor and instructor.*

**COMM 5735: FILM AND FILMMAKERS**

Study of a selected aspect of film art; director's opus, film aesthetics, genres, such as the Western, or traditions, such as Italian neorealism.

**COMM 57v9: GRADUATE PRACTICUM**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: 12 hours of graduate-level work and/or approval of instructor. Written report required.*

**COMM 5931: RESEARCH TOPICS IN COMMUNICATIONS**

*Identified by specific title each time course is offered.*

**COMM 59v9: PROBLEMS IN COMMUNICATIONS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*

## COMPUTER SCIENCE

**CSCI 3131: TIME SHARING LANGUAGE SKILLS**

*Prerequisite: background in algebra, trigonometry and geometry.* Laboratory introduction to time sharing languages; use of the computer as a tool in academic coursework. *Laboratory instruction.*

**CSCI 3132: INTRODUCTION TO COMPUTER SCIENCE**

*Prerequisite:* three hours of calculus. *Prerequisite or corequisite:* CSCI 3131. Modular programming approach to implementing scientific and technical algorithms in ANSI FORTRAN. *Laboratory instruction.*

**CSCI 3231;3232: NUMERICAL METHODS I AND II**

*Prerequisite:* calculus, CSCI 3131; *Prerequisite or corequisite:* MATH 3333. Computer solutions of linear and differential equations. *Laboratory instruction.*

**CSCI 3331: ASSEMBLY LANGUAGE PROGRAMMING FOR MINICOMPUTERS AND MICROPROCESSORS**

Emphasis on requirements and techniques of data treatments and on I/O transfers. *Laboratory instruction.*

**CSCI 3332: COMPUTER ORGANIZATION AND PROGRAMMING**

*Prerequisites:* Compiler language experience. *Prerequisite or corequisites:* CSCI 3131 and CTEC 3132. Organization of systems hardware and software. Principles of programming, scheduling, and control in multiprocessing and time sharing environments.

**CSCI 39v9: PROJECTS IN COMPUTER SCIENCE**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* approval of advisor and project director. Individual projects and laboratory investigations in computer science. *Laboratory instruction.*

**CSCI 4131: MATHEMATICAL MODELING FOR MANAGERIAL SCIENCE**

*Prerequisites:* CSCI 3131 and 12 hours of management science or equivalent. Techniques of simulating general management decisions; utilizing information from marketing, production, finance, and industrial relations. *Laboratory instruction.*

**CSCI 4133: MATHEMATICAL MODELING FOR APPLIED SCIENCES**

*Prerequisites:* MATH 4235 and compiler language experience. Techniques of simulating physical, environmental, and biological processes. *Laboratory instruction.*

**CSCI 4136: INTERACTIVE LEARNING SYSTEMS**

*Prerequisite or corequisite:* CSCI 3131. Automated learning systems; function learning, self-organization, and abstraction; techniques used for CAI and CMI. *Laboratory instruction.*

**CSCI 4138: HEALTH INFORMATION PROCESSING**

*Prerequisite:* CSCI 3131. Information processing applications in health care; biomedical research, patient records, diagnostic decision-making, and biomedical documentation.

**CSCI 4241;4242: MEDICAL RECORD SCIENCE I, II**

*Prerequisite or corequisite:* CSCI 3131. Introduction to medical records, ethics, departmental functions; components, development, analysis, indexing, coding data, handling; reports, practices, needs of administration and staff. *Laboratory instruction.*

**CSCI 4243;4244: MEDICAL RECORD SCIENCE III, IV, COMPUTERS**

*Prerequisites:* CSCI 4241, CSCI 4242. Computer systems, medical records in health care facilities, control, data retrieval and use, costs, review, research and statistical techniques, health information systems. *Laboratory instruction.*

**CSCI 4331: DATA PROCESSING LANGUAGES**

*Prerequisite: CSCI 3131 and background in business applications.* Extended usage of COBOL, RPG, and related data processing languages. *Laboratory instruction.*

**CSCI 4332: CONSTRUCTION OF ASSEMBLERS, LOADERS AND MONITORS**

*Prerequisites: CSCI 4532, CSCI 3331, and CTEC 3531.* Systems programming approach to development and implementation. Emphasis on considerations of real time and time sharing environments. *Laboratory instruction.*

**CSCI 4333: DESIGN OF DATA BASE SYSTEMS**

*Prerequisites: CSCI 4532 and CTEC 3531.* Files, sorts, retrieval algorithms; and problems of feasibility in data base management systems.

**CSCI 4531: DESIGN OF DATA BASE SYSTEMS**

*Prerequisites: CSCI 3332 and CTEC 3132. Prerequisite or corequisites: CSCI 3331, CSCI 3132 and CTEC 3531* Linguistic analysis of programming languages, structure of statements and algorithms: list processing, string manipulation, and symbol substitution. Uses ALGOL, APL and PL1.

**CSCI 4532: ANALYSIS OF DATA STRUCTURES**

*Prerequisites: CSCI 3331, CSCI 3332, and CTEC 3132. Prerequisites or corequisite: CTEC 3531.* Data structure configurations: stacks, linked list, dynamic storage allocation, and symbol manipulation algorithms.

**CSCI 4533: THEORY OF INTERPRETERS AND COMPILERS**

*Prerequisites: CSCI 4531, CSCI 4532, and CTEC 3531.* Applications of theoretical concepts, syntactic and semantic notation; analysis of translators, algorithms for reducing compiler size and increasing compiler speed. *Laboratory instruction.*

**CSCI 4534: SYSTEMS PROGRAMMING**

*Prerequisites: CSCI 3332, CSCI 3132, CSCI 3331. Prerequisite or corequisites: CSCI 4532 and CTEC 3531.* Bootstrap loaders, peripherals handling routines and processing control of active jobs within the computer. *Laboratory instruction.*

**CSCI 4731: SEMINAR ON ADMINISTRATIVE APPLICATIONS OF THE COMPUTER IN EDUCATION**

*Prerequisite: Familiarity with a computer language, administrative theory, and concepts of MIS.* Current trends, methodology and future expectations. *Laboratory instruction.*

**CSCI 4931: SELECTED TOPICS IN COMPUTER SCIENCE**

*Identified by specific title each time course is offered.*

**CSCI 4939: UNDERGRADUATE HONORS PROJECT**

*Prerequisites: 36 hours of upper-level credit and approval of program director.*

**CSCI 5032: SEMINAR ON APPLICATIONS OF THE COMPUTER IN GUIDANCE AND COUNSELING**

*Prerequisites: Familiarity with a computer language and 9 credit hours in guidance and counseling.* Current trends, methodology, and future expectations.

**CSCI 5033: SEMINAR ON INSTRUCTIONAL APPLICATIONS OF THE COMPUTER**

*Prerequisite: Background in a compiler language and 9 credit hours in education.* Current trends, methodology, and future expectations for CMI and CAI.

**CSCI 5131; 5132: SIMULATION TECHNIQUES**

*Prerequisites:* Compiler language proficiency, linear systems analysis and discrete time systems. Modern software techniques in model construction for industrial and scientific uses; special-purpose simulation languages.

**CSCI 5331: COMPUTER GRAPHICS**

*Prerequisites:* Background in assembly language, data structures, compiler languages, computer architecture and numerical methods. On-line computer graphics and graphics software; display memory, generations of points, display algorithms, and graphics languages. *Laboratory instruction.*

**CSCI 5530: PATTERN CLASSIFICATION**

*Prerequisite:* Background in probability and statistics and a compiler language. Machine perception, Bayes decision theory, parametric and non-parametric techniques, and clustering.

**CSCI 5531: ANALYSIS OF OPERATING SYSTEMS**

*Prerequisites:* Background in formal languages, data structures, systems programming and computer architecture. Theoretical and comparative analyses of batch, time-sharing, real-time, multi-programming, and multi-processor systems.

**CSCI 5532: PATTERN RECOGNITION AND IMAGE PROCESSING**

*Prerequisites:* CSCI 5530 and CTEC 5332. Software and hardware techniques for statistical pattern recognition and extracting useful information from pictures by automatic means. *Laboratory instruction.*

**CSCI 5931: RESEARCH TOPICS IN COMPUTER SCIENCE**

*Identified by specific title each time course is offered.*

**CSCI 59v9: PROBLEMS IN COMPUTER SCIENCE**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* approval of advisor and project director.

**CSCI 6531: SYNTHESIS AND IMPLEMENTATION OF OPERATING SYSTEMS**

*Prerequisite:* CSCI 5531. Advanced concepts in job, task, data, and memory management; multi-programming and multi-processing. *Laboratory instruction.*

**CSCI 6532: SYNTHESIS AND IMPLEMENTATION OF COMPILERS**

*Prerequisite:* Background in theory of compilers. Source languages, object code generation, operator and operand stacks, and subroutine and function compilation. *Laboratory instruction.*

**CSCI 6533: TURING MACHINES AND RECURSIVE FUNCTIONS**

*Prerequisites:* 6 graduate hours in CSCI and CTEC 6332. Turing machines, primitive recursive functions, recursively enumerable sets, undesirability, models of effective computability.

**CSCI 6534: FINITE AUTOMATA AND FORMAL LANGUAGES**

*Prerequisites:* 6 graduate hours in CSCI and CTEC 5332. Mathematical theory of automata; abstract machines, decomposition theory, and grammar for formal languages.

**CSCI 6939: MASTER'S THESIS RESEARCH**

## COMPUTER HARDWARE

### CTEC 3130: APPLICATIONS OF MSI AND LSI

*Prerequisite: General Physics and six hours of electronics. Prerequisite or corequisite CTEC 3132; Corequisite: CTEC 3131. Registers, ALU's, Memories, Microprocessors. Laboratory instruction.*

### CTEC 3131: MEDIUM AND LARGE-SCALE DIGITAL INTEGRATED CIRCUITS

*Corequisite: CTEC 3130. MSI, LSI, MOS, bipolar and CCD circuits in digital systems.*

### CTEC 3132: LOGIC ANALYSIS WITH BOOLEAN ALGEBRA

Applications of topology and Boolean Algebra to asynchronous and synchronous circuits. *Laboratory instruction.*

### CTEC 3331: DIGITAL INFORMATION CODING AND COMMUNICATION

*Prerequisite: CTEC 3132, MATH 3332 and PROC 3132. Digital information coding and communication techniques; error detection and error correction circuitry. Laboratory instruction.*

### CTEC 3531: COMPUTER ARCHITECTURE: MINIS AND MICROS

*Prerequisite: CTEC 3132 and CSCI 3131. Prerequisite or corequisite: CSCI 3331. Control logic, addressing, register, instructions, memory units, arithmetic elements, interrupts, and input-output structures. Laboratory instruction.*

### CTEC 39v9: PROJECTS IN COMPUTER TECHNOLOGY

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director. Individual projects and laboratory investigations in computer technology.*

### CTEC 4131: TELECOMMUNICATION SYSTEMS AND DEVICES

*Prerequisite: CTEC 3331 and PROC 3132. Acoustic and hardwired couplers, modems, and multiplexers; PSK, QPSK, FSK, AM, PAM, PCM, FDM, and TDM systems. Laboratory instruction.*

### CTEC 4132: MODULAR MEMORY SYSTEMS

*Prerequisite: CTEC 3531 and CTEC 3131. Digital memory techniques: magnetic cores, rods, and bubbles; metal ribbons, RAMS, ROMS, PROM, and scratch pads.*

### CTEC 4133: INTERFACE SYNTHESIS: PERIPHERALS AND MEMORY

*Prerequisites: CTEC 3131, CTEC 3531, CSCI 3331. Corequisite: CTEC 4134. Techniques for interfacing CPU's and MPU's to peripherals and memory.*

### CTEC 4134: INTERFACE SYNTHESIS: PROCESS MONITORING AND CONTROL

*Prerequisite: MATH 3332. Corequisite: CTEC 4133. Techniques for analog monitoring PID control and numerical control. Laboratory instruction.*

### CTEC 4331: DIGITAL READERS AND PRINTERS

*Prerequisite: CTEC 4133 and CTEC 3331. Digital readers and printers; optical and mechanical paper tape readers, card readers, punches, and hardcopy printers. Laboratory instruction.*

### CTEC 4332: MAGNETIC TAPES, DISCS, and DRUMS

*Prerequisite: CTEC 4133 and CTEC 3331. Magnetic peripherals: tape transports, cassette/cartridge systems, fixed- and moving-head discs, drums, and floppy discs. Laboratory instruction.*

**CTEC 4333: DATA TERMINALS**

*Prerequisite: CTEC 3331.* Keyboards; CRT, LED, and plasma displays; impact, spray ink, and thermal printers; interactive light displays. *Laboratory instruction.*

**CTEC 4344: PLOTTERS AND GRAPHICS HARDWARE**

*Prerequisites: CTEC 4133 and CTEC 3331.* Matrix and xy plotters, digitizers, graphics displays, light pen displays and computer-controlled microfilm and microfiche displays. *Laboratory instruction.*

**CTEC 4531: ANALOG COMPUTING SYSTEMS**

*Prerequisites: CTEC 3131, MATH 3331, and PROC 3132.* Analog computing systems; software and hardware considerations of arithmetic networks and function generators. *Laboratory instruction.*

**CTEC 4532: COMPUTER-AUTOMATED SYSTEMS**

*Prerequisites: MATH 3333, CTEC 3531, and CSCI 3332.* Architectures and operating systems of distributed networks containing large, mini and micro computers. Behavior of discrete time systems in data acquisition, supervisory control, and direct digital control configurations.

**CTEC 4939: UNDERGRADUATE HONORS PROJECT**

*Prerequisites: 36 hours of upper-level credit and approval of program director.*

**CTEC 5331: THEORY OF INFORMATION AND CODING**

*Prerequisites: background in digital logic, statistics and linear systems analysis.* Shannon's theory of information and coding applied to discrete communications channels; theory of finite fields applied to error detection and correction codes.

**CTEC 5332: SYNTHESIS OF SEQUENTIAL LOGIC SYSTEMS**

*Prerequisite: background in digital logic with Boolean algebra.* Techniques of state assignment and minimization; synthesis of linear sequential networks and asynchronous sequential machines.

**CTEC 5531: HYBRID COMPUTER SYSTEMS**

*Prerequisites: background in digital hardware and software and linear systems analysis.* Combined analog and digital computer systems; hardware and software applications.

**CTEC 5731: SEMINAR IN COMPUTER SYSTEMS ANALYSIS**

*Prerequisite: approval of instructor.* Comparative efficiency, effectiveness, and economics of modern computer systems.

**CTEC 5931: RESEARCH TOPICS IN COMPUTER TECHNOLOGY**

*Identified by specific title each time course is offered.*

**CTEC 59v9: PROBLEMS IN COMPUTER TECHNOLOGY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.*

**CTEC 6131: COMPUTER AIDED NETWORK ANALYSIS**

*Prerequisites: CTEC 5331, CTEC 5332, linear systems analysis, and compiler language proficiency.* Analysis and synthesis of logic, circuitry for computer aided network analysis programs; active and passive device modeling. *Laboratory instruction.*



**CTEC 6132: COMPUTER MODELING, SIMULATION, AND EMULATION**

*Prerequisites: CTEC 5332, linear systems analysis, and compiler language proficiency.* Software and hardware techniques for computer modeling, simulation, and emulation.

**CTEC 6331: THEORY AND SYNTHESIS OF DIGITAL FILTERS**

*Prerequisites: AVIN 5331, CTEC 5332, and compiler language proficiency.* FIR and IIR digital filters including approximation techniques in the time and frequency domain.

**CTEC 6531: PATTERN RECOGNITION AND ARTIFICIAL INTELLIGENCE**

*Prerequisites: CSCI 5530 and CTEC 5332.* Problems of "intelligent" systems; pattern recognition, neural nets, and visual speech scanning/generating techniques.

**CTEC 6532: SYNTHESIS OF COMPUTER NETWORKS**

*Prerequisites: background in computer automation, data structures, CTEC 5331 and CTEC 5332.* Problems of hierarchical and distributed networks incorporating micros, minis, and large scale processors and peripherals.

**CTEC 6939: MASTER'S THESIS RESEARCH****DIAGNOSTICS, EDUCATIONAL****DIAG 3731: DIAGNOSTIC AND PRESCRIPTIVE STUDENT TEACHING**

*Corequisite: ELEM 3731 or SCED 3731.* Supervised field experiences in mechanics of teaching exceptional children through diagnostic and prescriptive methods.

**DIAG 39v9: PROJECTS IN EDUCATIONAL DIAGNOSTICS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in educational diagnostics.

**DIAG 4031: TEACHING EXCEPTIONAL CHILDREN**

Survey of physical, behavioral, and learning characteristics and their implications for teaching all exceptional children; required for LLD endorsement. *Field experiences required.*

**DIAG 4032: LANGUAGE DEVELOPMENT AND LEARNING DISABILITIES**

Overview of language development and learning processes and styles, required for LLD endorsement. *Field experiences required.*

**DIAG 4131: DIAGNOSTIC INSTRUCTION FOR LLD STUDENTS**

Administration of specific diagnostic devices and techniques to determine appropriate teaching materials and approaches for language/learning disabilities.

**DIAG 4132: PROGRAMMING FOR LLD STUDENTS**

Development of individual and group programs to teach specific skills and meet children's educational needs.

**DIAG 4133: CURRICULUM MATERIALS AND APPLICATIONS**

Evaluation and development of commercial and teacher-made materials; curricular approaches for specific learning processes. *Field experiences required.*

**DIAG 4931: SELECTED TOPICS IN DIAGNOSTIC TEACHING**

*Identified by specific title each time course is offered.*

**DIAG 5031: EXCEPTIONALITY IN CHILDREN AND YOUTH**

Characteristics of major categories of exceptional children; psychological and sociological implications for instruction.

**DIAG 5032: LANGUAGE DEVELOPMENT AND DISORDERS**

Language development and control of normal, delayed, and disordered language functions; understanding, evaluation, and remediation of language disorders.

**DIAG 5131: DIAGNOSIS OF EDUCATIONAL DISABILITIES**

Developmental patterns and appraisal techniques for determining extent of educational difficulties; language, learning, and other disabilities.

**DIAG 5132: CURRICULAR APPROACHES TO LEARNING DIFFICULTIES**

Causal factors and remedial alternatives for children with low performance records in regular school environments.

**DIAG 5133: PROGRAMMING FOR EDUCATIONAL DISABILITIES**

Prescriptive models for intervention in cases of educational difficulties; language, learning, and other disabilities.

**DIAG 5231: TEACHING THE MENTALLY RETARDED**

*Prerequisite: 12 semester hours--DIAG Core.* The nature of the mentally retarded learner at various age levels. Curriculum materials, selection, and program planning.

**DIAG 5232: TEACHING THE BRAIN INJURED**

*Prerequisite: 12 semester hours--DIAG Core.* The nature of the brain injured learner at various age levels. Curriculum materials, selection, and program planning.

**DIAG 5233: TEACHING THE EMOTIONALLY DISTURBED**

*Prerequisite: 12 semester hours--DIAG Core.* The nature of the emotionally disturbed learner at various age levels. Establishment of a therapeutic environment and program planning.

**DIAG 5234: TEACHING THE ORTHOPEDICALLY HANDICAPPED**

The nature of the orthopedically handicapped learner at various age levels. Implementation of programming models in home and hospital.

**DIAG 5235: TEACHING THE VISUALLY IMPAIRED**

Use of the Braille writer in classroom instruction.

**DIAG 5236: TEACHING THE MULTIPLY-HANDICAPPED**

*Prerequisite: 12 semester hours--DIAG Core.* Focus upon the interactive effects of two or more handicaps, including mental retardation, brain injury, and emotional disturbance.

**DIAG 5237: TEACHING GIFTED CHILDREN**

Identification of gifted children; educational and psychological needs related to teaching gifted.

**DIAG 5431: SPECIALIZED INSTRUCTIONAL TECHNIQUES FOR GIFTED**

Utilization of specific teaching techniques, processes, and programs designed to meet the needs of gifted.

**DIAG 5432: VISUAL PERCEPTION AND MOTOR COORDINATION**

Identification, diagnostic, and remediation skills used to develop visual perception.

**DIAG 5433: AUDITORY PERCEPTION AND LISTENING SKILLS**

Diagnostic and remediation techniques used to develop listening skills.

**DIAG 5434: EDUCATIONAL TECHNIQUES FOR PRE-SCHOOL HANDICAPPED CHILDREN**

Diagnostic, counseling, remediation techniques, and teaching strategies for multiply-handicapped children.

**DIAG 5531: EDUCATIONAL APPRAISAL**

*Prerequisites: DIAG 5131, PSYC 6031, or equivalent, and approval of instructor.*

Administration and interpretation of psycho-educational tests to determine sources of dysfunction; use of data in developing treatment programs.

**DIAG 5532: INDIVIDUAL TESTING: METHODS AND PRACTICES**

*Prerequisite: approval of advisor and instructor.* Theories and methods of administering tests in evaluating individuals; experience in administering, scoring, and interpreting.

**DIAG 57v9: PRACTICUM IN DIAGNOSTIC TEACHING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.* Directed field experiences in a diagnostic educational setting.

**DIAG 5931: RESEARCH TOPICS IN EDUCATIONAL DIAGNOSTICS**

*Identified by specific title each time course is offered.*

**DIAG 59v9: PROBLEMS IN EDUCATIONAL DIAGNOSTICS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**DIAG 6531: ADVANCED EDUCATIONAL APPRAISAL**

*Prerequisite: DIAG 5531.* Communication of psycho-educational test results and recommendations via written report and conferences.

**DIAG 67v9: INTERNSHIP IN EDUCATIONAL EVALUATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of Dean.* Supervised internship in a public school; written and oral reports required.

## EARLY CHILDHOOD EDUCATION

**ECED 3731: KINDERGARTEN STUDENT TEACHING**

*Corequisite: ELEM 3731.* Supervised field experiences in mechanics of teaching preschool and kindergarten children.

**ECED 39v9: PROJECTS IN EARLY CHILDHOOD EDUCATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in early childhood education.

**ECED 4031: TEACHING PRESCHOOL CHILDREN**

Child development and educational needs related to learning readiness of young children; required for kindergarten endorsement. *Field experiences required.*

**ECED 4032: TECHNIQUES AND MATERIALS FOR PRESCHOOL INSTRUCTION**

Activities appropriate for young children in art, music, rhythm, games, and creative expression; required for kindergarten endorsement. *Field experiences required.*

**ECED 4131: LANGUAGE ARTS IN EARLY CHILDHOOD**

Analysis and strategies for teaching listening and speaking skills to young children. *Field experiences required.*

**ECED 4132: COMMUNITY MODELS OF EARLY CHILDHOOD EDUCATION**

School programs, methods of evaluation, and appropriate learning objectives for kindergarten and preschool. *Field experiences required.*

**ECED 4231: INFANTS AND YOUNG CHILDREN: A DEVELOPMENTAL PROCESS**

A study of growth and development of the young child within the early educational environment.

**ECED 4232: CULTURAL AWARENESS FOR YOUNG CHILDREN**

Family living, art, music, festivals and special activities for children three to eight years of age.

**ECED 4931: SELECTED TOPICS IN EARLY CHILDHOOD EDUCATION**

*Identified by specific title each time course is offered.*

**ECED 5031: TEACHING YOUNG CHILDREN**

Techniques designed to develop learning readiness in preschool children.

**ECED 5032: CURRENT MODELS OF EARLY CHILDHOOD EDUCATION**

*Prerequisite: ECED 5031 or equivalent.* Descriptive analysis of types of existing schools, learning objectives, and methods of evaluating achievement for kindergarten and preschool populations.

**ECED 5131: CREATIVE ACTIVITIES FOR THE PRESCHOOL CHILD**

Art, music rhythm, indoor and outdoor games, and dramatic activities for young children.

**ECED 5132: LANGUAGE DEVELOPMENT IN EARLY CHILDHOOD**

*Prerequisite: ECED 5031 or equivalent.* Techniques for the development of oral and listening skills in young children.

**ECED 5231: PLAY: A LEARNING MEDIA**

Research and application of play as it relates to learning experiences of young children.

**ECED 5331: EVALUATION OF DEVELOPMENTAL SKILLS IN YOUNG CHILDREN**

*Prerequisite: ECED 5031 or equivalent.* Formal and informal evaluation of motor, perceptual, and cognitive skills of preschool children.

**ECED 57v9: PRACTICUM IN KINDERGARTEN TEACHING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of Dean.* Directed field experiences in a kindergarten setting.

**ECED 5931: RESEARCH TOPICS IN EARLY CHILDHOOD EDUCATION**

*Identified by specific title each time course is offered.*

**ECED 59v9: PROBLEMS IN EARLY CHILDHOOD EDUCATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

## ECONOMICS

### **ECON 3033: POLITICAL ECONOMY**

*Formerly ECON 3533.* Integrated analysis of social, political, philosophical, and economic concepts in the formation of an economic system.

### **ECON 3131: ECONOMIC DEVELOPMENT**

Economic doctrines and the frameworks in which economic development takes place; emphasis on the American economy.

### **ECON 3331: INTERMEDIATE MICROECONOMICS**

*Prerequisite: a foundations course in microeconomics or equivalent.* Allocation of resources under different market structures; theory of consumer behavior, production and cost, and income distribution.

### **ECON 3332: INTERMEDIATE MACROECONOMICS**

*Prerequisite: a foundations course in macroeconomics or equivalent.* Determinants of income and employment; business investments, private and government spending, and fiscal and monetary policies.

### **ECON 3431: BUSINESS ECONOMICS**

*Prerequisite: a foundations course in microeconomic principles.* An application of microeconomic theory to the solution of business problems; introduction to analytical tools based on microeconomic principles.

### **ECON 3534: CONTEMPORARY SOCIO-ECONOMIC PERSPECTIVES**

Contemporary socio-economic problems; emphasis on the range of individual choice for achievement of personal goals.

### **ECON 39v9: PROJECTS IN ECONOMICS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Supervised readings pertaining to a selected problem in economics.

### **ECON 4131: CURRENT ECONOMIC ISSUES**

*Prerequisite: Principles of Economics or equivalent.* The analysis and treatment of current economic power, ethnic consciousness, and political force.

### **ECON 4132: ECONOMICS OF MINORITY COMMUNITIES IN THE U.S.**

Economic dimensions of minority communities in the U.S: their relationship to economic power, ethnic consciousness, and political force.

### **ECON 4133: COMPARATIVE ECONOMIC SYSTEMS**

Analysis of alternative economic systems: The viability of Marxism and Socialism in meeting consumer demands and maximizing welfare.

### **ECON 4331: ECONOMICS OF LABOR RELATIONS**

*Prerequisite: Principles of Economics or equivalent.* Economics of the labor market, unionization, collective bargaining, and government regulations of labor relations.

### **ECON 4431: WOMEN IN THE ECONOMY**

Survey of roles women play in the economy such as producers and consumers; relationship between changes in roles and social and political status.

**ECON 4531: BUSINESS FORECASTING**

*Prerequisite: Principles of Economics or equivalent.* The nature and causes of business fluctuations; forecasting variations in the level of business activity.

**ECON 4532: INTERNATIONAL ECONOMICS**

*Prerequisite: Principles of Economics or equivalent.* Principles of international trade, trade theories, tariffs, and foreign exchange; the United States' international trade position.

**ECON 4533: ECONOMICS OF THE SPACE INDUSTRY**

Application of economic analysis to the space industry; emphasis on case studies.

**ECON 4534: ECONOMICS OF CRIME**

Application of economic principles to the study of crime and the ensuing costs to society; interrelationships between crime and economic structures.

**ECON 4535: ECONOMICS OF AGING**

Application of economic principles to the study of problems of the aging; public finance, labor force participation, and societal costs.

**ECON 4536: ECONOMICS OF TRANSPORTATION**

*Prerequisite: a foundations course in microeconomic principles. Formerly ECON 3532.* Development of the United States' transportation system, application of economic tools to the analysis of transportation problems, and government transportation policy.

**ECON 4537: ECONOMICS OF REGULATION**

*Prerequisite: ECON 3331 or approval of program director.* Application of economic theory to the problems of regulating firms; emphasis on pricing policy and constrained rate of return.

**ECON 4731: SEMINAR IN ECONOMIC THOUGHT**

Ideas of major economic thinkers in the context of their times.

**ECON 4931: SELECTED TOPICS IN ECONOMICS**

*Identified by specific title each time course is offered.*

**ECON 5031: ECONOMIC PROCESSES**

*Formerly ECON 5131.* An intensive summary of basic micro and macroeconomic theories as applied to business.

**ECON 5132: ECONOMICS OF HEALTH SYSTEMS**

*Prerequisite: Econ 5031 or equivalent. Formerly ECON 5332.* Economic analysis of health systems, particularly in metropolitan areas; evaluating and financing alternative modes of providing adequate medical care.

**ECON 5133: ECONOMIC INFLUENCES ON EDUCATION**

*Formerly ECON 6031.* The impact of economic principles and practices on emerging educational thought.

**ECON 5134: MANPOWER POLICY**

*Formerly ECON 6131. Prerequisite: ECON 5031 or equivalent.* Societal demands for labor and methods of meeting such demands; analysis of federal, state, and local efforts.

**ECON 5135: RESOURCES IN THE FUTURE**

*Formerly ECON 6332.* Economic mechanisms by which human and natural resources may be allocated in the future.

**ECON 5136: BUSINESS ECONOMICS**

*Formerly ECON 5431; 5432. Prerequisite: ECON 5031 or equivalent.* Capital budgeting, price determination, and linear programming; resource allocation, market structures, and business forecasting.

**ECON 5331: URBAN AND SUBURBAN ECONOMICS**

Economic dimensions of metropolitan areas; location theory, regional economics, natural resources, manpower, energy, and levels of development.

**ECON 5333: MACROECONOMIC THEORY**

*Prerequisite: ECON 3332 or approval of program director.* The interrelationships of government, business, and consumer activity with respect to national income and employment levels.

**ECON 5334: MICROECONOMIC THEORY**

*Prerequisite: ECON 3331 or approval of program director.* Resource allocation and product distribution through various market structures; analysis of modern consumer and production theories.

**ECON 5531: QUANTITATIVE METHODS IN ECONOMICS**

The presentation of economic theory in mathematical terms; emphasis on analytical techniques in economics as applied to business problems.

**ECON 5533: HISTORY OF ECONOMIC THOUGHT**

Historical survey of the development of economic thought; major economic theorists and the doctrines of their times.

**ECON 5534: ECONOMIC DEVELOPMENT**

Theories of economic growth and development; emphasis on problems of underdeveloped economies.

**ECON 5931: RESEARCH TOPICS IN ECONOMICS**

*Identified by specific title each time course is offered.*

**ECON 59v9: PROBLEMS IN ECONOMICS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**ECON 6331: ECONOMIC POLICY**

*Prerequisite: ECON 5333 or equivalent.* Monetary and fiscal policy as related to inflation, economic stability, and growth.

**ECON 6531: ECONOMIC REGULATION: THEORIES AND POLICIES**

*Prerequisite: ECON 3331 or equivalent.* Advanced analysis of the pricing policies of regulated firms; regulation-induced distortions in contrast to 'free' economy.

**ECON 6532: MONETARY THEORY**

*Prerequisite: ECON 5031 or equivalent.* The relationship of money to the economic activity of a society; evaluation of various monetary theories.

**ECON 6533: INTERNATIONAL ECONOMICS**

International trade and its environment; trade flows, financial and monetary relations.

**ECON 6731: SEMINAR ON ECONOMIC ISSUES**

*Prerequisites: ECON 5031 or equivalent and approval of program director.*  
Contemporary issues influencing the American economy.

**ECON 6939: MASTER'S THESIS RESEARCH****EDUCATION****EDUC 30v1: FUNDAMENTALS OF EDUCATIONAL PHILOSOPHY, PSYCHOLOGY, AND LEARNING THEORY**

*(Variable credit, 1-6 semester hours, depending on student preparation)*

The American educational system and its antecedents, implications of learning theories for growth and developmental stages, and psychological processes in teaching. *Field experience required.*

**EDUC 3531: IMPLICATIONS FOR MULTICULTURAL EDUCATION**

Teaching and learning in environments of multicultural and multiethnic confluence.

**EDUC 39v9: PROJECTS IN EDUCATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in professional education.

**EDUC 4131: PLANNING AND DEVELOPING EDUCATIONAL MATERIALS**

Design, development, preparation, evaluation, and application of educational media for elementary, secondary, and college teachers.

**EDUC 4132: MEDIA REFERENCE TOOLS AND EQUIPMENT**

Basic sources and resources of educational media and materials; operation and maintenance of equipment.

**EDUC 4231: SEXISM AND EDUCATION**

Implications of sex role stereo-typing in curriculum, instructional and institutional practices; sex differences in learning and effect of sexism on both boys and girls.

**EDUC 4531: EDUCATIONAL APPLICATIONS OF MEDIA**

*Prerequisites: EDUC 4131 and EDUC 4132.* Supervised work experiences in a learning resources center, audio-visual center, or other approved media center; six hours of experience each week.

**EDUC 4931: SELECTED TOPICS IN EDUCATION**

*Identified by specific title each time course is offered.*

**EDUC 5031: ACCULTURATION THROUGH EDUCATION**

Implications for teaching and learning attributable to the increasing complexity of the clientele of the American public schools.

**EDUC 5032: EDUCATION OF THE CULTURALLY DIFFERENT LEARNER**

Sociological and psychological forces threatening the culturally different learner, and methods for overcoming the negative effects of these forces.

**EDUC 5033: CURRICULAR NEEDS OF CULTURALLY DIFFERENT STUDENTS**

Relation of curricular processes and programs to the unique educational needs of culturally different students.



**EDUC 5131: EDUCATIONAL PROBLEMS IN URBAN CENTERS**

Analysis of societal forces which contribute to the ever-changing environment of contemporary schools.

**EDUC 5132: LANGUAGE SKILLS FOR THE CULTURALLY DIFFERENT LEARNER**

Language development problems peculiar to culturally different children and methods of overcoming those problems.

**EDUC 5231: PRINCIPLES OF GUIDANCE**

*Prerequisite: 12 hours of psychology.* History, principles, services, and theoretical development of guidance.

**EDUC 5331: MULTICULTURAL DETERMINANTS IN LEARNING**

The effects of cultural environments on student self-concept and self-awareness in relation to the learning process.

**EDUC 5531: EDUCATIONAL/SOCIETAL FUTURES**

Participatory, experimental, analysis of futures; focus on scenario construction.

**EDUC 5532: EDUCATIONAL FORECASTING**

Educational projects based on continuous re-evaluation of changing balances among economic, demographic, and political forces, state and national.

**EDUC 5731: CHILDREN FROM CULTURALLY DIFFERENT BACKGROUNDS**

Seminar on cross-cultural implications for education.

**EDUC 57v9: PRACTICUM IN EDUCATION**

*Prerequisite: approval of Dean required.* Applied field experience in related specialization.

**EDUC 5931: RESEARCH TOPICS IN PROFESSIONAL EDUCATION**

*Identified by specific title each time course is offered.*

**EDUC 59v9: PROBLEMS IN EDUCATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**EDUC 6031: IMPROVEMENT OF INSTRUCTION**

Upgrading teaching skills and coping with modern educational problems as they affect classroom effectiveness.

**EDUC 6032: ANALYSIS AND MODIFICATION OF TEACHING BEHAVIOR**

Procedures in self-appraisal, instructional analysis, and micro-teaching as a means of studying teacher behavior.

**EDUC 6033: TEACHING THE EDUCATIONAL UNINVOLVED**

Nature and needs of the uninvolved student; emphasis on development of teaching strategies and on curricular change.

**EDUC 6034: COMMUNITY RESOURCES FOR EDUCATIONAL OPPORTUNITY**

Expansion of learning horizons by involving total community resources in educational programming.

**EDUC 6131: THE MIDDLE OR INTERMEDIATE SCHOOL**

Philosophy, organization, program, special problems, and unique characteristics of the emerging intermediate school.

**EDUC 6132: EDUCATIONAL EVALUATION**

*No Prerequisite.* Application of evaluative principles to educational measurement and appraisal; techniques of test construction, selection, and interpretation.

**EDUC 6134: HISTORICAL DEVELOPMENT OF AMERICAN EDUCATION**

Changing nature of education in American society from Puritans to Post-progressives.

**EDUC 6231: THEORY OF INSTRUCTIONAL SUPERVISION**

Principles of supervision, program evaluation, interaction analysis, and development of leadership skills; devoted to elementary and secondary levels, respectively.

**EDUC 6331: COOPERATIVE EDUCATION**

Organization and coordination of cooperative programs or internships in preschool, elementary, secondary, college, or business education.

**EDUC 6332: EVALUATION OF CURRICULAR MODELS**

Analysis of the roles of diagnosis, remediation, performance, and evaluation in the development of curricular models designed to cope with identifiable learning variables.

**EDUC 6333: HISTORY AND PHILOSOPHY OF EDUCATION**

Major social philosophies and their applicability to education in the United States.

**EDUC 6334: CAREER, VOCATIONAL, AND EDUCATIONAL INFORMATION**

Methods of collecting, filing, and using career, vocational, and educational data; analysis of career, vocational, and educational conditions and trends.

**EDUC 6335: DESIGN AND APPLICATION OF INSTRUCTIONAL MEDIA**

Design and selection of educational communications media including graphic and programmed instructional materials; commercially prepared audio-visual materials; preparation of study and curriculum guides.

**EDUC 6431: ROLE OF THE SUPERVISOR IN PUBLIC SCHOOL LEADERSHIP**

*Prerequisites: PSYC 5031 and EDUC 6231 or equivalent.* Problems and procedures of supervision in public schools.

**EDUC 6531: RESEARCH IN EDUCATION**

Critical analyses of research; research projects, techniques of research, and elementary statistical designs.

**EDUC 6532: CONTEMPORARY PHILOSOPHY OF EDUCATION**

Curricular implications of recent protests and reform in education; emphasis on relevance, propaganda, freedom, indoctrination, and authority.

**EDUC 6533: THE POLITICS OF EDUCATION**

*Formerly Education Policy Systems.* National educational policies, state departments of education, community power structures, curricular and pedagogical definitions of politics and political influences; the educator and politics.

**EDUC 6534: ADULT EDUCATION IN A CHANGING SOCIETY**

The adult as a learner; principles and practices in planning and developing programs for a total and life-long education.

**EDUC 6535: CURRICULUM THEORY AND DEVELOPMENT**

Principles of curriculum development; organizations, selection, and evaluation of instructional materials and educational programs.

**EDUC 6536: RECONSTRUCTIONIST FUTURISM IN EDUCATION**

Applications of reconstructionist philosophic thought to educational alternatives for the future.

**EDUC 6731: SEMINAR IN COMPARATIVE EDUCATION**

Contemporary educational problems in foreign countries and their implications for education in the U.S.

**EDUC 6732: SEMINAR IN CURRICULUM DESIGN AND DEVELOPMENT**

Fundamental bases for curriculum development and implementation; issues in curriculum development.

**EDUC 6733: SEMINAR IN EDUCATIONAL FUTURES**

*Prerequisites: EDUC 5531, SOCI 4136, and 12 hours in futures courses.* Problem analysis and alternatives for education.

**EDUC 6734: ADVANCED SEMINAR IN SCIENCE EDUCATION**

Advanced topics from the latest research in science education; emphasis on instructional techniques and concept formation.

**EDUC 6839: MASTER'S PROJECT**

*Prerequisites: EDUC 6531 or equivalent and 21 additional semester credit hours of approved degree course work. Approval of Dean required.* Applied field research.

**EDUC 6939: MASTER'S THESIS RESEARCH**

*Approval of Dean.*

## ELEMENTARY EDUCATION

**ELEM 3131: ELEMENTARY SCHOOL METHODS AND FIELD EXPERIENCES**

Program planning, scheduling, and record keeping; developing competencies in observation and assessment, and applying the unit approach in organizing learning experiences. *Field experiences required.*

**ELEM 3331: SOCIAL STUDIES IN THE ELEMENTARY SCHOOL**

*Prerequisites: EDUC 30v1 and ELEM 3131 or equivalents.* Methods of developing understanding of basic social science concepts and the contributions of ethnic and urban studies; construction teaching-learning materials that incorporate the inquiry approach and individualize instruction. *Field experiences required.*

**ELEM 3332: HEALTH IN THE ELEMENTARY SCHOOL**

*Prerequisites: EDUC 30v1, ELEM 3131, or equivalents.* Health status and needs of elementary school age children; health education teaching methods, materials, curriculum development, evaluation; total school health program. *Field experiences required.*

**ELEM 3361: MATHEMATICS AND SCIENCE IN THE ELEMENTARY SCHOOL**

*Prerequisites: EDUC 30v1, ELEM 3131, MATH 3033 or 3037 or equivalents.* Numbers and the number system and content of modern mathematics programs; emphasis on curriculum materials and teaching methods, including the process approach in science. *Field experiences required.*

**ELEM 3391: READING, LANGUAGE ARTS, AND CHILDREN'S LITERATURE**

*Prerequisites:* EDUC 30v1, ELEM 3131, READ 4131 or equivalents. The reading process; basis skills in teaching reading; language arts materials and methods for developing oral and written expression, listening skills, and creative language activities; reading and evaluating children's literature. *Field experiences required.*

**ELEM 3431: MATHEMATICS IN THE ELEMENTARY SCHOOL**

*Prerequisites:* EDUC 30v1 and ELEM 3131, MATH 3033 or 3037 or equivalents. Numbers and the number system with emphasis on curriculum materials and teaching methods. *Field experiences required. Credit may not be earned for both ELEM 3361 and ELEM 3431.*

**ELEM 3432: SCIENCE IN THE ELEMENTARY SCHOOL**

*Prerequisites:* EDUC 30v1 and ELEM 3131 or equivalents. Development of science concepts in elementary instruction; emphasis on curriculum materials and the process approach as a science teaching method. *Field experiences required. Credit may not be earned for both ELEM 3391 and ELEM 3433.*

**ELEM 3434: LANGUAGE ARTS IN THE ELEMENTARY SCHOOL**

*Prerequisites:* EDUC 30v1 and ELEM 3131 or equivalents. Language arts materials and methods for developing oral and written expression, listening skills, and creative language activities. *Field experiences required. Credit may not be earned for both ELEM 3391 and ELEM 3434.*

**ELEM 3435: CHILDREN'S LITERATURE IN THE ELEMENTARY SCHOOL**

*Prerequisites:* EDUC 30v1 and ELEM 3131 or equivalents. Methods for introducing literature in the elementary program; emphasis on story telling, reading for content, and evaluating writings for children. *Field experiences required. Credit may not be earned for both ELEM 3391 and ELEM 3435.*

**ELEM 3561: ELEMENTARY STUDENT TEACHING**

*Prerequisite:* approval of advisor and instructor. Supervised field experiences in mechanics of teaching in the elementary school classroom.

**ELEM 3731: STUDENT TEACHING**

*Prerequisite:* approval of advisor and instructor; *corequisite:* BLNG 3731, DIAG 3731, or ECED 3731. Supervised field experiences, conducted primarily in a public school setting, with regular seminars conducted on the University campus.

**ELEM 39v9: PROJECTS IN ELEMENTARY EDUCATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* approval of advisor and project director. *Individual projects and planned readings in elementary education.*

**ELEM 4931: SELECTED TOPICS IN ELEMENTARY EDUCATION**

*Identified by specific title each time course is offered.*

**ELEM 5131: SPECIALIZED INSTRUCTIONAL TECHNIQUES: LANGUAGE ARTS AND READING**

Utilization of new programs, processes, and equipment designed to individualize instruction in language and arts.

**ELEM 5132: SPECIALIZED INSTRUCTIONAL TECHNIQUES: MATHEMATICS AND SCIENCE**

Utilization of new programs, processes, and equipment designed to individualize instruction in mathematics and science.

**ELEM 5133: SPECIALIZED INSTRUCTIONAL TECHNIQUES: SOCIAL STUDIES**

Utilization of new programs, processes, and equipment designed to individualize instruction in social studies.

**ELEM 57v9: PRACTICUM IN ELEMENTARY TEACHING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.* Directed field experiences in an elementary or intermediate school setting.

**ELEM 5931: RESEARCH TOPICS IN ELEMENTARY EDUCATION**

*Identified by specific title each time course is offered.*

**ELEM 59v9: PROBLEMS IN ELEMENTARY EDUCATION**

*(Variable credit, 1-6 hours)*

*Prerequisite: approval of advisor and problem director.*

**ELEM 6331: DYNAMICS OF THE ELEMENTARY CLASSROOM**

Interplay of social, economic, psychological, ethnological, and physical characteristics of elementary students; implications for informal teacher appraisal.

## **ENVIRONMENTAL MANAGEMENT**

**ENVR 3131: FOUNDATIONS OF ENVIRONMENTAL MANAGEMENT**

Presentation, analysis, and application of principles of human and environmental resource administration.

**ENVR 37v9: INTERNSHIP IN ENVIRONMENTAL MANAGEMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: 15 hours of upper-level credit and approval of program director.* Two hours of supervised work experience per credit each week in an approved public or private environmental agency.

**ENVR 39v9: PROJECTS IN ENVIRONMENTAL MANAGEMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual study and planned readings in a selected area of environmental management problems.

**ENVR 4031: NATURAL RESOURCES**

Interpretation of the reciprocal effects of demographic and environmental characteristics and trends; technology and manpower availability as determinants of resource discovery, production, and utilization.

**ENVR 4131: INTRODUCTION TO AIR AND SOLID WASTE MANAGEMENT**

Analysis of policy toward and technology for the control of atmospheric pollution and solid waste.

**ENVR 4132: INTRODUCTION TO WATER MANAGEMENT**

Principles of effective water resources management; state and national water resources policies.

**ENVR 4133: INTRODUCTION TO ENVIRONMENTAL IMPACT STATEMENTS**

Preparation, analysis, and evaluation of the environmental impact statement as a decision and planning tool.

**ENVR 4134: INTRODUCTION TO LAND MANAGEMENT**

Alternative uses of land resources and their impact on society; methods of land use planning and management.

**ENVR 4135: INTRODUCTION TO ENVIRONMENTAL LAW**

Analysis of basic federal, state, and local environmental legislation; the effect of legislation in environmental management practices.

**ENVR 4331: ECOLOGY AND PUBLIC POLICY**

Ecological problems in the United States; causes, alternative solutions, and economic and health implications.

**ENVR 4332: PERMITS AND PROCEDURES IN ENVIRONMENTAL MANAGEMENT**

Survey of current federal and state administrative documentation in air, water, and solid waste regulatory control.

**ENVR 4931: SELECTED TOPICS IN ENVIRONMENTAL MANAGEMENT**

*Identified by specific title each time course is offered.*

**ENVR 5131: ENVIRONMENTAL MANAGEMENT PRACTICES**

Managerial principles in human and natural resource situations; organization, planning, and control of resources within the environment.

**ENVR 5132: ENVIRONMENTAL HEALTH SCIENCE**

Etiology and control of health problems arising from environmental pollution; industrial hygiene, waste disposal, pest and rodent control, and public sanitation.

**ENVR 5133: ENVIRONMENTAL HAZARDS**

Effects of environmental hazards such as hurricanes, flooding, subsidence, and water and air pollution; emphasis on individual and community adjustments in the Gulf Coast Area.

**ENVR 5134: OIL SPILLS AND HAZARDOUS MATERIALS**

Regulations, contingency planning, and prevention in the handling of petroleum and hazardous materials.

**ENVR 5331: BIONOMICS**

Interaction of environmental problems and the American economy; compatibility of economic progress with programs of environmental control.

**ENVR 5332: ENVIRONMENTAL LAW**

Major environmental legislation at both state and federal levels; problems of regulation.

**ENVR 5333: AIR QUALITY MANAGEMENT**

Standards for air quality; governmental policies towards prevention and control of atmospheric pollution.

**ENVR 5334: COASTAL ZONE MANAGEMENT**

Estuary systems, flood plain utilization, and alternative land uses for coastal zones; applications to the Texas Gulf Coast.

**ENVR 5335: MINERAL RESOURCE MANAGEMENT**

Utilization of mineral resources from an economic perspective; location, transportation, and processing.

**ENVR 5336: SOLID WASTE MANAGEMENT**

Analysis of the multidimensional nature of an affluent society's residuals; emphasis on control and disposal methods and recovery of valuable resources.

**ENVR 5531: LAND MANAGEMENT**

Alternative uses of land resources and their impact on society; legal and technological factors in land management practices.

**ENVR 5532: WATER MANAGEMENT**

Development and utilization of water resources; effects of ecological change and public policies on the management of water resources.

**ENVR 5931: RESEARCH TOPICS IN ENVIRONMENTAL MANAGEMENT**

*Identified by specific title each time course is offered.*

**ENVR 59v9: PROBLEMS IN ENVIRONMENTAL MANAGEMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**ENVR 6131: RESEARCH METHODS IN ENVIRONMENTAL MANAGEMENT**

*Prerequisite: ENVR 3331 or equivalent.* Using analytical tools to study the interactions among resource and environmental elements; interpretation of findings and projecting trends.

**ENVR 6132: ENVIRONMENTAL IMPACT STATEMENTS**

Preparation, analysis, and evaluation of the environmental impact statement as a decision and planning tool; emphasis on practical experience and governmental agency regulations and procedures.

**ENVR 6332: ECOLOGICAL ISSUES FOR THE FUTURE**

The relationship between man and his environment in the future; limits of the exploitation of natural resources.

**ENVR 6731: SEMINAR IN NATURAL RESOURCE MANAGEMENT**

Current natural resource management problems; opportunity for individual concentration on a single environmental problem area.

**ENVR 6732: SEMINAR ON NATURAL RESOURCE POLICY**

Current status of supplies and reserves of natural resources in the United States; resource utilization policies.

**ENVR 67v9: GRADUATE INTERNSHIP IN ENVIRONMENTAL MANAGEMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: master's degree candidacy and approval of advisor and dean.* Supervised internship with a public or private environmental agency; written and oral reports required.

**ENVR 6839: MASTER'S PROJECT**

*Prerequisites: master's degree candidacy and approval of advisor and dean.*

**ENVR 6939: MASTER'S THESIS RESEARCH**

## ELECTRO-OPTICAL TECHNOLOGY

**EOPT 3131: INTRODUCTION TO ELECTRO-OPTICS**

*Prerequisites or corequisites: MATH 3333 and General Physics.* Energy levels in atoms, lasing action, optical cavities, oscillation modes, and operation of electro-optical instruments. *Laboratory instruction.*

**EOPT 3132: GEOMETRIC OPTICS**

*Prerequisite or corequisite: MATH 3332.* Geometrical analysis of reflection, refraction, and graphical ray tracing; optical components. *Laboratory instructions.*

**EOPT 3431: INTRODUCTION TO LASERS AND MASERS**

*Prerequisites: PROC 3132, CTEC 3131, and credit for or coenrollment in EOPT 3131.* Masers, gas lasers, dye lasers and semi-conductor lasers; pumping, pulsing, and Q-switching.

**EOPT 39v9: PROJECTS IN ELECTRO-OPTICAL TECHNOLOGY**

*(Variable credit, 1-6 semester hours.)*

*Prerequisite: approval of advisor and project director.* Individual projects and laboratory investigations in electro-optical technology.

**EOPT 4111: EXPERIMENTAL OPTICAL METHODS**

*Prerequisite: EOPT 3131.* Properties of optical materials; glass fabrication and vacuum technology. *Laboratory instruction.*

**EOPT 4132: WAVE OPTICS**

*Prerequisite: EOPT 3131 and MATH 3333.* Wave treatment of reflection, refraction, attenuation, interference, diffraction, and polarization.

**EOPT 4231: BIO-SYSTEMS MEASUREMENTS**

*Prerequisites: CTEC 3131, EOPT 3131, and PROC 3132.* Measurement of the electrical magnetic, and optical phenomena of biological systems.

**EOPT 4232: BIOLOGICAL CONTROL SYSTEMS**

*Prerequisite: credit for or coenrollment in EOPT 4231.* Cardio-vascular, muscular, auditory, and visual control systems; appropriate biomedical transducers.

**EOPT 4233: ADVANCED BIOMEDICAL INSTRUMENTATION**

*Prerequisites: EOPT 4232, PROC 3132, and CTEC 3531.* Electronic, electro-optical, and electro-mechanical instrumentation in spectral analysis, speech analysis, EEG, EKG, and catheter measurements. *Laboratory instruction.*

**EOPT 4234: INSTRUMENTATION IN BIOLOGICAL RESEARCH**

*Prerequisites: eopt 4232, CTEC 3531, CSCI 3331, and MATH 3333.* Mathematical methods of bio-systems analysis; current techniques and instruments used in biological research. *Laboratory instruction.*

**EOPT 4331: CLOSED-CIRCUIT TELEVISION SYSTEMS**

*Prerequisites: PROC 3132, PROC 3135, CTEC 3132, and EOPT 3131.* Cameras, monitors, video recorders, and microwave relays.

**EOPT 4431: LASER APPLICATIONS**

*Prerequisites: EOPT 3431, CTEC 3331, and CTEC 3531.* Applications of lasers in materials processing, data processing, holography, ranging and angle tracking, medicine, and communications.

**EOPT 4332: THE TECHNOLOGY OF PHOTON DETECTORS**

*Prerequisites: General Physics and solid state devices.* Photomultipliers, photodiodes, vidicons, charge coupled devices, film, and photovoltaic and photoresistive devices.

**EOPT 4432: LASER SYSTEMS COMPONENTS**

*Prerequisites: EOPT 3131, CTEC 3131, and PROC 3132.* Windows, flats, mirrors, etalons, filters, beam splitters, prisms, lenses, gratings, polarizers, photographic supplies, and nonlinear materials. *Laboratory instruction.*



**EOPT 4531: ELECTRO-OPTICAL INSTRUMENT ANALYSIS**

*Prerequisite:* EOPT 3131 and CTEC 3331. Optical instrumentation for detection, photography, and laser beam manipulation, modulation, and Q-switching.

**EOPT 4532: ELECTRO-OPTICAL MEASUREMENT SYSTEMS**

*Prerequisite:* EOPT 4432. Spectrometer, monochromators, spectrophotometers, spectranalyzers and interferometers. *Laboratory instructions.*

**EOPT 4533: ELECTRO-OPTICAL FABRICATION AND TESTING**

*Prerequisite:* EOPT 3131 and MATH 3331. Techniques of fabrication and testing; modulated and open cavity helium-neon, pumped organic dye, and pumped ND-YAG lasers.

**EOPT 4534: FUNDAMENTALS OF FOURIER OPTICS**

*Prerequisite:* EOPT 3132; *corequisite or prerequisite:* MATH 4134. Study of imaging properties, imaging systems, filtering and information processing.

**EOPT 4931: SELECTED TOPICS IN ELECTRO-OPTICS**

*Identified by specific title each time course is offered.*

**EOPT 4939: UNDERGRADUATE HONORS PROJECT**

*Prerequisites:* 36 hours of upper-level credit and approval of program director.

**EOPT 5130: QUANTUM OPTICS**

*Prerequisite or corequisite:* EOPT 5131. Elementary quantum mechanics, Bose-Einstein statistics, second quantization, perturbation theory.

**EOPT 5131: PLASMA DYNAMICS FOR OPTICAL APPLICATIONS**

*Prerequisites:* Wave optics and linear systems analysis. Charged particle motion in electric and magnetic fields, wave propagation, and antenna radiation in plasmas; emphasis on optical applications.

**EOPT 5132: INTRODUCTION TO OPTICAL ELECTRONICS**

*Prerequisites:* General Physics, General Electronics and linear systems analysis. Interaction of radiation and atomic systems, laser oscillation, modulation, interaction of light and sound, nonlinear optics.

**EOPT 5231: BIOMEDICAL MODELING AND CYBERNETICS**

*Prerequisites:* 6 hours of biomedical instrumentation and compiler language proficiency. Biological modeling of systems via analog, digital, and hybrid computers. *Laboratory instruction.*

**EOPT 5331: FUNDAMENTALS OF DISPLAY SYSTEMS**

*Prerequisites:* CTEC 5332, computer architecture, data structures. CRT, LED, and LCD display systems; character generation, vector generation, positioning problems, display memory, overlays, and operator controls.

**EOPT 5332: DIGITAL IMAGE PROCESSING**

*Prerequisites:* CTEC 5331, CTEC 5332 linear systems analysis statistics, and compiler language proficiency. Automatic classification and categorization of optical patterns, transformations, filtering, and binary image analysis.

**EOPT 5431: COHERENT OPTICS AND HOLOGRAPHY**

*Prerequisites:* Wave and fourier optics, linear systems analysis. Characteristics of coherent light, wave front reconstruction, and imaging, coherence requirements of optical holography.

**EOPT 5931: RESEARCH TOPICS IN ELECTRO-OPTICAL TECHNOLOGY**

*Identified by specific title each time course is offered.*

**EOPT 59v9: PROBLEMS IN ELECTRO-OPTICAL TECHNOLOGY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.*

**EOPT 6331: COMPUTER OUTPUT MICROFILM SYSTEMS**

*Prerequisites: CTEC 5332 and compiler language proficiency.* COM hardware and software techniques; equipment, imaging, forms overlay, film formats, retrieval, economics, and software compatibility.

**EOPT 6431: APPLICATIONS OF HOLOGRAPHY**

*Prerequisites: EOPT 5431 and computer architecture.* Holographic systems used in microscopy, aberration, removal, optical data processing, optical memories, interferometry, cinematography, and television.

**EOPT 6939: MASTER'S THESIS RESEARCH**

## FINANCE

**FINC 3031: MONEY MANAGEMENT**

Practical financial management of personal money matters; budgeting, insurance purchasing, personal income taxes, borrowing, housing, saving, investing, and retirement and estate planning.

**FINC 3131: MONEY AND BANKING**

*Prerequisite: Principles of Economics or equivalent.* Banking and credit in the economy; monetary policy, and international monetary exchange.

**FINC 3331: BUSINESS FINANCE**

*Prerequisite: ACCT 3331 or approval of program director.* Fundamental tools and techniques in financial planning; liquidity management, profit planning, acquisition; resource allocation and supervision.

**FINC 3332: PUBLIC FINANCE**

*Prerequisites: Principles of Accounting and Principles of Economics or equivalents.* Policies and practices related to revenue and expenditure of federal, state, and local governments.

**FINC 3531: REAL ESTATE FINANCE**

*Prerequisite: FINC 3331 or equivalent.* Buying, owning, and operating real estate; liens, contracts, deeds, titles, and leases.

**FINC 3532: PRINCIPLES OF INSURANCE**

Elements of insurance coverage as applied to individuals and firms; life, casualty, and property policies.

**FINC 3533: INVESTMENTS**

*Prerequisite: FINC 3331 or equivalent.* Personal investments in bonds, mortgages, stocks, and other securities; financial statements and credit.

**FINC 3739: UNDERGRADUATE INTERNSHIP IN FINANCE**

*Prerequisites: 15 hours of upper-level credit and approval of program director.* Six hours of supervised work experience each week in an approved financial institution or firm.

**FINC 39v9: PROJECTS IN FINANCE**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in finance.

**FINC 4131: REPORT PRACTICE AND ANALYSIS**

*Prerequisite: Principles of Accounting or equivalent.* Problems and theories of financial statement data.

**FINC 4331: CONTEMPORARY FINANCIAL INSTITUTIONS**

*Prerequisite: FINC 3331 or equivalent.* Financial institutions other than commercial banks; savings and loan associations, credit unions, savings banks, and finance companies.

**FINC 4332: PRINCIPLES OF FINANCIAL ADMINISTRATION**

*Prerequisite: FINC 3331 or equivalent.* Advanced principles and practices in the financial administration of business enterprises.

**FINC 4333: BANK ADMINISTRATION**

*Prerequisite: FINC 3131.* Commercial bank management; reserves, investments, loans, and services.

**FINC 4531: INTERNATIONAL FINANCIAL OPERATIONS**

*Prerequisite: Principles of Economics or equivalent.* International transactions and financial flows; balance of payments, foreign exchange market, world-wide commercial policy and financing.

**FINC 4931: SELECTED TOPICS IN FINANCE**

*Identified by specific title each time course is offered.*

**FINC 5031: CONCEPTS IN COMMERCIAL FINANCE**

*Prerequisite: ACCT 5031 or equivalent.* Financial dimensions of business enterprise; financial organizational structures, financing of enterprises, alternative capital sources, refunding, and reorganizations.

**FINC 5032: BUDGET THEORY IN PUBLIC EDUCATION**

Fundamentals of planning, cost accounting, quantitative evaluation of needs and resources, and application of prudent business practices to school finance.

**FINC 5131: THE FINANCIAL SYSTEM**

*Prerequisite: FINC 5031 or equivalent.* Operations and funding of financial institutions; the relationships of commercial banks to other institutions in the financial system.

**FINC 5133: FINANCIAL POLICY**

*Prerequisite: FINC 5031 or equivalent.* Case study approach to financial policy and strategy; solvency, profitability, external financing, dividend policy, acquisitions, mergers, and reorganizations.

**FINC 5134: MARKETING OF BANK SERVICES**

Bank location and expansion, bank services, and profitability in light of the competitive structure and the regulatory environment.

**FINC 5331: FINANCIAL ADMINISTRATION PRACTICES**

*Prerequisite: FINC 5031 or equivalent.* Managerial methods in financial institutions; planning, acquisition, and management of funds; investment projects, capital budgeting, and maintaining of credit worthiness.

**FINC 5332: STRUCTURE OF FINANCIAL STATEMENTS**

*Prerequisite: ACCT 5031 or equivalent.* Evaluation of problems involved in reporting, presenting, and analyzing financial statements in terms of generally accepted accounting principles.

**FINC 5531: PUBLIC FINANCE AND TAXATION**

*Prerequisite: ECON 5031 or equivalent.* Financial principles as applied to taxation, borrowing, and expenditures of federal, state, and local governments; emphasis on financing in metropolitan areas.

**FINC 5532: BUDGET PREPARATION AND ANALYSIS**

*Prerequisite: ACCT 5031 or equivalent.* Budget preparation in government and in public agencies; interaction of financial considerations and political dimensions in the budgetary process.

**FINC 5931: RESEARCH TOPICS IN FINANCE**

*Identified by specific title each time course is offered.*

**FINC 59v9: PROBLEMS IN FINANCE**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**FINC 6131: COMMERCIAL BANK MANAGEMENT**

*Prerequisite: FINC 5031 or equivalent.* Administration of commercial banks; effects of lending policies, public regulation, and technological change on banking services.

**FINC 6132: COMMERCIAL BANK LENDING**

Problems and cases in bank loan management, analysis of credit worthiness, and lending as it relates to total portfolio management.

**FINC 6331: PORTFOLIO MANAGEMENT**

*Prerequisite: FINC 5031 or equivalent.* Methods of portfolio selection, investment model building, analysis of financial reports, and security price movements.

**FINC 6531: INTERNATIONAL FINANCE**

*Prerequisite: FINC 5031 or equivalent.* International financial operations, including foreign trade financing, risk and credit evaluation, letters of credit, and bankers' acceptances; role of political and social pressures.

**FINC 6532: INTERNATIONAL BANKING**

*Prerequisite: FINC 6131 or permission of instructor.* Study of international banking requirements and Edge Act banks in the international environment.

**FINC 6731: SEMINAR ON THE THEORY OF FINANCE**

*Prerequisites: ECON 5031 and FINC 5031.* The theory of choice, risk, and uncertainty; implications for capital investments, the cost of capital, and optimal financial structure.

**FINC 6732: SEMINAR IN COMMERCIAL BANKING**

Cases in bank administration and banking policy.

**FINC 67v9: GRADUATE INTERNSHIP IN FINANCE**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: master's degree candidacy and approval of advisor and dean.* Supervised internship with an approved financial institution or firm; written and oral reports required.

**FINC 6939: MASTER'S THESIS RESEARCH**

## GEOGRAPHY

### **GEOG 3031: INSTRUCTIONAL METHODOLOGIES FOR GEOGRAPHY**

Content analysis, appraisal techniques, instructional support production, and demonstration techniques for the application of geographic approaches to problem solving.

### **GEOG 3131: GEOGRAPHIC DATA DISPLAY PROCESSES**

Cartographic processes, computer applications to geographic analysis, and fundamentals of quantification.

### **GEOG 3132: ENVIRONMENTAL GEOGRAPHY**

Non-technical analysis of physical and biotic processes; stress on man's adjustment to finite resources and his impact on environment.

### **GEOG 3133: GEOGRAPHY OF ECONOMIC ACTIVITY**

Business, industry, and regional economic development; location theory applied to retailing, wholesaling, manufacturing, settlement, and transportation.

### **GEOG 3134: CULTURAL GEOGRAPHY**

Man's individual and institutional responses to changes in his environment; emphasis upon contrasts of geographic regions.

### **GEOG 3135: SOCIAL GEOGRAPHY**

Overview of global political patterns; contemporary crisis areas, and patterns and trends of national political behavior.

### **GEOG 3137: GEOGRAPHY FOR TEACHERS**

Non-technical analysis of physical, biotic, and social processes, geographic interpretation of world patterns and current events.

### **GEOG 3331: GEOGRAPHY OF ANGLO-AMERICA**

Topical and regional analysis of Canada and the United States.

### **GEOG 3332: GEOGRAPHY OF LATIN AMERICA**

Influences of topography, climate, resource distribution, indigenous cultures, and European emigration on the emergence of modern Meso - and South American countries.

### **GEOG 3533: COASTAL MARINE GEOGRAPHY**

Impacts of climate, topology, and technology on marine life and society.

### **GEOG 39v9: PROJECTS IN GEOGRAPHY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in geography.

### **GEOG 4131: URBAN GEOGRAPHY**

Evolution of urban structure and function; spatial perspectives of urban and suburban affairs.

### **GEOG 4132: MARKETING GEOGRAPHY**

Spatial characteristics of marketing; location, channels of distribution, transportation, and market areas.

**GEOG 4133: GEOGRAPHY OF CRIME**

Spatial analysis of criminal behavior and the criminal justice system; major crimes at the national, regional, and urban levels; factors that influence the criminal's decision to commit a crime at a particular place.

**GEOG 4331: GEOGRAPHY OF NON-SOVIET ASIA**

Population density and sparsity, present and future, and the impact of climate, topography, cultures, and technology on the political dynamics of the region.

**GEOG 4332: GEOGRAPHY OF THE SOVIET UNION**

Resource development, applications of technology, and population distribution in the USSR.

**GEOG 4333: GEOGRAPHY OF EUROPE**

Regional geographic influences on the historical development of economic, political, and social patterns that characterize the present power structure of Non-Soviet Europe.

**GEOG 4334: GEOGRAPHY OF AFRICA**

Interaction of man with his environment; the transition of Africa from an agricultural to an industrial economy.

**GEOG 4335: GEOGRAPHY OF THE COMMUNIST WORLD**

Geographic analysis of the U.S.S.R., People's Republic of China, East Europe, and Southeast Asia; geographic patterns and centrally planned societies.

**GEOG 4531: GEOGRAPHY OF TEXAS**

The natural resources, culture, and land use characteristics of Texas; emphasis on future development.

**GEOG 4535: COMPUTER GRAPHICS IN GEOGRAPHY**

Utilization of computer-generated maps and graphs to display varied types of data.

**GEOG 4931: SELECTED TOPICS IN GEOGRAPHY**

*Identified by specific title each time course is offered.*

**GEOG 5131: REMOTE SENSING TECHNIQUES**

Application of remote sensing techniques to the location of environmental conditions, mineral and agriculture resources, forests, and populated areas.

**GEOG 5331: RURAL-URBAN GROWTH PATTERNS IN THE UNITED STATES**

Interpreting census data in terms of the economic and social effects of the rural-urban population shift.

**GEOG 5332: GEOGRAPHY OF MESO-AMERICA**

The Interaction between cultural environments and geographic conditions in Mexico and Central America.

**GEOG 5533: ADVANCED ECONOMIC GEOGRAPHY**

Industrialization and related assistances and resistances to the implementation of modern technology and resource development.

**GEOG 5534: GEOGRAPHY OF TRANSPORTATION**

Physical distribution and logistics, transportation systems analysis, and urban transportation.

**GEOG 5731: SEMINAR IN POLITICAL GEOGRAPHY**

Interrelationship between geographic factors and political developments in selected world regions.

**GEOG 5732: SEMINAR IN URBAN GEOGRAPHY**

Contemporary urban and suburban affairs, land use planning, urban transportation, social problems, and socio-economic differentiation process.

**GEOG 5733: SEMINAR IN ECONOMIC GEOGRAPHY**

Location theory, international trade, economic development, manufacturing, and other topics.

**GEOG 5734: SEMINAR IN MIGRATION**

Analysis of differential urban spatial structures resulting from intraurban and interurban migration; emphasis on variables influencing the decision to migrate.

**GEOG 5931: RESEARCH TOPICS IN GEOGRAPHY**

*Identified by specific title each time course is offered.*

**GEOG 59v9: PROBLEMS IN GEOGRAPHY**

*(Variable credit, 1-6 semester hours)*

## GEOLOGICAL SCIENCES

**GEOL 3022: FUNDAMENTALS OF MINERALOGY**

*Prerequisite: GEOL 3031 or equivalent; corequisite: GEOL 3012.* The identification, origins, and inter-relationships of commonly-occurring minerals and economic-industrial significance.

**GEOL 3012: LABORATORY FOR FUNDAMENTALS OF MINERALOGY**

*Corequisite: GEOL 3022.*

**GEOL 3031: FUNDAMENTALS OF EARTH SCIENCE**

Survey of earth science with emphasis on situations relevant to the well-being of man and the quality of his environment.

**GEOL 3032: FUNDAMENTALS OF OCEANOGRAPHY**

Survey of geological, chemical, physical, and biology oceanography; coastal processes and estuaries; satellite measurements of the oceans.

**GEOL 3221: THE SEDIMENTARY ENVIRONMENT**

*Prerequisite: GEOL 3031 or equivalent. Corequisite GEOL 3211.* Origins, depositional environments, paleontology, internal structures, and lithification processes of sedimentary rocks.

**GEOL 3211: LABORATORY FOR THE SEDIMENTARY ENVIRONMENT**

*Corequisite: GEOL 3221.*

**GEOL 3321: FUNDAMENTALS OF PALEONTOLOGY**

*Prerequisite: GEOL 3031 or equivalent; corequisite: GEOL 3311.* The classifications, significance, and uses of fossils; emphasis on those found in Texas.

**GEOL 3311: LABORATORY FOR FUNDAMENTALS OF PALEONTOLOGY**

*Corequisite: GEOL 3321.* Three laboratory hours each week; field trips required.

**GEOL 3322: GEOMORPHOLOGY: LANDFORMS AND STRUCTURES**

*Prerequisites: GEOL 3031 or equivalent. Corequisite: GEOL 3312.* Geomorphology and structural geology; landscapes and factors which influence landforms.

**GEOL 3312: LABORATORY FOR GEOMORPHOLOGY**

*Corequisite: GEOL 3322. Three laboratory hours each week.*

**GEOL 39v9: PROJECTS IN EARTH SCIENCE**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: Approval of advisor and project director.*

**GEOL 4031;4032: EARTH SCIENCE FOR TEACHERS I AND II**

*Prerequisite: GEOL 3031 or equivalent. Corequisite: GEOL 4011; 4012.*

Development and structure of landforms and ocean basins; meteorology and the nature of the solar system.

**GEOL 4011;4012: LABORATORY FOR EARTH SCIENCE FOR TEACHERS I AND II**

*Corequisite: GEOL 4031; 4032. Three laboratory hours each week.*

**GEOL 4131: GEOLOGY OF TEXAS**

*Prerequisite: GEOL 3031 or equivalent.* Physical, chemical, and geological aspects of Texas landforms and substrata.

**GEOL 4231;4232: WATER RESOURCES, FLOODS, AND SUBSIDENCE I AND II**

*Prerequisites: General Physics and GEOL 3031 or equivalent.* Surface and ground water hydrology as related to local problems of water resources, flooding due to heavy rains, and the effects of ground water withdrawal (subsidence).

**GEOL 4331: ENVIRONMENTAL GEOLOGY**

*Prerequisite: GEOL 3031 or equivalent.* Survey of fossil fuels, ore deposits, and non-metallic mineral deposits; application of geological principles to planning dams and highways.

**GEOL 4431: PETROLEUM GEOLOGY**

*Prerequisite: GEOL 3031 or equivalent.* Geological, geomorphological, and geophysical aspects of petroleum and natural gas exploration; aerial, geologic, and seismic mapping and modeling.

**GEOL 4432: PETROLEUM RESERVOIRS**

*Prerequisites: GEOL 3022 or 3031 and MATH 3331 or equivalents.* Oil and gas flow in subsurface reservoirs; optimum production as a function of pressure-time characteristics; physical requirements of production and storage reservoirs.

**GEOL 4531: LUNAR GEOLOGY**

*Prerequisite: GEOL 3031 or ASTR 3131 or equivalents.* Planetary satellites; lunar rocks, international structure, seismic activity and moonquakes, surface features, lunar atmosphere.

**GEOL 4721: SEMINAR IN GEOLOGICAL SCIENCES**

*Prerequisites: 12 semester hours in geology and approval of advisor.* Critical examination of recent developments in the geological sciences, with opportunity for individual concentration on a selected research topic.

**GEOL 4931: SELECTED TOPICS IN GEOLOGY**

*Identified by specific title each time course is offered.*



**GEOL 5031;5032: ADVANCED EARTH SCIENCE FOR TEACHERS I AND II**

*Corequisite: GEOL 5011; 5012.* Advanced concepts in geology, meteorology, oceanography, and astronomy.

**GEOL 5011;5012: LABORATORY FOR ADVANCED EARTH SCIENCE FOR TEACHERS I AND II**

*Corequisite: GEOL 5031; 5032.*

**GEOL 5033: MINERALS, ROCKS AND FOSSILS**

Study of the earth processes involved in the formation of pure mineral deposits, the various types of rocks, and the fossilized remains of plants and animals.

**GEOL 5331: ENVIRONMENTAL GEOLOGY**

*Prerequisite: General Chemistry.* Relationships and interactions between pollutants and earth materials; conditions favoring concentration, mobilization, and decomposition; analysis for common pollutants.

**GEOL 5431: NATURAL RESOURCES RESERVES**

*Prerequisite: GEOL 3031 or equivalent.* Availability, location, and basic economics of mineral resources, including projected future needs and availability.

**GEOL 5931: RESEARCH TOPICS IN GEOLOGY**

*Identified by specific title each time course is offered.*

**GEOL 59v9: PROBLEMS IN GEOLOGICAL SCIENCES**

*(Variable credit, 1-6 hours)*

*Prerequisite: approval of advisor and program director.*

**GEOL 6939: MASTER'S THESIS RESEARCH****GOVERNMENT****GOVT 3031: AMERICAN POLITICAL INSTITUTIONS**

Social and economic aspects of the American political system; analysis of policy-making processes in public administration.

**GOVT 3033: PARLIMENTARY PROCEDURES**

The development of parliamentary procedures; contemporary theory, uses, and practices.

**GOVT 3131: POLITICAL PARTIES**

The organization and activities of American political parties; membership, leadership, campaigns, and financing.

**GOVT 3132: COMPARATIVE POLITICS**

Methods of studying political systems on a cross-national basis; examples drawn from both Western and non-Western systems.

**GOVT 3331: LEGISLATIVE PROCESS**

Functions of the United States Congress and the Texas Legislature; legislative relationships with other sectors of government.

**GOVT 3332: THE STATES AND THE FEDERAL SYSTEM**

The constitutional role of the state governments and their relationship to federal and local governments.

**GOVT 3531: INTRODUCTION TO GOVERNMENT PLANNING**

Formulation, analysis, and implementation of public policies in the political environment.

**GOVT 3532: PUBLIC DECISION-MAKING**

Initiation and application of government policy; the politics of administration.

**GOVT 3533: PROGRAM IMPLEMENTATION AND EVALUATION**

The problems of program implementation; techniques for more effective program implementation and evaluation.

**GOVT 3631: FEMINIST POLITICS**

Exploration of the ways relations between the sexes may be viewed as political, beginning with an examination of sex as a category for analyses in political theory. Justifications for sex inequality and political strategies from liberal, radical, and socialist feminist perspectives.

**GOVT 37v9: UNDERGRADUATE INTERNSHIP IN GOVERNMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisites:* 15 hours of upper-level credit and approval of program director.

Supervised work experience in an approved agency; written and oral reports required.

**GOVT 39v9: DIRECTED READINGS IN GOVERNMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* approval of advisor and project director. Individual projects and planned readings in government.

**GOVT 4131: TEXAS GOVERNMENT AND POLITICS**

Historical and contemporary influences of Texas politics on the State's economic development, policies, and institutions.

**GOVT 4132: THE AMERICAN CHIEF EXECUTIVE**

Constitutional, political, and administrative responsibilities of the President; growth and function of federal executive agencies.

**GOVT 4133: CIVIL LIBERTIES IN AMERICA**

Factors and forces that have altered the scope of civil liberties in the U.S.; history and analysis.

**GOVT 4134: THE WELFARE STATE**

Federal programs in education, agriculture, transportation, health, and welfare; the role of special interest groups in the evolution of welfare policies.

**GOVT 4135: AMERICAN POLITICAL THOUGHT**

Origin and development of American political ideas and institutions from precolonial times to the present.

**GOVT 4332: ANCIENT AND MIDDLE POLITICAL THEORY**

History of Western political theory from ancient Greece through the Middle Ages.

**GOVT 4333: MODERN POLITICAL THEORY**

Seminal political thinkers from Machiavelli to the present; theoretical foundations of modern liberal democracies.

**GOVT 4334: UTOPIAS**

A critical analysis of ideal and experimental communities in theory and practice, from Plato's Republic to the contemporary commune movement.

**GOVT 4335: CONTEMPORARY INTERNATIONAL RELATIONS**

Forces that determine political relations among nations; comparative power structures and the resolution of conflicting national goals.

**GOVT 4336: COURTS, JUDGES, AND POLITICS**

Role of law, lawyers, and judges in preventing, reinforcing, and including social and political change in America.

**GOVT 4531: GOVERNMENT MANAGERIAL PROCESSES**

Concepts of control, productivity, and organizational design and structure; human behavior in organizations; administrative responsibility.

**GOVT 4532: GOVERNMENT BUDGET PLANNING AND ANALYSIS**

Application of accounting and finance principles to the preparation and analysis of government budgets; emphasis on state and local levels.

**GOVT 4533: LAW AND ECOLOGY**

Legal doctrines affecting the ecology movement; history, analysis, and trends.

**GOVT 4931: SELECTED TOPICS IN GOVERNMENT**

*Identified by specific title each time course is offered.*

**GOVT 5132: STATE AND LOCAL GOVERNMENT PROGRAMS**

Justification, planning, execution, and evaluation of state and local programs; application of economic and political science principles to decision-making.

**GOVT 5133: POLITICS AND SOCIAL CHANGE**

Social and political change, emphasizing Marx, Weber, and contemporary theorists.

**GOVT 5231: BUDGET PREPARATION AND ANALYSIS**

*Prerequisite: ACCT 5031 or equivalent.* Budget preparation in government and in public agencies; interaction of financial considerations and political dimensions in the budgetary process.

**GOVT 5232: COST-BENEFIT ANALYSIS**

An in-depth examination of cost-benefit and cost-effectiveness techniques. Emphasis on application to public projects and programs.

**GOVT 5331: METROPOLITAN GOVERNMENT AND POLITICS**

Responsibilities of metropolitan governments with respect to finances, allocation of resources, and provision of services; urban-suburban administrative relationships.

**GOVT 5332: PUBLIC POLICY ANALYSIS**

Analytical approaches to public policy review; alternative solutions and their political ramifications.

**GOVT 5333: THE LEGAL ENVIRONMENT OF PERSONNEL MANAGEMENT**

The constitutional and procedural aspects of the employee/employer relationship.

**GOVT 5431,5432: GOVERNMENT CONTRACTING**

The evolution of legal principles affecting government contract practices and procedures; government purchasing policies and illustrative systems of regulated buying.

**GOVT 5531: ISSUES IN DEMOCRATIC THOUGHT**

Majority rule, the rights of minorities, obligation and obedience, and other issues affecting the future of democratic processes in a post-industrial society.

**GOVT 5532: PUBLIC POLICY AND STUDY OF THE FUTURE**

How conceptions of the future shape public policy, and how normative and objective forecasts influence those conceptions.

**GOVT 5731: SEMINAR ON INTERGOVERNMENTAL RELATIONS**

Horizontal and vertical relationships among branches and agencies of government; conflicting influences on public decision-making.

**GOVT 5732: SEMINAR ON PROBLEMS IN PUBLIC UTILITIES**

Legal and political aspects of providing public utility services; the economics of demand and supply.

**GOVT 5733: SEMINAR ON CIVIL LIBERTIES IN AMERICA**

Forces affecting the scope of civil liberties in America; legality and reality.

**GOVT 5734: SEMINAR ON CRIMINAL JUSTICE IN AMERICA**

Forces affecting the administration of criminal justice in America; theory and practice.

**GOVT 5735: SEMINAR ON AMERICAN CONSTITUTIONAL LAW**

Development of the U.S. Constitution, chiefly through judicial decisions, emphasizing the Supreme Court as a major participant in the governing process.

**GOVT 5736: SEMINAR ON COURTS, JUDGES, AND POLITICS**

The efficacy of the American legal system as an instrument of political and social control.

**GOVT 59v9: PROBLEMS IN GOVERNMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**GOVT 6031: GOVERNMENT AND AMERICAN SOCIETY**

The role of public agencies in the evolution of the American socioeconomic system; political environment of the public executive.

**GOVT 6032: GOVERNMENT POLICY TOWARD EDUCATION**

Forces which modify the role of state, local, and national governments in the total operations of public school systems.

**GOVT 6131: SCIENCE, TECHNOLOGY, AND PUBLIC POLICY**

Growth of science; technology and social change; structure of American science; analysis of current science policy; technology assessment.

**GOVT 6132: SEMINAR ON LAW AND PUBLIC AFFAIRS**

The influence of law on the public sector, emphasizing problems of administrative law, regulation of enterprise, and individual liberties.

**GOVT 6331: RESEARCH TECHNIQUES IN GOVERNMENTAL PLANNING**

Theory and application of modern research methodologies in government planning; data collection and analysis and policy evaluation.

**GOVT 6332: SEMINAR ON PROGRAM IMPLEMENTATION AND EVALUATION**

Discussion of techniques for implementing and evaluating governmental programs; emphasis on the application of evaluative techniques to externally funded programs.

**GOVT 6731: SEMINAR ON PUBLIC ADMINISTRATION**

Contemporary issues, practices, and problems facing public administrators, emphasis on government policy making and management techniques.

**GOVT 6909: GRADUATE INTERNSHIP IN PUBLIC MANAGEMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: master's degree candidacy and approval of advisor and dean.*

**GOVT 6931: SELECTED RESEARCH TOPICS IN GOVERNMENTAL PROCESSES**

*Identified by specific title each time course is offered.*

**GOVT 6939: MASTER'S THESIS RESEARCH****HEALTH, LEISURE, AND SPORTS****HLTH 3031: HEALTH, EMERGENCY CARE AND FIRST AID**

Causes of accidents; accident prevention; risk-taking behavior; emergency care for victims of sudden illness or injury.

**HLTH 3032: HEALTH EDUCATION FOR PUBLIC SCHOOL TEACHERS**

Techniques for discovering health needs and interests of school-aged children; overview of selected subject matter in health education.

**HLTH 3033: METHODS AND MATERIALS FOR TEACHING HEALTH**

Structure, function, and selection of methods, media, and materials for teaching health education; utilization of community, state, and national resources.

**HLTH 3041: PHYSIOLOGY OF EXERCISE**

Study of the physiological bases of exercise with emphasis on the adaption of the systems of the body to stress. *Course involves three laboratory hours each week.*

**HLTH 3042: BIOMECHANICS**

Analysis of human motion as based on anatomic, physiologic, and mechanical principles. *Course includes three laboratory hours each week.*

**HLTH 3132: SCHOOL-COMMUNITY HEALTH PRACTICES**

Structure and function of private, voluntary, and official health agencies; services available at the rural, municipal, state, federal, and international level.

**HLTH 3133: MENTAL AND EMOTIONAL HEALTH**

Internal and external factors that affect physical, social, and emotional health problems.

**HLTH 3332: SAFETY EDUCATION AND ENVIRONMENTAL HEALTH**

Causes of air, water, and other forms of pollution; conservation; research, legislation, and other efforts directed toward alleviation of environmental health problems.

**HLTH 3909: PROJECTS IN HEALTH**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.* Individual projects and activities in development of skills related to health.

**HLTH 4331: CONSUMER HEALTH EDUCATION**

Evaluation of products and services that affect the health status of individuals and families; mores, fads, superstitions, and other influences on health attitudes and practices.

**HLTH 4332: FAMILY HEALTH**

Contemporary physical, mental, and social concerns that influence family health; family planning, pregnancy and childbirth, interpersonal relationships, homosexuality, experimental marriages, and death.

**HLTH 4531: SCIENTIFIC FOUNDATIONS OF HEALTH EDUCATION**

Theory and application of basic components vital to health instruction; selecting content, structuring knowledge, formulating goals, objectives, and learning opportunities; organizing and evaluating health instruction.

**HLTH 4731: SEMINAR ON CURRENT HEALTH ISSUES**

Contemporary health concerns of the American people; nutrition, diseases, human sexuality, environmental health, consumerism, quality of life, and crisis intervention.

**HLTH 4732: PRACTICUM IN EXERCISE TESTING**

*Prerequisite: HLTH 3041.* Six hours of supervised work experience each week in an approved exercise testing laboratory.

**HLTH 4733: PRACTICUM IN EXERCISE DIRECTION**

*Prerequisite: HLTH 3041 and 4132.* Six hours of supervised work experience each week in an approved exercise or training program.

**HLTH 4931: SELECTED TOPICS IN HEALTH**

*Identified by specific title each time course is offered.*

**HLTH 5131: SCHOOL HEALTH PROGRAM**

Organization and administration of the School Health Program including health services, healthful school environment, and the health instruction program.

**HLTH 5231: COMMUNITY HEALTH**

Overview of official and voluntary health agencies and community programs designed to promote and protect the health of citizens.

**HLTH 5331: CURRENT PROBLEMS IN HEALTH EDUCATION**

Major physical, emotional, and social problems of the individual, family, and community, and program to prevent or alleviate these problems.

**HLTH 5931: RESEARCH TOPICS IN HEALTH EDUCATION**

*Identified by specific title each time course is offered.*

**HLTH 59v9: PROBLEMS IN HEALTH EDUCATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.* Individual projects and activities in development of skills related to health.

**HLTH 6031: TEACHING HEALTH IN THE ELEMENTARY GRADES**

*Prerequisite: HLTH 3032 or equivalent.* Techniques of instruction in drugs and drug abuse, first aid, nutrition and health habits, and current problems.

**HLTH 6531: FOUNDATIONS AND PRINCIPLES OF HEALTH EDUCATION**

Current health education programs in the school and community as viewed from a historical perspective and in relation to present societal values and needs.

**HLTH 6532: HEALTH EDUCATION CURRICULUM PLANNING**

Identification of student health needs and interests, community health problems and the scope and sequence of the health curriculum in schools.

## HISTORICAL STUDIES

- Note: 1.** Courses marked with an asterisk (\*) may be taken to satisfy the statutory American History Requirement.
- 2.** Art History courses are listed under ARTS.

### **HIST 3031: BASIC TEXTS IN THE WESTERN TRADITION I**

Biblical, Greek, and Roman roots of Western Culture. Their synthesis and continuity to the Renaissance. Hebrew Testament, Homer, Plato, Aristotle, Virgil, New Testament, St. Augustine, and Dante.

### **HIST 3033: BASIC TEXTS IN THE WESTERN TRADITION II**

Major dynamics of Western culture since the Renaissance, Reformation, and rise of science. Works of such authors as: Galileo, Luther, Shakespeare, Voltaire, Darwin, Marx, Freud, Sartre.

### **HIST 3331: MEDIEVAL EUROPE**

The birth and first flowering of a truly European civilization—urban society and an agricultural economy.

### **HIST 3332: RENAISSANCE AND REFORMATION**

Economic, political, intellectual, and religious developments in Europe from 1300 to 1600.

### **HIST 3333: MODERN EUROPE**

Survey of political, economic, social, and cultural events in Europe from the French Revolution through World War II.

### **HIST 353I: LATIN AMERICA**

Latin American culture and lifestyle; the Aztecs and Incas, the colonial period, wars of independence, and modern Latin America.

### **HIST 39v9: READINGS IN HISTORY**

*(Variable credit, 1-6 semester hours)*

**Prerequisite:** approval of advisor and instructor. Individual projects and planned readings in historical inquiry.

### **HIST 4031: TEACHING HISTORY IN THE SECONDARY SCHOOL**

Methods of presenting historical issues; historical perspective, evaluative techniques, and utilization of media.

### **\*HIST 4131: COLONIAL AMERICA**

Examines the genesis of American values by tracing the development of colonial institutions such as the family, the church, the school, and slavery.

### **\*HIST 4132: THE NEW AMERICAN NATION**

Emergence and development of a distinctly American society, politics, and national identity.

### **\*HIST 4133: CIVIL WAR AND RECONSTRUCTION**

The experience of Americans from the 1840's to the 1870's; their attempts to reconcile sectional and national identities.

### **\*HIST 4134: GROWTH OF INDUSTRIAL AMERICA**

Early growth of industrial capitalism, and America's social and political response to it from the Civil War to World War I.

**\*HIST 4135: AMERICA, 1914-1945**

Emphasis on economic and social trends of the era, including the arts and mass media. Impact of American involvement in World Wars I and II.

**\*HIST 4136: AMERICA SINCE 1945**

Issues in domestic and foreign policy since the end of World War II.

**\*HIST 4137: THE SOUTH**

Study of a distinctive regional identity and the tensions between it and the national society, focusing on either the antebellum South, the New South, or the twentieth-century South. *May be repeated for credit.*

**\*HIST 4138: LOCAL HISTORY**

*May be repeated with permission of academic advisor.*

History of local and nearby areas, including Harris, Galveston, Fort Bend, and Brazoria counties; heavy emphasis on student research into local and regional people, events, and institutions.

**\*HIST 4139: TEXAS HISTORY: THEMES AND IMAGES**

Thematic approaches to Texas history; colonial and republican antecedents to the character of Texas institutions since statehood.

**\*HIST 4231: THE AMERICAN CITY**

Development of American cities from colonial times to the present, emphasizing the urban impact on American society.

**\*HIST 4232: THE AMERICAN DREAM OF SUCCESS**

The most constant element in the American dream: history of its development, staying power, and effect on American social and economic life.

**\*HIST 4233: AMERICAN DIPLOMATIC HISTORY**

Continental and intercontinental relations of North America; evolution of America's role as a world power in the 19th and 20th centuries.

**\*HIST 4234: AMERICAN TECHNOLOGICAL STYLE**

The experience of Americans adapting to the rigors of a vast continent; factors that shaped "Yankee ingenuity" and the dimensions of science and technology in contemporary America.

**\*HIST 4235: AMERICAN POLITICAL THOUGHT**

Origin and development of American political ideas and institutions from precolonial times to the present.

**\*HIST 4236: AMERICAN PSYCHOHISTORY**

Psychoanalytic theory will be employed to examine important American trends, events, and personalities from the Puritans to the present.

**\*HIST 4237: MINORITIES IN AMERICAN HISTORY**

Experiences of Blacks, Mexican-Americans, Indians, and other racial minorities in American life.

**\*HIST 4238: WOMEN IN AMERICAN HISTORY**

The psychological, social, and economic forces that contributed to the subordinate status of women in American society, and an examination of the feminist response.



**HIST 4334: REVOLUTIONARY EUROPE**

The Scientific Revolution and Enlightenment tradition; the French and Industrial Revolutions; the birth of ideologies and state-building.

**HIST 4335: GERMANY: EAST AND WEST**

A comparison of political, economic, social, and cultural developments in Central Europe since the end of World War II.

**HIST 4336: TWENTIETH-CENTURY EUROPE**

An examination of the major conflicts and developments within twentieth-century European politics, society, culture, and thought.

**HIST 4337: RUSSIA**

The principal forces and events shaping Russia. Emphasis on Imperial Russia's last and Soviet Russia's first half century.

**HIST 4338: MODERN BRITAIN**

Britain since the Industrial Revolution-the Empire, Victorian, and twentieth-century society.

**HIST 4339: MODERN GERMANY**

Domestic and international aspects of German unification and drive to world power, the Weimar Republic, National Socialism, and the "German question" in post World War II Europe.

**HIST 4433: EUROPEAN CULTURAL HISTORY: THE NINETEENTH CENTURY**

Development of European thought and culture from Romanticism through Marx and Nietzsche.

**HIST 4434: EUROPEAN CULTURAL HISTORY: THE TWENTIETH CENTURY**

The crises of liberal society and the emergence of twentieth-century thought and culture; comparisons of cultural and political life in principal European countries.

**HIST 4438: WOMEN IN EUROPEAN HISTORY**

The psychological, social, and economic forces that contributed to the subordinate status of women in European society, and an examination of feminist response.

**HIST 4531: MEXICO**

The interaction between Indian and Spanish traditions; revolution and change in the twentieth century; U.S. relations with Mexico.

**HIST 4631: CHINA**

China from the time of the Manchu, through the Opium Wars and the T'ai P'ing rebellion, to the victory of Mao over the other revolutionary movements.

**HIST 4632: JAPAN**

Late Tokugawa society, the Meiji Restoration, nationalism, World War II, and American occupation; rise from defeat and emergence as an economic and industrial world power.

**HIST 4731: UNDERGRADUATE SEMINAR**

*May be repeated for credit, with permission of program director.*

*Prerequisite: 15 hours of upper-level credit in history or approval of instructor.*

**HIST 4831: THE AEROSPACE WORLD**

Commercial and military developments since 1900, emphasizing U.S. civil aviation and astronautics. Includes technological trends with stress on political, economic, and social implications.

**HIST 4832: NATIONS AT WAR**

Origins, conduct, and consequences of war; the recurring search for avoidance mechanism; emphasis on wars of the 19th and 20th centuries.

**HIST 4833: LIFE CYCLES**

The human life cycle in western civilization; changing attitudes toward birth, infancy, childhood, adolescence, adulthood, old age, and death.

**HIST 4834: THE INDUSTRIAL REVOLUTION**

The industrial age in Europe and/or America; the impact of industrialization on politics and society.

**HIST 4836: COMPARATIVE LABOR HISTORY**

Changing work patterns and forms of protest from preindustrial to the industrial age in Europe and/or America.

**\*HIST 4837: REEL AMERICA: CULTURAL HISTORY OF AMERICAN MOVIES**

Examines American film classics that illustrate popular attitudes toward sex roles, heroes, minorities, success and subversion in order to determine the relation between screen images and cultural realities.

**HIST 4931: SELECTED TOPICS IN HISTORY**

*Identified by specific title each time course is offered.*

**HIST 4939: UNDERGRADUATE HONORS THESIS**

*Prerequisites: 45 hours of upper-level credit and approval of program director.*

**HIST 5031: HISTORICAL STUDIES**

*May be repeated for credit, with approval of academic advisor.* Designed to familiarize the student with graduate historical studies. Consideration of major interpretations and research techniques in one of the following areas: 19th-century America, 20th-century America, modern Europe, and Latin America.

**HIST 5133: STUDIES IN NINETEENTH-CENTURY AMERICA**

Examines specific problems and themes in nineteenth-century American culture such as changes in family structure, race relations, the status of women, and the psychology of popular culture.

**HIST 5135: AMERICA BETWEEN THE WARS**

An analysis of political styles during prosperity and depression, 1919-1941; particular attention will be paid to intellectual and social patterns, as well as popular culture.

**HIST 5136: RECENT AMERICA**

Aspects of economic, social, and political issues since 1941; intellectual and cultural trends, including popular culture.

**HIST 5137: STUDIES IN SOUTHERN HISTORY**

*May be repeated for credit with permission of academic advisor.*

Examination of specific problems and themes in Southern history such as race, social class, political and economic development, and regional identity.

**HIST 5231: AMERICAN FOREIGN RELATIONS**

Selected problems in U.S. foreign affairs; emphasis on international relations in the 20th century. *May be repeated for credit with permission of academic advisor.*

**HIST 5232: AMERICAN RADICAL MOVEMENTS**

Analysis and comparison of the ideology, composition, and social role of such reform movements as abolitionism, evangelicalism, labor reform, feminism, populism, progressivism, socialism, and communism.

## HUMAN RESOURCES

**HMRS 3331: FUNDAMENTALS OF MANPOWER TRAINING**

Technological impacts on the labor force, and techniques of training to accommodate the changing needs of our economic and social system.

**HMRS 3332: THE HISTORY OF HUMAN RESOURCES MANAGEMENT**

The use of human resources in productive activity over time; emphasis on changing attitudes towards labor.

**HMRS 3739: UNDERGRADUATE INTERNSHIP IN HUMAN RESOURCES**

*Prerequisites: 15 hours of upper-level credit and approval of program director.* Six hours of supervised work experience each week in an approved public or private agency.

**HMRS 39v9: PROJECTS IN HUMAN RESOURCES**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.* Individual projects and planned readings in the utilization of human resources.

**HIST 5432: STUDIES IN EUROPEAN HISTORY**

*May be repeated for credit with permission of academic advisor.*

Critical examination of major themes in the European past: ideology, social and economic life, bureaucratization, imperialism, and nationalism.

**HIST 5831: STUDIES IN PSYCHOHISTORY**

The individual and the crowd in modern history interpreted through psychological analysis. *May be repeated for credit with permission of academic advisor.*

**HIST 5832: COMPARATIVE REVOLUTIONS**

Cross-cultural and multi-national analysis of revolutionary movements, tactics, and personalities in modern times.

**HIST 5931: RESEARCH TOPICS IN HISTORY**

*Identified by specific title each time course is offered.*

**HIST 59v9: PROBLEMS IN HISTORY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.* Individual projects and planned readings in historical inquiry.

**GRADUATE SEMINARS IN HISTORY:**

*Prerequisite for taking a seminar is 3 hours of graduate credit in history or permission of instructor. Each of the following seminars may be repeated for credit with permission of the program director.*

**HIST 6731: EARLY AMERICA**

**HIST 6732: NINETEENTH-CENTURY AMERICA**

**HIST 6733: TWENTIETH-CENTURY AMERICA**

**HIST 6734: EARLY MODERN EUROPE**

**HIST 6735: MODERN EUROPE**

**HIST 6736: LATIN AMERICA**

**HIST 6737: ASIA**

**HIST 6939: MASTER'S THESIS RESEARCH**

**HMRS 4031: ECONOMICS OF HUMAN RESOURCES**

*Prerequisite: Principles of Economics or equivalent.* Education, rates of return, and investment in human resources as they relate to an efficient labor force.

**HMRS 4331: MANPOWER TRAINING PROGRAMS**

Organization, sources of funds, costs, and effectiveness of manpower training programs to meet the demands of social change.

**HMRS 4332: HUMAN RESOURCES PLANNING**

*Prerequisite: MGMT 3031.* Causes of employee obsolescence, forecasting of changing employee skill requirements, and development of programs to combat obsolescence; emphasis on an industrial setting.

**HMRS 5131: MANPOWER MANAGEMENT**

Application of management principles to efficient utilization of the labor force.

**HMRS 5132: HUMAN RESOURCES AS A FUNCTION OF CHANGE**

Effects of social and technological change upon the human resources of a region; psychological, sociological, and cultural components of human resource availability.

**HMRS 5731: SEMINAR IN UTILIZATION OF HUMAN RESOURCES**

Current problems in the area of human resource development and utilization in the public sector.

**HMRS 5732: SEMINAR IN SKILLS MODERNIZATION**

Current programs and policies at the federal, state, and local level for skills modernization and retraining; critical review of program results.

**HMRS 5931: RESEARCH TOPICS IN HUMAN RESOURCES**

*Identified by specific title each time course is offered.*

**HMRS 59v9: PROBLEMS IN HUMAN RESOURCES**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**HMRS 67v9: GRADUATE INTERNSHIP IN DEVELOPMENT AND UTILIZATION OF HUMAN RESOURCES**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: master's degree candidacy and approval of advisor and dean.* Supervised internship with a public or private agency; written and oral reports required.

**HMRS 6939: MASTER'S THESIS RESEARCH**

## HIGHER EDUCATION

### **HRED 5931: RESEARCH TOPICS IN HIGHER EDUCATION**

*Identified by specific title each time course is offered.*

### **HRED 59v9: PROBLEMS IN HIGHER EDUCATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

### **HRED 6031: FUNDAMENTALS OF STUDENT PERSONNEL ADMINISTRATION**

Development of present organization of student personnel services on college campuses.

### **HRED 6131: COLLEGE STUDENT AND COMMUNITY**

Impact of mass media, enculturation, social mobility, and population growth on the role of community and industry in education; use of community and industrial resources for college students.

### **HRED 6132: THE COMMUNITY JUNIOR COLLEGE**

Background, organizations, control, and current roles of two-year collegiate institutions in America.

### **HRED 6133: FINANCIAL PATTERNS FOR HIGHER EDUCATION**

The funding of community colleges, senior colleges and universities, and upper-level universities utilizing private, local, state, and federal resources.

### **HRED 6331: DEVELOPMENT OF HIGHER EDUCATION IN THE UNITED STATES**

Historical development of organizational patterns, governance, and coordination in educational institutions beyond the high school.

### **HRED 6332: CURRICULUM DEVELOPMENT FOR THE JUNIOR COLLEGE**

Planning curricula for the junior college; meeting needs for alternatives in education, cultural pluralism, and community development.

### **HRED 6731: SEMINAR IN HIGHER EDUCATION**

Issues in the coordination, organization, management, curriculum, and personnel practices of institutions of higher education.

### **HRED 6739: INTERNSHIP IN HIGHER EDUCATION**

*Prerequisite: approval of Dean.* Supervised observation, participation, and teaching in a junior college setting, under the guidance of a selected professor.

## LEGAL STUDIES

### **LEGL 3031: AMERICAN CONSTITUTIONAL LAW AND THEORY**

Extension of the U.S. Constitution through judicial decision; the Supreme Court's influence on American jurisprudence.

### **LEGL 3032: JURISPRUDENCE IN TEXAS**

Development of the Texas Constitution and the Texas legal system; current jurisprudential issues.

### **LEGL 3033: CRIMINAL JUSTICE IN AMERICA**

The American judicial system and its relation to law enforcement; special attention to police courts, correctional institutions, and systems of probation and parole.

**LEGL 3131: THE AMERICAN POLICE SYSTEM**

Organization and administration of law enforcement agencies at the federal, state, and local level; emphasis on jurisdictions and contemporary issues.

**LEGL 3133;3134: LAW FOR THE LEGAL PARAPROFESSIONAL**

Introduction to American law; purpose of law office personnel; role of lawyer in modern society; the law library and the role of legal research in the practice of law.

**LEGL 3331: CRIMINAL JUSTICE AND COMMUNITY RELATIONS**

Systems of criminal justice administration and their interaction with communities; emphasis on the multiethnic environments of urban centers and social change.

**LEGL 3431: GENERAL LAW**

The law, procedures, and the documents involved in domestic relations, criminal, and commercial law practices.

**LEGL 3432: LAW OFFICE PROCEDURES**

Organization, control, and operation of a law office, emphasizing the fundamentals of office management and records control.

**LEGL 3531: LEGAL RESEARCH**

The function of the law library in the development of research skills through the use of digests, encyclopedias, reporter systems, and practice manuals.

**LEGL 3532: ESTATES AND TRUST**

The more common forms of wills and trust and the fundamental principals of law applicable to each; the organization and jurisdiction of the appropriate probate court.

**LEGL 3533: CIVIL TRIAL AND APPELLATE PRACTICE**

Principles of the law of torts, including preparation and use of pleadings and other documents involved in a civil action.

**LEGL 3534: CRIMINAL PROCESS AND EVIDENCE**

A comprehensive analysis of criminal procedures and rules of evidence, emphasis on Texas statutes.

**LEGL 39v9: PROJECTS IN LEGAL STUDIES**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in legal studies.

**LEGL 4131: CRIME PREVENTION**

The role of the criminal justice system and the community in crime prevention; analysis of theories, practices, and research.

**LEGL 4132: ORGANIZED CRIME**

Analysis of the growth of organized crime in America, areas of influence strategies and tactics for control, detection, and prevention.

**LEGL 4231: DATA ANALYSIS FOR DECISION MAKING**

Introduction to data analysis with an emphasis on application in criminal justice systems.

**LEGL 4232: RESEARCH METHODS**

Introduction to research techniques and their application toward problem solving in criminal justice programs and agencies.

**LEGL 4331: LEGAL DIMENSIONS OF LAW ENFORCEMENT**

Statutory delimitations on the activities of law enforcement agencies; application of behavioral science principles and innovative educational practices.

**LEGL 4332: LEGAL RIGHTS OF THE CONVICTED**

Examination of the legal aspects of conflicts between the convicted person, correctional authorities and society; analysis of the adequacy of legal machinery to meet the needs of rehabilitation and incarceration of the convicted person.

**LEGL 4334: LAW ENFORCEMENT MANPOWER TRAINING**

Contemporary methods of professional training for police officers; application of behavioral science principles and innovative educational practices.

**LEGL 4431: AMERICAN CRIMINAL COURT SYSTEM**

Examination of the issues relating to criminal court organization, administration, and management; emphasis on state and local trial court systems.

**LEGL 4432: JUVENILE JUSTICE SYSTEM**

Analysis of the evolution and current structure of the juvenile justice system; emphasis on contemporary issues facing the juvenile court and its officers; survey of special juvenile programs.

**LEGL 4531: POLITICS AND ADMINISTRATION OF CRIMINAL JUSTICE**

The impact and influences of the political system and of political practices on operations and policies of law enforcement agencies.

**LEGL 4532 ADMINISTRATIVE LAW**

Laws regulating the powers, procedures, and actions of public administration.

**LEGL 4533: PHILOSOPHY OF LAW**

Major divergent philosophies of law; theoretical foundations of "good" and "just" societies.

**LEGL 4534: TEXAS CRIMINAL LAW**

Comprehensive analysis of the Texas Penal Code and Control Substances Act; analysis of significant state and federal court decisions affecting the substantive criminal law in Texas.

**LEGL 4731: SEMINAR ON JUDICIAL SERVICES**

Current approaches to judicial services related to law enforcement; probation, juvenile, and other court-appointed officials.

**LEGL 4732: SEMINAR ON LAW ENFORCEMENT AND SOCIETY**

Trends in the field of law enforcement with respect to contemporary social issues.

**LEGL 4931: SELECTED TOPICS IN LEGAL STUDIES**

*Identified by specific title each time course is offered.*

**LEGL 5231: SEMINAR ON CRIMINAL JUSTICE INFORMATION SYSTEMS**

Analysis of the state-of-the-art in the design and operation of criminal justice information and statistical systems; study of the basic issues affecting the utilization and implementation of these systems, e.g., privacy, technology, and politics.

**LEGL 6131: TEXAS SCHOOL LAW**

Texas Education Code and significant state and federal decisions affecting the authority, responsibilities, liabilities, and appeals related to the operation of public school systems.

## LIBRARY SCIENCE

### **LIBR 4831: SELECTED TOPICS IN LIBRARY SCIENCE**

*Identified by specific title each time course is offered.*

### **LIBR 5931: RESEARCH TOPICS IN LIBRARY SCIENCE**

*Identified by specific title each time course is offered.*

### **LIBR 59v9: PROBLEMS IN LIBRARY SCIENCE**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

### **LIBR 6131: SELECTION AND USE OF LIBRARY MATERIALS**

Fundamental criteria, tools, and sources applicable to the selection of print and non-print materials and their use in effective teaching units in elementary and secondary school libraries and learning resources centers.

### **LIBR 6132: CATALOGING AND CLASSIFICATION**

Fundamentals of cataloging print and non-print media using Anglo-American Cataloging Rules, Dewey Decimal Classification, and Sears List of Subject Headings. Comparisons made with other systems.

### **LIBR 6133: REFERENCE AND BIBLIOGRAPHY**

Study, evaluation, and application of reference sources used in elementary and secondary school libraries and learning resources centers.

### **LIBR 6231: LIBRARY INFORMATION AND RETRIEVAL SYSTEMS**

An introduction and evaluation of current library information retrieval systems and their application to learning resources centers.

### **LIBR 6232: MASS COMMUNICATION AND THE LEARNING RESOURCES CENTER**

Examination and evaluation of communication theories and their application in the educational/recreational role of the learning resources center.

### **LIBR 6739: INTERNSHIP IN LIBRARY PRACTICE**

*Prerequisite: approval of Dean.* Supervised field experiences in either an elementary or secondary school library or learning resources center.

## LINGUISTICS

### **LING 3131: THE STRUCTURE OF ENGLISH**

Fundamentals of phonology, morphology, syntax, and semantics; survey of analytical approaches and the trend from prescriptivism to descriptivism.

### **LING 3331: APPLIED LINGUISTICS: ENGLISH**

Topics in English grammar for the prospective teacher of English in secondary school: opportunity to concentrate on either traditional or structural grammar.

### **LING 3333: APPLIED LINGUISTICS: SPANISH**

Topics in Spanish grammar for the prospective teacher of Spanish in secondary school.

### **LING 39v9: READINGS IN LINGUISTICS**

*(Variable credit 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*



**LING 4131: HISTORY OF THE ENGLISH LANGUAGE**

The evolution of English as a medium of literary and colloquial expression.

**LING 4331: TEACHING ENGLISH AS A SECOND LANGUAGE**

Methods of teaching English to native speakers of Spanish.

**LING 4335: DESCRIPTIVE LINGUISTICS**

A practical study of how to transcribe and to analyze the elements of any language with theories of phonemics, grammar, and semantics.

**LING 4731: SEMINAR IN ENGLISH LINGUISTICS**

*Prerequisite: LING 3131 or equivalent.* Contemporary theories of the linguistic analysis of English: emphasis on transformational-generative models, with opportunity for individual concentration on a selected theorist.

**LING 4931: SELECTED TOPICS IN LINGUISTICS**

*Identified by specific title each time course is offered.*

**LING 5031: TECHNIQUES OF TEACHING TO DEVELOP BILINGUALISM**

Comparison of curricular materials in English and another language with respect to problems of communication and comprehension; techniques of explaining unfamiliar cultural concepts.

**LING 5032: LANGUAGE DEVELOPMENT FOR THE BILINGUAL CHILD**

A study of language acquisition theories, as well as the linguistic, psychological, and sociocultural factors which affect the development of the bilingual child.

## LITERATURE

Please note: All creative and other writing courses are listed under communications (COMM).

**LITR 3031: BASIC TEXTS IN THE WESTERN TRADITION I**

Biblical, Greek, and Roman roots of Western culture. Their synthesis and continuity to the Renaissance. Hebrew Testament, Homer, Plato, Aristotle, Virgil, New Testament, St. Augustine, and Dante.

**LITR 3033: BASIC TEXTS IN THE WESTERN TRADITION II**

Major dynamics of Western culture since the Renaissance, Reformation, and the rise of science. Works of such as: Galileo, Luther, Shakespeare, Voltaire, Darwin, Marx, Freud, and Sartre.

**LITR 3334: MYTHOLOGY**

Great myths and their reworkings in literature.

**LITR 3335: LITERATURE OF THE SOUTHWEST**

The Southwest in historical and contemporary contexts; Indian lore, the Hispanic presence, and frontier traditions.

**LITR 3337: POPULAR LITERATURE**

Selection of a popular genre such as the detective story, spy thriller, western, or adventure saga for analysis of its cultural significance and its formal conventions in plot, character, and setting. *May be repeated for credit.*

**LITR 3631: SHAKESPEARE**

Shakespeare's major plays and their production in the theatre of the English Renaissance.

**LITR 39v9: READINGS IN LITERATURE**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and readings director.* Individually planned readings in literature.

**LITR 4031: TEACHING ENGLISH IN SECONDARY SCHOOL**

Methods of integrating reading, writing, speaking, and listening; planning and structuring units, use of media and resource materials, and evaluative techniques.

**LITR 4131: LITERARY CRITICISM**

Theories about the nature of verbal art and the relationship between literature and reality.

**LITR 4132: MODERN AMERICAN AND ENGLISH POETRY**

Myth and epic, the personal poem, expressionism, neoromanticism; such poets as Yeats, Auden, Stevens, and Frost.

**LITR 4133: MODERN DRAMA**

Realists from Ibsen to Brecht, the Expressionists, Absurdist, and historical dramatists; new stage conceptions and philosophical currents.

**LITR 4134: THE MODERN AMERICAN AND ENGLISH NOVEL**

Major works of novelists such as Conrad, Joyce, Dreiser, and Faulkner.

**LITR 4136: AUTOBIOGRAPHY**

Advantages and pitfalls of the introspective mode. Autobiography as illumination of personality, place, and time. Examples from St. Augustine to the present.

**LITR 4137: REALMS OF FANTASY**

Fantasy as both childhood and adult activity: its uses in developing personality and exploring reality.

**LITR 4139: LITERATURE AND FILM**

*May be repeated for credit.*

Generic and thematic approach to the study of books and movies in areas such as the Western, science fiction, the love story, and the spy story.

**LITR 4231: THE BIRTH OF AMERICAN LITERATURE**

Puritan pioneers, Southern adventurers, Franklin, the Revolutionaries, and early prose romancers.

**LITR 4232: THE AMERICAN RENAISSANCE**

The Transcendentalists, historical fiction, tragic critiques of America, and poetry; writers such as Emerson, Thoreau, Cooper, Hawthorne, Melville, Poe, and Whitman.

**LITR 4233: AMERICAN LITERATURE: CIVIL WAR TO WORLD WAR I**

The beginnings of modern America: Twain, Howells, and Crane; Naturalists and Muckrakers; the psychological realism of Henry James.

**LITR 4234: AMERICAN LITERATURE: WORLD WAR I TO WORLD WAR II**

Early twenties, the Gatsby age, the Great Depression, and the shift to social realism; Pound, Eliot, Hemingway, Fitzgerald, Faulkner, Dos Passos, and Steinbeck.

**LITR 4235: CONTEMPORARY AMERICAN LITERATURE**

Post-World War II figures and trends; the literary diagnosis of the present and prognosis for the future; such writers as Mailer, Salinger, Updike, and Bellow.

**LITR 4236: THE ROMANTIC MOVEMENT IN ENGLISH LITERATURE**

The major romantic poets and novelists; Blake, Byron, Bronte, Scott, and others.

**LITR 4237: VICTORIAN LITERATURE**

Major Victorian essayists and poets; literary responses to industrialization, empire, and class struggle.

**LITR 4238: RISE AND DEVELOPMENT OF THE ENGLISH NOVEL**

Representative novelists from three centuries: Defoe to Dickens to D. H. Lawrence.

**LITR 4331: MEXICAN-AMERICAN AND CHICANO LITERATURE**

The Mexican-American and Chicano experience as reflected in contemporary American writing.

**LITR 4332: CONTEMPORARY MINORITY WRITERS**

The experience of American minorities as expressed in literature; exploration of thematic connections with the other art forms.

**LITR 4431: NINETEENTH-CENTURY RUSSIAN NOVEL**

Russian novelists of the 19th Century; emphasis on the major works of Tolstoy and Dostoyevsky. Readings in original or translation, depending on language proficiency.

**LITR 4432: RUSSIAN LITERATURE OF THE SOVIET PERIOD**

Literature caught between conflicting demands of ideology and art; 1920's to the present. Readings in original or translation, depending on language proficiency.

**LITR 4435: MEDIEVAL LITERATURE**

Romance, lyric, fabliau, epic, play, and story. Selections from such medieval masters as Dante, the *Gwain*, *Tristan*, and *Beowulf* poets, Boccaccio, and Chretien de Troyes. Texts will be read in translation.

**LITR 4437: CLASSICAL GREEK LITERATURE**

Selections from Homer, Plato, and the Greek playwrights, emphasizing portrayal of timeless human problems.

**LITR 4438: CONTEMPORARY LATIN-AMERICAN FICTION**

Selected works by Borges, Garcia Marquez, Carpentier, Vargas Llose, Cortazar, and others. Readings in original or translation, depending on language proficiency.

**LITR 4533: TRAGEDY**

The dimensions of tragic experience as expressed in Western literature.

**LITR 4534: COMEDY: LAUGHTER, FOLLY, AND LOVE**

The comic view of man's predicament as seen in such writers as Aristophanes, Moliere, Wilde, and others.

**LITR 4535: THE LITERATURE OF ADOLESCENCE**

Growing up: variance and continuity in depictions of adolescence by American and other writers.

**LITR 4536: IMAGES OF THE FUTURE IN SCIENCE FICTION**

Science fiction as literature, social criticism, and prediction.

**LITR 4537: WOMEN IN LITERATURE**

Heroines from Eve to Molly Bloom: literature constructs the female: emphasis on 19th and 20th-century works.

**LITR 4631: CHAUCER**

The art of England's greatest narrative poet. *Canterbury Tales* and *Troilus and Creseyde*.

**LITR 4633: RENAISSANCE AND SEVENTEENTH-CENTURY LITERATURE**

Poetry, prose, and drama from England's richest literary era; More, Sidney, Raleigh, Marlowe, Jonson, and Donne.

**LITR 4634: RESTORATION AND EIGHTEENTH-CENTURY ENGLISH LITERATURE**

Selected prose, poetry, and drama by such authors as Congreve, Pope, Defoe, Swift, Fielding, Boswell, and Dr. Johnson.

**LITR 4731: SEMINAR IN ENGLISH POETRY**

Intensive study of selected major poets. *May be repeated for credit.*

**LITR 4732: SEMINAR ON THE ART OF FILM**

Dramatic, narrative, and visual aesthetics of cinematic art; critical viewing of selected film classics.

**LITR 4931: SELECTED TOPICS IN LITERATURE**

*Identified by specific title each time course is offered.*

**LITR 4939: UNDERGRADUATE HONORS THESIS**

*Prerequisites: 30 hours of upper-level credit and approval of program director.*

**LITR 5131: RELIGIOUS EXPRESSION IN LITERATURE**

Literature as it engages religious questions of value, human identity, and personal destiny; its response to spiritual crisis in particular times and cultures.

**LITR 5133: LOVE IN WESTERN LITERATURE**

Love and its potential meanings as explored in Western literature.

**LITR 5134: UTOPIA: DESIGNERS AND DETRACTORS**

Major utopian and dystopian writings from Plato and More to Orwell and Skinner.

**LITR 5136: THE EXISTENTIALIST TRADITION**

Plays, novels, and philosophical works by such writers as Nietzsche, Sartre, Camus, Marcel, and Buber.

**LITR 5137: LITERATURE AND PSYCHOLOGY**

Application of psychological concepts to the understanding of literature.

**LITR 5233: WOMEN IN LITERATURE**

Woman-magnified and belittled, idealized and condescended to. The depiction of heroines in 19th and 20th-century literature.

**LITR 5332: LITERATURE OF THE SOUTH**

Representative figures and works of the Southern literary tradition.

**LITR 5334: CONTEMPORARY JEWISH LITERATURE**

Diaspora, Holocaust, Israel; separate identity and cultural assimilation; Jewish life and consciousness explored by writers such as Bellow, Babel, Malamud, and Singer.

**LITR 5335: THE MODERN CONTINENTAL NOVEL**

Works by representative authors such as Mann, Proust, Kafka, Celine, Musil, and Moravia.

**LITR 5336: MODERN ENGLISH NOVEL**

Study of selected major novelists: Conrad, Lawrence, Woolf, Joyce, and others.

**LITR 5337: MODERN POETRY**

American, English, and European (in translation) attempts at new language, form, and meaning; such poets as Rimband, Yeats, Pound, Eliot, Rilke, Lowell, and Plath.

**LITR 5338: THE EPIC**

Selected classical, European, and English epics from Homer's *Odyssey* to James Joyce's *Ulysses*.

**LITR 5431: STUDIES IN EUROPEAN LITERATURE**

Examination of significant literary figures, issues, and trends. Approaches and topics to vary. *May be repeated for credit.*

**LITR 5535: AMERICAN ROMANTICISM**

The American Romantic tradition from the 19th century through the recent past. Course will usually deal with three representative figures such as Emerson, Melville, and Stevens.

**LITR 5536: AMERICAN REALISM**

The American Realistic tradition from the 19th century through the recent past. Course will usually deal with three representative figures such as Whitman, Twain, and Faulkner.

**LITR 5537: AMERICAN POETRY**

Development of American themes and techniques from the Puritans through contemporary poets.

**LITR 5538: CONTEMPORARY AMERICAN LITERATURE**

The American literary scene since World War II. Representative authors and works.

**LITR 5632: CHAUCER AND THE MIDDLE AGES**

The elegant and introspective culture and literature of the late Middle Ages in England.

**LITR 5633: SPENSER AND MILTON**

The English epic at its height: The Faerie Queene and Paradise Lost.

**LITR 5634: THE ENGLISH RENAISSANCE**

Poetry, prose, and drama from England's richest literary era: More, Sidney, Raleigh, Marlowe, Jonson, and Donne.

**LITR 5635: RESTORATION AND EIGHTEENTH CENTURY ENGLISH LITERATURE**

Selected prose, poetry, and drama by such authors as Congreve, Pope, Swift, Boswell, and Dr. Johnson.

**LITR 5636: ROMANTIC LITERATURE**

Selected major figures and works in English and European Romanticism.

**LITR 5637: VICTORIAN LITERATURE**

Selected major poets, playwrights, novelists, and essayists from Carlyle to Shaw.

**LITR 5731: SEMINAR ON CONTEMPORARY MINORITY WRITERS**

Examination of works by contemporary American writers from ethnic minority groups.

**LITR 5732: SEMINAR ON SHAKESPEARE**

Selected plays by England's greatest poet and dramatist, studied both as literature and as theatre.

**LITR 5733 SEMINAR IN AMERICAN CULTURE**

Exploration of a selected period, trend, or event that has left a permanent imprint (cultural, social, intellectual) on American society. *May be repeated for credit.*

**LITR 5735: SEMINAR IN FILM AND FILMMAKERS**

Study of a selected aspect of film art; director's *opus* film aesthetics, genres; such as the western, or traditions, such as Italian neo-realism.

**LITR 5931: RESEARCH TOPICS IN LITERATURE**

*Identified by specific title each time course is offered.*

**LITR 59v9: PROBLEMS IN LITERATURE**

*(Variable credit, 1-6 semester hours)*

**LITR 6939: MASTER'S THESIS RESEARCH**

## MANAGEMENT

**MGMT 3031: MANAGEMENT THEORY AND PRACTICE**

Management policies and processes, including planning, organizing, and controlling; overview of production and functions of organization theory and behavior.

**MGMT 3033: INFORMATION SYSTEMS FOR MANAGEMENT**

Fundamentals of information systems to assist management in the operation and control of complex organizations.

**MGMT 3131: QUANTITATIVE METHODS FOR MANAGEMENT**

*Prerequisite: STAT 3231 or equivalent.* Introduction to quantitative techniques for management; probability, inventory and production models, linear programming, queuing, replacement models, Markov analysis, and network models.

**MGMT 3231; 3232: LEGAL DIMENSIONS OF BUSINESS**

Legal principles in management; contracts, agencies, bonding, negotiable instruments, sales, mortgage liens, insurance, real estate, bankruptcy, partnership, and corporations.

**MGMT 3331: PERSONNEL ADMINISTRATION**

Problems and practices in personnel management; selection, placement, evaluation, promotion, and termination.

**MGMT 3332: PRODUCTION SYSTEMS**

*Prerequisite: MGMT 3031 or equivalent.* Managerial procedures in the production process; planning, control, standards, and reports.

**MGMT 3531: WAGE AND SALARY ADMINISTRATION**

*Prerequisite: MGMT 3031 or equivalent.* Job performance evaluation and development of compensation plans and programs.

**MGMT 3731: SEMINAR IN ENTREPRENEURSHIP**

*Prerequisite: approval of program director.* Models of personal dynamics in the development and expansion of commercial enterprise.

**MGMT 3739: UNDERGRADUATE INTERNSHIP IN MANAGEMENT**

*Prerequisites: 15 hours of upper-level credit and approval of program director.* Six hours of supervised work experience each week in an approved business or industrial firm.

**MGMT 39v9: PROJECTS IN MANAGEMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in management.

**MGMT 4131: INDUSTRIAL ORGANIZATION**

Industrial organization, behavior, and performance of firms in the American economic system; roots of economics utilized to analyze performance of firms in their competitive setting and the impact of government regulations.

**MGMT 4132: BUSINESS POLICY**

*Prerequisite: 30 hours of upper-level credit.* The formulation of successful business policies and the maintenance of efficient business organization; application of management tools in the executive decision-making process.

**MGMT 4133: MANAGEMENT OF SMALL BUSINESS**

*Prerequisite: MGMT 3031 or equivalent.* Organization and operation of small business enterprises; sources of capital, management assistance, and personnel.

**MGMT 4134: COMPUTER CENTER MANAGEMENT**

Job flow, priority systems, second order effects of *pricing* policies, open and closed shops, effects of scale, cost vs. load, use of PERT in scheduling.

**MGMT 4135: CREDIT MANAGEMENT**

Application of marketing and management principles to the analysis and operation of retail and commercial credit agencies, organizations, and departments.

**MGMT 4231: WOMEN IN MANAGEMENT**

The changing role of women in the workplace, and the opportunities and problems associated with this transition. Special emphasis on managerial skills for women.

**MGMT 4332: ORGANIZATION THEORY**

*Prerequisite: MGMT 3031 or equivalent.* Formal and informal organizational structure; variables affecting the administration of complex organizations.

**MGMT 4333: COLLECTIVE BARGAINING IN THE PUBLIC SECTOR**

Comparisons and contrasts of collective bargaining in the public and private sectors; the impact of unionization on public administration.

**MGMT 4531: INDUSTRIAL LABOR RELATIONS**

Collective bargaining processes in American industry; impact of labor-management relations on wage and employment levels and on national income.

**MGMT 4532: PLANNING FOR INDUSTRIAL CHANGE**

*Prerequisite: MGMT 3031 or equivalent.* Dynamics, values, and goals of planned industrial change; implications for market forecasting and training programs.

**MGMT 4533: INTERNATIONAL BUSINESS MANAGEMENT**

*Prerequisite: MGMT 3031 or equivalent.* Managerial considerations in international business operations; government involvement, organizational structure, operating policies, and market peculiarities.

**MGMT 4534: ORGANIZATIONAL BEHAVIOR**

*Prerequisite: MGMT 3031 or equivalent.* Dynamics of organizational behavior in business, interpreted from a behavioral science perspective.

**MGMT 4535: FUNDAMENTALS OF MANAGEMENT ENGINEERING**

Techniques of management engineering in public and private institutions; work measurement, system and procedures analysis, facilities planning, and productivity improvement procedures.

**MGMT 4536: ORGANIZATIONAL DEVELOPMENT**

Evaluation of change processes and development in organizations; behavioral methodology and the role of the change agent.

**MGMT 4731: SEMINAR ON THE SOCIAL RESPONSIBILITY OF BUSINESS**

The changing role of business enterprise in society; influences of government regulatory agencies on social consciousness in the business world.

**MGMT 4732: SEMINAR IN INTERNATIONAL BUSINESS**

*Prerequisite: 30 hours of upper-level credit.* Aspects of conducting business with firms of other nations; bases for decision-making about international transactions.

**MGMT 4931: SELECTED TOPICS IN MANAGEMENT**

*Identified by specific title each time course is offered.*

**MGMT 5031: MANAGERIAL PROCESSES**

Basic management theory and its application to organization, staffing, planning, and control.

**MGMT 5032: MANAGEMENT INFORMATION SYSTEMS**

Principles and procedures used in the development of information systems to facilitate the management functions of planning, integrating, measuring, and controlling.

**MGMT 5034: MANAGERIAL THEORY APPLIED TO EDUCATION**

Adaptions of the fundamentals of management to program development, personnel, and fiscal resources.

**MGMT 5035: THE LAW, BUSINESS, AND SOCIETY**

*For graduate students without a background in Business Law.* Legal principles underlying the American judicial system; legal forms of business, contractual rights, and government regulations.

**MGMT 5131: BUSINESS AND SOCIETY**

Role of the firm in society; business responsibilities to society from ethical, political, economic, and societal points of view.

**MGMT 5132: ORGANIZATION THEORY AND ANALYSIS**

*Prerequisite: MGMT 5031 or equivalent.* Behavioral problems associated with innovation, resistance to change, and the development of complex organizations and administrative processes.



**MGMT 5133: ADVANCED INDUSTRIAL ORGANIZATION**

*Prerequisite:* ECON 3331 or ECON 5334 or an equivalent. Application of intermediate microeconomic theory to analysis of the structure, conduct, and performance of firms in various market structures.

**MGMT 5134: BUSINESS RESEARCH AND REPORTS**

Methods of obtaining, evaluating, and reporting business research procedures.

**MGMT 5331: PERSONNEL MANAGEMENT**

*Prerequisite:* MGMT 5031 or equivalent. The employment, understanding, and management of people, aspects of employee morale and productivity.

**MGMT 5332: LABOR RELATIONS**

Relationships between unions and management and the structure of industrial bargaining; legal dimensions of employee relations, strikes, and settlements.

**MGMT 5431;5432: QUANTITATIVE TECHNIQUES FOR MANAGERS**

*Prerequisites:* MGMT 5031 and STAT 5031 or equivalent. Mathematical-statistical techniques in management; replacement models, Markov chain, inventory and production models, simulation, queuing, linear programming, transportation, network analysis (PERT, CPM).

**MGMT 5531: FORECASTING CHANGE**

*Prerequisite:* Introductory Statistics or equivalent. Application of techniques for the analysis and forecasting of industrial change; emphasis on short-term prediction problems.

**MGMT 5532 LONG-RANGE FORECASTING AND PLANNING**

*Prerequisite:* introductory Statistics or equivalent. Long-range forecasting of population, productivity and employment, economic sectors, and industries and products; corporate long-term planning based on forecasts.

**MGMT 5731: SEMINAR IN INDUSTRIAL LEADERSHIP**

Fundamentals of group theory as applied in training individuals to assume leadership roles in business and industry.

**MGMT 5732: SEMINAR IN TECHNOLOGICAL AND INDUSTRIAL CHANGE**

Technological impacts on industry; scientific and financial aspects of research and development.

**MGMT 5931: RESEARCH TOPICS IN MANAGEMENT**

*Identified by specific title each time course is offered.*

**MGMT 59v9: PROBLEMS IN MANAGEMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* approval of advisor and problem director.

**MGMT 6131: JOB EVALUATION AND COMPENSATION**

*Prerequisite:* MGMT 5031 or equivalent. Financial dimensions of work force management; wage and salary administration, wage incentives, compensation for different types of employees, and the role of fringe benefits.

**MGMT 6132: PRODUCTION MANAGEMENT**

Design, operation, and control of industrial enterprises; plant location, scheduling, quality control, layouts, facilities planning, material processing, and inventory control.

**MGMT 6133: PRINCIPLES OF EDUCATION EXECUTIVE DEVELOPMENT**

Analysis of the responsibilities and challenges of each level of educational administration; attitudes, academic performance, and psychological qualities in relation to management potential.

**MGMT 6331: DIRECTED INDUSTRIAL CHANGE**

Measures for guiding change in the industrial setting; impacts on the labor force and the physical production process.

**MGMT 6332: INTERNATIONAL BUSINESS MANAGEMENT**

Cultural, political, economic, and financial dimensions of managing international business.

**MGMT 6731: BUSINESS POLICY SEMINAR**

*Prerequisite: approval of program director.* Contemporary approaches to the formulation and execution of business policy.

**MGMT 67v9: GRADUATE INTERNSHIP IN MANAGEMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: master's degree candidacy and approval of advisor and dean.* Supervised internship with an approved firm or with an industrial or governmental agency; written and oral reports required.

**MGMT 6939: MASTER'S THESIS RESEARCH****MARKETING****MKTG 3031: MARKETING FUNDAMENTALS, POLICIES, AND PRACTICES**

*Prerequisite: Principles of Economics or equivalent.* Marketing as a function of business and as a part of the social process; market forces, determination of prices, distribution, and promotion.

**MKTG 3131: CONSUMER BEHAVIOR**

*Prerequisite: MKTG 3031 or equivalent.* Analysis of consumer behavior and theories of consumer choice; techniques and problems in predicting consumer behavior.

**MKTG 3133: RETAIL MANAGEMENT**

*Prerequisite: MKTG 3031 or equivalent.* The organization, operation, and management of retail establishments; inventory methods; retail buying and selling.

**MKTG 3133: MARKETING CHANNELS: STRUCTURE AND STRATEGY**

*Prerequisite: MKTG 3031 or equivalent.* Development of marketing channels and appropriate planning strategies.

**MKTG 3331: PROMOTIONAL STRATEGIES AND POLICIES**

*Prerequisites: MKTG 3031 or equivalent.* Interaction of marketing strategies within business firms; impact of marketing decisions on the total organization, and methods of achieving maximum return from marketing efforts.

**MKTG 3531: MARKETING RESEARCH**

*Prerequisites: MKTG 3031 and Business Statistics.* Applications of statistical methods to solution of marketing problems; emphasis on survey methodology, with opportunities for individual and group projects.

**MKTG 3739: UNDERGRADUATE INTERNSHIP IN MARKETING**

*Prerequisites: 15 hours of upper-level credit and approval of program director.* Six hours of supervised work experience each week in an approved marketing unit.

**MKTG 39v9: PROJECTS IN MARKETING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of program director.* Individual projects and planned readings in marketing or marketing management.

**MKTG 4131: SALES MANAGEMENT**

*Prerequisite: MKTG 3031 or equivalent.* Basic principles and current practices of sales and promotional management; personal selling and sales planning.

**MKTG 4332: MARKETING FOR SERVICE INSTITUTIONS**

*Prerequisite: approval of program director.* Marketing functions in institutional administration: pricing, policies, purchasing, public relations, insurance considerations, and consumer behavior.

**MKTG 4333: PRICING DECISIONS IN MARKETING POLICY**

*Prerequisite: MKTG 3031 or equivalent.* Determination of price structure under various marketing conditions; pricing as a function of promotion strategies and organizational structure.

**MKTG 4334: PURCHASING AND INDUSTRIAL MARKETING**

*Prerequisite: MKTG 3031 or equivalent.* Analysis of purchasing functions in business and industry; problems of efficiency and strategy in procurement.

**MKTG 4531: INTERNATIONAL MARKETING MANAGEMENT**

*Prerequisite: MKTG 3031 or equivalent.* Adaptation of marketing tools used in individual domestic business firms to an international setting; international marketing opportunities and principles.

**MKTG 4631: MARKETING MANAGEMENT POLICY**

*Replaces MKTG 4331.*

*Prerequisites: MKTG 3531 or equivalent and senior-level standing.* An integrative, capstone course using marketing and behavioral concepts for solution of comprehensive marketing problems: marketing and management as a source of analysis, planning and control.

**MKTG 4731: SEMINAR IN MARKETING**

*Prerequisite: 30 hours of upper-level credit.* Analysis of the literature in the marketing discipline as related to the past, present, and future.

**MKTG 4931: SELECTED TOPICS IN MARKETING**

*Identified by specific title each time course is offered.*

**MKTG 5031: FOUNDATIONS OF MARKETING MANAGEMENT**

The role of marketing in the business process; price determination, distribution of goods, promotion, and organization policies.

**MKTG 5131: QUANTITATIVE METHODS IN MARKETING**

*Prerequisite: MKTG 5031 or equivalent.* Analysis of marketing methods; designs, data collecting, and techniques for solving marketing problems.

**MKTG 5331: MANAGING AND TRAINING FOR RETAIL SALES**

Retailing from a managerial view; layout, budgeting, consumer behavior, merchandising, advertising, firm services, accounting controls, and personnel administration and training.

**MKTG 5332: BASES FOR MARKETING DECISIONS**

*Prerequisite: MKTG 5031 or equivalent.* The decision-making processes of the marketing executive; pricing, distribution, competition, product strategy, and market research problems.

**MKTG 5531: INDUSTRIAL MARKETING**

Industrial purchasing and selling; buying process, development of new markets, efficient procurement, and distribution of materials.

**MKTG 5532: MULTINATIONAL MARKETING MANAGEMENT**

*Prerequisite: MKTG 5031 or equivalent.* Topics in multinational marketing: market development, foreign trade, and problems of institutions engaged in international trade.

**MKTG 5731: SEMINAR ON MARKETING STRATEGY**

*Prerequisite: MKTG 5031 or equivalent.* An integrated study of marketing methods and techniques designed to evaluate the effectiveness of long-run marketing policies and systems which facilitate sales and contribute to profit performance.

**MKTG 5732: SEMINAR ON CONSUMER/MARKETING RESEARCH**

*Prerequisite: MKTG 5031 or equivalent.* Case study approach to evaluating marketing strategies based on behavioral science principles; recent trends in consumer research and their influences on marketing management.

**MKTG 5931: RESEARCH TOPICS IN MARKETING**

*Identified by specific title each time course is offered.*

**MKTG 59v9: PROBLEMS IN MARKETING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**MKTG 67v9: GRADUATE INTERNSHIP IN MARKETING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: master's degree candidacy and approval of advisor and dean.* Supervised marketing internship with approved firm or industry; written and oral reports required.

## MATHEMATICS

**MATH 3033: STRUCTURE OF ARITHMETIC FOR ELEMENTARY TEACHERS**

A set-theory approach to development of the real number system; fundamental operations and concepts of arithmetic, systems of numeration. *Field experience required.*

**MATH 3034: FUNDAMENTAL ALGEBRA FOR SECONDARY TEACHERS**

*Prerequisite: MATH 3131 or equivalent.* Linear transformations and matrices, simultaneous equations, polynomials, and elementary topics in number theory and in theory of equations. *Field experiences required.*

**MATH 3035: GEOMETRY FOR SECONDARY TEACHERS**

*Prerequisite: MATH 3131 or equivalent.* Formal set theory, logical structure, and coordinate geometries; plane and solid figures. *Field experiences required.*

**MATH 3037: APPLICATIONS OF MATHEMATICS FOR ELEMENTARY TEACHERS**

Functions, graphing, operations, and relations; informal geometry, topology, and measurement. *Field experiences required.*

**MATH 3038: DATA TECHNIQUES IN THE SCIENCES**

*Not available for credit to students with more than three hours of calculus.* Applications of algebraic, trigonometric, and geometric equations; series; vectors; integrals, and derivatives to problems in science and technology.

**MATH 3131: APPLIED LINEAR ALGEBRA**

*Prerequisite: College Algebra.* Vector spaces, linear transformations, determinants, matrices, eigenvalues, and eigenvectors; emphasis on applications in technology and in simulation models.

**MATH 3132: LINEAR PROGRAMMING**

Mathematical structure of linear programming, applications from linear algebra, simplex, and other methods.

**MATH 3133: MODERN ALGEBRA**

Sets, relations, maps, groups, and homomorphisms; rings, integral domains, and fields.

**MATH 3231: FUNCTIONS OF MORE THAN ONE VARIABLE**

*Prerequisites: Introductory Calculus.* Infinite series, indeterminate forms, multiple integrals, partial differentiation, functions of multiple variables, and related topics.

**MATH 3332: APPLICATIONS OF CALCULUS TO ELECTRONIC, OPTICAL, AND MECHANICAL SYSTEMS**

*Prerequisites: 3 hours of calculus and 18 hours of science and technology. Not available for credit to students with more than six hours of calculus.* Transcendental functions, time, and frequency domain expressions and network transform solutions.

**MATH 3333: APPLICATIONS OF LINEAR SYSTEMS ANALYSIS FOR ELECTRONIC, OPTICAL, AND MECHANICAL SYSTEMS**

*Prerequisites: MATH 3332 or equivalent and 18 hours of science and technology.* Techniques for analogous systems. Fourier and Laplace transforms. Matrix operations.

**MATH 39v9: PROJECTS IN MATHEMATICS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in mathematics.

**MATH 4031: HISTORY OF THE MATHEMATICAL SCIENCES**

Temporal relationships of concepts by means of biographic studies; development of mathematical theory and applications, from ancient to contemporary times.

**MATH 4032: PROBLEM SOLVING FOR GRADES 2 - 9**

A variety of techniques applicable for instructional use in the upper elementary and early secondary grades.

**MATH 4131: ORDINARY DIFFERENTIAL EQUATIONS AND APPLICATIONS**

*Prerequisite: calculus.* Solutions of ordinary differential equations; geometric and physical applications.

**MATH 4132: THEORY OF NUMBERS**

Prime numbers, congruences, reciprocity, algebraic numbers, and applications.

**MATH 4133: TOPOLOGY**

*Prerequisite: calculus.* Topological techniques in analysis; metric spaces, continuous transformations, connectivity, separation, compactness; nets and filters, cardinal arithmetic.

**MATH 4134: ADVANCED TOPICS IN LINEAR SYSTEMS ANALYSIS FOR ELECTRICAL, OPTICAL, AND MECHANICAL SYSTEMS**

*Prerequisites: MATH 3333 and CTEC 3132 and PROC 3131 or PROC 3132.* Z transforms and state space methods applied to discrete time systems.

**MATH 4231: PREDICATE LOGIC**

An introduction to predicate logic; elements of formal logic systems; set theory and propositional calculus, completeness theorems, and the nature or proof.

**MATH 4234: INTRODUCTION TO NUMERICAL ANALYSIS**

*Prerequisites: MATH 3131 and MATH 4131 or equivalents and compiler language proficiency.* Numerical solution of linear and non-linear equations, interpolation and approximation, numerical differentiation and integration, and eigenvalue problems.

**MATH 4235: THEORY OF MODELS**

*Prerequisite: permission of instructor.* Mathematical modeling of complex systems for digital simulation; methodology, aggregation, causality and randomness, and simulation methodology.

**MATH 4332: APPLICATIONS OF PROBABILITY THEORY**

*Prerequisite: STAT 4432 or equivalent.* Uses of random walks, Markov chain processes, and the central limit theorem; diffusion, branching processes, and special properties of discrete and continuous variables.

**MATH 4431;4432: INTRODUCTION TO ANALYSIS**

*Prerequisites: MATH 3131 and MATH 3231 or equivalents.* Real numbers, sequences and series, differentiation, and measure theory; Riemann, Stieltjes, and Lebesgue integrals.

**MATH 4631;4632: APPLIED MATHEMATICAL METHODS**

*Prerequisite or corequisite: MATH 4131 or equivalent.* Laplace or Fourier transforms, Fourier series, boundary value problems; applications of Hermite and Legendre polynomials; Bessel, elliptic, and other special functions.

**MATH 4931: SELECTED TOPICS IN MATHEMATICS**

*Identified by specific title each time course is offered.*

**MATH 5031: APPLICATIONS OF MODERN ALGEBRA**

Matrices, vectors, groups, linear mappings and related topics; emphasis on applications for mathematics teachers.

**MATH 5032: ERRORS IN ARITHMETIC ALGORITHMS**

A seminar studying the distribution and structural causes of errors in calculation together with applicable techniques for remediation.

**MATH 5033: ALGEBRA FOR SECONDARY MATHEMATICS TEACHERS**

A seminar on the content of secondary school courses in algebra and applicable instructional techniques.

**MATH 5034: GEOMETRY FOR SECONDARY MATHEMATICS TEACHERS**

A seminar on various current and potential approaches to the content of geometry and applicable instructional techniques.

**MATH 5036: CALCULUS FOR MATHEMATICS TEACHERS OF GRADES 10-14**

A seminar on various approaches to the teaching of introductory calculus.

**MATH 5131: ADVANCED ALGEBRA**

Inner product spaces, bilinear and quadratic forms, polynomial rings, finite dimensional spectral analysis and canonical forms.

**MATH 5132: REAL ANALYSIS**

General measure and integration theory, Banach and Hilbert spaces; applications to approximation theory, probability theory, and summability.

**MATH 5133: COMPLEX ANALYSIS**

Analytic functions and analytic continuation, Riemann surfaces, applications of conformal mappings to boundary value problems.

**MATH 5331: PROBABILITY AND STATISTICS WITH APPLICATIONS**

Random walk and other stochastic processes, testing of hypotheses, estimation, and decision theory.

**MATH 5333: NUMERICAL ANALYSIS**

Numerical linear algebra, ordinary and partial differential equations, integral equations, and boundary value problems; computer applications.

**MATH 5431: MATHEMATICAL MODELING IN THE APPLIED SCIENCES**

Techniques for analysing and simulating physical, chemical and biological processes.

**MATH 5931: RESEARCH TOPICS IN MATHEMATICS**

*Identified by specific title each time course is offered.*

**MATH 59v9: PROBLEMS IN MATHEMATICS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**MATH 6131: INTRODUCTION TO ALGEBRAIC TOPOLOGY AND GEOMETRY**

*Prerequisite: MATH 4133 or equivalent.* An introduction to topics in algebraic topology and manifold theory and their applications.

**MATH 6231: STRUCTURAL STABILITY OF DYNAMICAL SYSTEMS**

An introduction to the use of geometric and topological techniques for studying the structural stability of solutions of systems of differential equations.

**MATH 6939: MASTER'S THESIS RESEARCH**

## MUSIC

### **MUSC 3131: THE ART OF LISTENING**

Training the ear to recognize and distinguish the elements of music and how major composers use them.

### **MUSC 3133: MUSIC IN HOUSTON**

A systematic study of music illustrated principally through attendance at Houston Area musical performances during a given semester.

### **MUSC 3231: THE ART OF MUSIC**

A historical approach to the development of music in the world's principal cultures.

### **MUSC 3233: MUSIC IN AMERICA**

A history of American music with emphasis on popular genres.

### **MUSC 3321: GUITAR METHODS I**

*Music theory or sight reading recommended but not essential.* Learning to tune and to play simple melodies and chords using practical strums and basic fingering techniques.

### **MUSC 3323: GUITAR METHODS II**

*Prerequisites: knowledge of basic music theory and open string notes and chords; or MUSC 3321.* Learning to play simple solos and using the guitar for vocal accompaniment with a variety of advanced strums and picking patterns.

### **MUSC 39v9: PROJECTS IN MUSIC**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.* Individual projects and planned readings in music.

### **MUSC 4031: MUSIC IN THE PUBLIC SCHOOLS**

Survey of instructional techniques; songs, records, and other music materials for use in the schools; instrumental skills for the classroom.

### **MUSC 4231: VOCAL MUSIC**

History of music for the voice from Gregorian Chant to the present.

### **MUSC 4232: INSTRUMENTAL MUSIC**

An historical survey of music from the earliest notation for instruments to the present.

### **MUSC 4235: OPERA**

The history of opera from its origins to the present.

### **MUSC 4321: CLASSICAL GUITAR**

*Prerequisites: basic sight reading and music and knowledge of guitar fingerboard or MUSC 3321 and MUSC 3323.* Achieving a minimum standard of performance by playing selected studies and works from the traditional classical composers.

### **MUSC 4237: MUSICAL INSTRUMENTS**

History and development of musical instruments studied through primitive prototypes, historical description, iconography, and instrumental collections.

### **MUSC 4531: MUSIC IN HISTORICAL PERSPECTIVE**

Theoretical concepts in the history of Western music, including contemporary trends.



**MUSC 4535: MUSIC NOTATION**

An historical survey dealing with problems of notation and their solutions from medieval to present-day music.

**MUSC 4537: ANALYSIS**

Training in analytical skills with specific application to the interpretation of music.

**MUSC 4641: MUSICAL COMPOSITION**

Music history studied through recurring musical devices. Aural perception is stressed; composing is optional.

**MUSC 4931: SELECTED TOPICS IN MUSIC**

*Identified by specific title each time course is offered.*

**MUSC 5931: RESEARCH TOPICS IN MUSIC**

*Identified by specific title each time course is offered.*

**MUSC 59v9: PROBLEMS IN MUSIC**

*(Variable credit, 1-6 semester hours)*

## NUTRITION SCIENCE

**NUTR 39v9: PROJECTS IN NUTRITION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and laboratory investigations in nutritional science.

**NUTR 4931: SELECTED TOPICS IN NUTRITION**

*Identified by specific title each time course if offered.*

**NUTR 5131: NUTRITIONAL PATHOLOGY**

*Prerequisites: BIOL 3632 and CHEM 4331 or equivalents.* Nutritional pathology arising from dietary factors; relationship between the aging process and diet.

**NUTR 5133: COMPOSITION AND ANALYSIS OF FOODS**

Chemical and physical properties of foods and food components; methods of compositional analysis; effects of processing.

**NUTR 5135: PROCESSING OF FOODS**

Liquid, concentrated, frozen, fermented, and lipid foods; processing, storage, and handling; properties and nutritional characteristics.

**NUTR 5137: FOOD CONTAMINANTS AND SANITATION**

Chemical and biological food contaminants; preservatives and sanitation procedures.

**NUTR 5931: RESEARCH TOPICS IN NUTRITION**

*Identified by specific title each time course is offered.*

**NUTR 59v9: PROBLEMS IN NUTRITION**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: approval of advisor and problem director.*

**NUTR 6131: NUTRITION AND METABOLISM**

*Prerequisite: BIOL 4131.* Metabolism of essential nutrients at the cellular and systems levels; metabolic disorders and dietary changes. *Laboratory required.*

**NUTR 6111: LABORATORY FOR NUTRITION AND METABOLISM**

*Prerequisite or corequisite: NUTR 6131.* Four hours of clinical study each week.

**NUTR 6721: SEMINAR IN NUTRITION**

Theoretical approaches to the solution of current problems in clinical nutrition.

**NUTR 6939: MASTER'S THESIS RESEARCH**

## **OCEANOGRAPHIC TECHNOLOGY**

**OCIN 3131: ANALYSIS OF GENERAL OCEANOGRAPHIC INSTRUMENTS**

*Prerequisites: CTEC 3132, PROC 3132, and General Physics: Prerequisite or corequisite: OCIN 3132* Analysis of oceanographic measuring instruments; salinity, temperature, depth, gravity, conductivity, magnetism, sound velocity, and wave and current action. *Laboratory instruction.*

**OCIN 3132: PRINCIPLES OF OCEANOGRAPHIC MEASUREMENTS**

*Prerequisite: General Physics.* Physical, chemical, biological, and meteorological principles in oceanographic measurements.

**OCIN 3231: SHIPBOARD RADIO COMMUNICATIONS EQUIPMENT**

*Prerequisites: CTEC 3132 and PROC 3132.* Compulsory radio telegraph transmitters, receivers, and antennas; radio telephones, auto-alarms, and operating frequencies. *Laboratory instruction.*

**OCIN 39v9: PROJECTS IN OCEANOGRAPHIC INSTRUMENTATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and laboratory investigations in oceanographic instrumentation.

**OCIN 4131: POLLUTION MONITORING AND CONTROL INSTRUMENTATION**

*Prerequisites: OCIN 3131, PROC 3121 or equivalent.* Hardware and software techniques used for modern water, air, and noise pollution instrumentation systems. *Laboratory instruction.*

**OCIN 4131: EXPERIMENTAL MARINE INSTRUMENTATION**

*Prerequisites: OCIN 3131 and BIOL 4132.* Experimental approach to marine instrumentation; physical effects of oceans and estuaries on their biochemical characteristics.

**OCIN 4231: SHIPBOARD NAVIGATION INSTRUMENTATION**

*Prerequisites: CTEC 3331, PROC 3135 and 3132.* Gyrocompass, RDF, Loran, Omega, and Decca instrumentation systems. *Laboratory instruction.*

**OCIN 4232: SHIP POSITION CONTROL SYSTEMS**

*Prerequisites: OCIN 4231, PROC 3331, and compiler language proficiency.* Shipboard control systems; automatic station keeping, stability, position determination, computer control, and propulsion.

**OCIN 4233: RADAR SYSTEMS**

*Prerequisites: OCIN 4231 and MATH 3333.* Analysis of radar instrumentation; hardware and software techniques applied to meteorology, astrophysics, and navigation. *Laboratory Instruction.*

**OCIN 4234: SONAR SYSTEMS**

*Prerequisites: OCIN 4231 and MATH 3333.* Analysis of sonar instrumentation: hardware and software techniques applied to precision profiling, search and salvage operations, and navigation. *Laboratory instruction.*

**OCIN 4331: ELECTRO-OPTICS IN OCEANOGRAPHY**

*Prerequisites: CTEC 3331 and PROC 3121.* Photographic techniques; underwater television systems, underwater lighting, applications of infrared radiation measurements, and holography.

**OCIN 4431: SEISMIC EXPLORATION SYSTEMS**

*Prerequisites: CTEC 3331 and PROC 3121.* Instrumentation techniques for refraction and reflection; gravity, magnetic, electrical, and spectral prospecting; government regulations and economic considerations.

**OCIN 4432: ADVANCED GEOPHYSICAL INSTRUMENTATION**

*Prerequisites: OCIN 4431 and CTEC 3531.* Hardware techniques used in shipboard seismic instrumentation and electrical prospecting systems. *Laboratory instruction.*

**OCIN 4433: WELL-LOGGING INSTRUMENTATION**

*Prerequisites: CTEC 3331 and PROC 3132.* Hardware and software techniques of electric and radioactive well-logging instrumentation. *Laboratory instruction.*

**OCIN 4434: UNATTENDED OFFSHORE PLATFORM INSTRUMENTATION**

*Prerequisites: CTEC 3531, PROC 3121, and credit for coenrollment in PROC 4234.* Analysis of remote terminal units used for offshore oil and gas production; status, alarms, accumulators, and controls.

**OCIN 4931: SELECTED TOPICS IN OCEANOGRAPHIC INSTRUMENTATION**

*Identified by specific title each time course is offered.*

**OCIN 4939: UNDERGRADUATE HONORS PROJECT**

*Prerequisites: 36 hours of upper-level credit and approval of program director.*

**OCIN 5131: POSITION INDICATION SYSTEMS**

*Prerequisite: background in offshore instrumentation and communications theory.* Acoustic, geosatellite, and marker-locator positioning systems; applications for drilling vessels, pipeline systems, wellhead location, and submersible tracking.

**OCIN 5231: UNDERWATER ACOUSTICAL INSTRUMENTATION**

*Prerequisite: background in communications theory, digital logic, statistics, and linear systems analysis.* Acoustic properties of sea water; emphasis on instrumentation for sound transmission and reception, FFT processing. *Laboratory instruction.*

**OCIN 5232: INTEGRATED METEOROLOGICAL INSTRUMENTATION**

*Prerequisite: background in communications, controls, statistics, and linear systems analysis.* Unattended offshore instruments, shipboard systems, radar tracking, satellite data, and airborne data acquisition systems.

**OCIN 5331: MARINE MODELING AND STOCHASTIC PROCESSES**

*Prerequisite: background in linear systems analysis, probability and statistics, offshore instrumentation, and compiler language.* Computer modeling applied to stochastic marine processes; sea surfaces, ice flows, and corrosion of marine structures. *Laboratory instruction.*

**OCIN 5431: SEISMIC SIGNAL PROCESSING**

*Prerequisite:* background in seismic exploration systems, computer architecture, linear systems analysis and statistics. Seismic signal processing, wave propagation, noise, optimum filtering, and interpretation.

**OCIN 5432: COMPUTERIZED DRILLING OPTIMIZATION**

*Prerequisite:* background in drilling systems, computer automation, linear systems analysis, and a compiler language. Computer techniques for drilling optimization; data considerations of rigs, wells, bits, drilling, formation tops, and abrasiveness.

**OCIN 5931: RESEARCH TOPICS IN OCEANOGRAPHIC INSTRUMENTATION**

*Identified by specific title each time course is offered.*

**OCIN 59v9: PROBLEMS IN OCEANOGRAPHIC INSTRUMENTATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite:* approval of advisor and project director.

**OCIN 6331: COMPUTER ANALYSIS OF MARINE STRUCTURES**

*Prerequisites:* background in structural analysis, and OCIN 5331. Simulation of wave, current, dead buoyant, seismic loads; instrumentation for member forces, stresses, and interaction ratios.

**OCIN 6431: SUBSEA CONTROL AND TELEMETRY SYSTEMS**

*Prerequisites:* OCIN 5231, CTEC 5331, and computer automation. In-water systems for subsea control and telemetry; blowout prevention, wellhead control, subsurface, buoys, and subsea pipeline monitoring.

**OCIN 6939: MASTER'S THESIS RESEARCH**

## **PHILOSOPHY**

**PHIL 3331: ETHICS: AN INTRODUCTION**

A primary course in assessing ethical questions, judgments, and systems of morality. Works include some by Mill, Plato, Kant, Kierkegaard, Marx, and others.

**PHIL 3433: PHILOSOPHY AND KNOWLEDGE**

Theories of knowledge express the central attitude towards truth in any particular age. This course examines historically important epistemological positions in the Western tradition. Plato, Descartes, Hume, Kant, Hegel and others.

**PHIL 3533: RELIGIONS OF MANKIND**

Study of the major world religions. Hinduism, Buddhism, Confucism, Taoism, Islam, Judaism, Christianity, and others.

**PHIL 3535: EUROPEAN PHILOSOPHY AND THE CRISIS OF MODERN LIFE**

The Industrial Revolution produced two influential philosophical responses: Existentialism and revolutionary social theory. This course examines the history, conflicts, and overlaps of these two movements. Hegel, Kierkegaard, Nietzsche, Marx, Lukacs, Sartre, and others.

**PHIL 39v9: READINGS IN PHILOSOPHY**

*(Variable credit, 1-6 semester hours)*

**PHIL 4332: ETHICS: THE GRAND TRADITION**

A thorough study and comparison of the ethical systems of the two most influential moral theorists of the Western world, Plato and Kant.

**PHIL 4335: RELIGIOUS ETHICS**

Religious approaches to ethical problems. *Topics may vary from semester to semester.*

**PHIL 4338: BIOMEDICAL ETHICS AND THE FUTURE**

Examination of dilemmas raised by recent biomedical experimentation: abortion, fetal research, genetic manipulation, euthanasia, death with dignity, and others.

**PHIL 4531: PHILOSOPHY AS CULTURAL CRITICISM**

Overview of the movement of philosophy into the realm of social criticism. Works by Marx, Lukacs, Colletti, Marcuse, and others in the Frankfurt School of European philosophy.

**PHIL 4634: SOCIAL AND POLITICAL PHILOSOPHY**

Historical survey of political philosophers from Plato through Hobbes, Locke, Marx to Lenin, and contemporary social theorists. Theories of justice and the basis of the state and society in general.

**PHIL 4835: HEGEL**

A study of some central works of the most profoundly influential, insightful, and complex philosopher of modern times.

**PHIL 4836: MARX**

A course on the philosophical foundations of Marx's thought as found in his writings on history, philosophy, and political economy.

**PHIL 4931: SELECTED TOPICS IN PHILOSOPHY****PHIL 5931: RESEARCH TOPICS IN PHILOSOPHY****PHIL 59v9: PROBLEMS IN PHILOSOPHY**

*(Variable credit, 1-6 semester hours)*

## PHYSICS

**PHYS 3036: DEVELOPMENT OF THE SCIENCES**

Temporal relationships of major figures, theories, and discoveries with the emergence of modern concepts in sciences.

**PHYS 3038: DATA TECHNIQUES IN THE SCIENCES**

*Not available for credit to students with more than three hours of calculus.* Applications of algebraic, trigonometric and geometric equations, series, vectors, integrals and derivatives to problems in science.

**PHYS 3431;3432: CONTEMPORARY PHYSICS**

*Prerequisite: College Physics.* Waves, acoustics, particles, electromagnetics, quantum physics, energy, solid state physics, optics, and electro-optics.

**PHYS 39v9: PROJECTS IN PHYSICS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.*

**PHYS 4031; 4032: PHYSICS FOR TEACHERS I AND II**

*Corequisite: PHYS 4011; 4012.* Modern developments in physics; intended to provide prospective teachers with background necessary to teach physics from a contemporary standpoint.

**PHYS 4011;4012: LABORATORY FOR PHYSICS FOR TEACHERS I AND II**

*Corequisite: PHYS 4031;4032.*

**PHYS 4331: PRINCIPLES OF THERMODYNAMICS  
AND STATISTICAL MECHANICS**

*Prerequisites: College Physics and MATH 4131 or equivalents.* Fundamental laws of thermodynamics and their applications to single systems; applications of statistics in predicting properties of large numbers of particles.

**PHYS 4931: SELECTED TOPICS IN PHYSICS**

*Identified by specific title each time course is offered.*

**PHYS 5133: ELECTROMAGNETICS**

*Prerequisite: PHYS 3432 or equivalent.* Current electromagnetic theory and application to materials technology.

**PHYS 5135: FUNDAMENTALS OF QUANTUM MECHANICS**

*Prerequisite: PHYS 3432 or equivalent.* Principles of uncertainty and complementarity; Schrodinger equation; operators; perturbation theory; atomic structure; and quantum statistics.

**PHYS 5137: PHYSICS OF NUCLEAR AND SOLAR ENERGY**

*Prerequisite: PHYS 3431 or 3432 or equivalent.* Nuclear and thermonuclear energy generation; solar energy transmission and reception; efficiency of solar energy conversion methods.

**PHYS 5931: RESEARCH TOPICS IN PHYSICS**

*Identified by specific title each time course is offered.*

**PHYS 59v9: PROBLEMS IN PHYSICS**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**PHYS 6939: MASTER'S THESIS RESEARCH****PROCESS CONTROL TECHNOLOGY****PROC 3114: PROTOTYPE FABRICATION**

Layout and construction of prototypes in electrical, electronic, mechanical, optical, and pneumatic systems. *Laboratory instructions.*

**PROC 3130: APPLICATIONS OF LINEAR INTEGRATED CIRCUITS**

*Corequisite: PROC 3132.* Generation of mathematical functions, analog control, modeling and communications transceivers. *Laboratory instruction.*

**PROC 3131: ELECTRONIC INSTRUMENTATION**

*Corequisite: PROC 3133.* Circuit testing and analysis, operation and applications of electronic instruments.

**PROC 3132: LINEAR INTEGRATED CIRCUITS**

*Prerequisites: Three hours of calculus and nine hours of electronics. Prerequisite or corequisite: MATH 3332. Corequisite: PROC 3130.* Operational amplifier configurations, complex timers, function generators, phase-locked loops, and instrumentation amplifiers.

**PROC 3133: ELECTRONIC COMPONENTS AND DEVICES**

*Corequisite: PROC 3131. Not available for credit to students with more than six hours of electronics.* Discrete and integrated electronic components and devices; emphasis on applications. *Laboratory instruction.*

**PROC 3134: ENERGY TRANSDUCERS**

*Prerequisites or Corequisites: PROC 3132, MATH 3332, and CTEC 3132.* Sensors and energy devices in electrical, electronic, hydraulic, mechanical, optical, pneumatic, and thermal systems. *Laboratory instruction.*

**PROC 3135: ELECTROMAGNETIC WAVES AND TRANSMISSION LINES**

*Prerequisite: PROC 3132. Prerequisite or corequisite: MATH 3333.* Wave generation, antenna theory, radiation, lumped and distributed parameters, reflections, and resonance. *Laboratory instruction.*

**PROC 3331: CONTROL SYSTEMS**

*Prerequisite: PROC 3132. Prerequisite or corequisite: MATH 3333.* Concepts and analysis of control systems; descriptive and evaluation techniques needed for implementation.

**PROC 3332: INTRODUCTION TO ELECTRICAL POWER**

*Prerequisite: PROC 3132. Prerequisite or corequisite: MATH 3333.* Introduction to generation and principles of transmission, distribution, measurement, and control.

**PROC 3431: INDUSTRIAL APPLICATIONS OF ELECTROMECHANISMS**

*Prerequisites: PROC 3132 and CTEC 3132.* Turbine meters, magnetic flow meters, stepping motors, and servomechanisms. *Laboratory instruction.*

**PROC 3531: DATA CONVERSION DEVICES**

*Prerequisites: PROC 3132 and CTEC 3132.* ADC's, DAC's, VCO's, S&H's, and MUX's. *Laboratory instruction.*

**PROC 39v9: PROJECTS IN PROCESS MONITORING AND CONTROL**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.*

**PROC 4031: POWER DISTRIBUTION AND LIGHTING**

*Prerequisite: PROC 3132.* Light sources, luminaries, and lighting design; national electrical codes for wiring and power distribution.

**PROC 4131: INDUSTRIAL APPLICATIONS OF MAGNETICS**

*Prerequisites: PROC 3132, PROC 3134, and CTEC 3131.* Linear and non-linear applications of magnetism, in amplifiers, recorders and memory systems. *Laboratory instruction.*

**PROC 4231: CHEMICAL PROCESSING SYSTEMS**

*Prerequisite: General Chemistry and physics.* Water treatment, catalytic cracking, alkylation, polymerization, distillation, and crystallization; fundamentals of chemical processes.

**PROC 4232: ANALYSIS OF DRILLING SYSTEMS**

*Prerequisites: PROC 4231, PROC 3132, and CTEC 3132.* On- and offshore site problems; drilling equipment, controls, and operations; government regulations and drilling economics.

**PROC 4233: ANALYSIS OF PIPELINE SYSTEMS**

*Prerequisites:* PROC 4231, PROC 3132, and CTEC 3132. Construction, maintenance, and operations of pipeline systems; government regulations and economic considerations.

**PROC 4234: ANALYSIS OF OIL AND GAS PRODUCTION SYSTEMS**

*Prerequisites:* PROC 4231, PROC 3132, and CTEC 3132. Wellhead, lift, monitoring and control, separation, storage, and waste problems; government regulations and economic considerations.

**PROC 4235: ANALYSIS OF REFINING AND GAS PLANT SYSTEMS**

*Prerequisites:* PROC 4231, PROC 3132, and CTEC 3132. Furnaces, heat exchangers, cooling towers; mixing, blending, and drying; government regulations and economic considerations.

**PROC 4330: ANALOG MODELING OF CONTROL SYSTEMS**

*Corequisite:* PROC 4331. Analog/hybrid computer modeling techniques for control systems. *Laboratory instruction.*

**PROC 4331: SYNTHESIS OF MONITORING AND CONTROL SYSTEMS**

*Prerequisite:* PROC 3331; *corequisite:* PROC 4330; *prerequisite or corequisite:* CTEC 3531. Modern process system characteristics; frequency response of first and second order components, open and closed loop response, and stability analysis.

**PROC 4332: INDUSTRIAL QUALITY CONTROL SYSTEMS**

*Prerequisite:* PROC 3331 and STAT 4431. Process capability, control charting, and sampling inspection; applications of statistics and elementary decision theory.

**PROC 4431: ELECTRICAL POWER SYSTEMS**

*Prerequisite:* PROC 3332. Electrical power systems and industrial applications; application of circuit theory to power transmission and distribution.

**PROC 4432: ELECTROMECHANICAL SYSTEMS AND ENERGY CONVERSION**

*Prerequisite: or corequisite:* PROC 4431. Electromechanical energy conversion; rotating AC and DC machines, and motor/generator controls.

**PROC 4433: FAULT ANALYSIS OF ELECTRICAL POWER SYSTEMS**

*Prerequisite or corequisite:* MATH 4134 and PROC 4431. Theory of symmetrical components applied to fault analysis of electrical power systems; transient stability and load flow controls.

**PROC 4434: ANALYSIS OF ELECTROMECHANICAL SYSTEMS**

*Prerequisites:* PROC 3431, PROC 3331, and compiler language proficiency. Multiple reference frame balancing, operating point stability, and variable frequency drive systems; use of computer simulation in analysis of systems employing synchronous and induction machines, *Laboratory instruction.*

**PROC 4435: FLUIDICS AND FLUID POWER SYSTEMS**

*Prerequisites:* PROC 3331. Pumps, reservoirs, relays, gates, valves, and industrial hydraulic control systems.

**PROC 4436: NUMERICAL CONTROL MACHINES SYSTEMS**

*Prerequisites:* CSCI 3111 and CTEC 3531. *Prerequisite or corequisite:* PROC 4434 and PROC 4435. Analysis of NC systems; sequence of operations, machine considerations, positioning systems, console controls, tape processing, and programming.



**PROC 4931: SELECTED TOPICS IN PROCESS MONITORING AND CONTROL**

*Identified by specific title each time course is offered.*

**PROC 4939: UNDERGRADUATE HONORS PROJECT**

*Prerequisites: 36 hours of upper-level credit and approval of program director.*

**PROC 5232: CHEMICAL PROCESS MODELING AND SIMULATION**

*Prerequisites: proficiency in a compiler language in linear algebra and linear systems analysis.* Computer simulation of fluid flow, heat transfer, unit operations, reaction kinetics and staged operations. *Laboratory instruction.*

**PROC 5233: MEASUREMENT OF OIL AND GAS**

*Prerequisites: background in analog and digital circuitry.* Operation, installation, calibration, and maintenance of oil and gas measurement systems; legal and economic considerations. *Laboratory instruction.*

**PROC 5234: SYNTHESIS OF NUMERICAL AND COMPUTER CONTROL MACHINE SYSTEMS**

*Prerequisite: background in computer automation, control systems, probability and statistics.* Optimal and adaptive NC and computer control machines systems for industry; current techniques in both hardware and software. *Laboratory instruction.*

**PROC 5332: STOCHASTIC PROCESS CONTROL SYSTEMS**

*Prerequisite: background in control systems synthesis and in probability and statistics.* Stochastic process applications to systems with low signal to noise ratios; convergence, stability, and problems of optimal control.

**PROC 5432: ENERGY CONVERSION SYSTEMS**

*Prerequisite: background in electromechanical systems.* Thermoelectric, magnetohydrodynamic, solar, and nuclear power generation plants.

**PROC 5433: ELECTRICAL TRANSMISSION LINES**

*Prerequisite: background in electrical power.* Transmission lines under steady state and transient conditions for AC, DC, HV, and underground transmission.

**PROC 5531: OPTIMUM FEEDBACK CONTROL SYSTEMS**

*Prerequisites: background in synthesis of control systems, linear systems analysis, discrete time systems.* Application of feedback principles to control carrier and multivariable systems; compensation, phase plane techniques, and describing functions.

**PROC 5931: RESEARCH TOPICS IN PROCESS MONITORING AND CONTROL**

*Identified by specific title each time course is offered.*

**PROC 59v9: PROBLEMS IN PROCESS MONITORING AND CONTROL**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.*

**PROC 6531: MODELING FOR ELECTRICAL POWER SYSTEMS**

*Prerequisites: background in electrical power, control systems, linear systems analysis and compiler language.* Computer modeling for analysis of electrical power systems; planning, specification, and operation of power system components.

**PROC 6532: MODELING FOR PROCESSING SYSTEMS**

*Prerequisites: background in computer automation, linear systems analysis, PROC 5332 and a compiler language.* Analog, digital, and hybrid computer modeling of industrial processing systems.

**PROC 6533: SYNTHESIS OF COMPUTER CONTROL SYSTEMS**

*Prerequisite: background in computer automation, synthesis of control systems, discrete time systems, PROC 5531, and a compiler language.* Comparative analysis of synthesis techniques; elements of an optimum computer control system synthesis. *Laboratory instruction.*

**PROC 6939: MASTER'S THESIS RESEARCH****PSYCHOLOGY****PSYC 3131: CONTEMPORARY PSYCHOLOGY**

Basic theories and applications of the most important schools of modern psychology.

**PSYC 3331: THEORIES OF PERSONALITY**

Theories of the origins, structure, and dynamics of personality; emphasis on the "normal" personality.

**PSYC 3332: INTERPERSONAL BEHAVIOR**

*Prerequisite: permission of instructor.* Group behavior based on analysis of personal experience and participation in group situations; the encounter process.

**PSYC 3333: CONTEMPORARY ISSUES IN HUMAN SEXUALITY**

Biological, psychological, and cultural viewpoints on sexual behavior.

**PSYC 3334: DRUGS AND BEHAVIOR**

Mechanisms and effects of alcohol, opiates, sedatives, tranquilizers, stimulants, psychedelics, and other psychotropic drugs; problems of abuse and attempts at control and education.

**PSYC 3531: THE SEARCH FOR MEANING AND IDENTITY**

The basic questions of human existence as considered by contemporary schools of psychology; contributions of Freud, Fromm, Erikson, Skinner, Laing, and Jung.

**PSYC 37v9: UNDERGRADUATE PRACTICUM**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: 12 hours of appropriate upper-level work and approval of instructor.* Written report required.

**PSYC 39v9: PROJECTS IN PSYCHOLOGY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in psychological inquiry.

**PSYC 4031: HISTORY AND SYSTEMS**

Evolution of theory and methods in psychology from early philosophical roots to present status.

**PSYC 4032: INTRODUCTION TO INTERVIEWING AND COUNSELING**

Principles of responsive listening; development of empathy in the interviewing and counseling situation.

**PSYC 4131: SOCIAL PSYCHOLOGY**

Conformity, mass communication and propaganda, self-justification, human aggression, prejudice, attraction, cooperation, and competition; theory, research, and application.

**PSYC 4133: TESTS AND MEASUREMENTS**

Informal and standardized tests of achievement, intelligence, adjustment, and aptitude.

**PSYC 4134: CHILD PSYCHOLOGY**

Cognitive, social, and emotional development of children; psychoanalytic, behavioristic, and Piagetian approaches.

**PSYC 4135: ADOLESCENT PSYCHOLOGY**

Problems of role and identity in relation to adolescents' needs for acceptance, autonomy, and intimacy; specific attention to such topics as sexual maturation, love and friendship, drug abuse, the "counter culture."

**PSYC 4136: BRAIN AND BEHAVIOR**

The biological basis of how one thinks, feels, and acts.

**PSYC 4138: PRINCIPLES OF LEARNING**

Principles of acquisition and retention; verbal learning and its applications.

**PSYC 4231: ADVANCED SOCIAL PSYCHOLOGY**

*Prerequisite: PSYC 4131 or equivalent.* Study of particular social psychological theories, their development, growth, and usefulness; methods of research.

**PSYC 4232: SOCIAL PSYCHOLOGY OF THE FAMILY**

The dynamics of family systems and the effects of family interaction processes on individual family members.

**PSYC 4331: COMMUNITY PSYCHOLOGY**

Relationships between mental health and institutional and social stress; community psychology models and social intervention.

**PSYC 4332: INDUSTRIAL PSYCHOLOGY**

Current research, problems, and practices in personnel selection and training, consumer psychology, and organizational behavior.

**PSYC 4334: PSYCHOLOGY OF WOMEN**

The development of sex differences and sex roles; modern viewpoints on gender-appropriate behavior.

**PSYC 4335: PSYCHOLOGY OF HUMAN DIFFERENCES**

An analysis of individual and group differences in personality, intelligence, achievement, and many other psychological dimensions relevant to contemporary society.

**PSYC 4336: THE ABNORMAL PERSONALITY IN LITERATURE**

Analysis of abnormal personalities portrayed by major writers such as Dostoevsky, Plath, Ibsen, Albee, O'Neill, and Faulkner.

**PSYC 4431: TRANSACTIONAL ANALYSIS**

Theory of T.A.; structural analysis, script analysis, contracts, stroking, "rackets," games. Principles of individual and group analysis.

**PSYC 4432: PSYCHOHISTORY**

Psychological theories are employed to examine important historical and contemporary conflicts in American and/or European societies.

**PSYC 4435: PRIMATE BEHAVIOR**

A review of the literature on the behavior of monkeys and apes; their capacities and social organization as related to the genetic and behavioral character of human beings.

**PSYC 4531: ABNORMAL PSYCHOLOGY**

Neurotic and psychotic personality patterns; etiology, symptoms, diagnosis, and correctional methods and institutions viewed from a psychological perspective.

**PSYC 4532: CRIMINAL PSYCHOLOGY**

Anti-social behavior and its psychological roots and trigger mechanisms; punitive and correctional methods and institutions viewed from a psychological perspective.

**PSYC 4534: COGNITIVE BEHAVIOR MODIFICATION**

An extension of behavioral approaches to covert events; emphasis on self-statements and images as determinants of behavior.

**PSYC 4535: THE PSYCHOLOGY OF PLAY**

Varieties of play considered as involving particular social and psychological structures with specific outcomes.

**PSYC 4536: SELF-MANAGEMENT**

*Prerequisite: at least 3 semester hours in psychology.* Students will use principles of operant learning procedures to manage their own behavior. Theory and application will be discussed.

**PSYC 4538: STUDIES IN EXPERIMENTAL PSYCHOLOGY**

Examination of research findings selected from the areas of perception, motivation, cognition, and animal behavior. *May be repeated for credit.*

**PSYC 4632: PSYCHOLOGICAL ANTHROPOLOGY**

A study of the effects of culture on personality, socialization, perception, cognition, and psychopathology.

**PSYC 4661: RESEARCH DESIGN AND STATISTICAL MEASUREMENT**

Design, analysis, and application of social science research techniques and methods of measurement.

**PSYC 4731: SOCIAL SCIENCES RESEARCH TECHNIQUES**

*Prerequisite: STAT 3231 or equivalent.* Analysis and application of social science research techniques.

**PSYC 4931: SELECTED TOPICS IN PSYCHOLOGY**

*Identified by specific title each time course is offered.*

**PSYC 5031: HUMAN GROWTH AND DEVELOPMENT**

Growth and developmental patterns as they influence educational processes.

**PSYC 5032: ADULTHOOD AND AGING**

Developmental patterns of the adult years; problems of aging in modern society.

**PSYC 5034: LEARNING THEORIES APPLIED TO EDUCATION**

Comparative approach to learning theories and their direct and indirect classroom applications; behavioral and social components of learning processes.

**PSYC 5035: DESIGN AND EVALUATION OF BEHAVIORAL RESEARCH**

*Prerequisite: STAT 5031 or equivalent.* Principles of sound investigation and reasoning in behavioral sciences. Intended for consumers as well as producers of research.

**PSYC 5065: RESEARCH DESIGN AND STATISTICAL MEASUREMENT**

Design, analysis, and application of social science research techniques and methods of measurement.

**PSYC 5131: PSYCHOPATHOLOGY OF CHILDHOOD**

Survey of research on children with mental and physical problems; the culturally deprived child.

**PSYC 5132: EDUCATIONAL PSYCHOLOGY**

Critical appraisal of the implications for education of modern psychological findings.

**PSYC 5231: PSYCHOTHERAPY: THEORY AND RESEARCH**

Forms of modern psychotherapy: psychoanalytic, humanistic, existential, and behavioral.

**PSYC 5232: GESTALT THERAPY**

Theory and application of Gestalt therapy: body language, unfinished business, introjection, retroflexion, empty chair techniques, figure-ground dynamics, the "here and now."

**PSYC 5233: FAMILY THERAPY**

An introduction to the theory and techniques of family therapy; discussion of both brief and long-term therapy.

**PSYC 5234: PSYCHOANALYSIS**

A study of selected theoretical, empirical, and clinical aspects of psychoanalysis from Freud to the present.

**PSYC 5235: BEHAVIOR ANALYSIS I**

Basic principles of operant conditioning and limited applications.

**PSYC 5236: BIOFEEDBACK**

Mind-body relationships and their control through feedback technology; includes laboratory projects.

**PSYC 5237: CREATIVITY**

Historical and developmental approach to the importance of creative activity throughout the life span; a new approach to "creative necessity."

**PSYC 5331: PSYCHOLOGY OF LEARNING**

Theoretical models for learning; acquisition, and retention.

**PSYC 5332: MAJOR FIGURES IN MODERN PSYCHOLOGY**

Concentrated study of the work of a major figure in modern psychology, such as Freud, Piaget, Fromm, Skinner or Maslow. *May be repeated for credit.*

**PSYC 5335: THE FUTURE OF BEHAVIOR**

Psychological perspectives on possibilities for human behavior in the future.

**PSYC 5432: BEHAVIORALLY ACTIVE DRUGS**

Legal and illegal drugs and their effect on mental state and behavior; how they work on the nervous system; why people use them; attempts to control them.

**PSYC 5433: PROJECTIVE PRINCIPLES IN ART THERAPY**

Overview of the principles of projective psychology in relation to the practice of art therapy with children, adolescents, and adults.

**PSYC 5434: ART THERAPY PERSPECTIVES**

History, theory, and practice of art therapy; introduction to psychodynamic, humanist, and behaviorist contributions.

**PSYC 5435: ART THERAPY PRACTICES**

Current art therapy practices in clinical, institutional, and private settings; practical applications of therapeutic techniques.

**PSYC 5532: ADVANCED SOCIAL PSYCHOLOGY**

Theory, methodology, and research findings pertinent to the individual in social context.

**PSYC 5533: PSYCHOLOGY OF WOMEN**

Sex role stereotyping, socialization of women and men, feminism, female sexuality, feminist therapy, androgyny; situation of minority women.

**PSYC 5631: ORGANIZATION, ASSESSMENT, AND FUNDING OF HUMAN SERVICES**

Practical aspects of managing human and social services, evaluating the services provided, and obtaining funding.

**PSYC 5731: SEMINAR IN PERSONALITY THEORY**

Fundamental issues in personality psychology; emphasis on personality assessment and comparative analysis of major schools of thought in personality theory.

**PSYC 5732: SEMINAR IN RATIONAL-EMOTIVE THERAPY**

Theory and application of rational-emotive therapy; individual, group, and marathon encounter principles; imaginative techniques.

**PSYC 5733: RESEARCH SEMINAR**

*Prerequisite: PSYC 5065 or equivalent.* Group collaboration on research concerning a particular topic.

**PSYC 5734: PROSEMINAR IN CLINICAL PSYCHOLOGY I**

*Prerequisite: permission of the instructor.* Issues in clinical practice; ethics and professional responsibilities.

**PSYC 5735: PROSEMINAR IN CLINICAL PSYCHOLOGY II**

*Prerequisite: permission of the instructor.* Continuation of Proseminar in Clinical Psychology I.

**PSYC 5741: COUNSELING PSYCHOLOGY SEMINAR**

*Prerequisite: course in abnormal and personality or permission of the instructor.* Current theories of counseling and psychotherapy; counseling skills development and micro-counseling laboratory experience.

**PSYC 57v9: GRADUATE PRACTICUM**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: 12 hours of graduate level course work and approval of instructor.* Written report required.

**PSYC 5931: RESEARCH TOPICS IN PSYCHOLOGY**

*Identified by specific title each time course is offered.*

**PSYC 59v9: PROBLEMS IN PSYCHOLOGY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**PSYC 6031: INDIVIDUAL PSYCHOLOGICAL EVALUATION**

*Prerequisite: 3 semester hours in tests and measurements, or statistics.* Review of theory underlying individual intelligence tests; supervised practice in test administration, scoring and interpretation.

**PSYC 6032: ADVANCED PSYCHOLOGICAL EVALUATION**

Structured and unstructured tests of personality including supervised practice and interpretation.

**PSYC 6132: COGNITIVE DEVELOPMENT**

Theories and findings related to the acquisition of pre-verbal and language-related cognitive capacities; evolutionary and cultural forces in shaping cognitive structures.

**PSYC 6134: BIOLOGICAL BASIS OF BEHAVIOR**

Study of the biological basis of animal and human behavior. Stress on recent research.

**PSYC 6232: MENTAL MEASUREMENT**

*Prerequisite: an elementary statistics course.* Introduction to the general area of mental measurement. Theory and content of measuring devices in fields of intelligence, interests, personality, and special aptitudes.

**PSYC 6233: ADVANCED FAMILY THERAPY**

*Prerequisite: PSYC 5233.* Styles of family therapy; particular focus on the impact of the therapist's own family on his or her style.

**PSYC 6235: BEHAVIOR ANALYSIS II**

*Prerequisite: PSYC 5235.* Application of principles of operant conditioning.

**PSYC 6332: COGNITIVE PROCESSES**

Modern approaches to information processing, memory, problem solving, and concept learning.

**PSYC 6531: PSYCHOPATHOLOGY**

*Prerequisite: one course in abnormal psychology.* Current issues and research in behavior pathology.

**PSYC 6532: THE INTERPERSONAL ENCOUNTER**

*Prerequisite: permission of instructor.* Participation in a series of learning events designed to investigate interpersonal behavior as an on-going life process.

**PSYC 67v9: GRADUATE INTERNSHIP**

*(Variable credit, 1-9 semester hours)*

*Prerequisites: 12 hours of graduate level course work and approval of Internship Committee.* Minimum of two days a week in an approved internship setting. Written report required.

**PSYC 68v9: MASTER'S PROJECT RESEARCH**

*(Variable credit, 1-6 semester hours)*

**PSYC 69v9: MASTER'S THESIS RESEARCH**

*(Variable credit, 1-9 semester hours)*

## READING

### **READ 39v9: PROJECTS IN READING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and supervised inquiries in reading.

### **READ 4131: APPROACHES TO READING IN ELEMENTARY SCHOOLS**

Multiple approaches to teaching reading at the elementary level; readiness factors, phonics, vocabulary development, materials and methods for instruction.

### **READ 4132: TEACHING READING IN SECONDARY SCHOOLS**

Methods of teaching intermediate reading skills; readability levels and expectancies, and structure of reading programs.

### **READ 4133: DEVELOPMENTAL AND ADVANCED READING METHODOLOGY**

Refining reading skills for regular and advanced students, with emphasis on maturity in reading; enrichment experiences, selected great books, critical evaluation, and teaching of specialized reading skills.

### **READ 4331: LINGUISTICS APPLIED TO ORAL READING**

Modern linguistic approaches to the reading process; intonation, stress, pitch, phonics, word functions, patterning of sentences, and the physiology of speaking.

### **READ 4332: DIAGNOSTIC AND PRESCRIPTIVE READING**

Diagnostic evaluation of educational and non-educational problems of readers; remedial approaches to readiness, vocabulary, and comprehension.

### **READ 4531: TEACHING READING SKILLS FOR CONTENT AREAS**

Developmental reading skills for content areas: consideration of comprehension, verbal reasoning, technical vocabulary, and readability levels.

### **READ 4532: SELECTING LITERATURE AND MATERIALS FOR ADOLESCENTS**

Selection, use, and organization of literature for the secondary school: reading materials, resources, and bibliographic sources.

### **READ 4533: SELECTING LITERATURE AND MATERIALS FOR CHILDREN**

Selection of reading materials, resources, and equipment for children in elementary schools and kindergarten; motivational techniques for encouraging interest in reading.

### **READ 4831;4832: PRACTICUM IN CLINICAL READING**

*Prerequisites: 12 hours of credit in reading and PSYC 4133 or equivalent and approval of advisor and instructor.* Practices of diagnosing reading difficulties, grouping techniques, and clinical evaluations; six hours each week in a reading laboratory setting using selected materials and reading aids.

### **READ 4931: SELECTED TOPICS IN READING**

*Identified by specific title each time course is offered.*

### **READ 5031: LINGUISTIC APPLICATIONS TO READING**

Linguistic elements as applied to teaching reading; attention to phonemics, morphemics, spelling, and syntax.



**READ 5131: READINESS MATERIALS FOR PRESCHOOL AND KINDERGARTEN**

Appropriate materials and motivational devices for developing reading readiness in young children.

**READ 5132: DEVELOPING READING PROGRAMS**

Issues involved in developing comprehensive reading programs from childhood through adulthood; problems encountered in structuring programs.

**READ 5133: FOUNDATIONS OF READING**

Basic skills of reading; study of techniques for teaching reading skills to slow as well as to accelerated learners.

**READ 5931: RESEARCH TOPICS IN READING**

*Identified by specific title each time course is offered.*

**READ 59v9: PROBLEMS IN READING**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**READ 6131: DEVELOPMENTAL READING PROGRAMS FOR  
ELEMENTARY SCHOOLS**

Structuring developmental reading programs, emphasizing alternative approaches to teaching, materials, and instructional strategies.

**READ 6132: DEVELOPMENTAL READING PROGRAMS FOR  
SECONDARY SCHOOLS**

Analysis of model secondary reading programs, emphasizing alternative approaches to teaching, materials, and instructional strategies.

**READ 6133: MODERN TRENDS IN LITERATURE FOR CHILDREN AND  
YOUNG ADULTS**

Examines current trends and issues in the literature published for children and young adults.

**READ 6331: SOCIOLINGUISTIC APPLICATIONS TO TEACHING READING**

Examination of sociolinguistic concepts, roles of language in classroom settings, and language differences as they apply to reading instruction.

**READ 6332: HISTORY AND PHILOSOPHIES OF READING INSTRUCTION**

A study of significant trends in reading instruction from the colonial period to the present.

**READ 6531: RESEARCH IN READING**

Analysis of significant research in reading including reviews of research, analysis of methodology, sources of funding for proposed research, evaluating and interpreting data.

**READ 6731: PRACTICES IN DIAGNOSTIC AND CORRECTIVE READING**

*Prerequisite: 12 semester hours in reading.* Advanced techniques in assessment, diagnosis, and prescriptive intervention in problem reading situations; individual work with students.

**READ 6732: DIAGNOSING READING ACHIEVEMENT**

*Prerequisite: 12 semester hours in reading.* Diagnostic evaluation of reading achievement; simulated and laboratory practice in administration, interpretation, and evaluation of reading related tests, scales, and surveys.

## RECREATION

### **RECR 30v9: PROJECTS IN RECREATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in recreational arts.

### **RECR 3131: FOUNDATIONS OF HEALTH, LEISURE, AND SPORTS**

Study of the historical and philosophical background of the leisure movement; recreational organization and sports programs.

### **RECR 3132: THERAPUTIC RECREATION**

Study of the recreation services meeting the needs of the disabled, disadvantaged, and other special groups.

### **RECR 3133: CAMPING AND OUTDOOR EDUCATION**

Study of camp development and administration, outdoor education programming, and techniques of teaching outdoor skills. Field trips required.

### **RECR 3134: LEISURE AND RECREATION IN YOUTH AGENCIES AND CAMPS**

Study of the purposes, methods, and structure of youth organizations and the role of recreation in these agencies.

### **RECR 3135: LEISURE AND RECREATION IN BUSINESS AND INDUSTRY**

The purposes, methods, and objectives of leisure and recreation programs in business and industry.

### **RECR 3331: SOCIAL RECREATION AND LEISURE ACTIVITIES**

Techniques for crafts, dance, informal dramatics, games, and singing activities.

### **RECR 3332: RECREATIONAL GAMES AND SPORTS FOR YOUNG CHILDREN**

Teaching techniques, methods, and programs for children 3 to 12 years old.

### **RECR 3333: OUTDOOR RECREATION**

The use of outdoor resources for recreation; the roles of the public and private sectors in outdoor recreation and outdoor recreation planning.

### **RECR 4131: LEISURE SERVICES AND LEISURE PLANNING**

Identification of the activity and leisure needs of specific groups and the role of recreation and sports in satisfying these needs.

### **RECR 4331: LEISURE AND RECREATION RESOURCE DEVELOPMENT**

Study of the fundamentals of site planning for recreation areas and facilities. Field trips required.

### **RECR 4531: ORGANIZATION AND MANAGEMENT OF RECREATION FACILITIES**

Theoretical and practical aspects of recreation facilities: emphasis on community services in leisure and recreation.

### **RECR 4833: PRACTICUM IN LEISURE AND RECREATIONAL SERVICES**

*Prerequisite: RECR 3131 and RECR 4531.* Six hours of supervised work experience each week in an approved exercise or training program.

### **RECR 4931: SELECTED TOPICS IN RECREATION**

*Identified by specific title each time course is offered.*

## RESOURCE UTILIZATION

### RSCE 3131: ENERGY SOURCES

The availability of various sources of energy; impacts of technology and resource availability and utilization.

### RSCE 3132: RESOURCE CONVERSION

Fundamental approaches to the conversion of land, water, and atmosphere to the uses of man; innovations in consumption and conservation of resources.

### RSCE 3331: ECONOMICS OF NATURAL RESOURCES

Government and private programs to enhance the efficient usage of natural resources; cost benefit analysis of alternative solutions.

### RSCE 3532: QUANTITATIVE METHODS FOR RESOURCE STUDIES

Applying mathematical and statistical tools to the quantification of human resource and environmental data; gathering, analyzing, and presenting data; modeling

### RSCE 39v9: PROJECTS IN RESOURCE UTILIZATION

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings related to natural resources.

### RSCE 4031: RESOURCE/ENVIRONMENT EDUCATION

The teaching of the resource and environment interrelationship; technique for developing effective interdisciplinary teaching units in elementary and secondary education.

### RSCE 4032: ENERGY PRODUCTION AND CONTROL

Currently utilized sources of energy; the role of technology in the production process and current practices in the regulation output.

### RSCE 4131: DYNAMICS OF RESOURCE UTILIZATION IN MODERN SOCIETY

Analysis of resource distribution and development as related to national and international power structures.

### RSCE 4331: WATER RESOURCES

Analysis of potential resource development as related to surface water, aquifers, oceans, and conversion methodology.

### RSCE 4731: SEMINAR ON CULTURE-RESOURCE INTERACTIONS

The interactions of cultures and resources; consumption of energy in selected geographic regions of the world.

### RSCE 4931: SELECTED TOPICS IN RESOURCE UTILIZATION

*Identified by specific title each time course is offered.*

### RSCE 5131: ENVIRONMENT MODIFICATION

Analysis of the impact of technology or the absence of technological development on living standards, economic productivity, and the quality of life.

### RSCE 5331: POLITICS OF NATURAL RESOURCES

Resource distribution and development as related to national and international power structure.

**RSCE 5531: THE FUTURE OF ENERGY RESOURCES**

Forecasts for energy demand and energy supply in the decades ahead; energy alternatives and technological prospects.

**RUSSIAN****RUSS 3031;3032: FOUNDATIONS IN RUSSIAN**

Basic structural principles of Russian grammar; oral practice, reading, and translation.

**RUSS 3331;3332: INTERMEDIATE RUSSIAN**

*Prerequisite: RUSS 3032 or equivalent.* Intensive review and further study of grammar; development of aural comprehension and oral fluency, with reading and analysis of selected texts of literary merit and cultural interest.

**RUSS 39v9: READINGS IN RUSSIAN**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*

**RUSS 4332;4332: RUSSIAN LITERATURE AND CULTURE**

*Conducted in Russian.*

*Prerequisite: RUSS 3331 or equivalent.* Reading and discussion of texts taken from classical and Soviet literature, history, and journals; practice in writing and conversation.

**RUSS: 4931: SELECTED TOPICS IN RUSSIAN**

*Identified by specific title each time course is offered.*

**SECONDARY EDUCATION****SCED 3161: SECONDARY CURRICULUM AND METHODOLOGY**

*Prerequisite: EDUC 30v1 or equivalent.* Curriculum patterns, development, implementation, and evaluation; experiences in teaching strategies, methods, techniques, evaluation, and classroom management. *Field experiences required.*

**SCED 3431: CURRICULUM FOR SECONDARY EDUCATION**

*Prerequisite: EDUC 30v1 or equivalent.* Curriculum patterns, development, implementation, and evaluation in the secondary school. *Field experiences required. Credit may not be earned for both SCED 3161 and SCED 3431.*

**SCED 3432: INSTRUCTIONAL METHODS FOR SECONDARY EDUCATION**

*Prerequisite: EDUC 30v1 or equivalent.* Teaching strategies, methods, techniques, evaluation, and classroom management in the secondary school. *Field experiences required. Credit may not be earned for both SCED 3161 and SCED 3432.*

**SCED 3561: SECONDARY STUDENT TEACHING**

*Prerequisite: approval of advisor and instructor.* Supervised field experiences, conducted primarily in a public school setting, with regular seminars conducted on the University campus.

**SCED 3731: SECONDARY STUDENT TEACHING**

*Prerequisite: approval of advisor and instructor; corequisite: DIAG 3731 or BLNG 3731.* Supervised field experiences, conducted primarily in a public school setting, with regular seminars conducted on the University campus.

**SCED 39v9: PROJECTS IN SECONDARY EDUCATION***(Variable credit, 1-6 semester hours)**Prerequisite: approval of advisor and project director.***SCED 4931: SELECTED TOPICS IN SECONDARY EDUCATION***Identified by specific title each time a course is offered.***SCED 5031: CHANGES IN SECONDARY SCHOOL PEDAGOGY**

Analysis and evaluation of sources of change, current status, and emerging trends in secondary teaching methods with experiences in a range of instructional applications.

**SCED 5131: CURRICULAR DESIGNS IN SECONDARY EDUCATION**

Planning, development, analysis and evaluation of secondary level curricular designs and innovative content materials.

**SCED 5132: INSTRUCTIONAL STRATEGIES IN SECONDARY EDUCATION**

Theory of instruction; design, implementation, and evaluation of strategies for individual and group modes of instruction.

**SCED 57v9: PRACTICUM IN SECONDARY TEACHING***(Variable credit, 1-6 semester hours)**Prerequisite: approval of advisor and instructor.* Directed field experiences in a middle or high school setting.**SCED 5931: RESEARCH TOPICS IN SECONDARY EDUCATION***Identified by specific title each time course is offered.***SCED 59v9: PROBLEMS IN SECONDARY EDUCATION***(Variable credit, 1-6 semester hours)**Prerequisite: approval of advisor and problem director.*

## **SOCIOLOGY**

**SOCI 3131: CONTEMPORARY SOCIOLOGY**

Theories and applications of the most important schools of modern sociology.

**SOCI 3132: CRIMINOLOGY**

Theories of causation, patterns, and social response.

**SOCI 3231: ORGANIZATIONAL ASPECTS OF SOCIAL WORK SYSTEMS**

An introduction to social work as a profession: its history, current modes of organization and operation, and aspirations for the future.

**SOCI 3232: STRUCTURE OF SOCIAL SYSTEMS**

A cross-cultural study of kinship, marriage, property, law, religion, education, and groups such as the family, descent groups, social strata, associations, and the state.

**SOCI 3333: SOCIOLOGY OF EDUCATION**

Racial and socioeconomic factors in public elementary and secondary education; alternative educational structures.

**SOCI 3334: CULTURAL PLURALISM IN THE AMERICAN SOUTHWEST**

Anglo, Chicano, and Black multicultural and multiethnic variations in modern America; emphasis on Texas.

**SOCI 3335: DEVIANCE**

Theories of the existence of deviance in society; management of spoiled identities.

**SOCI 3531: POLITICAL SOCIOLOGY**

The social bases of power; strategies for developing political influence; locus of power in America; relations between citizens and authorities; problems of political legitimacy.

**SOCI 3532: URBAN SOCIOLOGY**

The social organization of urban life and the structure of power in communities; urban problems and strategies for change.

**SOCI 3533: INDUSTRIAL SOCIOLOGY**

Problems of manpower, unemployment, and apprentice programs; special reference to the Houston metropolitan area.

**SOCI 3534: SOCIOLOGY OF MEDICINE**

Health delivery systems as social institutions; sociological and ethical ramifications of medical practices.

**SOCI 3535: HEALTH AND WELFARE SYSTEMS**

Sociological analysis of welfare philosophy and practice; emphasis on welfare systems in the United States.

**SOCI 37v9: UNDERGRADUATE PRACTICUM**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: 12 hours of upper-level credit and approval of instructor. Work experience in an approved social service agency; written and oral reports required.*

**SOCI: 39v9: PROJECTS IN SOCIOLOGY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.*

**SOCI 4031: UNDERSTANDING TECHNOLOGY**

Impacts of man's technological advances on contemporary social institutions; ways society molds and controls current forces for technological innovation.

**SOCI 4032: SCIENCE AND HUMAN VALUES**

How scientists perceive the interactions of their disciplines with society; effects of scientific advances on cultural values.

**SOCI 4033: SOCIOLOGICAL THEORY**

Social order in ancient and modern theory; fundamental requirements of viable social theories.

**SOCI 4034: THE AMERICAN DREAM OF SUCCESS**

The most constant element in the American dream; its development, its staying power, and its effect on American social and economic life.

**SOCI 4035: COMPLEX ORGANIZATIONS**

Growth of bureaucratic society; emphasis on internal structure and dynamics of modern organizations: voluntary, corporate, and governmental.

**SOCI 4036: SOCIOLOGY OF LEISURE**

The uses of leisure in contemporary American society.

**SOCI 4037: MORAL ISSUES IN THE FUTURE OF SCIENCE**

Future research tools applied to predicting likely scientific and technological advances which will pose major values dilemmas for mankind.

**SOCI 4061: RESEARCH DESIGN AND STATISTICAL MEASUREMENT**

Design, analysis, and application of social science research techniques and methods of measurements.

**SOCI 4131: DEMOGRAPHY**

Fundamentals of population analysis; development, presentation, and interpretation of demographic data.

**SOCI 4132: SOCIAL CLASS IN AMERICA**

Various interpretations of America's system of social stratification.

**SOCI 4133: JUVENILE DELINQUENCY**

Individual and community aspects of juvenile delinquency; theories of cause and modes of control.

**SOCI 4135: AMERICAN POPULAR CULTURE**

Elements of contemporary American popular culture; general interpretation of their meaning and significance.

**SOCI 4136: INTRODUCTION TO FUTURES STUDIES**

Problems of forecasting; forecasts by leading futurists, both optimists and pessimists.

**SOCI 4231: CULTURAL EVOLUTION AND TRENDS**

Evolution of culture from pre-human origins to the present; conjectures about the current and future status of human civilization.

**SOCI 4331: CORRECTIONAL INSTITUTIONS**

Correctional institutions in the United States; analysis of their changing roles and functions.

**SOCI 4333: INTENTIONAL CULTURAL CHANGE**

Elements involved in deliberate efforts to change values, community life styles, and structural patterns.

**SOCI 4334: FUTURE OF EDUCATION IN A CHANGING SOCIETY**

Stability and change in public education; innovative educational programs; impact of technology, life style, and occupational change on education.

**SOCI 4431: WOMEN IN SOCIETY**

A cross-cultural study of the environmental, biological, and cultural factors in the division of labor and assignment of roles, male and female.

**SOCI 4531: THE BLACK EXPERIENCE**

Social structure of contemporary Black America; emphasis on black life in the Houston metropolitan area.

**SOCI 4532: THE CHICANO EXPERIENCE**

Chicano awareness and identity; relations with Anglo and Black Americans as reflected in the literature of the Chicano movement.

**SOCI 4534: THE WOMEN'S LIBERATION MOVEMENT**

Issues articulated by the Women's Liberation Movement; the struggle for women's rights, American attitudes towards women, new conceptions of feminine sexuality, and alternative male-female relationships.

**SOCI 4535: MINORITIES IN AMERICA**

Economic, political, and social status of minority subcultures; the changing nature of minority-majority relations.

**SOCI 4631: SOCIAL SCIENCES RESEARCH TECHNIQUES**

*Prerequisite: STAT 3231 or equivalent.* Design, analysis, and application of social science research techniques.

**SOCI 4731: SEMINAR ON RELIGION AND SOCIETY**

Sociological examination of religious groups and their beliefs; reciprocal relationships between society and religious institutions.

**SOCI 4931: TOPICS IN SOCIOLOGY**

*Identified by specific title each time course is offered.*

**SOCI 5031: EDUCATIONAL SOCIOLOGY**

Social, political, and legal foundations of elementary and secondary education; equality of educational opportunity; proposed and operational structural changes.

**SOCI 5065: RESEARCH DESIGN AND STATISTICAL MEASUREMENT**

Design, analysis, and application of social science research techniques and methods of measurement.

**SOCI 5131: EDUCATION AND CULTURAL CHANGE**

Cultural change resulting from educational systems and processes; emphasis on integration and acculturation.

**SOCI 5231: DESIGN AND EVALUATION OF BEHAVIORAL RESEARCH**

*Prerequisite: STAT 5031 or equivalent.* Principles of sound investigation and reasoning in behavioral sciences. Intended for consumers as well as producers of research.

**SOCI 5331: CULTURAL DEVELOPMENT THROUGH EDUCATIONAL FORCES**

Analysis of the national system utilizing educational ideas and practices to achieve national cultural aims and objectives.

**SOCI 5332: SOCIOLOGY OF THE FUTURE**

The future in relation to basic social structures such as city, family, and church in the post-industrial society.

**SOCI 5333: MINORITY VALUE SYSTEMS**

Value assumptions and ethical commitments of selected American minority groups; the experiential "otherness" of such groups.

**SOCI 5334: RELIGION AND SOCIAL CHANGE**

Religious movements as agents of social change, preservation, or reaction.

**SOCI 5431: SOCIOLOGY OF LAW ENFORCEMENT**

Historical development and sociological studies of the role of the police.

**SOCI 5432: STUDY OF THE FUTURE**

Survey of forecasting methods as applied to the concept of "limits to growth."

**SOCI 5433: MAN'S FUTURE IN SPACE**

Prognosis for space exploration in near and long term future.



**SOCI 5531: CRITICS OF SOCIETY**

Modern radical thought in North America; the relationship between forms of intellectual dissent and theories or images of society.

**SOCI 5533: COMMUNICATIONS AND SOCIAL CHANGE**

The impact of new communications systems upon life in the present and future.

**SOCI 5534: MULTINATIONAL CORPORATIONS**

Present and future influence of international businesses on human life.

**SOCI 5731: SEMINAR IN MULTI-CULTURAL STUDIES**

Aspects of multi-cultural life in contemporary social theory.

**SOCI 5732: SEMINAR ON CONTEMPORARY SOCIAL THEORY**

Concentrated study of one or more schools of contemporary social theory.

**SOCI 5733: RESEARCH SEMINAR**

*Prerequisite: SOCI 5065 or equivalent.* Group collaboration on research concerning a particular topic. *May be repeated for credit.*

**SOCI 57v9: GRADUATE PRACTICUM**

*(Variable credit, 1-6 semester hours)*

*Prerequisites: Master's degree candidacy and approval of instructor.* Work experience in an approved social service agency; written and oral reports required.

**SOCI 5931: RESEARCH TOPICS IN SOCIOLOGY**

*Identified by specific title each time course is offered.*

**SOCI 59v9: PROBLEMS IN SOCIOLOGY**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**SOCI 6131: SOCIAL STRATIFICATION**

Wealth, power, and prestige in American society; ethnic, sexual, and socio-economic correlates of social status and mobility.

**SOCI 6132: SOCIOLOGY OF PUNISHMENT AND CORRECTION**

Punitive and rehabilitative responses to crime; theoretical applications and research results.

**SOCI 6331: FORECASTING TECHNIQUES**

*Prerequisite: SOCI 4136 or equivalent.* Forecasting methods currently in use; applications and liabilities.

**SOCI 6332: FORECASTING BY SIMULATION AND MODELING**

How simulation and modeling have been and can be employed for social predictions.

**SOCI 6333: RADICAL FUTURES**

Revolutionary images of the future as projected by Marxist, Maoist, Soviet, black radical, feminist, and libertarian writers.

**SOCI 6334: TECHNOLOGY AND SOCIETY IN THE FUTURE**

Anticipated social effects of present and future technologies.

**SOCI 6335: TECHNOLOGY AND ETHICS IN THE FUTURE**

Future prospects of moral and ethical problems regarding mankind's use of technology.

**SOCI 6431: DEMOGRAPHIC PROJECTIONS**

The study of population, age composition, and other demographic factors; national and world implications of projections from these data.

**SOCI 6731: SEMINAR IN FUTURES STUDIES**

Latest techniques, issues, and controversies related to futures studies.

**SOCI 67v9: GRADUATE INTERNSHIP**

*(Variable credit, 1-9 semester hours)*

*Prerequisites: 12 hours of graduate level course work and approval of Internship Committee.* Minimum of two days a week in an approved internship setting. Written report required.

**SOCI 68v9: MASTER'S PROJECT RESEARCH**

*(Variable credit, 1-9 semester hours)*

**SOCI 69v9: MASTER'S THESIS RESEARCH**

*(Variable credit, 1-9 semester hours)*

## SPANISH

**SPAN 3331;3332: ADVANCED GRAMMAR AND COMPOSITION**

Structure of Spanish, with special attention to syntactical patterns in formal usage; idiomatic aspects of the spoken language and principal dialects.

**SPAN 3531: SPANISH FOR SPANISH SPEAKERS**

Complex syntactical structures and dialect variants; emphasis on characteristics of Spanish as spoken in the American Southwest.

**SPAN 3532;3533: SPANISH CONVERSATION AND PHONETICS**

*Prerequisite: SPAN 3331 or 3531 or equivalent.* Development of oral fluency in Spanish; emphasis on descriptive phonetics.

**SPAN 39v9: READINGS IN SPANISH**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*

**SPAN 4031: SPANISH CULTURE AND CIVILIZATION**

*Conducted in Spanish*

Interdisciplinary study of Spanish culture and civilization; major developments in Spanish from the Roman conquest to modern times.

**SPAN 4032: SPANISH-AMERICAN CULTURE AND CIVILIZATION**

Interdisciplinary examination of the development and characteristics of contemporary Spanish America.

**SPAN 4331: MODERN MEXICAN LITERATURE**

*Conducted in Spanish.*

Selected readings in 20th-century Mexican literature; emphasis on the literary expression of the formation of the Mexican National consciousness.

**SPAN 4332: MEXICAN-AMERICAN WRITING**

*Conducted in Spanish.*

The Mexican-American and Chicano experience as reflected in contemporary America in writing.

**SPAN 4541: THE MYSTICAL TRADITION IN SPANISH CULTURE**

The centrality of mysticism to Spanish life and history; emphasis on the 16th-century mystics, the Jesuits and Spanish religious painting and sculpture.

**SPAN 4931: SELECTED TOPICS IN SPANISH**

*Identified by specific title each time course is offered.*

**SPAN 5332: UNAMUNO AND ORTEGA**

*Conducted in Spanish.*

Emphasis of Unamuno's and Ortega's philosophy of man and their interpretation of man's contemporary condition.

**SPAN 5931: RESEARCH TOPICS IN SPANISH**

*Identified by specific title each time course is offered.*

**SPAN 6939: MASTER'S THESIS RESEARCH**

## STATISTICS

**STAT 3231;3232: QUANTITATIVE METHODS FOR THE BUSINESS, SOCIAL, AND BIOLOGICAL SCIENCES**

*Prerequisite: College algebra or equivalent.* Introduction to probability and statistics; sample statistics, probability distributions, confidence intervals, estimation, tests of significance, analysis of variance, chi-square, regression.

**STAT 4131: SURVEY AND SAMPLING THEORY**

*Prerequisite: 3 hours in statistics.* Sampling from finite populations, multistage sampling, stratification; non-sampling errors; applications to large scale sample surveys.

**STAT 4132: NONPARAMETRIC STATISTICS**

*Prerequisite: STAT 3232 or equivalent.* Application of nonparametric statistical tests to research data in behavioral and natural sciences, business, and public affairs.

**STAT 4431; 4432: PROBABILITY AND STATISTICS**

*Prerequisite: Calculus.* Combinatorial probability, probability distributions, use of discrete and continuous functions; introduction to estimation and testing of hypotheses.

**STAT 4531: FORECASTING SYSTEMS**

*Prerequisite: STAT 3332 or equivalent.* Techniques for forecasting; time series, statistical methods, and analysis of error.

**STAT 5031: DATA ANALYSIS TECHNIQUES**

*Prerequisite: College Algebra or equivalent.* Noncalculus treatment of descriptive statistics, probability distributions, tests of hypotheses, correlation and regression analysis, and introductory topics in the analysis of variance.

**STAT 5131: ADVANCED DATA ANALYSIS**

*Prerequisite: STAT 5031 or equivalent.* Classical analysis of covariance; uses of experimental designs and the analysis of variance table.

**STAT 5231: DECISION THEORY AND APPLICATIONS**

*Prerequisite: STAT 4432 or equivalent.* Bayesian and minimax strategies and their application to decision problems involving statistical uncertainty.

**STAT 5233: APPLICATIONS OF PROBABILITY THEORY**

*Prerequisite: STAT 4432 or equivalent.* Uses of random walks, Markov chain processes, diffusion, branching processes, and special properties of continuous and discrete random variables.

**STAT 5331: DESIGN OF EXPERIMENTS**

*Prerequisite: STAT 3232 or equivalent.* Classical analysis of covariance; uses of experimental designs and the analysis of variance table.

**STAT 5332: STATISTICAL METHODOLOGIES FOR BEHAVIORAL RESEARCH**

*Prerequisite: PSYC 4731 or equivalent.* Problems of statistical design analysis associated with advanced research.

**STAT 5431;5432: MATHEMATICAL STATISTICS**

*Prerequisite: Stat 4432 or equivalent.* Distributions of sample statistics, order statistics, limit theorems, likelihood procedures and stochastic processes.

## THEATRE

**Please Note: All Writing Courses are listed under Communications (COMM).**

**THEA 3131: CONTEMPORARY THEATRE**

The nature of theatre arts and the function of the actor, director, designer, and playwright in the contemporary theatre. Analysis of plays on stage, television, and in film; also forms of musical drama. Staged readings and demonstrations of theatre technology.

**THEA 3133: THE DANCE AND SOCIETY**

Approaching the dance as an art form. The dancer as both artist and individual; the role of dance and the dancer in our society.

**THEA 3135: THEATRE HISTORY: ORIGINS THROUGH 1700**

Examination of the plays, players, playhouses, and staging conventions of the major periods in theatrical history.

**THEA 3136: THEATRE HISTORY: 1700 TO THE PRESENT DAY**

Examination of the plays, players, playhouses, and staging conventions of the major periods in theatrical history.

**THEA 3137: HISTORY OF DANCE**

Theatrical dancing from its roots in primitive culture to the present and its relationships to social and political trends.

**THEA 3231: INTERPRETATION**

Reading plays for enunciation, timing, and expression.

**THEA 3233: INTERMEDIATE ACTING**

*Prerequisite: permission of instructor.* Body movement, characterization, structuring scenes. One hour per week laboratory will be required as part of the course. *May be repeated for credit.*

**THEA 3235: FUNDAMENTALS OF DANCE AND STAGE MOVEMENT**

Techniques of movement and concepts of dance for the nondancer. *May be repeated for credit.*

**THEA 3330: THE THEATRE AND THE AMERICAN EXPERIENCE**

Examination of the evolution of the American drama with emphasis on the theatre as a reflective art which mirrors contemporary socio-political events.

**THEA 3331: STAGE MAKEUP**

Study of the fundamental concepts of makeup for the stage with laboratory session for the application of theory.

**THEA 3333: INTERMEDIATE DIRECTING**

Concepts of stage direction; analysis of scripts; presentation of brief scripts.

**THEA 3335: STYLE AND THEORY OF DANCE**

A practical study in anatomical placements and movement techniques as applied to modern and contemporary ballet. *May be repeated for credit.*

**THEA 3430: THEATRE MANAGEMENT**

An examination of the responsibilities and business procedures relating to theatrical management. Discussion of publicity techniques, box office systems, record keeping, and general management methods.

**THEA 3431: THEATRE WORKSHOP**

Practical and theoretical elements of theatre. *May be repeated for credit.*

**THEA 35v9: PERFORMANCE**

*(Variable credit, 1-6 semester hours)*

Participation as performer or technician in a major university production. *May be repeated for credit.*

**THEA 39v9: PROJECTS IN THEATRE**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of instructor and program director.*

**THEA 4031: THEATRE FOR THE HIGH SCHOOL TEACHER**

Examination of recent developments in teaching methods, literature, and materials for the instruction of theatre. Study of principles for choosing, planning, rehearsing, funding, and staging the high school play.

**THEA 4131: RITUAL: ORIGINS OF THEATRE**

The role of ritual in daily life and its influence upon the origin and development of Western drama. The insights of anthropology, psychology, and linguistics into man's needs as a symbol-making being. Use of role-playing and improvisation.

**THEA 4233: ADVANCED ACTING**

*Prerequisite: THEA 3233 or permission of instructor.* Styles of acting, ensemble playing, large scenes, one-act play. One hour per week laboratory required as part of the course. *May be repeated for credit.*

**THEA 4333: ADVANCED DIRECTING**

Movement of actors; analysis, blocking, and presentation of selected materials.

**THEA 4335: DANCE COMPOSITION**

An exploration of the elements of dance and the craft of making dances. *May be repeated for credit.*

**THEA 4431: TECHNICAL THEATRE**

An overview of the fundamental techniques of technical theatre with emphasis on the latest developments in stage construction.

**THEA 4433: TECHNIQUES OF STAGE COSTUMING**

Focus on the historical trends in fashion and on the fundamentals of costume design and construction.

**THEA 4434: THE HISTORY OF COSTUME**

Study of fashion trends from ancient Egyptian to contemporary styles. Emphasis on the adaptation of historical dress to stage production.

**THEA 4435: STAGE LIGHTING**

Study of the design and capabilities of lighting equipment, theories of light design, and methods of technical execution.

**THEA 4437: SCENE DESIGN**

Exploration of essential design techniques and application to various artistic styles of production.

**THEA 45v9: PRODUCTION**

*(Variable credit, 1-6 semester hours)*

Mounting a production.

**THEA 4631: CHILDREN'S THEATRE**

Choosing and presenting plays for children.

**THEA 4731: SEMINAR ON THE ART OF FILM**

Dramatic, narrative, and visual aesthetics of cinematic art; critical viewing of selected film classics.

**THEA 4931: SELECTED TOPICS IN THEATRE**

*Identified by specific title each time course is offered.*

**THEA 49v9: SENIOR PROJECT IN THEATRE**

*(Variable credit, 1-6 semester hours)*

**THEA 5133: KINESIOLOGY FOR THE DANCER**

Study of skeletal structure and human musculature, stressing the analysis of dance movement from an anatomical base and the roles of the nervous and cardio-vascular systems.

**THEA 5135: DANCE PEDAGOGY**

*Prerequisite: THEA 5133.* The basics of teaching dance, including preparing the muscles for activity, applying kinesiological principles to the classroom, preparing a class, developing a curriculum, and meeting the collective needs of a class while meeting the needs of the individual within the class.

**THEA 5139: SHAKESPEAREAN PRODUCTION**

Readings, discussions, and demonstrations in the art of acting and directing Shakespeare's plays. Study of research methods, staging techniques, style selection.

**THEA 5233: MUSIC AND THE DANCE**

Focus on the rhythmic base of dance movement. Meter, melodic phrasing, and harmonic texture are studied in their relationship to movement. The history of the relationship of dance and music.

**THEA 5235: CONTEMPORARY DANCE FORMS**

The latest developments in theatrical dance as an art form, beginning with theoretical knowledge of accepted contemporary forms such as the "Graham technique" and stressing more recent avant garde activities, especially essays into nonproscenium dance.

**THEA 5331: ADVANCED CHOREOGRAPHY**

The student, under direct supervision, will undertake a major choreographic project.

**THEA 5432: DRAMATIC THEORY AND CRITICISM**

History of major creative methods and theories of dramaturgy from the Greeks to the present.

**THEA 54v9: PERFORMANCE**

*(Variable credit, 1-6 semester hours)*

Acting/dancing and serving in key support roles.

**THEA 55v9: PRODUCTION**

*(Variable credit, 1-6 semester hours)*

Directing/choreography and design.

**THEA 5731: SEMINAR: CENTERING IN DANCE AND THE DANCER**

Readings, discussion, and movement activity designed to illuminate the inter-connectedness of the physical, psychological, and philosophical processes of centering in the dance and the dancer.

**THEA 58v9: PROJECTS RESEARCH**

*(Variable credit, 1-6 semester hours.)*

**THEA 5931: RESEARCH TOPICS IN THEATRE****THEA 59v9: PROBLEMS IN THEATRE**

*(Variable credit, 1-6 semester hours)*

## TRANSPORTATION

**TRAN 3131: FUNDAMENTALS OF TRANSPORTATION**

Design, operation, and control of systems for providing transportation services.

**TRAN 3132: TRANSPORTATION AND PUBLIC CONTROL**

Types, methods, and impact of public regulation on transportation systems; responsibilities of control agencies.

**TRAN 3331: TRANSPORTATION RATE STRUCTURES**

Factors and procedures involved in the pricing of transportation services; emphasis on public regulation of pricing of transportation services.

**TRAN 3531: APPLIED LOGISTICS MANAGEMENT**

Problems encountered by transportation firms; application of computers to solution of logistics problems.

**TRAN 3739: UNDERGRADUATE INTERNSHIP IN TRANSPORTATION**

*Prerequisites: 15 hours of upper-level credit and approval of program director. Six hours of supervised work experience each week in an approved transportation organization.*

**TRAN 4332: LOGISTICS AND TRAFFIC MANAGEMENT**

Distribution systems, movement and handling of goods and people; inventory, warehousing, tariff determination, and plant location.

**TRAN 4731: TRANSPORTATION MANAGEMENT**

*Prerequisite: MGMT 3031.* Transportation management problems in the United States and possible solutions.

**TRAN 4931: SELECTED TOPICS IN TRANSPORTATION**

*Prerequisite: ECON 5031 or equivalent.* Principles of transportation with application to metropolitan areas; demand, cost, technology, and political dimensions.

**TRAN 5031: ECONOMICS OF METROPOLITAN TRANSPORTATION**

*Prerequisite: ECON 5031 or equivalent.* Principles of transportation with application to metropolitan areas; demand, cost, technology, and political dimensions.

**TRAN 5131: TRANSPORTATION AND TECHNOLOGY**

The impact of technological change on transportation services; modification of business practices to accommodate transportation changes.

**TRAN 5132: COST ACCOUNTING FOR TRANSPORTATION**

Cost aspects of the transportation industry; personnel, facilities, budgeting, and control.

**TRAN 39v9: PROJECTS IN TRANSPORTATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and project director.* Individual projects and planned readings in transportation studies.

**TRAN 4331: URBAN TRANSPORTATION**

Problems of moving people and commodities in the urban setting; transportation requirements of large population concentrations.

**TRAN 5133: ANALYSIS OF LOGISTICS PROBLEMS**

The evaluation of problems relating to distribution systems within an organization. Use of quantitative methods for the solution of logistics problems.

**TRAN 5331: TRANSPORTATION MANAGEMENT**

Management theory as applied to the design and control of production and distribution of transportation services.

**TRAN 5332: TRANSPORTATION MANAGEMENT**

*No credit if student has credit for TRAN 3131.* The analysis of cost, demand, and pricing problems of transportation companies. Emphasis on management problems peculiar to the transportation firm: rates, service, and regulations.

**TRAN 5531: TRANSPORTATION FINANCE**

Revenue sources and expenditures of transportation systems; emphasis on economic changes as determinants of financial practices in transportation.

**TRAN 5931: RESEARCH TOPICS IN TRANSPORTATION**

*Identified by specific title each time course is offered.*

**TRAN 59v9: PROBLEMS IN TRANSPORTATION**

*(Variable credit, 1-6 semester hours)*

*Prerequisite: approval of advisor and instructor.*



**TRAN 6731: SEMINAR ON TRANSPORTATION POLICY**

Public transportation policy at the federal, state, and local levels; opportunity for individual concentration on a single transportation mode.

**TRAN 6733: SEMINAR ON MOTOR TRANSPORTATION**

The effects of economics and regulatory policies on contemporary motor transportation.

**TRAN 6734: SEMINAR ON COMMERCIAL AIR TRANSPORTATION**

The effects of economic and regulatory policies on contemporary air transportation.

**TRAN 6735: SEMINAR ON RAIL TRANSPORTATION**

The effects of economics and regulatory policies on contemporary rail transportation.

**TRAN 6736: SEMINAR ON WATER TRANSPORTATION**

The effects of economic regulatory policies on contemporary water transportation.

**TRAN 67v9: GRADUATE INTERNSHIP IN TRANSPORTATION MANAGEMENT**

*(Variable credit, 1-6 semester hours)*

*Prerequisites:* masters degree candidacy and approval of advisor and dean. Supervised internship with either a transportation company or a corporation engaged in the shipment of goods.

**TRAN 6931: SELECTED TOPICS IN TRANSPORTATION**

*Identified by specific title each time course is offered.*

**TRAN 6939: MASTER'S THESIS RESEARCH**

## **URBAN STUDIES**

**URBN 5131: THEORY AND PRACTICE OF URBAN PLANNING**

Planning theory and methodology: past, present, and future of planning practices; contributions made by other disciplines with particular reference to philosophical, social, and physical science concepts; professional and societal contexts of regional, community, and site planning.

**URBN 5132: INVESTIGATIVE METHODS FOR METROPOLITAN STUDIES**

Qualitative/quantitative statistical methods in land use planning; their use in documenting population, economic, environmental, land resources, and other variables as an input into planning studies and projects.

**URBN 5231: DESIGN OF URBAN ENVIRONMENTS**

Study and design of contemporary habitats and inventing possible future forms; emphasis on visual-spatial qualities, space/behavior, and environment; residential, commercial, and other types of development.

**URBN 5232: SITE PLANNING AND DESIGN**

Principles and techniques of site utilization and design; basic site considerations for land planning and development practice; integrative planning for innovative site design solutions.

**URBN 5332: URBAN AND SUBURBAN TRENDS**

Application of allocative and innovative planning to social, economic, and environmental problems of modes of living and employment; rural/urban fringe problem, preservation of prime agricultural lands, and the costs of sprawl.

**URBN 5431: LOCATION AND SPACE ECONOMY**

Regional planning and development; demand/supply, cost-benefit, cost-effectiveness, economic base, and input/output analyses for regional planning projects; regional growth, economies/diseconomies of scale, and intermediate technology; trade-offs between technologically feasible solutions and social considerations of government.

**URBN 5432: PLANNING LAW**

Introduction to enabling legislation for planning and governmental jurisdictions; dedication, official map, eminent domain, and other property acquisition techniques; land use regulations including planned unit development (PUD) contract and performance standards, building regulations, subdivision regulations, deed restrictions, zoning, and nuisance ordinances; limitations and possible remedies such as development rights transfer, holding capacity, pooled ownership, and leasehold tenure.

**URBN 5531: HOUSTON METROPOLITAN REGION**

Application of regional planning methodology to projects of regional impact in the Houston metropolitan area; use of computer-aided historical, economic, social, political, and land resources background information as a component in anticipatory planning.

**URBN 59v9: PROBLEMS IN URBAN AND REGIONAL PLANNING**

*(Variable credits, 1-6 semester hours)*

*Prerequisite: approval of advisor and problem director.*

**URBN 6131: METROPOLITAN PLANNING**

Introduction to regional land use planning projects and their effects on the environment; housing, shopping centers, hospitals, rehabilitation centers, transportation, airports, seaports, parks planning; performance standards versus traditional development criteria and regional, community, and site planning elements.

**URBN 6132: LAND USE PLANNING**

Analysis of land use planning methodology; techniques of carrying out surveys and analyses of population activity systems and land use are evaluated; computer-aided land use modelling.

**URBN 6331: EMPLOYMENT IN CENTRAL CITIES**

Land use conflicts arising from employment activity generators versus availability of human resources in the region; implications for joint public/private sector planning efforts and manpower redevelopment, corporate centralization/decentralization, and satellite centers.

**URBN 6332: URBAN ACCOUNTING AND SOCIAL INDICATORS**

Construction and application of regional accounts for information systems; development of social indicators as measures of the state of the region; their use in the planning process to assess met/unmet demand and socio-economic impact for areas, services, and facilities.

**URBN 6333: PLANNING AND SOCIAL STRUCTURE**

Planning and development of new communities, rehabilitation and regeneration of declining communities and settlements; analyses and implications of social structure, cultural values, and economic constraints as input for planning by objectives.

**URBN 6334: PLANNING OF SERVICE DELIVERY SYSTEMS**

Service delivery systems as part of the areawide planning process; service delivery systems modeling in the context of organizational theory, staffing, financing, and evaluation; coordination between services and housing; issues of accessibility, availability, quality, continuity, appropriateness, and anticipatory planning.

**URBN 6739: GRADUATE INTERNSHIP IN URBAN AND REGIONAL PLANNING**

*(Credit, 3 semester hours)*

*Prerequisite: master's degree candidacy and approval of advisor and dean. Supervised internship in approved agency; written and oral reports required.*

**URBN 6931: SELECTED TOPICS IN URBAN AND REGIONAL PLANNING**

*Identified by specific title each time course is offered.*

**URBN 6939: MASTER'S THESIS RESEARCH**



# Faculty Roster

*Full-time personnel with academic rank as of Spring Semester 1977.*

- ALLISON, RICHARD, Associate Professor in Environmental Management and Resource Utilization; B.A., M.A., North Texas State University; Ph.D., Texas A&M University
- BALDWIN, JOSEPH A., Assistant Professor in Behavioral Sciences; B.A., DePaul University; M.A., Roosevelt University; Ph.D., University of Colorado
- BASKIN, OTIS W., Assistant Professor in Business and Industrial Management; B.A., Oklahoma Christian College; M.A., University of Houston; Ph.D., University of Texas at Austin
- BELL, LINDA, Assistant Professor in Behavioral Sciences; B.A., Oberlin College; M.A., University of Texas at Austin; Ph.D., Duke University
- BENSON, JAMES C., Instructor in Law and the Citizen and Public Management; B.A., Texas A&M University; M.A., Sam Houston State University
- BILSTEIN, ROGER E., Associate Professor in Historical Studies, Humanities, and Studies of the Future; B.A., Doane College; M.A., Ph.D., Ohio State University
- BISHOP, PETER C., Associate Professor in Behavioral Sciences, Humanities, and Mathematical Sciences; B.A., St. Louis University; M.A., Ph.D., Michigan State University
- BLANFORD, GEORGE E. JR., Assistant Professor in Physical Sciences and Mathematical Sciences; B.A., Catholic University of America; M.S., University of Louisville; Ph.D., Washington University
- BOWMAN, JIM R., Associate Professor in Professional Education and Studies of the Future; B.S., B.A., M.S., Kansas State College; Ph.D., University of Oklahoma
- BOWN, RODNEY L., Assistant Professor in Avionics Instrumentation, Mathematical Sciences and Computer Applications to Industrial Processes; B.S., University of Washington; M.S., Naval Post-Graduate School; Ph.D., University of Texas at Austin
- BOZE, FLOYD D., Professor in Professional Education; B.A., M.S., East Texas State University; Ed.D., University of Tennessee
- BOZE, NANCY S., Professor in Professional Education; B.S., Southern Methodist University; M.Ed., University of Houston
- BRIDGES, JUANITA R., Assistant Professor in Professional Education; B.S., Southern Methodist University; M.Ed., University of Houston
- BROWN, SUZANNE E., Assistant Professor in Professional Education and Mathematical Sciences; B.S., Southwest Texas State University; M.A., Ph.D., Texas A&M University
- BRUCKNER, NANETTE J., Associate Professor in Behavioral Sciences and Studies of the Future; B.A., M.A., Hunter College; Ph.D., City University of New York
- BRUNO, JOAN D., Assistant Professor in Accounting; B.S., M.S., Ph.D., Louisiana State University (C.P.A.)
- BRUNO, SAM J., Associate Professor in Business and Industrial Management; B.B.A., Lamar University; M.S., Ph.D., Louisiana State University

- CALLAGHAN, DONALD F., Associate Professor in Administration of Health Services; B.B.A., University of Miami; M.H.A., Baylor University; Ph.D., Louisiana State University
- CALVERT, LINDA M., Assistant Professor in Business and Industrial Management; B.A., University of Houston; M.B.A., University of New Orleans; Ph.D., Louisiana State University
- CANNON, W. CALVIN, Dean, School of Human Sciences and Humanities and Professor in Humanities; B.A., Baylor University; M.A., Ph.D., Tulane University; M.A., Amherst College
- CARTER, JOHN L., Professor in Professional Education and Behavioral Sciences; B.A., Sam Houston State University; Ph.D., University of Texas at Austin
- CARTER, RONALD L., Assistant Vice Chancellor and Provost and Assistant Professor in Urban and Regional Planning; B.A., Northeastern Oklahoma State University; M.A., Ph.D., University of Oklahoma
- CHANEY, WARREN H., Assistant Professor in Business and Industrial Management and Administration of Health Services; B.S., Austin Peay State University; M.B.A., St. Mary's University; Ph.D., North Texas State University
- CHAZEN, PATRICIA L., Assistant Professor in Physical Sciences and Education Related Sciences; B.S., Ph.D., Michigan State University
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- CLONINGER, DALE O., Associate Professor in Finance and Economics; B.S., Georgia Institute of Technology; M.B.A., Emory University, D.B.A., Florida State University
- CLOUSER, JAMES B., Associate Professor in Theatre Arts; B.A., Goddard College
- COBB, ANTHONY T., Instructor in Business and Industrial Management; B.A., California State University; MUP, Wayne State University
- COLEMAN, A. EUGENE, Associate Professor in Health, Leisure, and Sports, Behavioral Sciences, and Professional Education; B.S., Lamar State College of Technology; M.Ed., University of Oklahoma; Ed.D., University of Texas at Austin
- COLLINS, GEORGE C., Assistant Professor in Computer Applications to Industrial Processes and Process Monitoring and Control; B.A., MEE, Ph.D., Rice University
- COOMER, JAMES C., Assistant Professor in Public Management and Studies of the Future; B.A., Carson-Newman College; M.A., Georgia State University; Ph.D., University of Tennessee
- CRISCOE, BETTY L., Associate Professor in Professional Education; B.A., M.A., East Texas State University; Ph.D. Syracuse University
- CZARSTY, STEVEN L., Assistant Professor in Accounting; B.S., University of Hartford; MBA, University of Connecticut; DBA, George Washington University
- DECELLE, GERARD E., Instructor in Accounting; BSA, Bentley College; MBA, Suffolk University (C.P.A.)
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- DEVRIES, NICK J., Assistant Professor in Applied Design and Visual Arts; B.S., Hardin-Simmons University; B.F.A., University of Houston; M.F.A., University of Oklahoma
- DICKERMAN, WILLIAM C., Instructor Professional Education and Humanities, and Coordinator of Audio-Tutorial Studies; B.A., M.A., University of Michigan
- DICKERSON, EDWARD T., Assistant Professor in Process Monitoring and Control; B.S.E.E., M.E.E., Ph.D., Texas A&M University
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- DOYLE, PATRICK H., Assistant Professor in Behavioral Sciences, Professional Education and Business and Industrial Management; B.A., M.A., Ph.D., Wayne State University
- EISNER, HOWARD C., Associate Professor in Behavioral Sciences; B.A., Oberlin College; Ph.D., University of Michigan
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- EVERDING, ROBERT G., Assistant Professor in Theatre Arts, Professional Education and Literature; B.A., University of Missouri; M.A., University of Minnesota; A.M., Ph.D., Stanford University
- FIELDS, KENT T., Assistant Professor in Accounting, Information Systems and Retrieval, and Computer Applications to Industrial Processes; B.B.A., North Texas State University; M.P.A., University of Texas at Austin
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- FREEDMAN, GLENN B., Assistant Professor in Professional Education and Humanities; B.A., Wake Forest University; M.Ed., Ph.D., University of North Carolina
- FRONCZAK, JOHN E., Instructor in Applied Design and Visual Arts and Humanities; B.A., California State College; M.F.A., Miami University
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- GONZALEZ, JUAN, Associate Professor in Professional Education and Literature; B.A., Pan American University; M.A., Texas A&M University; Ph.D., University of Texas at Austin
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- KRAUSS, HERBERT H., Professor in Behavioral Sciences and Humanities; B.S., M.S., Pennsylvania State University; Ph.D., Northwestern University
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- LEIBFRIED, THEODORE F. JR., Assistant Professor in Computer Applications to Industrial Processes, Process Monitoring and Control, and Mathematical Sciences; M.E., Stevens Institute of Technology; M.B.A., Stanford University; M.E., University of Virginia; Ph.D., Rice University
- LEKKOS, ANTHONY A., Assistant Professor in Computer Applications to Industrial Processes and Information Systems and Retrieval; B.S., University of Athens; M.S., Baylor University; Ph.D., Southern Methodist University
- LINDEMAN, MONICA H., Assistant Professor in Urban and Regional Planning, Environmental Management, and Studies of the Future; B.A., M.A., University of British Columbia; Ph.D., University of Washington
- LIPTON, DEBORAH, Assistant Professor in Humanities; B.A., Smith College; M.A., Columbia University; Ph.D., New York Institute of Fine Arts
- LOWERY, MARIE J., Associate Professor in Professional Education; B.M., M.M.E., North Texas State University; Ed.D., University of Houston
- MCCLINTOCK, ROBERT E., Professor in Professional Education; B.S., University of South Carolina; M.A., Ph.D., George Peabody College for Teachers
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- MARCHESINI, ROBERTO, Associate Professor in Finance and Economics; B.A., St. Edward's University; M.A., Ph.D., University of Texas at Austin
- MATTHEWS, FRANK F., Assistant Professor in Mathematical Sciences and Professional Education; B.S., California Institute of Technology; M.S., Ph.D., Ohio State University
- MAYO, NOLIE B., Assistant Professor in Professional Education; B.Ed., M.Ed., University of Miami; Ed.D., Memphis State University
- MERESMAN, JOEL F., Assistant Professor in Behavioral Sciences; B.A., University of California at Berkeley; M.A., California State University; Ph.D., University of Minnesota
- MEZZINO, MICHAEL J. JR., Associate Professor in Mathematical Sciences; B.A., Austin College; M.A., Kansas State College; Ph.D., University of Texas at Austin
- MIESZKOWSKI, GRETCHEN, Associate Professor in Literature and Humanities; B.A., Vassar College; M.A., Ph.D., Yale University
- MIRABILE, JOSEPH W., Assistant Professor in Finance; B.A., SUNY at New Paltz; M.B.A., Long Island University; Ph.D., Georgia State University
- MOSELEY, S. KELLEY, Assistant Professor in Administration of Health Services; B.B.A., M.B.A., George Washington University; D.P.H., University of Texas at Houston School of Public Health
- MUSICK, PATRICIA L., Assistant Professor in Behavioral Sciences; M.A., Ph.D., Cornell University
- NATEMEYER, WALTER E., Assistant Professor in Business and Industrial Management and Behavioral Sciences; B.B.A., M.B.A., Ohio University; Ph.D., University of Houston
- NEEDY, CHARLES W., Assistant Professor in Economics; B.A., Southwest Missouri State College; M.S., Oklahoma State University; Ph.D., University of Florida
- NEUMANN, ALFRED R., Chancellor and Professor in Humanities; B.A., Marshall University; M.A., University of Kentucky; A.M., Harvard University; Ph.D., University of Michigan; LL.D., Marshall University
- NICKERSON, HAROLD W., Associate Professor in Business and Industrial Management; B.S., M.S., Texas Southern University; M.B.A., D.B.A., Indiana University
- OETTINGER, CRAIG M., Instructor in Behavioral Sciences; B.A., M.A., Brown University
- OHLMS, DANIEL E., Assistant Professor in Oceanographic Instrumentation, Computer Applications to Industrial Processes and Process Monitoring and Control; B.S., St. Louis University; M.S., Ph.D., Purdue University
- PALMER, BRUCE E., Assistant Professor in Historical Studies, Literature, and Humanities; B.A., Grinnell College; M.A., Ph.D., Yale University
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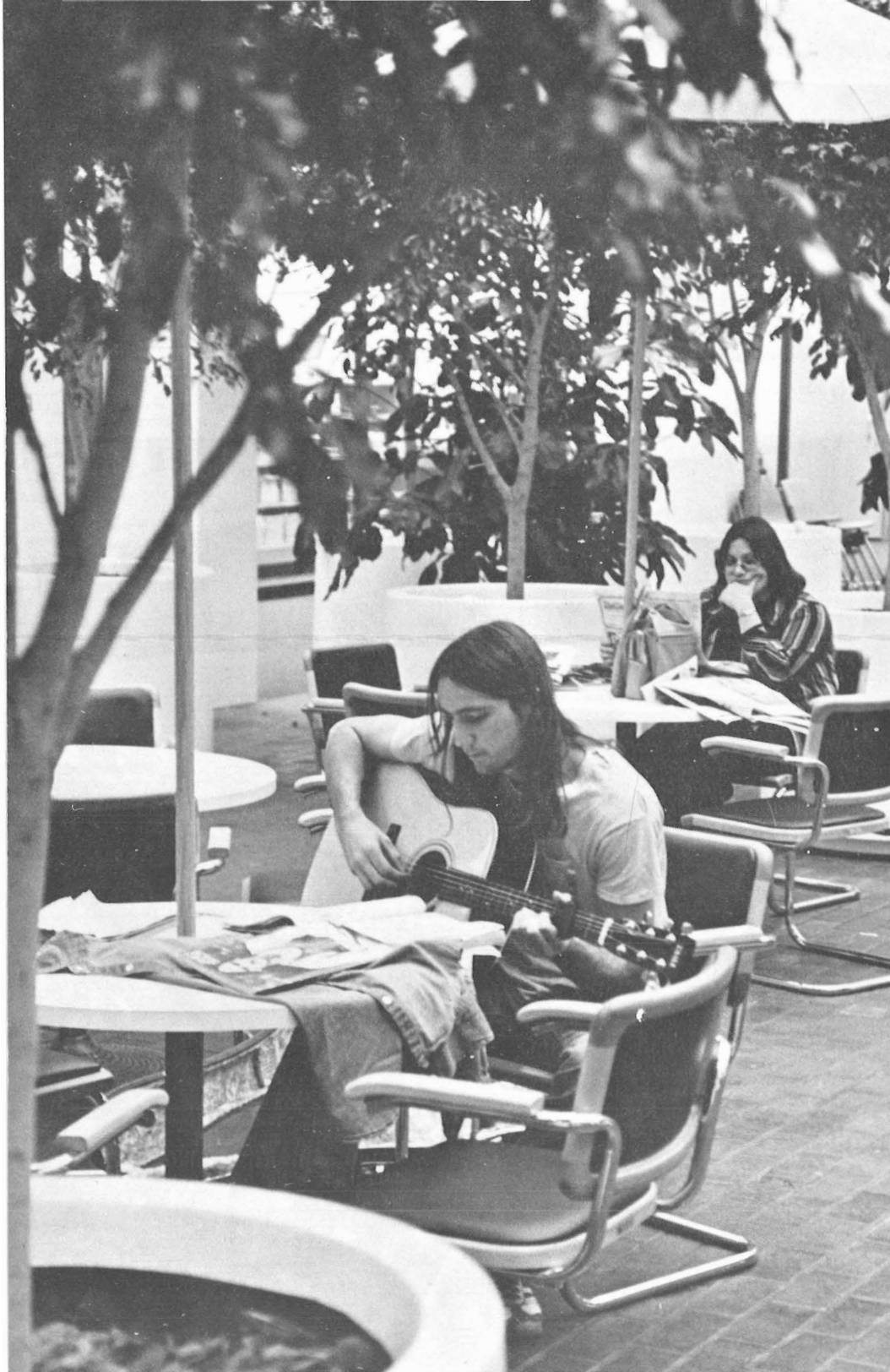
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## APPENDIX A

### H. B. 199 62ND TEXAS LEGISLATURE

#### AN ACT

relating to the establishment, organization, and control of the University of Houston at Clear Lake City; and declaring an emergency.

#### BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

Section 1. ESTABLISHMENT, LOCATION. There is established in Harris County, as recommended by the Coordinating Board, Texas College and University System, a coeducational institution of higher education to be known as the University of Houston at Clear Lake City. The university shall be located on land currently owned by the University of Houston, either land acquired by donation under Chapter 37, Acts of the 60th Legislature, Regular Session, 1967, or land generally adjacent to that land and also owned by the University of Houston.

Sec. 2. ORGANIZATION AND CONTROL. The organization and control of the university are vested in the board of regents of the University of Houston. With respect to this university, the board of regents has all the rights, powers, and duties that it has with respect to the organization and control of the University of Houston, except as otherwise provided by this Act. However, the University of Houston at Clear Lake City shall be maintained as a separate and distinct institution of higher education.

Sec. 3. ROLE AND SCOPE. The university shall be organized to offer only junior, senior, and graduate-level programs.

Sec. 4. ADVISORY COMMITTEE. (a) There is established a permanent advisory committee consisting of the president or a representative designated by him, of each tax-supported junior college and community college now existing or hereafter established in Harris, Galveston, Fort Bend, Waller, Montgomery, Liberty, Chambers or Brazoria County.

(b) The advisory committee shall biennially elect a chairman from among its members and may elect other officers. It shall make rules to govern the calling of meetings and the transaction of its business.

(c) The advisory committee shall periodically study the overall needs of the region mentioned in Subsection (a) of this section for the development of programs and resources in higher education, and as a result of its studies shall make recommendations to the board of regents of the University of Houston regarding the development of the departments and degree programs of the University of Houston at Clear Lake City. The board of regents shall give careful consideration to the recommendations of the advisory committee.

Sec. 5. AUTHORITY OF COORDINATING BOARD. The university is a general academic teaching institution, and as such it is subject to the authority of the Coordinating Board, Texas College and University System.

Sec. 6. SEVERABILITY. If any provision of this Act or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the Act which can be given effect without the invalid provision or application, and to this end the provisions of this Act are declared to be severable.

## APPENDIX B

### RULES AND REGULATIONS FOR DETERMINING RESIDENCE STATUS AND FOR DETERMINING TUITION RATES FOR FOREIGN STUDENTS

Pursuant to Title 3,  
Texas Education Code

Effective October 17, 1975

#### I. MINORS\*

*Statute: Section 54.052(b) An individual, under twenty-one (21) years of age, who is living away from his family, and whose family resides in another state or has not resided in Texas for the 12-month period immediately preceding the date of registration shall be classified as a nonresident student;*

*Section 54.052(c) An individual twenty-one (21) years of age or under whose family has not resided in Texas for the 12-month period immediately preceding the date of registration shall be classified as a nonresident student regardless of whether he has become the legal ward of residents of Texas or has been adopted by residents of Texas while he is attending an educational institution in Texas, or within a 12-month period before his attendance, or under circumstances indicating that the guardianship or adoption was for the purpose of obtaining status as a resident student;*

*Section 54.055 An individual 21 years of age or under whose parents were formerly residents of Texas is entitled to pay the resident tuition fee following the parents' change of legal residence to another state, as long as the individual remains continuously enrolled in a regular session in a state-supported institution of higher education.*

#### A. Death or Divorce of Parents

The legal residence of a minor under 21 years of age is usually that of the father. Upon the death of the father, the legal residence of the minor is that of the mother. Upon divorce or legal separation of the parents, the residence of the minor is determined by the residence of the parent with whom the minor is residing at the time of registration.

#### B. Custody by Court Order

If the custody of the minor has been granted by court order (e.g., divorce decree, child custody action, guardianship or adoption proceedings) to some person other than the parents, the residence of that person shall control; provided, however, that such grant of custody was not ordered during or within a year prior to the minor's enrollment in an institution of higher education (defined as any public junior college, public senior college or university, medical or dental unit or other agency of higher education) and was granted under circumstances indicating that such guardianship was not for the purpose of obtaining status as a resident student.

If the minor is not residing with either parent, and there is no court-appointed guardian, the residence of the parent with whom the minor last resided shall be presumed to control. If, however, the minor resided with, and has been dependent upon a grandparent for more than a year prior to enrollment in an institution of higher education, the residence of that natural guardian shall be regarded as the minor's residence. The residence of a person other than a parent or a natural or legal guardian, who may furnish funds for payment of tuition, fees, or living expenses shall in no way affect the residence classification of a minor.



### C. Abandoned Child

In the case of an abandoned child, the residence of a person who has stood *in loco parentis* for a period of time may determine the residence of such abandoned child. The fact of abandonment must be clearly established and must not have been for the purpose of affecting the residence of the minor, and the minor must have actually resided in the home of such person for two years immediately prior to registering in an institution of higher education in Texas and such person must have provided substantially all of the minor's support. In the event that the *in loco parentis* relationship has not existed for the full two year period, a lesser period of time is acceptable in unusual hardship cases, such as death of both parents.

### D. Orphan

An orphan who has lived for longer than a year in an established orphan's home in Texas operated by a fraternal, religious, or civic organization and has been graduated from the orphan's home shall be considered a resident of Texas provided such orphan remains in Texas from the time of such graduation until he or she enters an institution of higher education.

### E. Emancipated Child

Under certain circumstances, a minor may become emancipated or freed from parental control. If the minor's parents have ceased to exercise parental control and responsibility, if the minor is responsible for all of his or her own decisions and affairs, and if the minor is financially independent of parents, the minor may establish emancipation. A minor is financially independent if he or she receives less than \$600 a year from parents, and if the parents do not claim the minor as a dependent. If emancipation is clearly proven, the residence classification of the minor is determined by the residence of the minor rather than the residence of the parents, and after 12 months in Texas under such circumstances, the minor may be classified as a resident, if he or she otherwise satisfies the statutory requirements applicable to those over 21 (e.g., see presumption arising from residence while a student). Proof of emancipation is the responsibility of the minor.

### F. Married Minors

A minor who is married shall have the power and capacity of a single person of full age and is entitled to select his or her own place of legal residence. After 12 months' residence in Texas under such circumstances, the minor may be classified as a resident if he or she otherwise satisfies the statutory requirements applicable to those over 21 years of age. The residence classification for tuition purposes of a nonresident who marries a Texas resident shall be governed by the provisions of the tuition statute (Texas Education Code, §54.506) and of these rules and regulations as hereinafter set out.

### G. Minors Whose Parents Moved to Another State or Foreign Country

If the parents of a minor who is enrolled as a resident student move their legal residence to another state or foreign country on, or after August 15, 1971, the minor shall be classified as a nonresident at all subsequent registration periods. Under the provisions of Section 54.055, the minor will be entitled to pay the resident tuition fee as long as he or she remains continuously enrolled in a regular session in a public institution of higher education. The minor student must re-enroll for the next available regular semester immediately following the parents' change of legal residence to another state.

If the parents of a minor move to another state or foreign country, or reside outside the state or in a foreign country at the time of enrolling in an institution of higher education,

but claim legal residence in Texas, conclusive evidence must be presented that the father is still claiming legal residence in the State of Texas and that he has the present intent to return to the state. A certificate from the employer of the parents that the move outside the state was temporary and that there are definite plans to return the parents to Texas by a determinable future date may be considered in this connection.

If a minor whose parents have moved their legal residence to another state or foreign country resides in Texas for 12 consecutive months following his or her 21st birthday whose actions clearly indicate intention to establish permanent residence in the state, the minor may be classified as a resident student effective with the beginning of the term or semester following his or her 22nd\*\* birthday despite the fact that the minor's entire period of residence in Texas has been as a student.

When the parents of a minor who have established their legal residence in another state or foreign country return and reestablish their legal residence in Texas the minor must be classified as a nonresident until the first registration after the parents have resided in the state for a 12-month period following their return.

## II. RESIDENCE OF INDIVIDUALS OVER TWENTY-ONE

*Statute: Section 54.052(d) An individual twenty-one (21) years of age or over who has come from outside Texas and who is gainfully employed in Texas for a 12-month period immediately preceding registration in an educational institution shall be classified as a resident student as long as he continues to maintain a legal residence in Texas; and*

*Section 54.052(e) An individual twenty-one (21) years of age or over who resides out of the state or who has come from outside Texas and who registers in an educational institution before having resided in Texas for a 12-month period shall be classified as a nonresident student.*

*Section 54.054 A nonresident student classification is presumed to be correct as long as the residence of the individual in the state is primarily for the purpose of attending an educational institution. After residing in Texas for at least twelve (12) months, a nonresident student may be reclassified as a resident student as provided in the rules and regulations adopted by the Coordinating Board, Texas College and University System. Any individual reclassified as a resident student is entitled to pay the tuition fee for a resident of Texas at any subsequent registration as long as he continues to maintain his legal residence in Texas.*

### Establishment of Residence

Any individual 21 years of age or over who moves into the state and who is gainfully employed within the state for a period of 12 months prior to enrolling in an educational institution (defined as any institution of higher education, public or private, above the high school level), is entitled to classification as a resident. If such 12 months' residence, however, can be shown not to have been for the purpose of establishing legal residence in the state but to have been for some other purpose, the individual is not entitled to be classified as a resident. Any student registering in an educational institution prior to having resided in the state for 12 months immediately preceding registration shall be classified as a nonresident for tuition purposes.

A person classified as a nonresident student upon first enrollment in an institution of higher education is presumed to be a nonresident for the period during which he or she continues as a student. If such nonresident student withdraws from school and resides in the state while gainfully employed for a period of 12 months, upon reentry into an institution of higher education the student will be entitled to be reclassified as a resident for tuition purposes. Accumulations of summer and other vacation periods do not satisfy this requirement. Reclassification to residence status after residing in the state for 12 months

cannot be based solely upon the student's or the student's spouse's employment, registration to vote, registration of a motor vehicle and payment of personal property taxes thereon, or the securing of a Texas driver's license. The presumption of a "nonresident" is not a conclusive presumption, however, and other facts may be considered to determine if the presumption has been overcome. Material to this determination are business or personal facts or actions unequivocally indicative of a fixed intention to reside permanently in the state. Such facts may include, but are not limited to, the length of residence and full-time employment prior to registering in the institution, the fact of full-time employment and the nature of such employment (regular industrial, business or professional employment as distinguished from student-type employment) while a student, purchase of a homestead with substantial down payment, dependency upon a parent or guardian who has resided in Texas for at least 12 months immediately preceding the student's registration, and marriage to a resident of Texas. All of these facts are weighed in the light of the fact that a student's residence while in school is primarily for the purpose of education and not to establish residence, and that decisions of an individual as to residence are generally made after the completion of an education and not before.

### III. MARRIED STUDENTS

*Statute: Section 54.056 A nonresident who marries and remains married to a resident of Texas, classified as such under this Act at the time of the marriage and at the time the nonresident registers, is entitled to pay the resident tuition fee regardless of the length of time he has lived in Texas, and any student who is a resident of Texas who marries a nonresident is entitled to pay the resident tuition fee as long as he does not adopt the legal residence of the spouse in another state.*

#### Nonresident Who Marries A Resident of Texas

The nonresident male or female student who marries a resident of Texas is entitled to pay the resident tuition at the registration period next following the date of marriage upon submission of evidence of such marriage and of the spouse's legal residence in Texas. Such marriage evidence is a certified copy of the marriage license or other certified documentary evidence of marriage as filed with the county clerk. The legal resident of a husband and wife are normally presumed to be the same; however, it is possible for either the husband or wife to establish a residence different from the other spouse. In such a situation, the normal standards are followed. (See II.) In the event a nonresident student marries a resident of Texas and subsequently is divorced within 12 months, such nonresident student shall be classified as a nonresident for all enrollment periods subsequent to the date of such divorce; provided, however, the nonresident may establish Texas residence pursuant to normal standards. (See CI.)

### IV. MILITARY PERSONNEL AND VETERANS

*Statute: Section 54.058(a) Military personnel are classified as provided by this section in the following manner:*

*(b) An officer, enlisted man or woman, selectee or draftee of the Army, Army Reserve, Army National Guard, Air National Guard, Texas State Guard, Air Force, Air Force Reserve, Navy, Navy Reserve, Marine Corps, Marine Corps Reserve, Coast Guard, or Coast Guard Reserve of the United States, who is assigned to duty in Texas is entitled to register himself, his spouse, and their children in a state institution of higher education by paying the tuition fee and other fees or charges required of Texas residents, without regard to the length of time he has been assigned to duty or resided within the state. However, out-of-state Army National Guard or Air National Guard members attending*

*training with Texas Army or Air National Guard members under National Guard Bureau regulations may not be exempted from nonresident tuition by virtue of that training status nor may out-of-state Army, Air Force, Navy, Marine Corps, or Coast Guard Reserve training with units in Texas under similar regulations be exempted from nonresident tuition by virtue of such training status. It is the intent of the legislature that only those members of the Army or Air National Guard, Texas State Guard, or other reserve forces mentioned above be exempted from the nonresident tuition fee and other fees and charges only when they become members of Texas units of the military organizations mentioned above.*

*(c) As long as they reside continuously in Texas, the spouse and children of a member of the Armed Forces of the United States who has been assigned to duty elsewhere immediately following assignment to duty in Texas are entitled to pay the tuition fees and other fees or charges provided for Texas residents.*

*(d) If nonresident military personnel are attending an institution of higher education under a contract between the institution and any branch of the Armed Forces of the United States, in which the tuition of the member of the military is paid in full by the United States Government, the student shall pay the nonresident tuition fee;\*\*\**

*(e) A Texas institution of higher education may charge to the United States Government the nonresident tuition fee for a veteran enrolled under the provisions of a Federal law or regulation authorizing educational or training benefits for veterans;*

*(f) The spouse and children of a member of the Armed Forces of the United States who dies or is killed are entitled to pay the resident tuition fee, if the wife and children become residents of Texas within 60 days of the date of death; and*

*(g) If a member of the Armed Forces of the United States is stationed outside Texas and his spouse and children establish residence in Texas by residing in Texas and by filing with the Texas institution of higher education at which they plan to register a letter of intent to establish residence in Texas, the institution of higher education shall permit the spouse and children to pay the tuition, fees, and other charges provided for Texas residents without regard to length of time that they have resided within the State.*

#### **A. Certification of Assignment to Duty in Texas**

Subsection (b) provides that military personnel assigned to duty within the State of Texas, their husband or wife as the case may be and their dependent children, shall be entitled to pay the same tuition as a resident of Texas regardless of the length of their physical presence in the state. To be entitled to pay the resident tuition fees, such military personnel shall submit at the time of each registration a statement from their commanding officer or personnel officer certifying that they are then assigned to duty in Texas and that same will be in effect at the time of such registration in an institution of higher education. This subsection also provides that a nonresident member of an out-of-state National Guard unit who is temporarily training with a Texas National Guard unit will not be entitled to pay the resident tuition.

#### **B. Spouse and Children of Member of Armed Services**

Subsection (c) provides that the spouse and dependent children of a member of the armed forces assigned to duty outside the State of Texas immediately after assignment in Texas may be entitled to pay the resident tuition as long as they reside continuously in Texas.

Subsection (g) provides that the spouse and dependent children of a member of the armed forces who is assigned to duty outside the State of Texas may be entitled to pay the resident tuition if they reside in Texas and file with the institution of higher education at which a child or spouse plans to register a letter of intent, an affidavit or other evidence satisfactory to the institution stating they intend to become permanent residents of Texas.

Subsection (f) provides that a member of the immediate family (which shall include spouse or dependent children) of a member of the armed forces who dies or is killed in action while in military service may qualify to pay the resident tuition if they become residents of Texas within 60 days of the date of death. To qualify under this provision, the student shall submit to the institution of higher education satisfactory evidence establishing the date of death and residence in Texas.

The military personnel spouse and dependent children enumerated in (b), (c), (f), and (g) are classified as nonresidents but shall be entitled to pay the resident tuition regardless of their length of residence in Texas if they comply with the provisions of the statute and these rules and regulations.

#### **C. Nonresidents Attending College Under Federal Benefits Programs for Veterans**

Subsection (e) provides that the institution of higher education may charge the nonresident tuition fee for a nonresident veteran to the United States Government under the provisions of any federal law or regulation authorizing educational or training benefits for veterans.

#### **D. Legal Residence of Person in Military Service**

A person in military service is presumed to maintain during his or her entire period of active service the same legal residence which was in effect at the time of entering military service. A person stationed in a state on military service is presumed not to establish a legal residence in that state because his or her presence is not voluntary but under military orders. It is possible for a member of the military service to abandon the domicile of original entry into the service and to select another, but to show establishment of a new domicile during the term of active service, there must be clear and unequivocal proof of such intent. An extended period of service alone is not sufficient. The purchase of residential property is not conclusive evidence unless coupled with other facts indicating an intent to put down roots in the community and to reside there after termination of military service. Evidence which will be considered in determining this requisite intent includes, but is not limited to a substantial investment in a residence and the claiming of a homestead exemption thereon, registration to vote, and voting in local elections, registration of an automobile in Texas and payment of personal property taxes thereon, obtaining a Texas driver's license, maintaining checking accounts, savings accounts, and safety deposit boxes in Texas banks, existence of wills or other legal documents indicating residence in Texas, change of home-of-record and designation of Texas as the place of legal residence for income tax purposes on military personnel records, business transactions or activities not normally engaged in by military personnel, membership in professional or other state organizations, and marriage to a resident of Texas. Purchase of property during terminal years of military service preceding retirement generally is given greater weight than a similar purchase made prior to such terminal period.

#### **E. Residence Classification of Veterans Upon Separation from Military Service**

A person who enrolls in an institution of higher education following separation from military service must be classified as a nonresident student unless, (1) the individual was a legal resident of Texas at the time of entry into military service and has not relinquished

that residence, (2) the individual can prove that during military service he or she has, in fact, established a bona fide, legal residence in Texas at a time at least 12 months prior to registration, or (3) the individual has resided in Texas other than as a student for 12 months prior to registration and subsequent to discharge from service. The nonresident classification is a presumption, however, which can be overcome pursuant to the guidelines and standards for establishing Texas residence. (See II.)

## V. EMPLOYEES OF INSTITUTIONS OF HIGHER EDUCATION OTHER THAN STUDENTS

*Statute: Section 54.059 A teacher, professor, or other employee of a Texas institution of higher education is entitled to register himself, his spouse, and their children in a state institution of higher education by paying the tuition fee and other fees or charges required for Texas residents without regard to the length of time he has resided in Texas. A teacher, professor, or other employee of a Texas institution of higher education is any person employed at least one-half time on a regular monthly salary basis by a state institution of higher education.*

A person employed at least half-time on a regular monthly salary basis (not an hourly employee) by any public institution of higher education, with an effective date of employment on the 12th class day of a regular semester or the 4th class day of a summer term, may pay the same tuition as a resident of Texas for self, husband or wife as the case may be and their children, regardless of the length of residence in the state. To be entitled to pay the resident tuition fees such employee must submit prior to the time of each registration a statement certifying employment from the Director of Personnel or a designated representative of the institution of higher education by which he or she is employed.

## VI. STUDENT EMPLOYEES

*Statute: Section 54.051(o) A teaching assistant, research assistant, or other student employee of any institution covered by this section is entitled to register himself, his spouse, and their children in a state institution of higher education by paying the tuition fees and other fees or charges required for Texas residents, without regard to the length of time he had resided in Texas; provided that said student employee is employed at least one-half time in a position which relates to his degree program under rules and regulations established by the employer institution. This exemption shall continue for students employed two consecutive semesters through the summer session following such employment if the institution is unable to provide employment and, as determined under standards established by the institution, if the employee has satisfactorily completed his employment.*

A student employed at least half-time by any public institution of higher education in a degree program related position, with an effective date of employment on or before the 12th class day of a regular semester, or the 4th class day of a summer term, may pay the same tuition as a resident of Texas for him or herself, spouse, and their children regardless of the length of residence in the state. The institution which employs the student shall determine whether or not the student's job relates to his or her degree program. If a student is employed by an institution of higher education for consecutive Fall and Spring semesters and was further eligible to pay the tuition charged to Texas residents during those Fall and Spring semesters because of the provisions of this subsection, then the student may continue to pay the resident tuition rate during the summer session following the Spring employment if the institution is unable to provide employment and if the student's employment was satisfactorily completed.

## VII. COMPETITIVE SCHOLARSHIPS

*Statute: Section 54.051(p) A student who holds a competitive scholarship of at least \$200 for the academic year or summer for which he is enrolled and who is either a nonresident or a citizen of a country other than the United States of America is entitled to pay the fees and charges required of Texas residents without regard to the length of time he has resided in Texas, provided that he must compete with other students, including Texas residents, for the scholarship and that the scholarship must be awarded by a scholarship committee officially recognized by the administration of the institution of higher education.\*\*\**

An official scholarship committee or committees of a public institution of higher education may award competitive scholarships in amounts of \$200 or more for the academic year, the summer session or both. If a nonresident or foreign student, in competition with other students, including Texas residents, obtains one of these competitive scholarships, the student may pay the same tuition as a resident of Texas during the registration period in which the scholarship is in effect. The student must present a statement from the official scholarship committee certifying the period of time during which the scholarship will be in effect.\*\*\*

## VIII. RECIPROCITY CLAUSE APPLICABLE TO JUNIOR COLLEGES, UPPER LEVEL INSTITUTIONS

*Statute: Section 54.060 Resident of Bordering State: Tuition. The nonresident tuition fee prescribed in this chapter does not apply to a nonresident student who is a resident of a state situated adjacent to Texas and who registers in any Texas public junior college situated in a county immediately adjacent to the state in which the nonresident student resides. The nonresident junior college student described in this section shall pay an amount equivalent to the amount charged a Texas student registered at a similar school in the state in which the nonresident student resides. The nonresident student described in this section shall pay equivalent fees and charges to those charged Texas students registered at a similar institution in the state in which the nonresident student resides, when such student registers at a Texas public senior upper level (those institutions offering only junior, senior, and graduate level programs) institution of higher education located within the Texas public junior college district from which the nonresident student has graduated or completed 45 semester credit hours.*

A nonresident, who is a resident of a state of the United States bordering Texas, is entitled to pay Texas resident rates upon registering in any Texas public junior college if the district of such college includes any part of a county that is immediately adjacent to the state in which the nonresident resides, providing that Texas residents are entitled to pay in-state fees and charges at a similar school in the bordering state.

The nonresident student described in this rule shall be entitled to pay Texas resident rates at a Texas public senior upper level institution of higher education (those institutions offering only junior, senior and graduate level programs) which is located within the Texas public junior college district from which the nonresident student has graduated or completed 45 semester credit hours, provided that a Texas resident is entitled to pay in-state fees and charges at a similar institution in the bordering state.

## IX. CITIZENS OF ANY COUNTRY OTHER THAN THE UNITED STATES OF AMERICA

*Statute: Section 54.057 An alien who is living in this country under a visa permitting permanent residence or who has filed with the proper Federal immigration authorities a declaration of intention to become a citizen has the same privilege of qualifying for resident status for fee purposes under this Act as has a citizen of the United States. A resident alien residing in a junior college district located immediately adjacent to Texas boundary lines shall be charged the resident tuition by that junior college.*

An alien living in the United States under a visa permitting permanent residence, or one who has filed with the proper Federal authorities a declaration of intention to become a citizen, has the same privilege of qualifying for Texas resident status for tuition purposes as has a citizen of the United States.

## X. STUDENT RESPONSIBILITIES

### A. Student Responsibility to Register Under Proper Classification

The responsibility of registering under the proper residence classification is that of the student. If there is any question as to right to classification as a resident of Texas, it is the student's obligation, prior to or at the time of registration, to raise the question with the administrative officials of the institution in which he or she is registering and have such officially determined.

### B. Notification Upon Becoming a Nonresident

Every student who is classified as a resident student but who becomes a nonresident at any time by virtue of a change of legal residence by the student's own action or by the person controlling the student's domicile is required to notify the proper administrative officials of his or her institution at once.

## XI. OFFICIAL CHANGE OF RESIDENCE STATUS

### A. Application for Reclassification

Every student classified as a nonresident student shall be considered to retain that status until he or she makes written application for reclassification in the form prescribed by the institution and is officially reclassified in writing as a resident of Texas by the proper administrative officers of the institution.

### B. Reclassification as a Nonresident

Every person who has been classified as a resident of Texas shall be reclassified as a nonresident student whenever he or she shall report, or there is found to exist, circumstances indicating a change in legal residence to another state. If any student who has been classified as a resident of Texas shall be found to have been erroneously so classified, that student shall be reclassified as a nonresident and shall be required to pay the difference between the resident and nonresident fees for those semesters in which he or she was so erroneously classified. In addition, the student shall be required to pay back all monies borrowed from the Texas Opportunity Plan Fund.



### C. Reclassification as a Resident

If any student has been erroneously classified as a nonresident student and subsequently proves to the satisfaction of the appropriate officials of an institution of higher education that he or she should have been classified as a resident student, that student shall be reclassified as a resident of Texas and shall be entitled to a refund of the difference between the resident and nonresident fees for the semesters in which he or she was so erroneously classified.

## XII. PENALTIES

*Statute: Section 54.053 The governing board of each institution required by this Act to charge a nonresident tuition or registration fee is subject to the rules, regulations, and interpretations issued by the Coordinating Board, Texas College and University System, for the administration of the nonresident tuition provisions of this Act. The rules, regulations and interpretations promulgated by the Coordinating Board shall be furnished to the presidents or administrative heads of all Texas public senior and junior colleges and universities.*

*Statute: Section 54.051(h) Tuition for students who are citizens of any country other than the United States of America is the same as tuition required of other nonresident students. However, the governing board of an institution of higher education may set a lower fee for a foreign student, based on financial need, as authorized by rules and policies of the Coordinating Board, Texas College and University System. The lower fee in any case shall be not less than \$14 per semester credit hour, and the total of such charge shall be not less than \$200 per semester or 12-week summer session, and not less than \$100 per 6-week summer term. However, if a student is a citizen of a country that charges citizens of the United States tuition at publicly funded colleges and universities in an amount which is equal to or less than \$200 per semester or 12-week summer session or comparable period, or \$100 per 6-week summer term or comparable period, as determined by the Coordinating Board, Texas College and University System, the student shall be charged \$14 per semester credit hour, but not less than \$200 per semester or 12-week summer session nor less than \$100 per six-week summer term.\*\*\*\**

*Statute: Section 54.051(i) Tuition for students who are citizens of any country other than the United States of America registered in a medical or dental branch, school or college is the same as tuition required of other nonresident students. However, the governing board of an institution of higher education may set a lower fee for a foreign student, based on financial need, as authorized by rules and policies of the Coordinating Board, Texas College and University System. The lower fee in any case may not be less than \$800 per academic year of 12 months. However, if a student is a citizen of a country that charges citizens of the United States in an amount which is equal to or less than \$800 per academic year of 12 months or comparable period, as determined by the Coordinating Board, Texas College and University System, the student shall be charged \$800 per academic year of 12 months.\*\*\*\**

The governing boards of institutions of higher education may establish lower tuition fees for certain foreign students than those charged to other nonresident students. If lower fees are established, such lower fees must be based upon the financial need of the individual foreign student. Procedures for determining the financial need of a foreign student are the same as those procedures established by the Coordinating Board for determining the financial need of applicants for Hinson-Hazlewood College Student Loans. In no event may such lower tuition fees be less than \$14 per semester credit hour and the total of such tuition charge shall not be less than \$200 per semester or 12-week summer session and not less than \$100 per 6-week summer term. Tuition fees for foreign students registered in a

medical or dental branch, school or college shall not be less than \$800 per academic year of 12 months.

Foreign students who are citizens of a country in which tuition charges for citizens of the United States at publicly funded colleges and universities in that country are equal to or less than \$200 per semester or 12-week summer session or comparable period of \$100 per 6-week summer term or comparable period, except as otherwise hereinafter provided, shall be charged \$14 per semester credit hour but not less than \$200 per semester or 12-week summer session not less than \$100 per 6-week summer term.

Foreign students registered in a medical or dental branch, who are citizens of a country in which tuition charges at a publicly funded medical or dental branch, school or college are equal to or less than \$800 per academic year of 12 months or comparable period, shall be charged \$800 per 12-month academic year.

The Coordinating Board, Texas College and University System shall periodically certify to the chief executive officer of institutions of higher education the names of countries whose citizens will qualify for the tuition fee set forth in the above two paragraphs.\*\*\*\*

*Section 54.061 The governing board of an institution of higher education may assess and collect from each nonresident student who fails to comply with the rules and regulations of the boards concerning nonresident fees a penalty not to exceed \$10 a semester.*

#### Student Compliance with Institutional Rules and Regulations

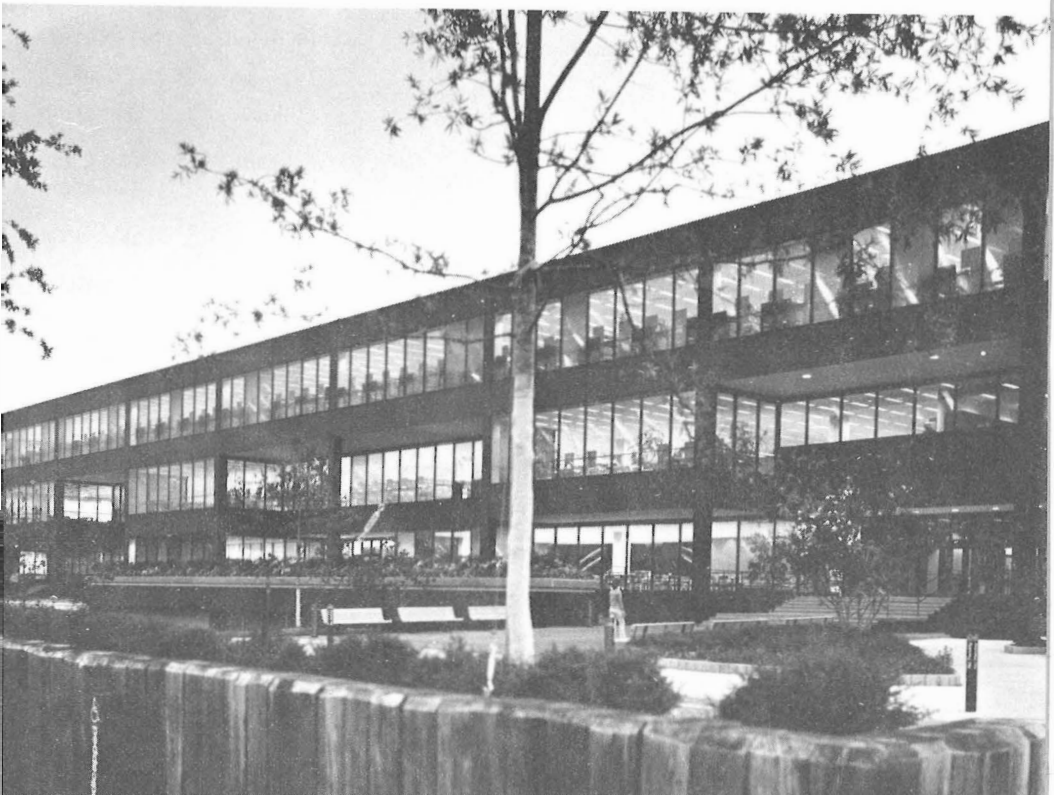
Each institution has been authorized by statute to assess and collect from each nonresident student failing to comply with the provisions of the tuition statute and with these interpretations concerning nonresident fees a penalty not to exceed \$10.00 a semester. In addition, if a student has obtained residence classification by virtue of deliberate concealment of facts, or misrepresentation of fact, that student may be subject to appropriate disciplinary action, in accordance with the rules and regulations that may be adopted by the governing boards of the respective institutions of higher education.

\* In accordance with provisions of Senate Bill 123, 63rd Texas Legislature, effective August 27, 1973, and with Attorney General's Opinion H-82, August 13, 1973, any reference to age "twenty-one" in these *Rules and Regulations for Determining Residency Status* should be interpreted to mean age "eighteen."

\*\* The reference to the 22nd birthday, found on page 4, should be interpreted as the 19th birthday.

\*\*\* Subparagraph (d), Section 54.058, which appears on page 8, has been repealed by House Bill 736, 63rd Legislature, effective August 27, 1973.

\*\*\*\* These provisions apply only to foreign students who enter state colleges and universities for the first time after June 19, 1975.



## DIRECTORY FOR CORRESPONDENCE

Admission . . . . .	Office of Admissions and Records
Advisement . . . . .	Director of Academic Appraisal and Advisement
Concentrations, Degree . . . . .	Dean, School of Human Sciences and Humanities
	Dean, School of Professional Studies
	Dean, School of Sciences and Technologies
Financial Aid . . . . .	Financial Aid Counselor
Financial Matters . . . . .	Vice Chancellor for Financial Services
General Information . . . . .	Office of Admissions and Records
International Students . . . . .	Assistant Director of Admissions
Registration . . . . .	Registrar
Residency . . . . .	Admissions Counselor
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Testing and Counseling . . . . .	Director of Academic Appraisal and Advisement
Transcripts . . . . .	Registrar
Veterans' Affairs . . . . .	Veterans' Counselor

Requests for information should be directed to the offices or persons above. The University's address for all inquiries is 2700 Bay Area Boulevard, Houston, Texas 77058.

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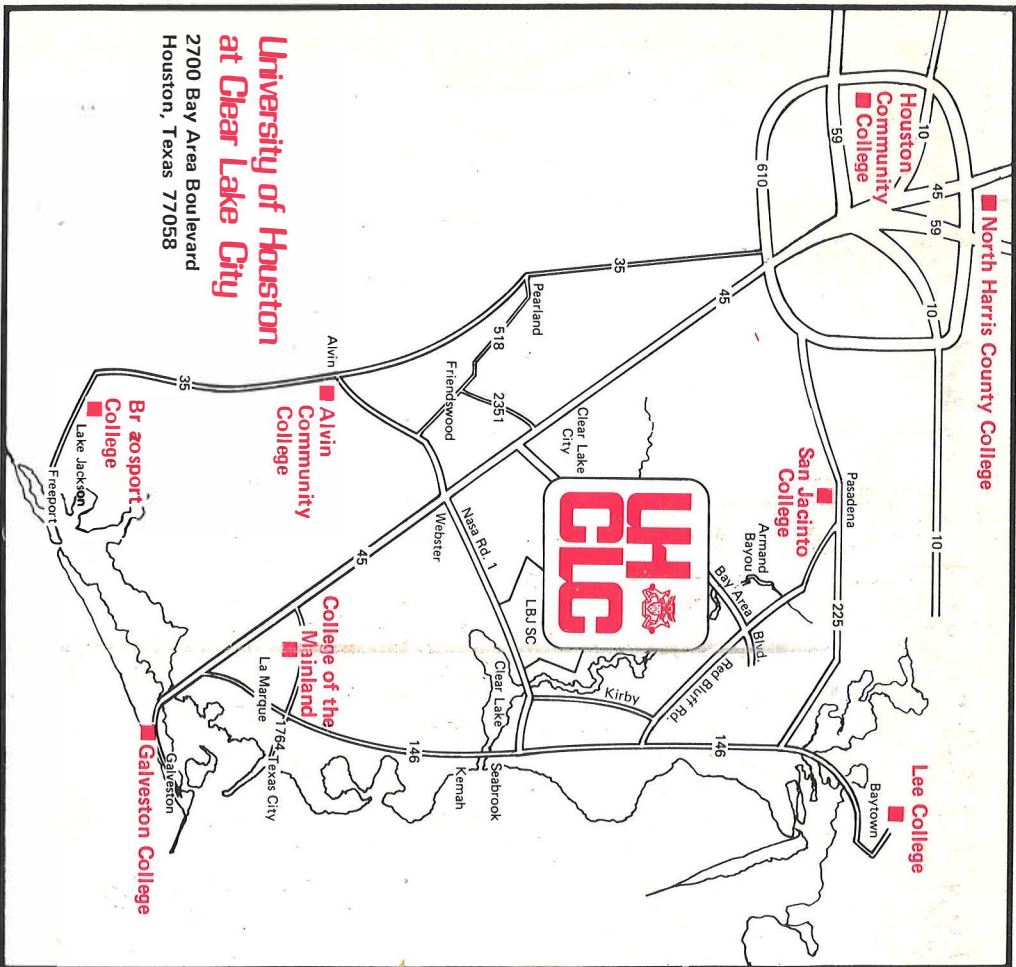
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