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announcements



UNDERGRADUATE EDITION

August, 1974

 at Edwardsville

announcements

Southern Illinois University at Edwardsville

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This Issue

of the *Southern Illinois University Announcements* covers in detail questions concerning the undergraduate program and applies to Southern Illinois University at Edwardsville. It supersedes Volume 3 Number 4 of the *Southern Illinois University Announcements*.

THE FOLLOWING ISSUES of the *Southern Illinois University Announcements* may be obtained free from University Graphics and Publications, Southern Illinois University, Edwardsville, Illinois 62025.

Graduate School Catalog.

Guidelines for Prospective Students.

Schedule of Classes. Please specify *quarter* (fall, winter, spring, or summer).

Undergraduate Catalog. The catalog is available for examination in high school guidance offices and libraries throughout Illinois and in some other states. Copies will be furnished free to educational institutions upon request and to new students upon matriculation. A copy of the catalog may be purchased at the University Bookstore for \$1; mail orders should be sent to University Graphics and Publications and must include remittance payable to Southern Illinois University.

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Thanksgiving Vacation — November 24-December 1

Final Examinations — December 9-14

WINTER, 1975

January 6 (7:30 a.m.) — March 22

Final Examinations — March 17-22

SPRING, 1975

March 31 (7:30 a.m.) — June 14

Final Examinations — June 9-14

SUMMER, 1975

June 23 (7:30 a.m.) — August 30

June 23 (7:30 a.m.) — August 16 (8 week session)

Final Examinations — August 25-30

Board of Trustees and Officers of Administration

BOARD OF TRUSTEES

Term Expires

Ivan A. Elliott, Jr., <i>Chairman</i> , Carmi	1979
Harold R. Fischer, <i>Vice-Chairman</i> , Granite City	1975
Harris Rowe, <i>Secretary</i> , Jacksonville	1977
William W. Allen, Bloomington	1975
Margaret Blackshere, Madison	1979
Willis Moore, Carbondale	1977
William R. Norwood, Elkgrove Village	1977
Richard A. Haney (<i>Ex-officio</i> 1973-), Mt. Vernon	
Matthew Rich, Makanda	1975
Donald L. Hastings, Jr., Edwardsville	1975

OFFICERS OF ADMINISTRATION

John S. Rendleman, President
 Ralph W. Ruffner, Senior Vice President for Planning and Review
 Andrew J. Kochman, Vice President and Provost
 B. D. Hudgens, Vice President for Business Affairs
 Ramon N. Williamson, Vice President for Student Affairs
 Robert M. Bruker, Director of Admissions and Records

1 / The University

SOUTHERN ILLINOIS UNIVERSITY is a multi-purpose and diversified public university that was established in 1869. It has sought to meet contemporary educational needs for those it serves. It is fully accredited by the North Central Association of Colleges and Secondary Schools.

Southern Illinois University at Edwardsville has been involved in educational and service programs for the Metro-East St. Louis Area since 1949, when the Belleville Residence Center was established. In 1957, residence centers were established in Alton at the former Shurtleff College campus and in East St. Louis at a former high school. Specialized programs continue to function at both locations today, specialized urban-oriented programs in East St. Louis and the initiation of a dental program in Alton at the former Shurtleff campus.

Educational programs are wide ranging, covering baccalaureate degrees in nearly forty different concentrations, approximately forty different master's degrees and three areas of the specialist's certificate.

In the fall of 1965, major academic operations of the University were centralized on the new Edwardsville Campus. Six buildings presently comprise the main academic core, and ground was broken for two additional buildings in March 1973. The campus is located in an area comprised of 2600 acres of rolling land and wooded area dotted with several lakes along the bluffs flanking the Mississippi River southwest of Edwardsville. Lovejoy Memorial Library, named for Elijah P. Lovejoy, an abolitionist newspaper editor who was America's first martyr to the freedom of the press, houses over a half million volumes, over 200,000 government documents, a collection of over 10,000 sound recordings, a map collection exceeding 80,000 maps, and thousands of films and other visual materials. Students are exposed to several art collections including Rodin's *Walking Man*.

The John Mason Peck Building is a general classroom building which houses over fifty classrooms in addition to numerous faculty offices. The Science Laboratory Building contains ten general classrooms, twenty-three special laboratories and offices for science and nursing faculty. The Communications Building has general classrooms and special purpose rooms for music, fine arts, speech and theater students. Student theatrical productions are presented in the theater. Broadcasting studios and facilities are housed in the Communications Building. Programs for radio station WSIE-FM originate in that building and facilities for a proposed educational television station are in the building, also.

The University Center, which has received international awards for its total design, has 220,000 square feet of diversified space. It provides food service for students, faculty, and guests. The Center provides recreational facilities including a sixteen-lane bowling alley, table tennis facilities, billiard room, and a card and game lounge. Other facilities are a bookstore, barber shop, television room, music listening room, conference rooms, and an art gallery. Dances, movies, various entertainment programs, and other functions are held in the grand ballroom.

The General Office Building has approximately 60,000 square feet of office space which provides for the various administrative, student service, and academic functions.

Near the academic core is the new geodesic dome interdenominational religious center which was constructed through private donations.

Classroom Buildings II and III are presently under construction and should be ready for occupancy by the fall of 1975. Supportive buildings such as the Supporting Services Building, Heating and Refrigeration Plant, and some temporary structures are located at various points away from the center of the campus area.

There are approximately 550 full-time Edwardsville faculty members, seventy-five percent of whom possess the doctorate degree. Although many faculty are distinguished nationally and internationally through special talents, publications, and research, teaching is of primary concern. Awards are made annually for outstanding teaching. Faculty are committed to quality instruction, maximum communication and involvement with students. Student representation on major policy making bodies such as the University Senate is considered to be an advantage to the University and to facilitate students' learning and understanding.

Enrollment at Edwardsville the past two years has been approximately 11,000 students, with eighty-four Illinois counties, thirty states and twenty-eight foreign nations represented. Madison, St. Clair, and Macoupin Counties provide eighty percent of the total enrollment. Missouri residents accounted for eight percent of the total student population. Southern Illinois University at Edwardsville is primarily a commuter campus with students living in the many communities within a sixty-mile radius of the campus. Approximately 800 people live in the 248 student apartments at the Tower Lake complex on campus, within walking distance of the central academic core.

Numerous cultural, entertainment, educational, and athletic activities abound in this metropolitan area. Southern Illinois University at Edwardsville is thirty minutes driving time from downtown St. Louis. Interstate Highways 70 and 270 facilitate access to the campus from all parts of the southwestern Illinois region.

The University has received national recognition for its Mississippi River Music Festival which has completed its sixth season. The St. Louis Symphony is featured, as are many popular musical groups, during the several week summer season.

The University sponsors an extensive intramural program and a varsity athletic program including soccer, basketball, baseball, track,

cross country, wrestling, tennis, and golf. The Cougars, as the athletic teams are called, have received national and international recognition in several sports.

Lovejoy Library

The Elijah P. Lovejoy Library contains about 550,000 volumes; 250,000 United States, Illinois and international organization government documents; 80,000 maps; 10,000 phonograph records; and a number of special research collections. About 35,000 volumes are added annually and 5,500 periodicals are subscribed to. The East St. Louis Library also contains about 20,000 volumes. In addition, the resources of the Morris Library at Carbondale, over a million volumes, are available to faculty and graduate students. A printed catalog and other aids are available for the identification of materials which may be borrowed. Similarly accessible are the 2,000,000 volumes of the Center for Research Libraries, Chicago. Special memberships also permit faculty to use the St. Louis Mercantile Library, the Missouri Historical Society Library, and the libraries of other area colleges and universities.

Other areas of particular strength include:

1. A considerable collection of curriculum guides, children's books, current school texts, and other specialized materials in education.
2. Files of Negro newspapers on microfilm and 3,000 anti-slavery pamphlets on microcards, which is part of the Library's larger collection devoted to abolitionist literature and to both historical and contemporary civil rights literature.
3. A collection of documents on more than one hundred reels of microfilm on the history of the Mormons in Illinois.
4. About 100,000 items of sheet music and scores of American popular music.
5. A Slavic and East European collection of about 6,000 volumes which includes a large number of rare Slavic-American imprints.
6. Several thousand books, pamphlets, newspaper issues and periodicals, many of them in German, on the history of Naziism and related movements in the United States.

The Lovejoy Library is also an important source of materials on the history of the region which it serves.

Lists of current periodicals and other serials are available.

2 / General Information

IN ORDER TO attend classes at Southern Illinois University, one must gain admission to the University and must complete the registration process, which includes advisement, sectioning, and payment of fees.

Admission

Applications for admission to the University are accepted any time during the calendar year.

Admission of Freshmen

To be considered for admission to the University, a person must be a graduate of an accredited high school or must have passed the General Educational Development Test. A graduate of a non-accredited high school may be admitted by the Director of Admissions and Records through examination.

The in-state high school student who ranks in the upper half of his graduating class or who achieves a composite score of 21 or higher on the American College Test (A.C.T.) may be admitted to any quarter of the academic year. One who ranks in the lower half of his graduating class will be permitted to enter conditionally for the summer quarter only.

The out-of-state student who ranks in the upper forty percent of his graduating class or who achieves a composite score of 22 or higher on the A.C.T. may be admitted to any quarter of the academic year. Students from the remaining ten percent of the upper half of their graduating class may be permitted to enter conditionally during the summer quarter only. No out-of-state student, ranking in the lower half of his class and with less than a composite score of 21 on the A.C.T., can be considered for admission.

Students may be considered for admission after completing the sixth semester of high school. A prospective freshman must submit high school records and furnish A.C.T. scores prior to being admitted to the University. Admission granted a student while in high school is subject to the completion of high school work and maintenance of the rank upon which he was admitted.

All students entering the University as freshmen seeking a bachelor's degree are enrolled in the General Studies Division.

Admission of Transfer Students

For academic purposes an undergraduate applicant for admission to the University is considered to be a transfer student when he presents

12 quarter hours or more of transfer work for consideration; otherwise he is to be considered for admission as a new freshman.

A student applying as an undergraduate transfer student from a four-year institution is admissible to any quarter provided he has a 3.00 (C) grade-point average at the institution of last attendance. The student who does not have a 3.00 grade-point average at the institution of last attendance but is eligible to continue will be considered for admission on probation for summer, winter, and spring quarters. One who is not eligible to continue at his last institution may be considered for admission on probation for summer and spring quarters provided there has been an interruption of schooling of at least two quarters duration and there is tangible evidence that additional education can be successfully completed by the student. Tangible evidence might include (1) an interruption of schooling, (2) military experience, (3) previous academic performance.

In the event a student has attended more than one institution, the institution of last attendance is considered to be the one last attended on a full-time basis for at least one quarter or semester.

The student applying for admission from a two-year institution is admissible to any quarter provided he has a 3.00 (C) grade-point average at the institution of last attendance. A student who did not have a 3.00 grade-point average at the institution of last attendance but is eligible to continue may be considered for admission on probation for summer, winter, and spring quarters. One who is not eligible to continue at his last institution may be considered for admission on probation for spring and summer quarters provided there has been an interruption of schooling of at least two quarters duration and there is tangible evidence that additional education can be successfully completed by the student. However, a student who did not meet the University's admission requirements to enter as a freshman from high school during the regular year and who elected to enter a two-year institution will not be considered for admission as a transfer student until he has completed one year of attendance at the two-year institution.

Students graduating with an associate degree, in a baccalaureate-oriented program, from an accredited two-year institution may enter the University with junior class standing and be considered to have met the General Studies requirements. These students may enter any quarter provided they have not taken additional work at another institution since completion of the associate degree. If a student has taken additional work, his admission will be considered from the same standpoint as that of a student transferring from a four-year institution.

Admission of Foreign Students

In addition to the standard admissions procedures outlined above, each foreign applicant must submit a "Questionnaire for Foreign Students" which lists *all* previous schooling. Individual marks sheets (transcripts) from the applicant's secondary or middle schools are also required. In the case of a transfer applicant from a foreign university, the candidate must provide, in addition to transcripts *per se*, a detailed

description (syllabus) of the content of the individual courses for which he seeks transfer credit before any evaluation of credits will be performed. *All documentation must be in English, and it is the applicant's responsibility to provide any translations required.* All translations must be accompanied by the signed certification of the translator, attesting that the translation is a veritable representation of the contents of the original.

The applicant is required to provide scores on the Test of English as a Foreign Language (TOEFL), unless English is the traditionally recognized native language of his homeland. Only under unusual circumstances will an acceptable substitute for TOEFL be considered. Successful completion of an intensive training course in English as a second language remove the requirement. The student must make provision for his own financial need, and is required to certify his financial stability before his application is considered. The University assumes no financial obligation to the student because of the fact of admission.

Basically, the same admissions limitations prevail as are imposed upon other out-of-state students for the fall quarter, except that all documentation must be on file no later than two months prior to the beginning of the quarter to which the candidate seeks admission.

Admission of Former Students

Students who have attended the University at some former time but not within the last twelve months (four quarters) must re-apply for admission before advisement and registration can be completed.

Any student who has been in attendance (registered and paid fees) within the last twelve months need not re-apply and may make the necessary arrangements for advisement and registration.

Students who have declared a concentration may arrange for a registration appointment by contacting the Enrollment Center, Room 1308, General Office Building. Those who have not declared a concentration must contact the General Studies Division for advisement and registration appointments.

This procedure does not apply to those students who were academically suspended from the University. In cases of academic dismissal, the student must be guided by the scholastic standards listed in this catalog (pages 14-15).

Applying for Admission

A student may start his admission process at any time. High school students who rank sufficiently high to be eligible for admission to any quarter are urged to initiate action during their seventh semester in high school. Others may apply at that time but decision will be delayed until after the end of the seventh semester. Transfer students should initiate the process during the last semester or quarter of attendance at the previous school if they plan to transfer without interruption. Students who delay their admission processing until the start of the quarter which they wish to enter, while they will be admitted if eligible, may be confronted with having to accept less desirable class schedules than would otherwise be the case.

The admission process is started by writing the Office of Admissions and Records, Southern Illinois University, Edwardsville, Illinois 62025, requesting admission materials. The materials that are sent contain the application and related forms that need to be completed along with procedural instructions.

Documents Required for Admission

Among the items required by the University before admission is completed are the following:

1. The completed application form from the student.
2. Transcripts of previous educational experience. For the high school student the request is for one copy of the high school transcript. For the transfer student the request is for an official transcript from each institution previously attended sent directly to this University from the previously attended school. In addition, transfer students presenting fewer than 36 quarter hours (24 semester hours) of completed work must provide to the University a copy of their high school transcript.
3. University entrance examination scores. All students applying for admission directly from high school and all transfer students who have completed fewer than 36 quarter hours (24 semester hours) must have their official A.C.T. scores sent to the University from the American College Testing Program, Box 451, Iowa City, Iowa 52240.

Residency Regulations

Regulations governing the determination of residency status for admission and assessment of student tuition at Southern Illinois University are contained in this section.

For the purpose of these regulations an *adult* student is considered to be a student eighteen years of age or over; a *minor* student is a student under eighteen years of age. Except for those exceptions clearly indicated in these regulations, in all cases where records establish that the person does not meet the requirements for resident status as defined in these regulations, the nonresident status shall be assigned.

Residency Determination

Evidence for determination of residence status of each applicant for admission to the University shall be submitted to the Director of Admissions and Records at the time of application for admission. A student may be reclassified at any time by the University upon the basis of additional or changed information.

Adult Student

An adult, to be considered a resident, must have been a bona fide resident of the State for a period of at least twelve consecutive months immediately preceding the beginning of any term for which he registers at the University, and must continue to maintain a bona fide residency in the State, except that an adult student whose parents have established and are maintaining a bona fide residence

in the State and who resides with them or elsewhere in the State will be regarded as a resident student.

Minor Student

The residence of a minor student shall be considered to be, and to change with and follow: that of his parents, or living parent, if one is dead; or that of the adoptive parents, or that of the legally appointed guardian, or natural guardian of the person.

Parent or Guardian

No parent or legal or natural guardian will be considered a resident of the State unless: (a) he maintains a bona fide and permanent place of abode within the State, and (b) he lives, except when temporarily absent from the State with no intentions of changing his legal residence to some other state or country, within the State.

Married Student

A nonresident student, whether male or female, or a minor or adult, or a citizen or noncitizen of the United States, who is married to a resident of the State, may be classified as a resident so long as he continues to reside in the State.

Persons Without United States Citizenship

A person who is not a citizen of the United States of America, to be considered a resident, must have permanent resident status with the United States Immigration and Naturalization Service and must also meet and comply with all of the other applicable requirements of these regulations to establish resident status.

Armed Forces Personnel

A person who is actively serving in one of the Armed Forces of the United States and who is stationed and present in the State in connection with that service and submits evidence of such service and station, shall be treated as a resident as long as the person remains stationed and present in Illinois. If the spouse or dependent children of such member of the Armed Forces also live in the State, similar treatment shall be granted to them.

Some Factors Considered

Voter registration, filing of taxes, proper license and registration for the driving or ownership of a vehicle, and other such transactions may verify intent of residency in a state. Neither length of University attendance nor continued presence in the University community during vacation period shall be construed to be proof of Illinois residence.

Procedure for Review of Residency Status or Tuition Assessment

A student who takes exception to the residency status assigned or tuition assessed shall pay the tuition assessed but may file a claim in writing to the appropriate official for a reconsideration of residency status and an adjustment of the tuition assessed. The written claim

must be filed within ten school days from the date of assessment of tuition or the date designated in the official University calendar as that upon which instruction begins for the academic period for which the tuition is payable, whichever is later, or the student loses all rights to a change of status and adjustment of the tuition assessed for the term in question. If the student is dissatisfied with the ruling in response to the written claim made within said period, he may appeal the ruling to the Legal Counsel by filing a written request with the appropriate official within twenty days of the notice of the ruling.

Physical Examination

Each new student desiring to enroll at Southern Illinois University is required to have a physical examination completed prior to his initial registration for classes. A special medical form is provided which is to be completed by the student and his personal physician and returned to the University Health Service.

Registration

An early registration period is normally conducted approximately one month prior to the beginning of each quarter. Early registration is on an appointment basis, and appointments are issued at announced times by the Enrollment Office and the General Studies Advisement Office. Information regarding appointment registration may be obtained by calling the Enrollment Office: (618) 692-3866.

A one-day registration is held before classes begin each quarter. At this time, appointments are not necessary and registration is conducted on a first-come basis. Those students who delay their registration until the final day run a high risk of having to alter their schedules due to closed classes.

Registration for any quarter of the University is contingent upon being eligible for registration. Thus, a registration including the payment of tuition and fees may be considered invalid if the student is declared to be ineligible to register due to scholastic reasons. The same situation may exist due to financial or disciplinary reasons if certified to the Director of Admissions and Records by the Bursar or the Dean of Students.

Detailed information about the dates and procedures for advisement and registration appears in the Schedule of Classes, available from University Graphics and Publications.

Tuition and Other Fees

The fees charged students are established by the Board of Trustees and are subject to change whenever conditions make changes necessary. At present, fees per quarter for undergraduate students are as follows:

	Not more than 5 hrs.	More than 5, less than 11	11 or more
Tuition Fee—Illinois Resident . . .	\$ 48.00	\$ 95.00	\$143.00
Tuition Fee—Out of State			
Resident	(143.00)	(286.00)	(429.00)

Student Welfare and Recreation

Building Trust Fund Fee	5.00	10.00	15.00
Athletic Fee	3.00	6.50	10.00
Book Rental Fee	3.00	6.00	8.00
Student Activity Fee	3.50	7.00	10.50
University Center Fee	10.00	10.00	10.00
Student to Student Grant*	1.50*	1.50*	1.50*
Total—Illinois Resident	\$ 74.00	\$136.00	\$198.00
Total—Out of State Resident	\$169.00	\$327.00	\$484.00

*Each student, whether a scholarship holder or not, is assessed \$1.50 at the time of registration as a contribution towards the establishment of a student-to-student grant fund. Students wishing a refund of this fee may receive it during the first ten days of the quarter. The refund station is located outside the Bursar's Office on the first floor of the General Office Building.

Students holding valid state scholarships are exempt from the above fees to the extent provided by the terms of the specific scholarship held. An Illinois State Teacher Education Scholarship, an Illinois Military Scholarship, or an Illinois General Assembly Scholarship exempts the student from the paying of tuition, the student activity fee, and the graduation fee.

The student activity fee includes the fees for limited hospitalization, entertainment, athletics, student publications, and such other privileges as may be provided.

Faculty members and university civil service employees taking courses are not charged tuition and activity fees. However, they pay all other appropriate fees.

Other charges which a student may incur are those for departmental field trips, library fines, and excess breakage. Also, a student taking a course involving use of materials, as distinct from equipment, will ordinarily pay for such materials.

A student registering for work on an audit basis is assessed fees on the same basis as when registering on a credit basis.

Extension course fees are \$10.00 per quarter hour plus a \$10.00 registration fee for each course. The University textbook rental policy applies only to resident students. Extension students must purchase textbooks.

Transcripts

A student is entitled to a free transcript of his university record provided he has fulfilled all his financial obligations to the University.

PAYMENT AND REFUNDING OF FEES

Fees may not be paid for forty-eight hours after registering, and they must be paid by the date shown in the Registration Calendar in the front of the Schedule of Classes. Fees may be paid in person or by mail by sending the fee receipt card and payment to the Bursar's Office. The card will be stamped and returned to the student.

Refunding of fees is possible only if a student has withdrawn from school, officially, within the first ten days of a quarter and only if the applications for withdrawal and a refund are received in the Office of the Vice President for Student Affairs within ten school days following the last regular registration day. (See Registration Calendar in the Schedule of Classes for specific dates.)

A student who originally pays full fees and then finds that he must reduce his program to fewer hours may receive a refund from the Enrollment Office of the tuition and book rental fee equivalent to the number of hours remaining as indicated in the fee schedule, provided the reduction is officially made during the first ten days of the quarter.

Academic Load

The normal academic load for a student is 16 hours. The maximum is 18 hours.

A student with a 4.25 grade-point average or above for the preceding quarter may be allowed by the dean of his academic unit to take as many as 21 hours.

A student on scholastic probation may not take more than 14 hours without approval of the dean of his school. A student employed full-time should not register for more than 8 hours.

Ordinarily, a student must carry 12 or more hours per quarter to be considered a full-time student. However, a number of programs may carry different requirements and a student attending the University under a scholarship, loan, or other type of program requiring full-time enrollment, should check to make certain that he is meeting the requirements of his specific program.

Unit of Credit

Southern Illinois University at Edwardsville operates on the quarter system. Therefore, references to hours of credit mean quarter hours rather than semester hours. One quarter hour of credit is equivalent to two-thirds of a semester hour. One quarter hour of credit represents the work done by a student in a lecture course attended fifty minutes per week for one quarter, and, in the case of laboratory and activity courses, the stated additional time.

Extension and Correspondence

A maximum of one-half the number of hours required for the bachelor's degree, or 96 hours, may be taken by extension and correspondence courses combined. Of this total, not more than 48 hours may be taken in correspondence.

While Southern Illinois University does not maintain a correspondence division, courses taken by correspondence from institutions which are accredited by appropriate regional accreditation association are regularly accepted if the grade earned is *C* or above.

Class Standing

An undergraduate student is classified as a freshman, sophomore, junior, or senior, depending upon the number of hours he has suc-

successfully completed toward the degree. A freshman is a student who has completed fewer than 42 hours; a sophomore, from 42 through 89; a junior, from 90 through 137; and a senior, 138 or more.

Course Numbering System

Generally, those courses which are numbered at the 100- and 200-level are for freshmen and sophomores. The 300-level courses are for juniors and seniors. Only students who have graduate standing or more than 96 hours of undergraduate credit may register in a 400-level course. Courses numbered 500 or higher are open to graduate students only.

Grading System

The following grading symbols are used for undergraduate work:

	GRADE POINTS PER HOUR
A—Excellent	5
B—Good	4
C—Satisfactory (This is the grade for average performance.)	3
D—Poor	2
E—Failure	1
W—Authorized withdrawal with no basis for evaluation established. Work may not be completed.	
WP—Authorized withdrawal with passing grade. Work may not be completed.	
WE—Authorized withdrawal with failing grade. Work may not be completed.	
INC—Incomplete. Has permission of instructor to be completed.	
DEF—Deferred. Used only for graduate courses of an individual, continuing nature such as thesis or research.	
ABS—Unauthorized withdrawal. Same as <i>E</i> for academic retention purposes.	
S—Satisfactory. Used for noncredit courses and thesis.	
U—Unsatisfactory. Used for noncredit courses and thesis.	
AU—Audit. No grade or credit hours earned.	
PASS—Credit toward graduation. No grade.	
FAIL—No credit toward graduation. No grade.	
PR—Work in progress.	

All complete grades and the grades *WE* and *ABS* are included in determining student grade-point averages for academic retention purposes.

Authorized course withdrawals made through the program change process do not receive grades when made during the first four weeks of a quarter. Thereafter, authorized withdrawals receive *WP* for withdrawal with a passing grade, *WE* for withdrawal with a failing grade, or *W* when no basis for evaluation has been established.

Unauthorized course withdrawals which are made through failure of the students to continue in attendance receive a grade of *ABS*. An *ABS* grade for a student may be changed to a *W* in unusual circumstances upon the recommendation of the head of the student's academic unit.

An *INC* grade may be changed to a completed grade within a time period to be designated by the instructor, not to exceed one year from the close of the quarter in which the course was taken; otherwise it remains as an *INC* grade and is not included in a grade-point computation.

A *DEF* grade for course work of an individual nature such as research thesis, or dissertation is changed to a completed grade when the project has been completed.

A student registering for a course on an *audit* basis receives no letter grade and no credit hours. An auditor's registration card must be marked accordingly and he pays the same fees as though he were registering for credit. He is expected to attend regularly and is to determine from the instructor the amount of work expected of him. If an auditing student does not attend regularly, the instructor may determine that the student should not have the audited course placed on his record card maintained in the Office of Admissions and Records. A student registering for a course for *audit* or credit may change to a credit status or vice versa through the official program change method during the first four weeks of a quarter. Thereafter the change may not be made.

In the event of repeat courses—or whenever an undergraduate student at Southern Illinois University at Edwardsville takes the same course more than once, receiving a grade each time—all grades shall be recorded on the transcript, but only the last grade shall be used in computing the grade-point average. Students may repeat a course originally taken at another school by taking the same course at Southern Illinois University. It should be determined in advance by the Office of Admissions and Records or the appropriate Department that the Southern Illinois University course is a repeat. Students who repeat Southern Illinois University courses at other schools will have both grades counted in their grade-point average. However, only the hours of the last completed course will count toward graduation.

The official record of a student's academic work is maintained in the Office of Admissions and Records.

Scholastic Standards

1. When a student's cumulative grade-point average falls below 3.00, he is given a *Scholastic Warning*. He will be returned to *Good Standing* at such time as his cumulative average is raised to 3.00 or higher.
2. If, while on *Scholastic Warning*, a student's average is below 3.00, he will be placed on *Scholastic Probation* and subject to the restrictions imposed on probationary students.
3. The student on *Scholastic Probation* will remain in this category until:
 - a. He completes three successive quarters of *C* average or better work, at which time he will be returned to *Scholastic Warning*;
or
 - b. He raises his cumulative average to the 3.00 level, at which time he will be returned to *Good Standing*.
4. In the event a student on *Scholastic Probation* fails to attain a

3.00 average for his next quarter of attendance, he will be placed on *Scholastic Suspension*.

5. A student placed on *Scholastic Suspension* may be permitted by the dean of his unit to resume his studies at any time.

Honors Day

In recognition of high scholarship, an Honors Day convocation is held each spring. A candidate for a bachelor's degree in June or August who has maintained a grade-point average of 4.500 or more for all his work through the winter quarter of his senior year is honored. Each junior having a 4.500 grade-point average is also honored. Each sophomore and freshman who has a 4.250 grade-point average is honored at the convocation. In the case of a transfer student the average at Southern Illinois University at Edwardsville as well as the cumulative average must meet the specified requirement. A senior is eligible for only one Honors Day ceremony and normally would be a candidate for graduation in June or August. Graduating seniors are also recognized at commencement on the graduation program, and their diplomas designate honors on the basis of Highest Honors (4.90 or higher), High Honors (4.75-4.89), and Honors (4.50-4.74).

Dean's List

The Dean's List is published at the end of each quarter. A student must have a minimum of 12 quarter hours passed and earn a minimum grade average of 4.25 in order to be included on the Dean's List.

The Dean's College

The Dean's College has been created to help outstanding students find an academic program that is more relevant to their needs and perhaps may carry them further along the road to professional competence than the usual undergraduate programs.

In general, a 4.5 grade-point average is required for admission to the Dean's College, but students with outstanding high school records, and others highly recommended by reason of talent by a teacher, may be admitted directly from high school. All applicants are required to present letters of recommendation. Students selected for the Dean's College must complete the usual 192 hours for the bachelor's degree.

Each Dean's College student is assigned a faculty adviser whose field of interest reflects that of the student. The student works out with his adviser a program of studies based upon the student's needs and capabilities. With the adviser's cooperation, a student may take up to 4 hours of honors work each quarter of full-time enrollment.

Interested students seeking additional information concerning the Dean's College should write or call the Dean's College Coordinator.

Veterans Information

Southern Illinois University at Edwardsville is fully approved by the Veterans Administration for veterans desiring to use the GI Bill while attending the University. Veterans who qualify for the Illinois Mili-

tary Scholarship may use this concurrently with their GI Bill benefits. A veteran who is eligible to use both the Military Scholarship and the GI Bill should, if he is taking less than a full load, determine if it is to his advantage to do so particularly if he is going to take more than four calendar years of training. Veterans do not receive GI Bill benefits for courses taken on an audit basis.

Veterans applying for the GI Bill may obtain the necessary application forms from any Veterans Administration Office or the University's Veterans Affairs Office which is located in the Enrollment Office, room 1308 of the General Office Building. These forms, along with a copy of the veteran's DD-214 (separation papers) and certified proof of any dependents, i.e., marriage certificate and/or birth certificate of children, should be returned to the Veterans Affairs Office. This office in turn will complete the enrollment certification and mail it along with the application to the Veterans Administration in Chicago. If there are any changes in dependent status after the veteran is receiving benefits, he should notify the Veterans Administration in Chicago as soon as practicable.

For students qualifying under the GI Bill (P.L. 358) the following benefits apply:

Academic Load	Benefits	Monthly Check	
		Single	Married (No Children)
12 or more hrs.	Full	\$220	\$261
9-11 hrs.	$\frac{3}{4}$	165	196
6-8 hrs.	$\frac{1}{2}$	110	131

Credit for Military Experience

Students who have completed military basic training may receive 3 hours of credit for physical education, 3 hours of credit for health education, and 3 hours of aerospace studies. Applications for credit for military service may be made through the Office of Admissions and Records, as well as for academic credit for work done in service schools.

Illinois Veterans Scholarships

Scholarships, which defray the cost of tuition and activity fees, are available to Illinois veterans who meet certain requirements outlined in the *Illinois School Code*. The DD Form 214—Report of Separation from the Armed Services—must be presented to substantiate an applicant's eligibility for this award. Further information regarding this scholarship may be obtained from the Office of Admissions and Records.

Veterans Service Programs

The Office of Veterans Affairs is located in the Student Activities area of the University Center and in the Student Affairs Office in the General Office Building. The office is staffed by veterans and offers comprehensive services to veterans including employment referral, tutorial assistance program, assistance with GI Bill benefits

and other financial problems, and registration and admittance assistance.

The Office of Veterans Affairs also conducts an active outreach program in which veterans in the community are contacted and advised of their benefits and assisted in making application for such.

Veterans Upward Bound

Administered by the Delinquency Study Center, Veterans Upward Bound, in accordance with U.S. Office of Education guidelines, is designed specifically to provide academic instruction to educationally disadvantaged veterans who may or may not possess a G.E.D. or high school diploma. The program offers remedial and/or refresher courses for the purpose of elevating the basic educational skills of veterans so that they may compete with other students at the post-secondary level. No college credit is given since the program is totally developmental, but veterans enrolled in the program are eligible for monthly VA benefits which are not deducted from their normal entitlement under the GI Bill. For more information, contact either Veterans Upward Bound or the Office of Veterans Affairs.

Veterans Representative on Campus

Student veterans should be aware of the new "Vet-Rep" Program. This office has the task of helping to insure that veterans receive their benefit checks in a timely manner, as well as providing aid with other problems or questions concerning benefits. Any veteran encountering problems with his benefits should contact the Veterans Representative Office in the General Office Building, Room 1207.

Undergraduate Degrees

Southern Illinois University at Edwardsville grants the following undergraduate degrees:

Bachelor of Arts	Bachelor of Music
Bachelor of Science	Associate in Arts
Bachelor of Science in Engineering	

Graduation

Every candidate for a degree should file an Application for Graduation with the Office of Admissions and Records no later than the first week of his next-to-last quarter of attendance. (A student who will complete his degree requirements at the end of a spring quarter should file the graduation application during the first week of the winter quarter.) The application forms are available in the Office of Admissions and Records.

At the time of application the student must pay his graduation fee. Subsequently, he must order his cap and gown through the University Bookstore and register with University Placement Services. Students who will be unable to attend the commencement exercises must notify the Graduation Section in the Office of Admissions and Records of their intentions.

Bachelor's Degrees

Each bachelor's degree candidate is expected to fulfill the requirements of his academic unit, and to maintain a minimum grade-point average of 3.000 for work completed at Southern Illinois University as well as an overall grade-point average.

Each candidate for the degree must also complete a minimum of 192 hours of credit in approved courses. A student transferring from an accredited two-year institution must earn at Southern Illinois University, or at any other approved four-year institution, at least 96 quarter hours required for the degree. Each degree candidate must complete a minimum of 48 quarter hours in residence at Southern Illinois University as well as meeting all degree program requirements.

A student seeking a second baccalaureate degree must complete a minimum of 48 quarter hours, in addition to those required for the first degree, and must satisfy the requirements of his primary concentration.

Foreign Language Requirements for Bachelor of Arts Degrees

In addition to the University's general requirements for a bachelor's degree, a person working toward a Bachelor of Arts degree must complete either by examination or by college courses, proficiency in a foreign language equivalent to a year of college level work. Some academic units may require more than a year's work for their degrees.

Associate Degree

Each candidate for the associate degree must complete a minimum of 96 hours of credit in approved courses, and maintain a cumulative grade-point average of at least 3.000. The associate degree program is listed in detail at the end of Chapters 5 and 7 in this catalog, following the information on bachelor's degree programs.

Constitution Requirement

No student may be graduated from the University who has not satisfied the State of Illinois legal requirement that "American patriotism and the principles of representative government, as enunciated in the American Declaration of Independence, the Constitution of the United States of America and the Constitution of the State of Illinois, and the proper use and display of the American flag, shall be taught in all public schools and other educational institutions supported or maintained in whole or in part by public funds." (Section 27-3 of *The School Code of Illinois*, 1969.) This stipulation may be satisfied by examination administered by Student Development Services, or by satisfactorily completing one of the following courses: Government 203, GSS 220, 300, 301, 302, or History 426.

Preprofessional Programs

Preprofessional students may, subject to certain conditions, obtain a bachelor's degree after three years' work at Southern Illinois University and one or more years' work in a professional school. During their three years of residence at Southern Illinois University they must have completed all requirements other than elective hours for the bachelor's degree which they are seeking.

In some cases the completion of concentration requirements is possible by their taking certain courses at the professional school, but this is permitted only upon the prior approval of the appropriate school dean. Also, there needs to be completion of at least one year of professional work with acceptable grades in a Class A medical school, a Class A dental school, a Class A veterinary school, or an approved medical technology or law school. In all cases, all University graduation requirements must be met. It is advisable for a student interested in this program to make his decision to seek a bachelor's degree before entering the professional school so that any questions may be clarified at an early date. Preprofessional training is offered in the areas of medical technology, medicine, dentistry, and veterinary science.

Advanced Degrees

For information concerning master's degrees or the specialist's certificate, refer to the Graduate School Catalog or direct inquiries to the Dean, Graduate School, Southern Illinois University, Edwardsville, Illinois 62025.

3 / General Studies

STUDENTS WHO EXPECT to receive the baccalaureate degree from this University with the exception of those in the Dean's College must complete the General Studies Program.

A General Studies Committee, composed of faculty representatives, student representatives, and administrators, is responsible for determining broad policies and approving specific courses and sequences of courses to be offered. The Dean of the General Studies Division is responsible for the implementation of these policies. The individual courses are taught by the academic unit for which the courses were approved.

In order to graduate from the University with a bachelor's degree, a student must satisfy the General Studies requirements which are explained in this chapter. He must also satisfy the requirements for an area of concentration (major), and in many cases, a secondary concentration (minor). If the student plans to teach in an elementary or a secondary school, he should meet the requirements for teacher certification. There are also specific requirements for graduation for each degree. For graduation requirements other than General Studies, the student should examine the related sections of this catalog.

Aims and Purposes of the General Studies Program

The education of an enlightened people through the transmission of the culture of our times is a basic objective of higher education. Specialists themselves realize that rigid concentration within any field of study may deprive them of broader understandings so important for participation in life as citizens and parents. Our educational efforts, therefore, must produce individuals with an ability to use knowledge in a way which also advances social and cultural life. Our kind of free and democratic society cannot endure without such citizens.

General Studies are only part, not the whole, of man's education. While General Studies can conceivably help a student in his choice of occupation and can contribute to his success in a given occupation, their principal objective is not to develop vocational skills. They comprise that portion of the total curriculum which is concerned with the common needs of man and which assist the student to be more at home in a world that increasingly demands more of all men in terms of the intellectual, spiritual, and social. It is necessary to prepare each student to assume his proper responsibilities in a world of

rapidly expanding knowledge, rapidly expanding population, technological advance, and consequent changes.

There is a basic unity of knowledge which the General Studies Program attempts to exhibit. The General Studies Program tries to lay a foundation upon which the student will build a superstructure of understanding and achievement. Such a background should complement the specialized studies which the student undertakes in pursuing his concentration.

An opportunity is provided for the student to gain experience in several subjects and, hopefully, to make an unhurried selection of a professional goal and an area of concentration for his total educational program. If a student has made a tentative choice of his educational goal, he may carry courses in his area of special interest concurrently with the basic courses of the General Studies curriculum.

The General Studies curriculum at Southern Illinois University at Edwardsville is one of unique quality, and accommodates many different levels of preparation for college. This philosophy permits the greatest possible number of persons an opportunity to reach their fullest potential while concurrently directing their efforts towards a stronger and happier democratic society.

The Five General Studies Areas

The General Studies Program utilizes a classification of knowledge into five comprehensive areas, each of which has a special contribution to make toward the development of the individual. Anyone, to be truly educated, should have some familiarity with each of these areas. Each area is designated by three letters.

GSK—Skills—This area includes courses which offer the student the opportunity to develop his skills in written expression, oral communication and reasoning-problem solving. Effective communication of ideas is basic to an organized society. Transmission of information from one individual to another enables the second person to benefit from the experiences and insights of the first. All of us can benefit from the development of greater ability to think critically and to analyze the situations and problems which constantly confront us.

GSM — Natural Sciences and Mathematics — includes the subjects generally called "science." The General Studies science courses aim to provide the student with an understanding of the structure of the sciences, the conceptual schemes they employ, the forms of reasoning used to reach their conclusions, and the procedures used to verify their validity. Improved understanding should lead to interest in the sciences and appreciation of the role of the sciences in human experience. The student who approaches the study of science with an appropriate attitude should find that discovery is a delightful intellectual experience.

GSS — Social Science — It is the aim of the courses in this area to help the students develop an awareness of man's role in society, an ability to think intelligently about their environment, and an alertness to the complexities of the modern world. The courses in Social

Science should assist the students in understanding the way men are shaped by the social processes. Study in the area should make students aware that their attempt to define these processes may increase their ability to determine their own destinies. It is easy to see the importance of the great technological advances of the industrial revolution. But, it should not be overlooked that all scientific and mechanical innovations must attain their significance in a setting of human interrelationships and responsibilities.

GHA—Humanities and Fine Arts. Amid all the changes in history, man in many basic ways is the same as he has always been. Human beings today experience the same basic desires and hopes, the same fears and failures, that they did in ancient times. And it is with these human constants that Humanities and Fine Arts is most concerned. Of course, it is also concerned with the changing ways that these unchanging elements have been dealt with, with the unique ways man has expressed himself about them, but underneath is the permanency of the human experience itself. The title Humanities and Fine Arts aptly describes the concepts to be studied in this area. The student has an opportunity to enrich his own insights and appreciations. It is further hoped that he will be able to develop his own sense of values. For example, in philosophy and design, one can discover fundamental connections among various areas of human experience. In literature and philosophy one confronts various problems of good and evil and may be stimulated to clarify his own values. In the study of the various arts one ought to be able to come to a better appreciation of the creativity of others and even share directly in this experience. All told, it is hoped that this kind of study contributes to what in an earlier time of history was spoken of as "wisdom."

GIS—Interdisciplinary Studies—Problems "of life" usually are not confined to a subject which is found entirely within the boundaries of any one discipline. In recognition of this fact, the General Studies Program includes the area of Interdisciplinary Studies in which is located courses whose subject matter crosses the lines of traditional disciplines. Those courses are taught by faculty from at least two of the broad areas of the Program or from two different Schools of the University.

General Studies Requirements

The specific requirements, which must be met by all students except those in the Dean's College, are listed and explained in this section. These general requirements must be qualified in many cases by the variations and exceptions explained in the section following this one.

The General Studies requirements are classified into the five areas previously discussed. These areas, with the requirements in each, are:

GSK Skills 16 hours
 GSM Natural Science and Mathematics 16 hours

The student selects any courses listed in the GSM

Area to total 16 hours.

GSS Social Science 16 hours

The student selects any courses listed in the GSS Area to total 16 hours.

GHA Humanities and Fine Arts 16 hours

The student selects any courses listed in the GHA Area to total 16 hours.

GIS Interdisciplinary Studies 4 hours

The student selects any one course (or two courses if each provides two hours credit) listed in the GIS Area.

a. The student is required to take 8 hours of written communication (courses which meet this requirement are numbered from 101 through 119). 8

b. He must take 4 hours of oral communication (courses which meet this requirement are numbered from 120 through 139). 4

c. He must take 4 hours of reasoning or problem solving (courses which meet this requirement are numbered from 150 through 169) 4

68 hours

— 8*

General Studies requirements 60 hours

*The student is automatically excused from 8 hours in the one Area among GSM, GSS and GHA closest to his concentration. However the 8 hours remaining to be taken in that Area must be in courses offered by departments other than that of the concentration. The list of approved waivers is on page 25.

General Studies Requirements for the Transfer Student

A transfer student who has received an associate degree, in a baccalaureate-oriented program, from an accredited two-year institution may enter the University with junior class standing and be considered to have met the requirements of the General Studies Program.

Other students who transfer to Southern Illinois University from an accredited university, college, or junior college have their work evaluated for purposes of meeting the general degree requirements, including the General Studies requirements. The number of *D* hours accepted from each institution is equal to one-third the *A*, *B*, and *C* hours. All grades earned at other institutions are used in determining the student's grade-point average. In general, equivalent work in appropriate areas is applied to meet the requirements. Other courses may be accepted for general credit and may apply toward concentration or other requirements. Students now attending another college who intend to transfer to Southern Illinois University should plan their courses to complete specific sequences if possible.

Semester hours transferred are computed on the basis of 3 quarter hours credit for each 2 semester hours accepted. A student transferring a course carrying 3 semester hours credit, for example, will receive 4.5 quarter hours credit.

Flexibility, Variations, and Exceptions

The total requirements of General Studies may be partially satisfied, reduced, or modified by several considerations which are discussed in this section.

The Waiver

Each student is entitled to waive 8 hours in the Area (GSM, GSS, GHA) most closely related to the area in which he will concentrate his work. The following waivers have been approved:

Area GSM—Biology, chemistry, engineering, general science and mathematics, mathematics, nursing, physical education, physical science, physics, recreation, and sanitation technology.

Area GSS—Administrative services, American studies (GSS or GHA), anthropology, business administration, business education, economics, geography, government, history, human services, psychology, social studies, sociology, and speech pathology and audiology (GSS or GHA).

Area GHA—American studies (GSS or GHA), art, elementary education, English, foreign language, language arts, mass communications, music, philosophy, special education, speech, speech pathology and audiology (GSS or GHA), and theater.

Advanced Standing

It is possible for a student to gain advanced standing (that is, to bypass certain requirements without credit in the corresponding courses) in some areas. Eligibility for advanced standing is determined upon the basis of high school preparation in the area, scores on the A.C.T. test, and/or scores on special advanced standing examinations. The student should consult his General Studies adviser about specific possibilities for advanced standing. Following are the current criteria or qualifications for advanced standing for certain General Studies courses in each area. (The A.C.T. percentiles used are college-bound percentiles.)

GSK AREA

- 101-4 English Composition.
By examination only. Student takes English Skills Test and if minimum ranking is achieved, also writes an essay. Advanced standing requires satisfactory performance on both E.S.T. and essay.
- 102-4 English Composition (composition and literature).
By examination only.
- 123-4 Oral Communication of Ideas (speech).
A course in speech in high school, 85th percentile on A.C.T. English test; or by examination.

GSM AREA

- 101-4 Introduction to Physical Science.
One year of high school physics, 25th percentile on A.C.T.

- mathematics test, and 85th percentile on A.C.T. natural science test; or by examination.
- 110-4 Earth and Its Geographic Environment.
One course of earth science in high school, 85th percentile on A.C.T. natural science test; or by examination.
- 111-4 Earth and Its Geologic Environment.
One year of earth science in high school, 85th percentile on A.C.T. natural science test; or by examination.
- 120-4 Contemporary Chemistry.
One semester of high school chemistry, 25th percentile on A.C.T. mathematics test, and 85th percentile on A.C.T. natural science test; or by examination.
- 130-4 Contemporary Biology.
One year of high school biology; 85th percentile on A.C.T. natural science test.
- 131-2 Life: Ecology and Diversity.
Two years of high school biology with a minimum grade of *B*, 85th percentile on A.C.T. natural science test.
- or
- 230-4 Man and His Diseases.

GSS AREA

- 101-4 Introduction to the History of Western Civilization.
- 102-4 One year of world, western, or European history in high school, 90th percentile on A.C.T. social science test; or by examination.
- 130-4 Sociology.
A course in sociology in high school, 90th percentile on A.C.T. social science test; or by examination.
- 144-5 Basic Concepts of Algebra.
Six semesters of college preparatory mathematics (equivalent to two years of algebra, one year of plane geometry) with a *C* average and no failing grade, 75th percentile on A.C.T. mathematics test, or by examination.
- 150-4 Economics.
A course in economics in high school, 90th percentile on A.C.T. social science test.
- 220-4 U.S. Constitution.
- 240-4 Geography for Modern Man.
A course in geography in high school, 90th percentile on both the social science and the natural science sections of the A.C.T.; or by examination.
- 300-4, History of the United States.
- 301-4, One year of U.S. history in high school with a grade of *B*.
- 302-4 90th percentile on A.C.T. social science test. (Advanced standing will *not* meet the Constitution requirement.)

GHA AREA

- 203-4 Literary Masterpieces of Antiquity.
By examination only.
- 224-4 Philosophical Masterpieces.
By examination only.

Proficiency Examinations

Students with superior backgrounds in certain subjects may qualify to receive credit in related courses by demonstrating their achievement through proficiency examinations. These examinations are available in most General Studies courses as well as certain courses in other subjects. A listing is maintained in the General Studies Division of those courses for which proficiency examinations are regularly available. Information regarding time and place of testing and other detailed instructions are included in this listing. Tests are given by the Departments themselves, by the testing service of the General Studies Division, and by Student Development Services.

The Proficiency Examination Program (including non-General Studies courses as well as General Studies courses) is administered by the Dean of the General Studies Division.

A student who desires to take a proficiency examination in any course should initiate the procedure with the General Studies Division Office. The Division representative has the student fill out the form for requesting the examination and furnishes related information if requested to do so. In many cases, course guides and reading lists are available from the appropriate academic department, for persons interested in taking the proficiency examination.

Any student may take any available proficiency examination subject to the following limitations: (a) A maximum of 48 hours, including credit earned through the College Entrance Examination Board's Advanced Placement Program, may be gained through proficiency examinations. (b) A student may not take a proficiency examination for a specific course more than once, nor may he take a proficiency examination in a course in which he has previously received a grade.

After a student has completed a proficiency examination, he shall be granted credits and grade-points according to the grade achieved on the test, as follows: (a) If a student receives a grade of *A* or *B* on a proficiency examination, his record shows the name of the course, hours of credit granted, the grade earned, and a notation "credit granted by proficiency examination" and the grade earned counts in the grade-point average. (b) If a student receives a grade of *C* on a proficiency examination, his record shows the name of the course, the hours of credit granted, and a notation, "credit granted by proficiency examination." and the grade earned does not count in the student's grade-point average. (c) If a student receives a grade of *D* or *E* on a proficiency examination, he does not receive credit and his record shows nothing regarding the proficiency examination. However, the proficiency examination grade report form is filed in the student's folder for reference purposes, and to prevent re-examination.

An alternative procedure available in certain General Studies courses for proficiency examination involves student enrollment in the corresponding course. (The procedure is sometimes referred to as an in-class proficiency examination.) Under this plan, proficiency examinations are available to students in some classes for which they have registered. The examinations are administered to interested students of the class early in the quarter. The examinations are

graded in sufficient time for those who pass the test to add another course as a replacement on their schedule. The names of the students who have passed the early examinations are carried on the class roll and they receive credit for the course at the end of the quarter. Students may elect to take these in-class proficiency examinations on a Pass/No Credit basis. Students who fail the in-class proficiency examinations continue in the course as regular students.

Advanced Placement Program (CEEB)

A high school student who is qualified through registration in an advanced placement course in his high school or through other special educational experience may apply for advanced placement and college credit through the Advanced Placement Program of the College Entrance Examination Board, 475 Riverside Drive, New York, New York 10027.

Advanced classes which qualify for this purpose are offered in many high schools in specific subjects, such as English composition, a foreign language, history, biology, chemistry, mathematics, or physics. A national examination is given in each subject, administered through the Educational Testing Service, which is intended to measure the achievement of the student, and determine at what point the student should begin college study of that subject. Each examination is prepared by a national committee of high school and college teachers. Grades are assigned as follows: 5, high honors; 4, honors; 3, creditable; 2, pass; and 1, fail. The marked papers are sent to the university which the student has indicated that he will attend. To receive credit, a person must normally earn a grade of 5, 4, or 3 on the examination provided by the College Entrance Examination Board at the completion of the high school course.

Ordinarily, the maximum credit granted through the CEEB examinations is 16 hours. It is non-resident credit, does not carry a grade, and is not used in computing the student's grade-point average. Credit granted at another accredited college or university under this plan is transferable to this University up to a maximum of 16 hours. A student may appeal to his academic dean to be granted more than 16 hours.

The following courses are those in which a student may currently earn credit through the Advanced Placement Examination of the College Entrance Examination Board.

- (1) Physics: 206a-5, 206b-5, 206c-5.
- (2) Chemistry: Chemistry 105-5; 125a-5, 125b-5, GSM 101-4.
- (3) Biology: Biology 200, GSM 130-4, 131-4, 230-4.
- (4) History: European: GSS 102; American: GSS 300-4, 301-4, 302-4.
- (5) English: GSK 101-4, 102-4.
- (6) Foreign Languages: French: 123-12, 201-3; German: 126-12, 201-3; Spanish: 140-12, 201-3.
- (7) Mathematics: 150a-4, 150b-4.

As previously indicated, students who achieve a grade of 5, 4, or 3 on the CEEB Advanced Placement Examinations receive credit for the

appropriate courses, except in chemistry where a score of 3 does not provide credit.

College Level Examination Program

Southern Illinois University will grant credit to both currently enrolled and prospective students for successful completion of the College Level Examination Program (CLEP) Tests under the following conditions:

1. A maximum of 48 units (hours) can be earned through CLEP via General and/or Subject Examinations. This credit is applicable toward the Bachelor of Science or Bachelor of Arts degree or to undergraduate certificates offered by the University.

2. The score on each General Examination must equal or exceed the 50th percentile on the national college sophomore norm which is a scaled score of approximately 500. Separate scores are reported for each of the tests comprising the General Examinations. Credit, therefore, will be allowed for the tests individually.

3. Credit will be awarded for a CLEP Subject Examination when approved by the Department offering a comparable course or when approved as a course equivalent which requires that comparable course for its concentration.

4. Test credit will not be allowed when a student previously has received credit in comparable courses. For example, credit via the English Test of the General Examinations will not be allowed when credit in English Composition has been established previously. In addition, test credit will not be granted when a student is currently enrolled in a comparable course.

5. Students will be permitted to take examinations for which comparable credit has not been established previously, regardless of the total amount of credit earned to date.

6. An individual may take the tests prior to enrollment in this University and still receive credit. Final recording of credit upon the Permanent Record Card, however, is contingent upon matriculation at Southern Illinois University at Edwardsville.

The tests are administered locally at the official CLEP Testing Center in the General Studies Division. General Examinations are given on the second Saturday of each month and Subject Examinations are given on the third Wednesday. For further information or registration materials, contact: CLEP Administrator, GOB 1310, Campus Box 44, Southern Illinois University, Edwardsville, Illinois 62025; or telephone 692-2242 or 692-3922.

Individuals who take the tests and who wish to apply for credit through Southern Illinois University should have the results sent to: Records Department, Office of Admissions and Records, Southern Illinois University, Edwardsville, Illinois 62025.

GENERAL EXAMINATIONS

The following amount of credit is offered for the corresponding General Examination: English Composition—8 quarter hours; Humanities—5 quarter hours; Mathematics—4 quarter hours; Science—8 quarter hours; Social Science-History—4 quarter hours.

SUBJECT EXAMINATIONS

When approved, as described in the preceding paragraph, credit will be awarded for Subject Examinations on the basis of the number of credit hours in the pertinent courses.

Pass/No Credit Grade Option

The objectives and structure of the General Studies Program are such that a student must sometimes take courses in subjects for which he does not feel especially well prepared. The student may feel that he is at a disadvantage with respect to grades in such a class. The pressure to make good grades may also keep a student from attempting a course in which he has some moderate interest but for which he feels that he may be at a disadvantage in competing with other students.

A student may elect to enroll in up to 20 hours in the General Studies Program under a Pass/No Credit option. Under this option the student receives a Pass for grades of A, B, or C and a No Credit for grades D or E. The student, at the time of declaring Pass/No Credit, may stipulate that he would rather receive the grade of D than No Credit when appropriate.

A student declares his option in writing the week prior to final examinations.

The instructor keeps and records grades in the usual way and the Office of Admissions and Records will translate the grades to a Pass/No Credit basis in those cases in which the student has requested that option.

The General Studies Advisement Office

The General Studies Division maintains a General Studies Advisement Office for the assistance of students.

Each student in the Division is required to be advised for each term of attendance by a General Studies adviser. Appointments for such advisement should normally be made well in advance of the registration period for the quarter which the student plans to attend. If group orientation and advisement are being provided, new students should not make individual appointments for advisement.

If a student has made a tentative selection of his educational goals, the adviser can assist the student in selecting courses in his area of special interest. The adviser may refer a student to other sources for assistance, such as major and minor advisers, if more detailed information about specific programs is needed. Questions related to the specific applications of the General Studies requirements should be clarified with a General Studies adviser while the student is in the General Studies Division.

The General Studies Advisement Office does the initial processing for declarations of concentration, change of concentration, and declarations and changes of secondary concentration.

Study Skills

A 1-hour elective course in Study Skills (Technical and Adult Education 100a) is offered which is designed to assist the student in developing more effective study habits. Specific attention is given to motivation for study, budgeting of time, effective listening, taking concise but adequate notes, active reading, critical thinking, and preparation for examinations.

Developmental Reading

A 1-hour elective course in Developmental Reading (Technical and Adult Education 100b) is offered each quarter. Instructors from this course also serve as reading clinicians in the University Writing Clinic. This course is designed to assist both students with non-organic reading deficits and those who simply want to improve their reading rate and efficiency.

Continuing Education for Women

The General Studies Division offers special help, including conferences and workshops, for women who may need information and counseling about opportunities in education and careers. Anyone who desires such services should contact the General Studies Advisement Office.

Vocational and Educational Information and Counseling

As an outgrowth of needs of General Studies students and other advisees for career information and guidance, certain materials are maintained including reading files for careers, college and proprietary school catalogs, and curriculum guides for all undergraduate concentrations offered at this University. Also, counselors and advisers routinely work with students in the area of educational and career counseling, and frequently refer students to Departments, concentration advisers, and area counseling services for additional assistance.

Guidance Services for Mature Students

Counseling and educational planning are offered to mature students and prospective students. The General Studies Division also participates in Catalyst, a nationwide network which provides career information and resume services for college women.

Probationary Students

The General Studies Advisement Office advises those students who are on probation and have not yet officially declared a concentration. Advisement for probationary students with officially declared concentrations is the responsibility of the students' own academic units.

A student on probation may not take more than 14 hours without special permission. If a probationary student is employed full-time, 7 hours is the normal maximum.

It is especially important that students on probation understand the rules relating to scholastic standing as summarized on pages 14-15.

*Transition from the General Studies Division
to Another Academic Unit*

A student ordinarily is classified in the General Studies Division until he officially declares an area of concentration. He is required to declare an area of concentration at any time prior to his senior year. The student initiates his declaration of concentration in person in the General Studies Advisement Office, and after a student has officially declared a concentration, he is classified into the academic unit which grants the degree sought by the student.

A student who wishes to change his area of concentration, or to declare or change his area of secondary concentration, should return to the General Studies Advisement Office to initiate a new declaration or change.

4 / Instructional Units

General Studies Division

S. D. LOVELL, Dean

The General Studies Division administers and coordinates the General Studies Program. It is responsible for the academic advisement of students who have not declared their concentration. In addition, the Division performs other functions of importance to the students. It coordinates the Student Colloquium, offers study skills and reading improvement courses, coordinates proficiency testing, provides advanced standing on the basis of high school experience and A.C.T. scores, and administers the College Level Entrance Examination Tests. (See preceding chapter which discusses in detail the General Studies Program.)

School of Business

PAUL E. SULTAN, Dean

Accounting; Administrative Services; Business Administration; Business Education; Economics; Finance; Management Science; Manpower and Industrial Relations; Marketing; Organizational Behavior and Development; Production and Operations Management

The function of the School of Business is to provide the basic education necessary to prepare a person to enter the profession of business. A significant characteristic of the School is that it provides for concentration in the basic areas of business and of economics, not as a substitute for, but as a part of a broad liberal education. The typical program of study requires about thirty-five percent of graduation requirements to be General Studies, about twenty percent electives, and about forty-five percent professional preparation courses.

The School's undergraduate program seeks to produce a graduate with: (1) a broad education in the arts, sciences, and humanities, (2) a solid knowledge and understanding of the functioning of the business world, (3) sufficient knowledge and skill in a field of specialization to permit the graduate to obtain a position in business, and (4) the proven ability to think creatively and analytically in order to progress into positions of greater responsibility in the future.

The Bachelor of Science degree with a concentration in business administration is granted by the School to students successfully completing the program within the standards established by the faculty.

The student is required to include a sequence of courses in one of the following specializations: accounting, general; accounting, professional; administrative services; business administration, general; economics; finance; management systems; manpower and industrial relations; marketing; organizational behavior and development; production and operations management.

Students seeking a degree in economics have two different degree programs available: the Bachelor of Science degree granted by the School of Business with a concentration in economics and the Bachelor of Arts degree granted by the School of Social Sciences with a concentration in economics. In addition, there is a combined program between the School of Business and the School of Education. The degree granted by the School of Education offers a program in which students may choose to specialize in economics.

The School of Business also provides a degree in business education with a concentration in secretarial and office administration. In addition, the Bachelor of Science degree with a concentration in business-teacher education is granted by the School of Education. The first of these degree programs is intended for students who will enter business directly, and the second for those planning to enter the teaching profession.

School of Education

W. D. WILEY, *Dean*

Counselor Education; Early Childhood Education; Educational Administration; Elementary Education; Foundations of Education; Health Education; Instructional Technology; Physical Education; Psychology; Secondary Education; Special Education

The general objective of the School of Education is to contribute to the State of Illinois's general effort to improve all levels of educational opportunity available to residents of the State. The School, therefore, steadily addresses itself to the changing educational dimension of the overall development problems of the immediate service area and the State. The region's educational needs thus shape the School's programs of instruction, research activities, and field services.

School of Education Programs

In order to pursue a program offered by the School of Education a student will need to fulfill both the general requirements of the University and those of the School of Education. Formal request for admission to one of the School's programs is filed in the School of Education Office of Teacher Education where an education adviser assists in planning a student's program. It is necessary to hold an approved program in order to register for School of Education courses leading to either a degree or to teacher certification.

Undergraduate advisers are available to work with students pursuing preservice programs in the following areas: elementary education; early childhood education; secondary education; health, recreation, and physical education; special education; and psychology.

Each student is urged to establish and maintain continuing communication with his adviser throughout his teacher education or psychology program from application through graduation.

All students are encouraged to secure general information concerning the teaching profession before completing 64 hours of studies. Most students will find it useful to know about the levels and fields where there are teaching opportunities, aptitudes recommended for teachers, the general characteristics of teaching careers, and the teacher certification requirements of the State of Illinois. The education advisers also provide the student with the requirements of public schools accredited by the North Central Association and can explain the importance of graduating from undergraduate programs of students approved by the National Council for Accreditation of Teacher Education.

Admission Procedures

Admission procedures are in effect for all students preparing to teach, including Bachelor of Arts degree and Bachelor of Science degree concentrations, transfer students, and graduate students seeking certification. Students should consult the appropriate Department of the School of Education (Elementary Education, Special Education, or Secondary Education) for information on procedures.

Students must be officially admitted to a teacher education program of the appropriate Department in order to secure a student teaching assignment, to be graduated in teacher education, or to qualify for a teaching certificate.

Professional Education Programs

The School of Education offers programs of study leading to the Bachelor of Science degree. The major areas for which there are distinct undergraduate programs are art education, business education, early childhood education, general elementary education, physical education, secondary education (see teaching fields on pages 92-93), and special education. These concentrations are designed to prepare students for positions in the public schools at a variety of levels and in numerous teaching fields. Since one of the conditions for obtaining a permanent position in the public school is the holding of a state certificate, the programs have been planned so that students will obtain certification upon their completion.

All Bachelor of Science degree programs include GSS 220, GSS 300 or 301 or 302 or History 426 or Government 203, thereby fulfilling the State of Illinois's requirement for a course in either American history or government.

Accreditation

The programs of the School of Education have been fully accredited by the North Central Association of Colleges and Secondary Schools. In addition, the professional education programs have been accredited by the National Council for Accreditation of Teacher Education and approved for certification purposes by the State of Illinois Office of the Superintendent of Public Instruction.

Research and Instructional Facilities

The School of Education maintains the following facilities which offer research and instructional resources to both the campus and the University's service area.

Day Care Center. The School operates an on-campus Day Care Center, primarily for children of students enrolled in the University. Children between the ages of three and five may be enrolled on a quarterly basis throughout the year. The program provides a variety of developmental activities in an informal setting. Elementary education students interested in early childhood education may take a practicum in this Center to meet part of the student teaching requirement.

Practicum Facilities. The School maintains facilities that are devoted to the practical experience of the student. Video-tape equipment located in areas with one-way viewing rooms allows students to practice skills in a natural setting. These experiences are then available for re-evaluation by the student and the instructor. Facilities with sophisticated instrumentation are available for individual testing, small group work, and larger gatherings.

Psychology Laboratories. Two psychology laboratories with modern equipment provide a setting for the development of experimental programs. These laboratories and the University computer facilities provide on-campus experience in the instructional and research program. Students are encouraged to become familiar with and use these facilities, which make a direct contribution to all of the programs in the School of Education.

The Reading Center. The Reading Center is a well-equipped laboratory of diagnostic and instructional materials and equipment used in diagnosing and correcting reading deficiencies. Students enrolled in the sequence of reading courses get practical experience in the Center working with pupils who are transported to campus from the surrounding elementary and secondary schools. The Reading Center also serves the public and parochial schools of the area by providing a facility where current materials can be studied and evaluated.

Special Education Center. The Special Education Center provides educational and diagnostic services for children with learning and/or behavior disorders. Programs for such children are provided at the pre-school and primary levels. Students may utilize the Center for observation of and participation with the instructors in such areas as classroom management, material development, and special education teaching techniques.

Micro-Teaching Lab. The Special Education Micro-Teaching Lab was established under a federal grant to provide training of special education students in the techniques and potentialities of Micro-Teaching. Students and faculty plan, evaluate and produce video tapes to improve the quality of training of both pre-service and in-service special education teachers. The Lab includes peer teaching plus work with exceptional children both on and off campus.

All special education students are able to obtain experience with exceptional children through the cooperation of the public schools in

the surrounding area. The resources of various state agencies and other public and private facilities are used to supplement the public school experience.

Teaching Techniques Laboratory. The purpose of the Teaching Techniques Laboratory is to provide students opportunities to practice specific teaching skills prior to student teaching. The laboratory consists of video recording studios in which students present short lessons to small groups of pupils. Tapes of the lessons are analyzed and critiqued by the students and their university instructors. Laboratory assignments comprise part of the requirements in professional education courses. In addition to the training function, the laboratory enables faculty and students to study the teaching process under controlled conditions.

The Special Education Department operates a microteaching program for both pre- and in-service special education teachers. This special program includes teaching simulation as well as direct work with exceptional children on and off campus.

Office of Teacher Education

The Office of Teacher Education provides School of Education students with academic assistance not otherwise available through courses. The staff either directly assist the student or make an appropriate referral. This office is also responsible for the coordination of the student teaching program, including the placing of student teachers in schools and supervising them.

If a question about certification requirements arises, whether for Illinois or another state, students can obtain an answer from the office. The office also makes arrangements for students who wish to make visits to the schools whether in connection with course work or not. Career counseling in the field of professional education can be obtained from the education staff. The staff also assists students in the formation of professionally oriented clubs or interest groups and serves as headquarters for the School of Education student organizations. For further information, see detailed instructions for Student Teaching, pages 98-101.

School of Fine Arts

HOLLIS L. WHITE, *Dean*

Art and Design; Mass Communications; Music;

Speech and Theater

The objectives of the School of Fine Arts are to broaden and intensify experiences in the fine arts and communicative arts and related sciences in the area served by the University; to impart to all University students an awareness of the cultural values of the arts, in visual and plastic art and design, music, speech, theater, speech pathology and audiology, radio, television, journalism, and film; to provide facilities for the creative and scholarly pursuit of the arts; and to offer specialized courses of study to serve the end of liberal and professional education. The performing arts are emphasized through exhibitions, concerts, lectures, and theatrical productions.

School of Humanities

DALE S. BAILEY, *Dean*

American Studies; Comparative Literature; English Language and Literature; Foreign Languages and Literature; Philosophy

The School of Humanities provides instruction in the intellectual disciplines of English and other languages, of literature, and of ideas. The School is concerned with instruction in the reading, writing, and speaking of English and other languages, the development of an understanding and appreciation of literature, and at the same time recognition of its civilizing values. The School guides advanced students in methods of studying and arriving at comparative evaluations regarding the works, men, and movements that make up literary and intellectual history. All students are encouraged to think and to write rationally, imaginatively, and responsibly as they learn to identify persistent human problems and their classic and current solutions.

School of Nursing

LUCILLE MCCLELLAND, *Dean*

The School of Nursing offers a program of study leading to a Bachelor of Science degree in nursing. The faculty consider nursing to be a dynamic, therapeutic process that recognizes the intrinsic value of man. Professional nursing is the comprehension of and the ability to apply scientific principles and techniques from the natural and behavioral sciences, and the capacity to become therapeutically involved in a variety of human situations. As in other health professions, it is assumed that the student will have gained an understanding of man and his environment through collegiate work undertaken prior to beginning the professional studies in nursing.

The upper-division program in nursing is based on two years of General Studies and nursing prerequisites. Both registered nurses and students without prior nursing preparation who wish to pursue the prescribed program of study leading to the baccalaureate degree may apply. Applicants must meet all the requirements for admission to the School of Nursing as well as those of the University. Opportunities exist for students who have completed approved nursing courses elsewhere to accelerate their education by taking specified proficiency examinations. Credit is also allowed for courses completed through CLEP.

Various hospitals and community agencies in the Bi-State area are used for clinical laboratory experience. Students are responsible for providing their own transportation and appropriate automobile insurance. Malpractice insurance is provided by the University Liability Policy, and individual coverage is not required for student related practice.

The program in nursing is approved by the Illinois Department of Registration and Education and accredited by the North Central Accrediting Agency and the National League for Nursing. Graduates

of the program are eligible to take the licensing examination for registered nurses.

Admission

Due to the large number of students seeking admission to the School of Nursing and the constraints necessitated by the clinical supervision required in order to insure learning and patient/client safety, admission into the baccalaureate program in nursing is limited. Admission to the University and declaration of concentration do not constitute admission to the School of Nursing. Students seeking admission in the School of Nursing should file a written application with the School no later than three quarters prior to the quarter in which they wish to enroll in the first clinical nursing course. Acceptance into the first clinical nursing course (Nursing 310—Introduction to Clinical Nursing) constitutes admission into the School of Nursing. Contact the School of Nursing for calendar of dates and deadlines.

Criteria for admission include:

1. Sophomore standing.
2. Progressive academic achievement in prerequisite courses. The necessity to repeat a prerequisite more than once, or repeat more than one prerequisite, may disqualify the applicant.
3. Cumulative grade-point average of 3.5.
4. Grade of C or above in each science prerequisite.
5. Completed application on file with the School of Nursing.

Applicants should contact the School of Nursing for advisement and make early application, as qualified applicants are accepted in rank order of grade-point average and date of application.

Retention and Readmission

In addition to the University policies pertaining to academic standing, students are required to achieve a grade of C or above in all nursing courses. Should the student receive an unsatisfactory grade in a nursing course (below C), the matter will be referred to the Committee on Progressions. Continuance in the program is dependent upon Committee recommendation. In the event the student is permitted to continue in the program, he must repeat the course. A second unsatisfactory grade in a nursing course automatically results in dismissal from the program.

Students dismissed from the School of Nursing may apply for readmission provided there is evidence of change which indicates improved chances for success. Acceptance of the application, however, does not mean or guarantee readmission.

School of Dental Medicine

STANLEY P. HAZEN, *Dean*

The School of Dental Medicine offers a three calendar year curriculum leading to the degree, Doctor of Dental Medicine.

Applicants for admission must successfully complete a minimum of two academic years of undergraduate course work at a recognized

institution of higher learning, must include certain specific subjects in the predental program, and must participate in the Dental Admission Testing program conducted under the auspices of the American Dental Association.

The School has received a "preliminary approval" accreditation status by the Council on Dental Education of the American Dental Association.

The School of Dental Medicine occupies facilities at the University's campus in Alton, Illinois, located approximately eighteen miles from Edwardsville.

Detailed information may be obtained from the School's Admissions Office which is located on the Alton Campus. All inquiries, however, should be addressed as follows: Admissions Office, School of Dental Medicine, Southern Illinois University, Edwardsville, Illinois 62025.

School of Science and Technology

EARL E. LAZERSON, *Dean*

Biology; Chemistry; Engineering and Technology;

Mathematics; Physics; Science and Technology

The School of Science and Technology offers courses of study in mathematics, the natural sciences, and engineering.

Candidates for the Bachelor of Arts or the Bachelor of Science degree with concentrations in any of the disciplines in the School of Science and Technology must meet the following requirements:

1. At least 48 hours of credit in one area of concentration with a minimum grade-point average of 3.00.
2. A minimum grade-point average of 3.00 for all courses in the area of concentration numbered above 299.
3. At least 9 hours of credit in the area of concentration in courses numbered above 299 must be earned at Southern Illinois University within two years preceding the completion of requirements for the degree being sought.
4. Upon completion of 64 hours of credit, each student in the unit must file a tentative curriculum outline with his department adviser.

Candidates for the Bachelor of Science degree in education who select an area of concentration within the School of Science and Technology must have at least 48 hours (or 36, if two 27-hour concentrations are completed in other areas of study) in that area with a minimum grade-point average of 3.00 overall and for all courses numbered above 299.

A secondary concentration within the School of Science and Technology must include at least 27 hours of credit with a minimum grade-point average of 3.00. Specific requirements, if any, are listed in this catalog under the heading Secondary Concentration for the particular discipline.

To qualify for honors in an area of Science and Technology, one must complete at least 48 hours of credit, or the equivalent, in that area including successful completion of 9 hours of the corresponding honors program.

School of Social Sciences

ALLAN J. MCCURRY, *Dean*

*Anthropology; Geography; Government;
History; Sociology*

The School of Social Sciences offers courses designed to enable the student to achieve an understanding and appreciation of civilization viewed in historical perspective, and to gain, through the various social sciences, an awareness of the society of which he is a part and of his role in it. His studies give him insights and understandings which enable him to live more constructively with others in his family, community, and nation and which provides him with a better understanding of social organizations, technologies, and the nature and variety of human beliefs and attitudes.

The School of Social Sciences offers the Bachelor of Arts degree with a concentration in economics.

Aerospace Studies

LT. COLONEL CHARLES M. JOHNSON, *Commander*

The objective of the Air Force Reserve Officers Training Corps program is to qualify students for appointment as Second Lieutenants in the United States Air Force. The Air Force ROTC unit at Southern Illinois University at Edwardsville is a senior division unit established in September 1965. It is administered by commissioned officers of the USAF who have been assigned by the Department of the Air Force with approval of the University.

The Department of Aerospace Studies at Edwardsville offers a two-year and a four-year program. The latter is divided into the General Military Course (GMC), covering the freshman and sophomore years, and the Professional Officer Courses (POC), covering the junior and senior years. The courses of the POC are designed to provide the fundamental training, both personal and professional, which will best equip a cadet to become an effective junior Air Force officer possessing a high growth potential and also to develop and stimulate a growing desire on his part to enter the Air Force training program. The GMC is designed with two additional objectives in mind: first, to interest the cadet in the possibility of continuing in the advanced AF ROTC and ultimately making the Air Force his career; and second, to provide him with Space Age citizenship training of long-range value to the Air Force whether he returns to civilian life or becomes a member of the USAF. Emphasis is given, both in theory and practice, to outlining the leadership and managerial responsibilities of squadron-level officers, to improving oral and written expression, and to learning techniques of the problem-solving process. Field trips to Air Force bases supplement classroom instruction by familiarizing the cadet with Air Force operations and organization.

Qualified senior Air Force ROTC cadets interested in becoming Air Force pilots participate in the Flight Instruction Program. Each

FIP student receives thirty-six and one half hours of free flight instruction at the Parks Aeronautical College flying school.

The academic hours of the General Military Course and the Professional Officer Course are allowable toward a bachelor's degree. Non-credit hours of Corps Training (one hour per week each quarter) are taken concurrently with the GMC and the POC. These courses provide leadership training experiences which will improve a cadet's ability to perform later as a USAF officer. See page 48 for outline of secondary concentration.

Air Force ROTC textbooks are loaned to all ROTC students without charge.

In addition to the Air Force ROTC programs offered for academic credit, Aerospace Studies endorses or directly sponsors extracurricular activities. The Arnold Air Society, a national honorary service organization, is open to selected AF ROTC cadets. Membership in the Angel Flight, an auxiliary of the Arnold Air Society, is open to selected undergraduate women. Angel Flight assists the cadets of the Arnold Air Society in community/campus service-oriented projects.

Selection of students for application and/or enrollment into the POC, is made by the Professor of Aerospace Studies as provided in Public Law 88-647 from qualified applicants as follows:

1. Personal qualifications.
 - a. The applicant must qualify competitively on the Air Force Officer Qualification Test.
 - b. The physical standards prescribed for appointment to the United States Air Force Reserve in AFM 160-1 apply.
 - c. The applicant must be accepted as a student in Southern Illinois University and be in good academic standing.
 - d. A flying applicant must be scheduled for commissioning prior to reaching age 26½; a non-flying applicant must be scheduled for commissioning prior to reaching age 30.
2. The Department of the Air Force agrees to pay the student a retention fee (subsistence allowance) at a monthly rate as announced (POC cadets only). The current rate is \$100 per month for a maximum period of twenty months.
3. In addition to the monetary emoluments listed above, the POC cadet receives:
 - a. An officer-type uniform. The uniform remains in the possession of the cadet during his two-year enrollment and becomes his property upon the successful completion of the Air Force ROTC program. (This includes all required uniform items for summer and winter.)
 - b. In excess of \$300 for the six-week training course and a travel allowance to and from that place of training.

Air Force ROTC Awards

Awards are presented to outstanding cadets during each academic year. Details concerning such awards are announced at appropriate times.

Air Force ROTC Scholarships

The Air Force presently offers four, three, and two year scholarships to qualified cadets. This scholarship pays all tuition, fees and books. All scholarship holders receive \$100 per month subsistence allowance.

Office of Off-Campus Programs

PAUL BURNS, *Director*

The University offers individual extension courses and off-campus degree programs at various locations away from the Edwardsville Campus and the Alton and East St. Louis instructional centers. Extension courses and off-campus degree programs are scheduled in response to expressed needs for off-campus instruction where University resources are sufficient to meet such needs through quality instruction.

Extension classes are identical to classes offered on the campus and are scheduled at locations in the Edwardsville Campus service area. Courses may be offered by radio, by television, and by use of other media.

Off-campus degree programs are offered for resident credit at various locations in the United States and overseas. These programs are identical to on-campus programs in academic content and degree requirements. Some are not financed by the State of Illinois, and student fees or agency contracts are established at a level sufficient to recover the cost of instruction.

Scheduling Extension Classes

Extension courses are offered where it is apparent that there is a need for off-campus instruction and enrollments are adequate to justify scheduling a class. The individual schools of the University are responsible for extension offerings in their respective academic areas. Inquiries and requests should be directed to the appropriate dean's office.

Delinquency Study and Youth Development Center

ROBERT S. GILLAND, *Director*

The Delinquency Study and Youth Development Center located on the Edwardsville Campus of Southern Illinois University has been in existence since 1962. Although specific objectives have been focused on the alleviation of delinquency and issues of youth development, the Center's scope in terms of training, research, and program planning has included a multiplicity of problems related to social dislocation.

Hence, preschool education, new careers training, amelioration of poverty, the re-education of personnel associated with the administration of criminal justice are examples of past and current involvements. Presently the Center offers a Bachelor of Arts degree in human services, has training contracts with the Office of Education

and the Department of Labor, and provides local, state, and national consultation to public and private agencies.

The staff of the Center consists of a seven-member interdisciplinary team of social scientists working with these problems. Psychology, sociology, education, counseling, theology, political science, and human development comprise the current expertise of Center professionals.

Demonstrative programming for youth, in-service training of professionals and para-professionals, regional and national conferences, and action research are current and typical activities. In addition to undergraduate students, the Center offers graduate assistantships for students working toward a degree in a related discipline.

Center for Administrative Research and Education/School of Business

PAUL E. SULTAN, *Director*

The Center for Administrative Research and Education, utilizing the resources of the School of Business, provides professional development programs for the public served by Southern Illinois University at Edwardsville. Programs, conferences, seminars, and research projects are designed and developed to facilitate the economic and professional growth of business, industrial, educational, and governmental organizations and institutions. The Center serves as a catalyst in the interpretation and application of business and economic concepts as effective management tools for these organizational entities.

Center for Urban and Environmental Research and Services

LEO COHEN, *Director*

The Center for Urban and Environmental Research and Services has as its primary mission the development, coordination, and support of research and public service. Its major emphasis is on the Illinois portion of the St. Louis metropolitan region, though activities often cover a broader area and programs are directed toward an impact upon the general quality of urban life. It has undertaken projects in such fields as housing, pollution, public finance and administration, education, population, and community action. The Center participates in cooperative ventures with other educational institutions and has developed and carried out a number of interdisciplinary activities involving persons outside the Center and outside the University. No specific curriculum or teaching program emanates from the Center. However, its personnel teach in and plan for standard, as well as innovative and interdisciplinary, degree programs directed toward training in urban and environmental subjects.

The Center has a staff of ten permanent professionals, who come from varied disciplinary and experience backgrounds. In addition, the Center also offers short-term appointments to others in the University in order that they may pursue their research and service interests.

Student Colloquium

EDWIN LAWRENCE, *Coordinator*

The Student Colloquium is a program in which a group of students may plan and carry out a unit of study and receive course credit. It is an opportunity to study subjects not in the regular curriculum or to experiment with new approaches to learning. Each colloquium group plans its objectives, outlines a course of study, and carries out planned activities. At the conclusion, the group summarizes its accomplishments and evaluates its achievements.

To form a class section a group of five or more students must agree upon a subject to be studied during the quarter. A minimum of five students must complete the course and participate in the determination of grades. To be eligible to participate, students must have sophomore or higher standing at time of registration.

In order to form a colloquium the interested students are required to find a faculty member willing to serve as a sponsor for the group. It is the duty of the faculty adviser to approve the topic and the terms of the proposal. The faculty adviser, upon request of the participants, is available for aid and direction during the course of the term.

After approval by a faculty adviser, the proposal is forwarded to the Colloquium Coordinator, on forms available from the Coordinator's office. Course proposals must reach the Coordinator in final form not later than the last day of registration of the quarter for which the colloquium is to be credited. The Coordinator decides whether the proposed colloquium is appropriate for credit, and how many hours of credit it should receive. The Coordinator also makes certain that, as stated in the catalog description, the proposed colloquium does not duplicate courses already available in the University curriculum.

The members of the colloquium submit their final report to the faculty adviser. It is due by the close of the final examination period of the quarter for which the colloquium is to be credited, and is to be submitted on forms available from the office of the Coordinator. The faculty adviser forwards the final report to the Coordinator, recommending approval or disapproval, along with the reasons supporting his recommendation. The Coordinator determines whether or not credit should be granted for the colloquium.

Students receive a grade of "pass" or "no credit," to be determined by the students participating in the colloquium.

Students may obtain up to 4 hours of credit in any one quarter, not to exceed 8 hours during any student's undergraduate career. Although colloquium credit normally applies only toward elective hours, in special cases appeal may be made by the students for General Studies credit, or for credit toward a major or minor field of study. In case of such appeal, the Coordinator approaches either the Dean of General Studies or the undergraduate adviser of the department involved, whichever is appropriate, with the request. The outcome of the request is made known as early as possible, so that students do not labor under false hopes.

5 / Areas of Concentration

Concentrations

Below are the concentrations in which Southern Illinois University at Edwardsville offers course work leading to bachelor's degrees. Also appearing in this chapter is information on dentistry, secondary education, and student teaching. A bachelor's degree normally requires four years of study.

Aerospace Studies ¹	Instructional Technology ¹
American Studies	Latin American Studies ¹
Anthropology	Mass Communications
Art	Mathematical Studies
Biological Sciences	Music
Business Administration	Nursing
Business Education	Peace Studies ¹
Chemistry	Philosophy
Comparative Literature ¹	Physical Education
Early Childhood Education	Physical Science
Economics	Physics
Elementary Education	Psychology
Engineering	Recreation
English	Sanitation Technology
Foreign Languages	Sociology
Geography	Special Education
Government	Speech Communication
Health Education ¹	Speech Pathology and Audiology
History	Theater
Human Services	

Abbreviations Used in This Chapter

Three-digit numerals are used to identify specific courses. The first numeral of the three indicates the level of that course. A letter following an identification number indicates a *part* of a course (*a* means first part, *b* means second part, etc.). A numeral separated from the identification number by a dash indicates the number of hours required in the course. For example, History 306-12 indicates a third-level course of 12 hours in the School of Social Sciences and History of Rome 306a,b,c indicates that the course has at least three parts.

The five areas of General Studies are referred to as GSK, GSM, GSS, GHA, and GIS. The three-digit numerals following these abbreviations function similarly to those noted above.

¹ Secondary concentration only.

Numerals in parentheses in columns of figures pertain to course hours which satisfy more than one requirement. They are in parentheses to avoid their being added into the total of the column which would be a duplication of hours required.

Aerospace Studies

Secondary Concentration

The aerospace studies program is a secondary concentration provided for the primary purpose of educating the student in the leadership and managerial responsibilities associated with the administration of aerospace operations. In addition, the past, present, and future of aerospace technology is examined.

The program has a requirement of 27 hours and includes 18 hours in aerospace studies. The requirements are Aerospace Studies 301, 302, 303, 351, 352, and 353. The remaining 9 hours to complete the secondary concentration consist of electives chosen from several closely related areas in consultation with the student's adviser.

American Studies

American Studies is an interdisciplinary approach to a study of American culture, past and present. Its roots are in American history, literature, and philosophy, but it branches into the fine arts, the American character, folklore, political science, economics, popular culture, and many other areas of study.

Bachelor of Arts Degree, SCHOOL OF HUMANITIES

<i>General Studies Requirements</i>	60
<i>Requirements for Concentration in American Studies</i>	92
Foreign Language (two years of same language—12+12) ..	24
Any GHA 200 or above	4
GSS 300, 301, 302	12
American Studies 490	4
English 309	8
Philosophy 385c, d, or e	4
Philosophy 386	4
Approved courses in history, social sciences, literature, philosophy, fine arts, and other areas. (At least two courses must be in speech or fine arts.)	32
<i>Electives</i>	40
<i>Total</i>	192

Anthropology

The concentration in anthropology is designed to familiarize students with the major divisions—ethnology, social institutions, socio-cultural theory, linguistics, archaeology, and physical anthropology. A student is expected to select at least one course in each of the six divisions of anthropology.

Bachelor of Arts Degree, SCHOOL OF SOCIAL SCIENCES

<i>General Studies Requirements</i> (See Chapter 3. Waive GSS-8.) . .	60
<i>Foreign Language Requirement</i>	12
<i>Requirements for Concentration in Anthropology</i>	42
One course in each division in the field	21-23
Electives to complete 42 hours in anthropology chosen in consultation with the adviser	21-19
<i>Secondary Concentration</i>	27
<i>Electives</i>	51
<i>Total</i>	192

Anthropology courses adapted to the General Studies Program may be used as electives. Anthropology majors are encouraged to select courses in other fields after they have completed their 42 hours.

Secondary Concentration

A secondary concentration in anthropology consists of 27 hours. GSM 365-4 and GSS 210-4, 313-4, 315-4, and 319-4 may be counted as part of the concentration. The remaining hours consist of anthropology electives selected in consultation with the undergraduate anthropology adviser.

Art

The Art and Design Department offers two undergraduate degrees in the various areas of art: a Bachelor of Arts degree in studio and in art history and the Bachelor of Science degree in art and art education. The School of Education offers a Bachelor of Science degree in secondary education with a concentration in art.

Undergraduate offerings in art include introductory and specialized courses providing for a concentration in: the studio areas of drawing, painting, printmaking, sculpture, ceramics, fiber and fabric, photography and jewelry; in art historical studies; or professional preparation for the future teacher of art at both the elementary and secondary levels. Limited offerings are available for those with an avocational interest.

The Art and Design Department asserts the right to select and withhold examples of the work of each student in each class. Such works may become part of a permanent collection and be used for exhibitions as determined by the faculty.

During the last quarter of the junior year or first quarter of the senior year, any student may petition the art faculty to grant him the privilege of an exhibition of his work. Such an exhibit may be comprised of the work of an individual or may be composed of the works of several seniors. Participation in an exhibition is not required for graduation from Southern Illinois University; permission to participate is extended in recognition of outstanding industry and artistic ability.

*Bachelor of Arts Degree, SCHOOL OF FINE ARTS**Studio*

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Art</i>	96
Foreign Language	12
Art 100-15, 202-15, 225-9	39
18 hours from at least five of the following: 302, 305, 310, 312, 331, 358, 384, 386, 383	18
Art history	6
15 additional hours from one of the following studio areas: painting, drawing, printmaking, sculpture, ceramics, fiber and fabric, jewelry or photography	15
Art electives	6
<i>Electives or Secondary Concentration</i>	36
Total	192

Art History

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Art History</i>	75
Foreign Language	12
Art 225-9	9
54 hours from the following: GHA 310-4, 311-4, 312-4, 315-4, 316-4, 317-4, Art 424-3, 447-9, 448-9, 449-9, 469-12, 481-3, 483-6	54
<i>Electives and/or Secondary Concentration</i> (Primary concentrations are urged to elect Philosophy 360-4 and Anthropology 305-9 plus courses in nonvisual arts and history. Studio work is encouraged and additional language study advised.)	57
Total	192

Bachelor of Science Degree, SCHOOL OF FINE ARTS

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Art</i>	94
Art 100-15, 202-18, 225-9	42
18 hours from at least five of the following: 302, 305, 310, 312, 331, 358, 384, 386, 393	18
Art history elective	3
Art education courses 289-3, 300-12, 365-4	19
Art electives	12
<i>Electives</i>	38
Total	192

*Bachelor of Science Degree, SCHOOL OF EDUCATION**Art Education*

<i>General Studies Requirements</i> (See Chapter 3.)	60
<i>Requirements for Concentration in Art Education</i>	70

Areas of Concentration

Art / 51

Art 100-15, 202-15 (a,b,c,d required; elect e,f,g, or h), 225-9	39
18 hours from at least five of the following: 302, 305, 310, 312, 358, 384, 386, 393	18
Art history	3
Art education courses 289-3, 300d-3, 365-4	10
Art 300a,b,c-9 (for K-14 certification)	(9)
Professional Education Courses	33
See Secondary Education, pp. 91-93.	
Electives	29
Total	192

Secondary Concentration

One desiring a secondary concentration in art should take the following: 100-15, 202-15, and 225-6 for a total of 36 hours.

Certification Requirements

Requirements for certification include: 289-3, 300d-3, (plus 300a,b,c-9 for K-14 certification), and 365-4. See requirements listed under Secondary Education, pages 91-93.

Biochemistry

Specialization in biochemistry normally comes at the post-graduate level of education. Adequate preparation requires extensive undergraduate course work in both biology and chemistry.

The program listed below includes those courses considered to be essential for advanced study in biochemistry. The student must complete a primary concentration in either biology or chemistry and will select appropriate additional courses. A secondary concentration is not required.

Interested students should confer with the undergraduate advisers in biology and chemistry.

Bachelor of Arts Degree, SCHOOL OF SCIENCE AND TECHNOLOGY

General Studies Requirements (See Chapter 3.)	60
Requirements in Biochemistry	105
Foreign Language	(12)
Biochemistry: Chemistry 451-6, 455-2, 459-2	10
Biology: 200-4, 301a,b-8, 302a-5 or 302c-5, 303a,d-4, 304a-5 (see 48-hour completion of concentration below)	26
Chemistry 125-15, 341-9, 345-4, 361-9, 365-4 (see 48- hour completion of concentration below)	41
Mathematics: 150-8, 250-4	12
Physics: 211-12, 300a-4	16
Completion of Concentration (in biology and/or chemistry to meet 48-hour requirement)	8-22
Electives	19-5
Total	192

Biological Sciences

Biology is an appropriate concentration for individuals interested in biochemistry, botany, microbiology, pre-health professional, physiology, or zoology programs. Students planning to concentrate in biology should consult with the biology faculty representatives at their earliest opportunity.

Students are reminded to refer to the section in this catalog containing the School of Science and Technology requirements concerning grade-point average and hours which also apply to biology concentrations.

Bachelor of Arts Degree, SCHOOL OF SCIENCE AND TECHNOLOGY

<i>General Studies Requirements</i> (See Chapter 3. Waive GSM-8.)	60
<i>Foreign Language Requirements</i>	12
<i>Biology Requirements</i>	52
200-4, 301a-5, 303a-3, 320a,c-10	22
Electives above 299 (except 312) to include one course from each of three of the four course areas (cell, organism, population, microbiology), a minimum of three courses at the 400 level. 491, 493, 494 do not count as courses for distribution or 400-level requirements. . .	30
<i>Chemistry Requirements</i>	26
125	15
Complete organic chemistry course to include some laboratory	11
<i>Physics/Mathematics Requirements</i>	16-19
GSM 244	4
Either	
Mathematics 150	8
GSM 101	4
or	
Physics 206	(4) + 11
(or 211-12, 212-3)	15
<i>Electives</i>	26-23
<i>Total</i>	192

15

Pre-medical or pre-dental students who enter medical or dental school after the junior year may obtain approval to apply appropriate professional school courses to complete the requirements for a concentration in biology.

Bachelor of Science Degree, SCHOOL OF EDUCATION

For this degree, the requirements for a concentration in biology are as listed above, under Bachelor of Arts degree, with the following exceptions: no foreign language is required; a minimum grade of C is required in each course—200, 301a, 302a,c, 303a; an overall biology grade-point average of 3.2 is required for entrance into the program and for student teaching approval. See secondary education requirements.

*Bachelor of Science Degree, SCHOOL OF SCIENCE
AND TECHNOLOGY*

Medical Technology

<i>General Studies Requirements</i> (See Chapter 3. Waive GSM-8.)	60
<i>Biology Requirements</i>	41
200-4, 301a-5, 303a-3, 304a-5, 304b-3, 304c-3	23
Either 302a-5, 302d-5	10
or	
312-8	8
Electives above 299	8 or 10
<i>Chemistry Requirements</i>	28
125-15, 305-9, 345-4	28
<i>Physics/Mathematics Requirements</i>	4
GSM 101-4	4
GSM 144-4, 244-4	(8)
<i>Medical Technology</i> (one year at an approved medical technology school)	55
<i>Electives</i>	4
<i>Total</i>	192

Upon successful completion of one year of study and laboratory work at a hospital school of medical technology approved by the National Accrediting Agency for Clinical Laboratory Sciences, the student will usually be credited with 55 hours towards the Bachelor of Science degree (of which 11 hours will complete the 52 biology hours required for the degree). Coordinated programs have been worked out with St. Elizabeth's Hospital, Belleville; Burnham City Hospital, Champaign; St. Mary's Hospital, Decatur; St. John's Hospital, Springfield; and the following St. Louis, Mo., schools: The Jewish Hospital of St. Louis, St. John's Mercy Hospital, Missouri Baptist Hospital, and DePaul Hospital.

Schools of medical technology approved by the National Accrediting Agency for Clinical Laboratory Sciences require for entrance the completion of the university degree requirements for the medical technology program. Students successfully completing the year of study and laboratory training at an approved school of medical technology are eligible to take the national registry examination conducted by the Board of Registry of Medical Technology for certification as a registered technologist MT (ASCP).

The student should obtain a medical technology program leaflet from the medical technology adviser in the Department of Biological Sciences upon beginning course work at the University.

Secondary Concentration

A secondary concentration in biology consists of 27 hours and includes at least one quarter of 302. Four hours from GSM 130, 131, 230, or Biology 200 may be counted toward the 27 hours, as may GSM 300-level courses which are taught by the Department of Biological Sciences. Individual study courses such as 491 and 493 are not allowed for a secondary concentration.

Botany

(See Biological Sciences.) A specific botany program is not offered. The biology program includes botany courses adequate for career specialization and subsequent graduate study.

Business Administration

The School of Business offers programs to achieve the following objectives: (1) to develop the knowledge of theory and techniques of management, with emphasis on analytical processes and decision making, to prepare students for professional careers in business; (2) to provide a stimulus to lifelong study and learning and a foundation upon which a student can build higher degrees; (3) to provide an environment conducive to improved teaching performance, research, and continued professional development on the part of the faculty.

The programs of the School are based on the recommendations of the American Assembly of Collegiate Schools of Business.

The School offers the Professional Experience Program (PEP) to those students who are interested in combining academic and work experiences. After achieving sophomore standing, the PEP student alternates six months of academic work with six months of work in industry. Although five years are needed to complete this program, the PEP student derives valuable experience and financial support from his efforts. Interested students should contact the PEP office in the School of Business.

Bachelor of Science Degree, SCHOOL OF BUSINESS

Careful planning will be needed if the student is to meet all of the degree requirements in General Studies, the School of Business core, and an area of specialization. The School of Business maintains a special advisory staff to assist students in planning their programs.

<i>General Studies Requirements</i> ¹ (See Chapter 3.)	60
<i>School of Business Core Requirements</i>	80
Accounting 230, 231, 334 or 341 ²	12
Economics 200, 201, 300	12
Finance 320	4
General Business Administration 140, 340, 341, 390, 440, 441	24
Management Science 311, 313, 380, 381	16
Marketing 370, 371	8
Production 315	4
<i>Specialization Requirements</i>	16 or 28
PROFESSIONAL ACCOUNTING	(28)
Accounting 335, 351-8, 432 or 453, 442, 456	24
General Business Administration 342	4

¹ Should include GSS 150-4, GSM 144-5 and GSM 224-4.

² Those specializing in accounting take 341.

GENERAL ACCOUNTING	(16)
Accounting 351-8, 442, 453	16
ADMINISTRATIVE SERVICES	(16)
Administrative Services 301, 426, 427, 428.....	16
ECONOMICS	(16)
Economics 440, 441, and electives in economics .	16
FINANCE	(16)
Finance 420, 423, 424, 425	16
GENERAL BUSINESS ADMINISTRATION	(16)
(To be worked out on an individual basis)	
MARKETING	(16)
Marketing 470, 473, and two of 452, 471, 472....	16
MANAGEMENT SYSTEMS	(16)
Management Science 382, 480	8
Production 460, 462	8
MANPOWER AND INDUSTRIAL RELATIONS	(16)
Economics 410, 411, General Business Adminis- tration 430, 434	16
ORGANIZATIONAL BEHAVIOR AND DEVELOPMENT	(16)
General Business Administration 430, 431, 432, 433	16
PRODUCTION AND OPERATIONS MANAGEMENT	(16)
Production 410, 461, 462, 463	16
<i>Non-Business Electives</i>	12
<i>Electives</i>	24 or 12
<i>Total</i>	192

Core Curriculum

The purpose of the core curriculum is to provide the student with a common body of knowledge in business and administration. The core curriculum encompasses the following areas: (a) the concepts, processes and institutions in marketing, distribution and production, and financing functions of business enterprise; (b) the economic, legal, social, and political environment of business; (c) the concepts and methods of accounting, quantitative methods, and information systems; (d) the concepts of organization theory, interpersonal relationships, control and motivation systems; and (e) integrated analysis and policy determination.

The core courses are offered each quarter in a manner to accommodate the needs of students whose personal preferences or work schedules require flexible time sequences. Many of the core courses are also offered in the Management Problem Laboratory format in which students work on real problems of business organizations. Students should contact the Advisement Office of the School of Business for specific program planning.

Areas of Specialization

The student should make his choice of specialization considering his career objectives. The School of Business provides specializations in a variety of business fields. In addition, those students who have

other interests related to business may arrange approved sequences of courses in such fields as mathematics, government, sociology, etc., as part of the general business administration specialization.

ACCOUNTING

The profession of accounting is practiced generally in three distinct yet related career patterns in our society. One, as an independent public accountant; two, as an internal, private business accountant; and three, as a government accountant at the federal, state and local levels.

Three professional career examinations are administered within the profession, namely, the CPA, CMA, and CIA examinations. Respectively, they are administered by the American Institute of Certified Public Accountants (AICPA); the National Association of Accountants (NAA); and the Institute of Internal Auditors (IIA).

Each of these examinations has a common purpose of measuring the educational achievement at the entrance level to chosen careers. The accounting programs are responsive to the needs for admission to these examinations and for entering the profession.

An education for a professional career in accounting is not to be equated with accounting courses alone. In fact accounting perceptions rely significantly on courses in the functions of business, economics, organization and information theories, and management concepts. This realization accounts for the balanced treatment reflected in the accounting program.

ADMINISTRATIVE SERVICES

The specialization in administrative services is designed to prepare managers for automated offices and data processing systems. The specialization includes the study of data processing systems, computer programming, information storage and retrieval systems, and office systems and procedures.

ECONOMICS

The specialization in economics provides the student with knowledge of the analytical methods for solving the basic problems lying at the heart of the business organization; that is, profit and growth. In addition, it offers courses in national income determination and the functioning of the economic system. Study of national income determination is fundamental to forecasting, planning, and budgeting. The student takes the regular business core courses in accounting, finance, administration, management science, and marketing. Graduates of the program are basically qualified for careers in administration and management of business firms (including production, transportation, marketing, and finance), in banking and insurance, and in federal, state, and local government agencies.

FINANCE

The finance specialization prepares a student for decision making positions in private industry, government service, teaching, and research. Courses in finance are therefore designed to develop ana-

lytical ability and fuller comprehension of the nature of financial problems as encountered in business and industry.

The flow of funds from saver to users is studied in courses on financial markets and institutions. Decision rules involving sources and utilization of funds within business, government agencies, and other institutions are concerned with the development of tools of analysis and determination of policies for managing investment portfolios of individuals and of groups such as pension funds and investment trusts. Studies of specific financial institutions such as commercial banks, insurance, and real estate are offered in seminars.

GENERAL BUSINESS ADMINISTRATION

The specialization in general business administration provides the student with an opportunity to obtain further depth of study in related subjects offered by the other Schools. Among the areas to which this option is applicable are applied science, foreign languages, government, mathematics, psychology, and sociology. Other areas may be approved upon application to the School of Business.

In each instance, the student pursues a sequence of courses amounting to at least 16 quarter hours in the area of his choice. The particular sequence must be approved in advance by the School of Business.

MANAGEMENT SYSTEMS

The specialization in management systems emphasizes the integration of information analyses, electronic data processing, and quantitative methods in the design of information systems for management. The rapid social and technological change prevalent in our society has increased the need for well designed information systems to operate organizations.

A student who completes this specialization is prepared for an entry level position as a systems or information analyst or as an assistant to a computer center manager or systems manager. Positions of this type are found in service, governmental, and business organizations.

MANPOWER AND INDUSTRIAL RELATIONS

The specialization in manpower and industrial relations provides an opportunity to study manpower problems in all aspects—resource development and utilization, the role of government and labor, the uses of collective bargaining, arbitration, and grievance machinery. It is designed for the business student planning to enter industry, government, or a service-oriented career.

MARKETING

The marketing curriculum is designed to enable the student to approach analytically the problem of providing consumer and industrial goods and services to a wide variety of markets by equipping him with modern problem-solving tools. The curriculum prepares the student for positions in sales, advertising, promotion, research, product management, and marketing management. Further, the study of

dynamic problems that affect all enterprises in communicating with their publics helps prepare him for a career in commercial, governmental, and service organizations that serve the public in ways other than producing tangible goods.

The integrated sequence of courses gives students broad training in the field of marketing. There is a common body of knowledge basic to understanding of the discipline. Beyond that the student may choose from among a group of elective courses to attain greater depth and sophistication in his field of interest.

ORGANIZATIONAL BEHAVIOR AND DEVELOPMENT

The purpose of the organizational behavior and development specialization is to develop skills and understanding important to the effective leadership and administration of formal organizations. The concentration focuses on the following broad areas: interpersonal competence; developing leadership effectiveness; understanding small group processes and developing collaborative skills; understanding and managing change including planning, implementation, and evaluation; developing understanding and skills for the management and productive utilization of conflict at interpersonal and intergroup levels within organizational contexts; developing healthy and effective organizational environments through the understanding of the relationships between individuals, technology, physical and social environments, and organizational structures and values; and the assessment of group and organizational effectiveness and definition of developmental needs for individuals, groups, and organizations.

PRODUCTION AND OPERATIONS MANAGEMENT

The planning and control of operations, inventory, purchasing, costs, and quality are concerns of all organizations including those involved in transportation and services as well as those in manufacturing. Emphasis is on the analysis and design of management systems utilizing quantitative techniques in the design and measurement of work, inventory control, manpower planning, scheduling work activities, space utilization, and quality control. The interface of these areas and the necessity of integrating the corresponding subsystems is stressed and studied.

Students with a specialization in production and operations management are prepared for entry level positions with career growth capability in the organization functions of inventory control, purchasing, production control, and quality control. The graduate is equipped to serve as an assistant to a plant manager, hospital administrator, transportation manager, or any manager whose duties involve scheduling, quality control, cost control, or inventory.

Secondary Concentration

A secondary concentration in business consists of 28 hours which must include courses from at least three of the following areas: accounting, administrative services, economics, finance, manpower and industrial relations, management science, marketing, organizational behavior and development, and production.

The student should contact the Advisement Office of the School of Business for assistance in planning and approval of a secondary concentration.

Business Education

The Business Education Department offers two programs which lead to the Bachelor of Science degree. One program, which leads to a B.S. degree in education, is designed to prepare business teachers and is offered in cooperation with the School of Education. The other program, which leads to a B.S. degree in business administration, is designed to prepare executive secretaries or managers for data processing centers and automated offices and is offered through the School of Business.

Business Teacher Education

The business teacher education curriculum is designed to prepare teachers of business subjects for secondary schools, junior colleges, vocational-technical schools, and similar institutions. Each student in the program completes a core of business administration and education courses and specializes in one area of business administration. Students interested in business teacher education should enroll in Secondary Education 215 and see Dr. R. A. Schultheis, Chairman of the Department of Business Education, as soon as possible for advisement.

Bachelor of Science Degree, SCHOOL OF EDUCATION

<i>General Studies Requirements</i> (See Chapter 3.)	60
(This area should include one mathematics and one statistics course, a government course, and a psychology course.)	
<i>Business Teacher Education Core</i>	55
Accounting 230, 231	8
Administrative Services 300	4
Business Education 304-3, 350, 351, 402, 405	19
Economics 200, 201	8
General Business Administration 340, 342, 390	12
Marketing 371	4
<i>Health and Physical Education Requirements</i> (required for teaching certification)	6
<i>Secondary Education Requirements</i>	37
215-4, 401a-8, 401b-9, 401c-16	37
<i>Subject Matter Specialization: (choose one)</i>	16
ACCOUNTING—DATA PROCESSING	
Accounting 335	4
Administrative Services 301, 428	8
Business Education 408	4
ECONOMICS	
General Business Administration 440	4
Economics 340, 441	8
Economics 481 or GSS 352	4

SECRETARIAL ADMINISTRATION	
Administrative Services 426, 427	8
Business Education 324a, 404	8
MARKETING AND DISTRIBUTIVE EDUCATION	
Marketing 370, 472, 474	12
Business Education 414	4
<i>Free Electives</i>	18
Total	192

Administrative Services

Administrative services include office services, data processing, and information analysis. The program in administrative services is divided into two areas of specialization—data processing and executive secretary. Either of the specializations leads to the Bachelor of Science degree with a concentration in business administration.

DATA PROCESSING

The specialization in data processing provides a background in the fundamental principles of data processing, computer programming, office management, and the systems and procedures that are used in business offices. Upon completion of the degree requirements, the graduate is prepared to enter the field of office management or management of a data processing installation.

EXECUTIVE SECRETARY

The executive secretary specialization provides a background in office management and procedures, principles of data processing, informational analysis, and the systems and procedures that are used in business offices. In addition, the executive secretary student selects an area of secretarial specialization in a specific field. Upon completion of the degree requirements, the graduate is prepared to enter a position as executive secretary, administrative assistant, supervisor, or office manager.

Bachelor of Science Degree, SCHOOL OF BUSINESS

<i>General Studies Requirements</i> ¹ (See Chapter 3.)	60
<i>Core Courses in Business</i>	68
Accounting 230, 231	8
Administrative Services 300, 426, 427, 428	16
Economics 200, 201, 300	12
Finance 320	4
General Business Administration 140, 340, 341, 390, 430, 441	24
Marketing 371	4
<i>Specialization in One of the Following</i>	40
DATA PROCESSING	
Accounting 334, 351a, 351b	12
Administrative Services 301	4
General Business Administration 440	4

¹ Must include GBS 130-4, 150-4, GSM-144-5, 210-4, 224-4.

Areas of Concentration

Business Education / 61

Management Science 311	4
Electives	16
EXECUTIVE SECRETARY	
Business Education 304-3, 324a, 324b, 327	15
General Business Administration 342	4
Elective Specialization ¹	21
Non-Business Electives	24
Total	192

Secondary Concentration

A 24-hour secondary concentration in general administrative services consists of Administrative Services 300, 426, 427, 428; either Administrative Services 302 or Mathematics 225 or 226; and an appropriate business or data processing elective.

A 24-hour secondary concentration in executive secretary consists of Administrative Services 300, 426, 427, Business Education 304, 324a, and an appropriate elective in business.

Chemistry

A concentration in chemistry provides an excellent preparation for graduate study in chemistry or biochemistry, professional medical, dental or veterinary programs, teaching in high schools, and industrial positions.

Courses of study, leading to the Bachelor of Arts degree in the School of Science and Technology are available in the following areas: (a) certification by the American Chemical Society (ACS) as a professional chemist; (b) a "liberal arts" chemistry degree (non-ACS); (c) preparation for the professional medical science programs; (d) State certification for teaching high school chemistry. Program requirements are given below.

All supporting courses in lieu of a secondary concentration must be approved by the Chemistry Department undergraduate adviser.

Four-year program outlines, lists of suggested supporting courses, and additional advice may be obtained through the office of the Chemistry Department. Incoming students who are considering a concentration in chemistry are urged to contact this office before registering for any courses.

The requirements listed here are in addition to the general requirements of the School of Science and Technology.

Bachelor of Arts Degree, SCHOOL OF SCIENCE AND TECHNOLOGY (American Chemical Society Certification)

General Studies Requirements (See Chapter 3. Waive GSM-8.) .	60
Requirements for Concentration in Chemistry	95
Foreign Language (reading knowledge of a scientific language)	12

¹ The nature of these courses depends upon the student's selected area of secretarial specialization and the background of the individual; these courses are determined through counseling with the administrative services adviser.

Chemistry 125-15, 261-3, 341-9, 345-7, 361-9, 365-4, 411-4, 432a or b-4	(3) + 52
Mathematics 150-8, 250-4	12
Physics 211-12, 212-3	(5) + 10
Chemistry electives—at least three at 400 level (one may be mathematics or physics)	9
Approved Supporting Courses	5-21
Electives	32-16
Total	192

(Non-ACS Concentration)

<i>General Studies Requirements.</i> (See Chapter 3. Waive GSM-8.)	60
<i>Requirements for Concentration in Chemistry</i>	78-82
Foreign Language	12
Chemistry 125-15, 261-3, 341-9, 345-7, 361-9, 365-4	(3) + 44
Chemistry 311-3 or 411-4	3-4
Mathematics 150-8, 250-4	12
Physics 211-12 or 206-15	(5) + 7-10
Approved Supporting Courses	11-27
Electives	43-23
Total	192

Medical Science

Bachelor of Arts Degree, SCHOOL OF SCIENCE AND TECHNOLOGY
(Designed to meet requirements of professional medical and
dental programs)

<i>General Studies Requirements.</i> (See Chapter 3. Waive GSM-8.)	60
<i>Requirements for Concentration in Chemistry</i>	87-88
Foreign Language	12
Chemistry 125-15, 261-3, 341-9, 345-7, 361-9, 365-4	(3) + 44
Chemistry 311-3 or 411-4	3-4
Mathematics 150-8, 250-4	12
Physics 211-12, 212-3, or 206-15	(5) + 10
Chemistry electives	6
Supporting Courses	13
Biology 200-4, 301a-4, 301b-3, 301d-2	(8) + 5
Biology electives	8
Electives	32-31
Total	192

Pre-medical students who enter a medical school after the junior year may obtain approval to apply appropriate medical school courses to complete the requirements for a concentration in chemistry.

Secondary Education

Bachelor of Arts Degree, SCHOOL OF SCIENCE AND TECHNOLOGY
(Meets state certification requirements for secondary education)

<i>General Studies Requirements</i> (See Chapter 3. Waive GSM-8.)	60
<i>Requirements for Concentration in Chemistry</i>	78-82
Foreign Language	12
Chemistry 125-15, 261-3, 341-9, 345-7, 361-9, 365-4	(3) + 44
Chemistry 311-3 or 411-4	3-4
Mathematics 150-8, 250-4	12
Physics 211-12 or 206-15	(5) + 7-10
<i>Professional Education Courses</i>	37
See Secondary Education requirements, pages 91-93.	
<i>Approved Supporting Courses</i> (in lieu of second teaching field) .	10-9
<i>Electives</i>	7-4
<i>Total</i>	192

Comparative Literature

Secondary Concentration

The secondary concentration in comparative literature is 37 hours, including 410, 499; second year of foreign language on the college level; and Philosophy 360 or advanced foreign language study.

Computer Science

An option leading to the Bachelor of Science degree in mathematics with a specialization in computer science is offered by the Department of Mathematical Studies. The option prepares the student for a professional career in the computer field. With the proper choice of electives it satisfies also the needs of students who plan to do graduate work in computer science. For detailed requirements, see Mathematical Studies.

Secondary Concentration

The secondary concentration in mathematics with a specialization in computer science consists of 27 hours of courses approved by a computer science adviser and must include Mathematics 225-4 or 226-4 and 229-8.

Early Childhood Education

The School of Education offers a program in early childhood education for students planning professional careers in day care centers, pre-school programs, and kindergartens. Completion of the concentration in early childhood education fulfills the University and School of Education requirements for the Bachelor of Science degree and it also qualifies a student for the Illinois Standard Elementary Certificate, K-9. Since this is a four-year program, freshmen students should consult with advisers in the Elementary Education Department prior to registration.

Bachelor of Science Degree, SCHOOL OF EDUCATION

<i>General Studies Requirements (no waiver)</i>	68
<i>Professional Requirements for Concentration in Early Childhood Education</i>	60
Freshman Year: Elementary Education 200-4, 201a-2, 202a-2	8
Sophomore Year: Elementary Education 201b-2, 202b-2	4
Junior Year: Elementary Education 314-4, 317-4, 337-4, 365-4, 437-4	20
Senior Year: Elementary Education 350-8, 351a-8, 412-4, 415-4, Instructional Technology 417-4	28
<i>Nonprofessional Requirements</i>	49
Science and mathematics	16
Social science	12
Humanities and arts	6
Speech or grammar skills	4
Health and physical education	11
<i>Electives and Additional Courses for an Academic Teaching Field¹</i>	15
Total	192

Economics

Courses in economics help students to understand the principles concerning the production and distribution of goods and services. Important and often controversial issues, such as the level and composition of national income, unemployment, income distribution, inflation, labor unions, monopoly, tariffs, the level and composition of government spending and taxation, and various economic systems are studied and analyzed.

The study of economics prepares an individual for a position in private industry, government service, or teaching. Business and governmental agencies employ economists in management training program, research, and administrative positions. Economics also provides necessary background for the understanding of and evaluation of state and national policy in many fields, examples of which are taxation, monetary and fiscal policy, antitrust, pollution control and other public interest activities, and welfare legislation. Students choosing economics as a field of concentration pursue a core program designed to provide the student with a thorough grounding in the principles of economic theory followed by more specialized study in such areas as money and banking, labor and industrial relations, international trade, urban and regional economics, mathematical economics, economic history, comparative economic systems, and public finance. The sequence of courses, including those in related areas, is planned in cooperation with an adviser from the department.

¹ An academic teaching field consists of 36 hours. General Studies and nonprofessional courses taken in an academic teaching field count toward the required 36 hours.

Four distinct programs permit concentration or specialization in economics. The School of Business offers the Bachelor of Science degree with a concentration in economics and the Bachelor of Science degree with a concentration in business administration and a specialization in economics. The School of Education offers the Bachelor of Science degree with a concentration in economics. The School of Social Sciences offers the Bachelor of Arts degree with a concentration in economics.

Bachelor of Science Degree, SCHOOL OF BUSINESS

<i>General Studies Requirements</i> (See Chapter 3.)	60
<i>Requirements for Concentration in Economics</i>	68
GSS 351-4	(4)
GSM 144-5, 224-4	(9)
Accounting 332, 333, 334	12
Economics 200, 201, 300, 440, 441	20
Economics electives	16
Management Science ¹ 311, 313	8
Production 315 ²	4
Courses in finance, marketing, or management science	8
<i>Secondary Concentration</i>	27
Students are asked to choose a secondary concentration in any other business area, mathematics, any other social science, or any other area approved by the department chairman.	
<i>Electives</i>	37
<i>Total</i>	192

Bachelor of Arts Degree, SCHOOL OF SOCIAL SCIENCES

<i>General Studies Requirements</i> (See Chapter 3.)	60
<i>Requirements for Concentration in Economics</i>	58
Foreign Language	12
GSS 351-4	4
GSM 144-5, 224-4	(9)
Economics 200, 201	8
Economics 440, 441	8
Economics electives	26
<i>Secondary Concentration</i>	27
Students are asked to choose a secondary concentration in any other social science or mathematics area, or in any other area approved by the department chairman.	
<i>Electives</i>	47
<i>Total</i>	192

¹ Requirements in management science may be met by Mathematics 150-8, 250-4, 321-4, 350-8, and 483a-3; in this case, these courses in mathematics will constitute a secondary concentration.

² Economics 467 may be substituted for Production 315.

Secondary Concentration

A secondary concentration in economics requires 24 hours and must include 200, 201, 440, and 441. The remaining 8 hours shall consist of electives in economics chosen in consultation with an adviser from the Economics Department.

Elementary Education

Completion of the concentration in elementary education fulfills the University and the School of Education requirements for the Bachelor of Science degree and qualifies a student for NCATE certification.

Bachelor of Science Degree. SCHOOL OF EDUCATION

<i>General Studies Requirements</i> (no waiver)	68
<i>Professional Requirements for Concentration in Elementary Education</i>	48
Elementary Education 200	4
Field Experience I—Elementary Education 314–4, 337–4, 365–4	12
Field Experience II—Elementary Education 415–4, 437–4, Instructional Technology 417–4	12
Field Experience III—Elementary Education 351a (Student Teaching)	16
Professional education elective—recommended:	
Elementary Education 201–4, 413–4, 442–4, 443–4, 445–4, Instructional Technology 445–4, or Child Psychology 301–4	4
<i>Nonprofessional Requirements</i>	49
Science and mathematics	16
Social science	12
Humanities and arts	6
Speech, communication, or grammar skills	4
Health and physical education	11
<i>Electives and Additional Courses for an Academic Teaching Field</i> ¹	27
Total	192

Engineering

Engineering is the professional art of applying mathematics and science to the optimum utilization of natural resources for the benefit of man. It is a creative activity in that it produces that which has never previously existed; it is a scientific activity in its approach and the knowledge utilized to manipulate nature for man's purposes.

The following curricula are designed to develop engineers capable of breaking new paths as well as improving old ones, to develop flexibility, to emphasize synthesis as well as analysis.

All students interested in engineering should seek advisement from

¹ An academic teaching field consists of 36 hours. General Studies and nonprofessional courses taken in an academic teaching field count toward the required 36 hours.

the Department of Engineering and Technology immediately upon enrolling in the University.

*Bachelor of Science in Engineering Degree, SCHOOL OF
SCIENCE AND TECHNOLOGY*

General Studies Requirements 60

Requirements for Concentration in Engineering 110-112

One of the following specializations:

ELECTRONIC ENGINEERING 112

Engineering 110-1, 200-9, 201-2, 210-3,
260-8, 300-3, 301-3, 325-4, 326-4, 327-4,
330-8, 351-3, 352-3, 353-3, 370-4, 401-2,
443-4, 495-1 69

Chemistry 125a-5 (3) + 2

Mathematics 150-8, 250-4, 305-4, 350-8, one
elective-4 (9) + 19

Physics 211-12, 300a-4 (5) + 11

Electronic Engineering electives 11

URBAN AND ENVIRONMENTAL ENGINEERING 112

Engineering 101a-3, 110-1, 210-3, 220-3,
221-1, 230-3, 260-8, 270-4, 300-3, 314-6,
316-4, 320-3, 321-1, 370-4, 419-3, 421-1,
443-4 55

Chemistry 125a,b-10 (3) + 7

Mathematics 150-8, 250-4, 305-4, 321-4 or
405-4, 350a-4 (9) + 15

Physics 211-12, 212-3 (8) + 7

Engineering electives from the following
options¹ 28

Environmental: Engineering 380-12, 480-8

Structures: Engineering 340-8, 440-4,
442-4, 466-4

Transportation: Engineering 315-3,
363a,b-6, 475-3, 476-3, 477-3

ENGINEERING SCIENCE 110

Engineering 200a-3 (or 220-3, 221-1),
200b-3, (or 320-3, 321-1), 260-8, 270-4,
300-3, 370-4, 419-3, 420-4, 421-1, 443-4. 37-39

Chemistry 125a,b-10 (3) + 7

Mathematics 150-8, 225-4, 250-4, 305-4,
350-8, 405a-4, 483a-3 (9) + 26

Physics 211-12, 300a-4 (5) + 11

Electives from one of the following groups:

Engineering 481-4, 482-4, 483-4 and/or
electives from biology, chemistry, engineer-

¹ The entire group of courses in one of the three options must be completed. Remaining courses are to be chosen from the other two options. Students may also request permission to complete a general option consisting of a mixture of courses from all three options.

ing, or physics approved by the Department of Engineering and Technology	29-27	
<i>Electives</i>		22-20
<i>Total</i>		192

Seniors are expected to take the Undergraduate Record Examination in their area of specialization.

Secondary Concentration

A secondary concentration in engineering consists of 220-3, 221-1, 260-8, 270-4, 320-3, 321-1, and 7 technical elective hours approved by the Department of Engineering and Technology.

English

Bachelor of Arts Degree, SCHOOL OF HUMANITIES

<i>General Studies Requirements</i>	60
<i>Requirements for Concentration in English</i>	72
Foreign Language (two years of same language-12+12) .	24
English 300-4, 302-12, 309-8, either 471a or b-4	28
Five 400-level courses in English, excluding 485, 486, 487 .	20
For one of the 400-level courses the student may substitute 4 hours of Humanities Honors.	
<i>Secondary Concentration</i>	24
<i>Electives</i>	36
<i>Total</i>	192

Secondary Concentration

A 24-hour secondary concentration in English includes courses at the 300 level and above. Courses, of which there must be at least two from the 400 level, should be selected with the approval of the student's adviser and in consultation with the English Department undergraduate adviser.

A 24-hour secondary concentration in writing consists of English 392a, 392b, and 490, which are required. In addition, students may select the remaining hours from the following electives: English 492a, 492b, and 498. Theater 411 and Television-Radio 359 may be substituted for English electives with permission of the English Department adviser.

Bachelor of Science Degree, SCHOOL OF EDUCATION

<i>General Studies Requirements</i>	60
<i>Requirements for Concentration in English</i>	87-88
Foreign language (one year)	12
Any two GHA 200 or above courses	8
English 300-4, 302-12, 309-8, 403-4, 471a or b-4, 485-4, 490-4	40
Two of the following: English 400-4, 405-4, Journalism 391-3, Speech 202-4, Theater 224-4	7-8

Representative choices in both period and genre 400-level courses in literature	16	
English 486-4 or 487-4	4	
<i>Professional Education Courses</i>		37
Secondary Education 215	4	
Secondary Education 401a	8	
Secondary Education 401b	9	
Secondary Education 401c	16	
See Secondary Education requirements, pages 91-93.		
<i>Electives</i>		8-7
Total		192

Foreign Languages

Primary/secondary concentration credit is allowed only for those courses in which a student receives a grade of C or better.

Bachelor of Arts Degree, SCHOOL OF HUMANITIES

<i>General Studies Requirements</i> (Waive GHA-8.)	60	
<i>Requirements for Concentration in Foreign Languages</i>		49-50
280, 351, 352	12	
Electives in foreign languages beyond 280	30	
History course above 299 per advisement	3-4	
English 300-4, or English 391c-4, or other appropriate English course per advisement	4	
<i>Secondary Concentration (minimum)</i>		28
280, 351, 352	12	
Electives in foreign languages beyond 280	12	
English 300-4, or English 391c-4, or other appropriate English course per advisement	4	
Recommended course: history above 299 per advisement		
<i>Electives</i>		55-54
Total		192

Bachelor of Science Degree, SCHOOL OF EDUCATION

For this degree, the requirements for concentration in foreign languages are 42 hours (exclusive of elementary foreign language courses and elementary education concentration courses) in a language, plus one English and one history course numbered above 299. See Secondary Education requirements, pages 91-93.

Secondary Concentration

A secondary concentration consists of 24 hours (exclusive of elementary level) in a language.

Geography

The Earth Sciences and Planning Department offers both the Bachelor of Science degree and the Bachelor of Arts degree.

1. Bachelor of Science—for preparation to teach geography and

earth science in the elementary or secondary schools, or (with further preparation) in the junior college; or as a part of preparation to teach either social science or physical science in the elementary or secondary school.

2. Bachelor of Arts—for a thorough knowledge of geography, in preparation for civil service appointment as a geographer, or for demands of private organizations requiring the services of geographers, meteorologists, cartographers, or planners.

A broad background in other fields is of great importance to a geographer. Thus, it is recommended that geography students use their elective hours to take work in other areas. Students interested in physical geography should consider work in geology, botany, zoology, chemistry, and physics. Students interested in economic geography or planning can profit from work in economics, government, sociology, marketing, and transportation. Students specializing in cultural geography will find courses in sociology, anthropology, history, and government particularly useful. Students interested in the geography of a particular area of the world are encouraged to take courses that are related to their area of interest.

Geography and planning students are strongly urged to take work in statistics. GSM 244-4—Statistics—provides an introduction to the Department's 410a-4 course which is required for all concentrations. Students working toward a concentration are allowed credit only for those geography courses in which they receive a grade of C or better.

Students working for a 27-hour concentration in geography, or taking the social studies concentration in education, must take Geography 304, 306, and 308.

A secondary concentration in earth science consists of 30 hours selected from courses required for a primary concentration, no more than 12 hours of which may be General Studies.

Bachelor of Arts Degree, SCHOOL OF SOCIAL SCIENCES

<i>General Studies Requirements</i>	60
<i>Requirements for Concentration in Geography</i>	48
Foreign language	(12)
One of the following specializations:	36-48
Cultural geography, economic geography, regional: 302, 304, 306, 308, 310, 410a, and electives.	
Planning: 304, 306, 308, 310a, 404a,b, 410a, 470a,b, 471a, and electives.	
Cartography: 304, 306, 308, 310, 410a, 416a,b, 417, and electives (recommended GSM 210).	
Earth science: Geography 302, 308, 310a, 400, 401, 410a, 444, and electives.	
Additional General Studies courses	12-0
A total of three additional General Studies courses may be counted toward the concentration.	
<i>Secondary Concentration</i> (recommended but not required)	28
Secondary concentration in mathematics recommended if the specialization is cartography.	

<i>Electives</i>	56
<i>Total</i>	192

The Bachelor of Arts degree students in such specialities as cartography, earth science, and planning are encouraged to do field work (internship) in their area of interest. Students interested in the urban studies field should take the planning core courses and do additional work in urban related courses in government, economics, or sociology. All majors must consult with the departmental adviser on concentration requirements.

Bachelor of Science Degree, SCHOOL OF EDUCATION

In addition to the General Studies requirements and the School of Education requirements, a geography specialization must include the following courses: Geography 302, 304, 306, 308, 310a, and additional courses to complete 48 or 36 hours in geography (depending on whether the student has one or two secondary concentrations). See Secondary Education requirements, pages 91-93.

For the Bachelor of Science degree in education, a secondary concentration of 27 hours is required and must include Geography 304, 306, and 308. Twelve hours of General Studies courses may be counted. (GSM 212 or Geography 424 is recommended.) The earth sciences secondary concentration requirements are the same as listed above for the Bachelor of Arts degree.

Secondary Concentration

Students working for a 27-hour secondary concentration in geography or taking the social studies concentration in education must take Geography 304, 306, and 308.

A secondary concentration in earth sciences consists of 30 hours selected from courses required for a concentration, no more than 15 hours of which may be General Studies.

Government

A concentration in government is recommended for persons planning to teach civics or government courses, and for those planning to qualify for the study of law or for public service.

Bachelor of Arts Degree, SCHOOL OF SOCIAL SCIENCES

<i>General Studies Requirements</i> (See Chapter 3.)	60
<i>Requirements for Concentration in Government</i>	45

Foreign language (12)

A minimum of 45 hours, including 200 and 203, and at least 4 hours in four of the six areas of specialization:

American government and politics: 340 or 345 or equivalent.

Comparative politics: 350 or 355 or equivalent.

International relations: 370 or equivalent.

Political theory: 385 or equivalent.

Public administration: 320 or equivalent.	
Public law: 340c or equivalent.	
Secondary Concentration	27
Electives	60
Total	192

Bachelor of Science Degree, SCHOOL OF EDUCATION

For this degree, the requirements for concentration in government total 48 or 36 hours in government, including 200 and 203, depending on whether the student has one secondary concentration or two. At least 3 hours (but no more than 20 hours) should be taken in four of the six areas of specialization listed above. See Secondary Education requirements, pages 91-93.

Secondary Concentration

A secondary concentration is 27 hours and must include 200 and 203 and at least one course in three of the six areas of specialization.

Health Education

Secondary Concentration

A secondary concentration in health education is available for those who wish to receive teacher certification on either the elementary or secondary school level. It consists of 30 hours and includes Health Education 201-3, 205-4, 300-3, 334s-4, 350-4 or 460-4, 355-4, 471-4, and one of the following 4-hour courses—Health Education 313s or Psychology 301, 303, 432.

History

Students who intend to study for the Bachelor of Arts degree in history or the Bachelor of Science degree in secondary education with a teaching concentration in history should arrange for an interview with the undergraduate adviser in history at the time of declaration of concentration. The Bachelor of Arts degree permits the student a greater degree of flexibility in the four-year college program and is recommended for students who do not plan to teach in the secondary school. The Bachelor of Arts degree honors program is particularly recommended for students who plan graduate study in history or a related discipline and is open to others. Application for admission to the honors program should be made to the history adviser.

Bachelor of Arts Degree, SCHOOL OF SOCIAL SCIENCES

General Studies Requirements	60
Requirements for Concentration in History	72-80
Four courses (at least one in U.S. History) from GSS	
101, 102, 105, 300, 301, 302, History 100, 102, 107...	16
History 452	4

History electives at the junior-senior level	40
(eight courses selected in the rank 303-499; for the honors program History 400 and 451a or 451b must be included)	
Two years of college level foreign language, or its equivalent for the honors program (second year optional for others)	12-20
<i>Secondary Concentration</i>	27
<i>Electives</i>	33-25
<i>Total</i>	192

Bachelor of Science Degree, SCHOOL OF EDUCATION

The concentration in history is the same for the Bachelor of Science degree as for the Bachelor of Arts degree. The language requirement is optional. See Secondary Education, pages 91-93.

Secondary Concentration

The secondary concentration requires that students select three courses from GSS 101, 102, 105, 300, 301, 302, History 100, 102, 107. At least one of these courses should be in U.S. History. In addition, five courses in the rank 303-499 should be taken to complete the concentration.

Human Services

The concentration in human services is designed for those students planning to enter the helping professions—corrections, law enforcement, court services, community-based treatment programs, welfare, mental health, employment, and manpower programs.

Bachelor of Arts Degree, DELINQUENCY STUDY AND YOUTH DEVELOPMENT CENTER

<i>General Studies Requirements</i> (See Chapter 3. Waive GSS-8.) ..	60
<i>Requirements for Concentration in Human Services</i>	60
Foreign Language	12
Human Services 101a, 201c, 301a, 401a	16
Human Services elective hours	32
<i>Secondary Concentration</i>	25-40
<i>Electives</i>	47-32
<i>Total</i>	192

Instructional Technology

Secondary Concentration

Courses are offered in instructional technology in the utilization and administration of teaching materials. Programs may be designed to prepare either audio-visual coordinators or school librarians.

The School of Education offers a secondary concentration of 28 hours for secondary level specializations. This program provides minimum qualification for either a media specialist or a school librarian.

The required courses for librarians are Instructional Technology 403-4, 405-4, 406-4, 407-4, and 408-4. The required courses for audio-visual people are Instructional Technology 417-4 and 445-4. Additional courses to fulfill the requirements of 28 hours are planned in conference with the adviser.

Latin American Studies

Secondary Concentration

The secondary concentration in Latin American Studies is 26-28 hours which must include History 352c-4, Government 355a-4, and Spanish 375-9; one course chosen from the following: any 400-level Latin American history course, History 352a-4, History 352b-4, or Anthropology 307-3; two courses chosen from among these: Economics 422-4, Geography 467a-4 or 467b-3.

Mass Communications

Mass communications involves the study of television-radio, journalism, and film. At present, a concentration in mass communications involves options in television-radio and journalism.

Broadcasting

Bachelor of Arts Degree, SCHOOL OF FINE ARTS

<i>General Studies Requirements</i>	60
<i>Requirements for Concentration in Mass Communications</i>	53
Foreign Language	(12)
Television-Radio 100-4, 200-4, 201-4, 230-5, 252-4, 400-4, 402-4 or 403-4, 408-4	33
Television-Radio electives (five of the following 4-hour courses: 202, 301-5, 302, 303, 356, 359, 390, 401, 404, 405, 406, 407, 410, 450, 466)	20
<i>Secondary Concentration Outside Mass Communications</i> (A double primary concentration is recommended.)	29
<i>Electives</i> (may include a secondary concentration in journalism)	50
<i>Total</i>	192

Students seeking a Bachelor of Arts degree with an option in broadcasting must take the program outlined above. This degree requires a foreign language and is intended for those students who expect to enter the writing, production, or talent areas of broadcasting, or who expect to continue to graduate study in broadcasting.

Bachelor of Science Degree, SCHOOL OF FINE ARTS

The Bachelor of Science degree with an option in broadcasting does not require a foreign language and is intended for those students who wish to enter the production, technical, or commercial aspects of broadcasting, and who expect to enter the industry upon graduation.

Where possible, students may present an additional primary concentration by combining the secondary concentration and elective hours. Adviser consent is required.

Secondary Concentration

A secondary concentration in broadcasting is possible by taking the following courses: Television-Radio 100, 200, 201, 230, 252, 401 for a total of 25 hours.

Journalism

Bachelor of Arts Degree, SCHOOL OF FINE ARTS

<i>General Studies Requirements</i>	60
<i>Requirements for Concentration in Mass Communications</i>	54
Foreign Language	(12)
Journalism 103-3, 201a,b-8, 210a-3, 245 or 345-4, 303a,b-8, 340-4, 410-4	34
Senior-level seminar in mass communications	4
Journalism, selected television-radio, and electives from other schools on campus as approved by the Department of Mass Communications	16
<i>Secondary Concentration Outside Mass Communications (A double primary concentration is recommended.)</i>	29
<i>General Electives (or additional secondary concentration in television-radio)</i>	49
<i>Total</i>	192

A student of journalism must work in five areas: skills courses, history and philosophy of journalism, theory of and research in communication, study of professional performance and behavior, and practical experience—completing a specified number of hours in each area. As a junior and senior, a student can specialize in an area of journalism by planning much of his own journalism program, if he chooses, through independent studies, work-experience, and special problems courses. He is also encouraged to elect coursework in television-radio and to draw widely from offerings throughout the University. A student must complete at least a secondary concentration outside mass communications.

Secondary Concentration

A secondary concentration in journalism consists of Journalism 103-3, 201-8, 210a-3, 320-4, 340-4, 402-2, and 415-4 for a minimum of 28 hours; or alternate courses as approved by the director of journalism.

Secondary Concentration

Mass Communications in a Democratic Society

This secondary concentration is intended to be useful to those students in the University who do not wish to pursue a professional secondary concentration in the media which includes familiarization with

and practice in producing messages. It is suggested that this sequence might be particularly valuable to those whose concentration could be complemented by an understanding of the role the media have played and are playing in the evolution of our society.

Requirements are as follows: one of the following—Television-Radio 100, 159, Journalism 101; also Television-Radio 200, 400, Television-Radio 401 or Journalism 483, Television-Radio 407, Television-Radio 450 or Journalism 415, Journalism 245, 315. A total of 31-32 hours must be taken.

Mathematical Studies

The offerings of the Department of Mathematical Studies are designed to enable students to pursue any of a variety of programs in preparation for careers in mathematics and computer science. Several such programs are described below. All programs must include the mathematics core—150, 250, 321, and 350—as well as Physics 211a and either 211b or 211c. Generally, the mathematics core courses should be completed by the end of the sophomore year. Mathematics 225 and 305 are recommended courses for all mathematics students.

Upon choosing a concentration in mathematical studies, a student should consult with the initial undergraduate adviser of the Department to plan and place on record a program of study. To ensure proper placement, transfer students should consult the initial adviser prior to registering for classes for the first time.

Prospective teachers may meet certification requirements in a program that leads to a Bachelor of Science degree from the School of Education or in other programs described below.

All students for whom mathematics is a primary or secondary concentration should be aware of the regulations of the School of Science and Technology which appear elsewhere in this catalog.

A student who received a grade of *D* in a prerequisite for a mathematics course should retake that prerequisite before proceeding.

Bachelor of Arts Degree, SCHOOL OF SCIENCE AND TECHNOLOGY

<i>General Studies Requirements</i>	60
<i>Mathematics Core Requirements</i>	40
Foreign Language	12
Physics 211a,b or c	4
Mathematics core courses: 150-8, 250-4, 321-4, 350-8	24
<i>Additional Requirements</i>	45-51
<i>One of the following options:</i>	
OPTION 1	45
Mathematics 421-9, 450-9	18
One of the following: 451a,b, 465a,b, 480a,b, 486a,b.	6
One of the following: 420, 430, 435a,b or a two-quarter sequence approved by B.A. adviser.	6
Mathematics 499	3
Approved supporting courses	12
OPTION 2 (requires secondary concentration)	51
Mathematics 421a,b, either 450a,b or 451a,b	12

*Areas of Concentration**Mathematical Studies / 77*

One of the following: 451a,b, 465a,b, 480a,b, 486a,b	6
Mathematics electives from courses numbered 400 or above	6
Secondary concentration	27
<i>Electives</i>	47-41
<i>Total</i>	192

*Bachelor of Science Degree, SCHOOL OF SCIENCE
AND TECHNOLOGY*

<i>General Studies Requirements</i>	60
<i>Mathematics Core Requirements</i>	28
Physics 211a,b or c	4
Mathematics core courses: 150-8, 250-4, 321-4, 350-8	24
<i>Additional Requirements</i>	45-56 •
<i>One of the following options:</i>	
OPTION 1	45
Mathematics 225-4, 305-4, 451a,b-6, 465a,b-6, 480a,b-6	26
Mathematics electives (recommended: 451c, 461, 462, 465c, 480c, 486)	7
Approved supporting courses	12
OPTION 2 (requires secondary concentration)	51-53
Mathematics 225-4, 305-4	8
Two of three: Mathematics 451a,b, 465a,b, 480a,b	12
Mathematics electives (recommended: 451c, 461, 462, 465c, 480c, 486)	4-6
Secondary concentration	27
OPTION 3 (computer science)	47
Mathematics 225-4, 226-4, 229-8, 305-4, 326-9, 465a-3, 470a,b-6, 473a,b-6 or 474-6, 480a-3..	47
OPTION 4 (statistics)	56
Mathematics 225-4, 305-4, 480-9, 481-3	20
Mathematics electives from: 482, 484, 485, 487...	9
Secondary concentration	27
<i>Electives</i>	59-48
<i>Total</i>	192

Bachelor of Science Degree, SCHOOL OF EDUCATION

<i>General Studies Requirements</i>	60
<i>Mathematics Core Requirements</i>	28
Physics 211a,b, or c	4
Mathematics core courses: 150-8, 250-4, 321-4, 350-8	24
<i>Additional Requirements</i>	51
Mathematics 311-4, 420-6, 435a,b-6	16
Mathematics electives (recommended 225, 305, 425, 430, 450, 480)	8
Secondary concentration	27
<i>Professional Education Requirements</i> (See Secondary Education, pages 91-93.)	32
<i>Electives</i>	21
<i>Total</i>	192

Secondary Concentration

A secondary concentration in mathematics consists of 27 hours, including Mathematics 150a,b, and 19 hours selected from courses numbered 200 or above. At least 6 of these 19 hours must be courses numbered 300 or above.

A secondary concentration in computer science consists of 27 hours of courses approved by a computer science adviser and must include Mathematics 225-4 or 226-4 and 229-8.

It is recommended that a student taking a secondary concentration in mathematics consult with a mathematics adviser.

Medical Technology

See Biological Sciences. A hospital coordinated degree program is offered.

Microbiology

See Biological Sciences. A specific microbiology program is not offered. The biology program includes microbiology courses adequate for career specialization and subsequent graduate study.

Music

During the academic year, distinguished musicians join the faculty and students for workshops, seminars, and performances. The list of musicians who have appeared includes Sigurd Rascher, saxophone; Leonard Smith, cornet; Sidney Foster, piano; the Riter-Allen Duo, violin-piano; Reginald Kell, clarinet; John Barrows and Philip Farkas, French horn; Vincent Abato, clarinet-saxophone; Paul Price, percussion; Sol Schoenbach, bassoon; composers Gunther Schuller and Halsey Stevens; Daniel Pinkham, composer-choral conductor; Walter Susskind, Conductor with the St. Louis Symphony Orchestra; Roger Wagner, Director of the Roger Wagner Chorale; Paul Steinitz, Director of the London Bach Chorale; Abram Stassevich, Moscow conductor; Ernst Wolff, leier-opera coach.

General Requirements

The requirements for entrance and graduation as set forth in this catalog are in accordance with the published regulations of the National Association of Schools of Music, of which this Department of Music is a member. The Bachelor of Music degree with specialization in performance, theory-composition, or in music education, and the Bachelor of Arts degree with concentration in music are offered.

Each full-time student must receive credit in a major ensemble during the quarter registered. Part-time students should consult with the adviser as to the minimum ensemble requirement. Substitute credit is permitted to selected students.

Each candidate for the Bachelor of Music degree with a concentration in music education must pass a piano proficiency examination.

Unless he is enrolled in private applied piano, he must enroll in class piano during the first six quarters (summer quarter possibly excepted). If he fails to pass the proficiency examination by the end of the sixth quarter in class piano, he must continue the course without credit until the examination is passed. Voice class is required of all music education concentrations for three quarters with the exception of those students enrolled for an equivalent amount of private applied voice.

All students in private applied music must attend convocation and studio recitals in their performance areas. In addition, a minimum number of recitals, concerts, or other musical events stipulated by the Department of Music must be attended.

Students with a concentration in performance must present the minimum of a shared recital during their junior year and a full recital during their senior year. Music education students must present the minimum of a half-recital during their senior year.

Transfer students are required to take an examination in music theory and to audition in their major performance area.

Students desiring concentrations in music should consult with a music adviser before their first appointment with General Studies Advisement and must audition before a music faculty committee for acceptance into a music concentration.

Senior comprehensive examinations are required of all music education concentrations in the quarter directly preceding graduation. These exams may also be used in lieu of entrance exams for graduate study in music education if graduate study is begun within five years of the date of the awarding of the baccalaureate degree.

A handbook is published by the Music Department with additional detailed information concerning the Bachelor of Music degree requirements.

Bachelor of Arts Degree, SCHOOL OF FINE ARTS

These courses are for students who wish to specialize in music as part of their general cultural education. They may also be taken as background for advanced studies in music.

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Music</i>	69
Foreign Language	12
GHA 130	(4)
Music 105-12, 205-9, and electives	39
Music private applied (2 hours per quarter)	12
Music major ensemble	6
<i>Secondary Concentration</i>	24
<i>Electives</i>	39
<i>Total</i>	192

Bachelor of Music Degree, SCHOOL OF FINE ARTS

Music Performance

General Studies Requirements (See Chapter 3. Waive GHA-8.) 60

<i>Requirements for Concentration in Music</i>	115-123 ¹
Foreign Language	12 ¹
Music 105-12, 205-3, 309a, 312a, 318a, 326a, 442a.	36 ²
Music 357	9
Music, private applied (major instrument)	40-48
Music, major ensemble (1 hour per quarter)	12 ³
Music, class piano, or secondary instrument/voice.	6
<i>Electives</i>	17-12
<i>Total</i>	192-195 ¹

Music Education

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Music</i>	74-93
Music 105-12, 205-9, 309a-3, 318a,b-6, 326a-3	33
Music 357	9
Music, private applied (major instrument)	20-24
Music, major ensemble (1 hour per quarter)	12
Piano proficiency or class	0-6 ⁴
Voice proficiency or class	0-3 ⁴
Music: class strings, woodwinds, brass—2 hours in each area	0-6 ⁴
One year of French or German is recommended for the student with a choral emphasis in music education.	
<i>Professional Education Requirements</i>	33
GSS 370	4
Foundations of Education 355	4
Music 301	9
Counselor Education 305	4
Elementary Education 351, Secondary Education 352d..	12
<i>Electives</i>	25-11
<i>Total</i>	192-197

Before a student is approved for student teaching, he must satisfy the course of study and proficiency prerequisites as established by the Music Department.

Music Theory/Composition

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Music</i>	114
Music 105-12, 205-9, 309-9, 312-9, 326-9, 357-9, 442-9.	66

¹ Students with a specialization in voice should include two years of foreign language (generally one year each of French and German). The student should consult with his music adviser as to the sequence to be followed.

² Students with a specialization in piano may substitute 9 hours in Music 413 and/or 461 in lieu of 309a, 312a, and 442a.

³ Students with specialization in piano may substitute a maximum of 6 hours in 365 as partial fulfillment of this requirement.

⁴ Study on a secondary instrument or/and voice is possible if requirements for class instruction are met by proficiency.

Areas of Concentration

Music / 81

Music, private applied	18 ¹
Music, major ensemble	12
Music electives	18 ²
<i>Electives</i>	18
<i>Total</i>	192

Students with specialization in theory/composition include one year each of French and German. In their fourth year degree candidates must present to the Music Department either a composition or a written thesis in music theory as evidence of their achievement.

Secondary Concentration

A secondary concentration in music includes 105–12, 2 hours of credit per quarter for three quarters in performance concentration, 6 hours in a major ensemble, GHA 230, Music 357c (357a or b will substitute). Total: 31 hours.

Nursing

The School of Nursing offers an educational program leading to a Bachelor of Science degree in nursing. The curriculum is designed to prepare qualified individuals to function competently as beginning professional nurse practitioners; to participate in providing a broad scope of health care in a variety of settings; to obtain a foundation for continued growth and graduate education. The curriculum assists students in developing the behaviors and abilities necessary to function therapeutically with people while achieving greater self-direction, self-realization and professional identity in an era characterized by change.

Bachelor of Science Degree, SCHOOL OF NURSING

<i>General Studies Requirements</i>	60
(including physics, sociology, and psychology)	
<i>Prerequisites for Nursing 310</i>	24
Biology 210–4, 312–8	12
Chemistry 110	12
<i>Nursing Concentration</i>	70-74
Nursing 270–4, 285–4, 290–2, 310–6, 320–4, 330–6, 340–8, 375–6, 380–6, 390–6, 400–2, 410–4, 420–4 (elec- tive), 470–6, and 480–6 and/or 490–6	
<i>Electives</i>	38-34
<i>Total</i>	192

Students interested in nursing are to seek advisement from the School of Nursing prior to enrolling or during the first quarter of the

¹ Private applied piano until proficiency is satisfied; thereafter any instrument or voice. Students are expected to enroll for applied study for a total of nine quarters.

² A program of electives must be approved by the theory committee. Students with emphasis in composition normally elect 412–9; those with emphasis in music theory normally elect 481.

freshman year. A grade of C or above is required in all nursing and science courses.

School Nurse Endorsement

In conjunction with a Bachelor of Science degree in nursing, students interested in working as a school nurse can obtain a School Service Personnel Certificate. A minimum of 45 quarter hours (30 semester) in specified areas is required. The State requirements are listed below.

1. *Mandatory*—Introduction to Public Health Nursing Theory and Practice, Human Growth and Development, Introduction to Community Health Problems, Introductory Sociology (these first four are courses which are included in the requirements for the degree), Educational Psychology, Educational Foundations, The Exceptional Child.

2. *Electives*—Nutrition, Communicative Skills, Social Case Work, Mental Health, School Administration, Guidance and Counseling, Health Education, Curriculum Design, Diversified Occupations—Health Careers, Child or Adolescent Psychology.

Continuing Education Program

Continuing education courses are offered for registered nurses who are interested in upgrading skills and understandings in special areas of interest but who do not wish to pursue a degree program. These nondegree credit courses are awarded Continuing Education Units (C.E.U.'s) as approved by the Illinois Nurses' Association.

For further information, contact the Director of Continuing Education, School of Nursing.

Peace Studies

Secondary Concentration

The peace studies program is a secondary concentration with an aim to assist students in gaining insights about the problem of war and its elimination in contemporary society. It is designed to permit students to get explicit recognition for taking courses which are related to each other by virtue of the problem to which they are addressed even though they are taught by many different Departments. This secondary concentration is especially appropriate for students concentrating in anthropology, economics, government, history, mass communications, philosophy, secondary education, sociology, and speech.

The secondary concentration in peace studies requires 28 hours. No courses which are used by the student for his primary concentration can be counted toward this 28 hours.

Required courses composing 20 hours consist of GIS 340-4, Government 370-4, 472a-4, History 440b-4; and at least one of the following (others in this group may be taken as electives): GSS 352-4, 388-4, Economics 481-4, Government/Philosophy 484c-4, History 424c-4, Philosophy 342-4.

Elective courses comprising 8 hours consist of GIS 315-4, Aerospace Studies 101-1, 102-1, 103-1, 201-1, 203-1, Anthropology 305-9, 452-4, Government 472b-4, 485-4, Government/Philosophy 484-8, History 427-4, 437b-4, 440a-4.

The following courses may also be accepted as electives when focused on appropriate subject matter (approval must be given by the Committee on Peace Studies): Anthropology 470-4, Economics 409-1 to 4, Government 479-4, 489-4, History 410-2 to 5, Philosophy 490-2 to 12, 495-2 to 12.

Philosophy

Students seeking a Bachelor of Arts degree with a concentration in philosophy enroll in the program below. Major credit is allowed only for those courses in which a student receives a grade of C or better.

Bachelor of Arts Degree, SCHOOL OF HUMANITIES

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Philosophy</i>	52
Foreign Languages (equivalent of two years—intermediate level hours)	8
Philosophy 385a,c-8, 385b or d or e-4, 490-4, GSM or GSS 383-4, GHA 322-4	24
Philosophy electives. (GSM or GSS 383-4 may be included.)	20
<i>Secondary Concentration</i>	30-40
<i>Electives</i>	50-40
<i>Total</i>	192

Secondary Concentration

A secondary concentration consists of 24 hours in philosophy courses. Toward this 24, 8 hours from GSM or GSS 383-4 and GHA 332-4 may count.

Physical Education

Completion of the broad teaching field in physical education fulfills the School of Education requirements for the Bachelor of Science degree and qualifies a student for the Illinois Standard Special Certificate (K through 12). All physical education students take the physical education theory core and the general professional education requirements.

Students complete the physical education course, 304-5, Motor Ability Test, health examination, and present evidence of work with youth groups prior to admission as a degree candidate in physical education.

A student completing a degree with a concentration in physical education must pass all physical education required and prerequisite courses, and pass enough physical education elective courses to complete the degree requirements.

In the broad teaching field program, students may develop specialized options by combining electives and certain required courses. These options include: coaching, driver education, health education, and/or dance.

Bachelor of Science Degree, SCHOOL OF EDUCATION

Broad Teaching Field

<i>General Studies Requirements</i> (See Chapter 3.) ¹	60
<i>Requirements for Concentration in Physical Education</i>	72
Physical education theory core	60
Required theory courses	41
Health Education 334s-4	4
Physical Education 303-10, 304-5, 305-3, 350-4, 382-5, 470-4	31
Physical Education 383-2, 384-2, 385-2, 387-2, 388-2 (any 6 hours)	6
Elective courses (physical education, health education, recreation, theater-dance)	19
Physical education activity courses	12
MEN	
Required: Physical Education 300a,b,c,d,e	10
Elective: Physical Education 302c,d,e (select one) ..	2
WOMEN	
Required: Physical Education 301a,b,c,d,e	10
Elective: Physical Education 302c,d,e (select one) ..	2
<i>General Professional Education Requirements</i>	32
Counselor Education 305-4	4
Foundations of Education 355-4	4
Secondary Education 215-4	4
Student teaching distributed between Elementary Education 351 and Secondary Education 352	16
Electives	4
<i>Electives</i>	28
Total	192

Secondary Level

<i>General Studies Requirements</i> (See Chapter 3.) ¹	60
<i>Requirements for Concentration in Physical Education</i>	44
Required theory courses	27
Health Education 334s-4	4
Physical Education 303-10, 350-4, 382-5, 470-4 ..	23
Physical Education activity courses	12
MEN	
Required: Physical Education 300a,b,c,d,e	10
Elective: Physical Education 302c,d,e (select one) ..	2
WOMEN	
Required: Physical Education 300a,b,c,d,e	10
Elective: Physical Education 302c,d,e (select one) ..	2

¹ Student takes Physical Education 302a,b.

Electives: (health education, physical education, recreation)	5
<i>General Professional Education Requirements</i>	33
Counselor Education 305-4	4
Secondary Education 215-4, 315-5	9
Foundations of Education 355-4	4
Student teaching, Secondary Education 352	16
<i>Secondary Concentration, Electives</i>	55
Total	192

Elementary Level

<i>General Studies Requirements</i> (See Chapter 3.) ¹	60
<i>Requirements for Concentration in Physical Education</i>	48
Required theory courses	42
Health Education 334s-4	4
Physical Education 303-10, 304-5, 382-5, 383-2, 384-2, 385-2, 387-2, 388-2, 389-4, 470-4	38
Physical education activity courses	6
Physical Education 300a-2 or 301a-2, 300b-2 or 301b-2, 302a-2	
<i>General Professional Education Requirements</i>	33
Counselor Education 305-4	4
Secondary Education 215-4, 315-5	9
Foundations of Education 355-4	4
Student teaching, Elementary Education 351	16
<i>Secondary Concentration, Electives</i>	51
Total	192

Physical Science

The Physics Department in cooperation with the secondary education faculty has developed a broad teaching field program in the field of physical science.

This program has been developed in order to encourage those people who will become good precollege level teachers to teach physical science, chemistry, earth science, and physics. The program is designed for students who have shown verbal rather than mathematical ability, and it is hoped that by emphasizing the physical phenomena rather than the mathematical formalities, the student will obtain an appreciation for the important role played by the physical sciences in the development of our Western culture.

Students interested in this concentration should consult with their adviser at the earliest possible opportunity.

Bachelor of Science Degree, SCHOOL OF EDUCATION

<i>General Studies Requirements</i> (See Chapter 3. Waive GSM-8.)	60
<i>Requirements for Concentration in Physical Science</i>	75

¹ Student takes Physical Education 118w and 300e or 301e.

GSM 102-8, 110-4, 111-4, 306-4, 383-4	24
Chemistry 125-15	15
Physics 206-15	15
Science and Technology 402-4, 403-6, 415-3	13
Mathematics 150-8	8
<i>Professional Education Courses</i> (See Secondary Education, pages 91-93.)	33
<i>Electives</i>	24
Total	192

Physics

The Physics Department provides three degree programs for students wishing to study physics. The B.S. degree program is recommended for those students planning to work in industry immediately upon graduating. The program is somewhat more rigid than the B.A. program in that it contains fewer electives, though approximately the same number of required hours. The B.A. degree program is very similar to the B.S. except that a year of foreign language is required for this degree, and there is somewhat more freedom in the student's choice of physics courses. The majority of physics students take many more than the minimum of 48 hours in physics, thereby satisfying the physics requirements for either degree. If they also meet the foreign language requirement, the choice of degree then becomes merely a matter of personal preference. Students wishing to pursue a career in teaching may obtain certification with either degree by meeting the additional requirements or may elect the B.S. degree in education with a concentration in physics.

Bachelor of Arts Degree, SCHOOL OF SCIENCE AND TECHNOLOGY

<i>General Studies Requirements</i> (See Chapter 3. Waive GSM-8.)	60
<i>Requirements for Concentration in Physics</i>	75
Foreign Language (equivalent of one year)	(12)
Chemistry 125a,b-10	10
Mathematics 150-8, 250-4, 350a-4	16
Physics 211-12, 212-3, 300a-4, 300b-2, 301-8, 305-8	37
Physics electives numbered 299 (excluding 306) or above, including 4 hours of laboratory, to com- plete 48 hours	12
<i>Secondary Concentration</i>	11-27
<i>Electives</i>	46-30
Total	192

Bachelor of Science Degree, SCHOOL OF SCIENCE AND TECHNOLOGY

<i>General Studies Requirements</i> (See Chapter 3. Waive GSM-8.)	60
<i>Requirements for Concentration in Physics</i>	83
Chemistry 125a,b-10	10
Mathematics 150-8, 250-4, 305-4, 350-8	24

Physics 211-12, 212-3, 300a-4, 300b-2, 301-8, 305-8, 415a-4, one from 415b, 415c, 450, plus 4 additional hours of upper level laboratory work	49
<i>Secondary Concentration</i>	3-23
<i>Electives</i>	46-26
<i>Total</i>	192

Bachelor of Science Degree, SCHOOL OF EDUCATION

<i>General Studies Requirements</i> (See Chapter 3. Waive GSM-8.)	60
<i>Requirements for Concentration in Physics</i>	71
Chemistry 125a,b-10	10
Mathematics 150-8, 250-4	12
Science and Technology 412a,b	6
Physics 211-12, 212-3, 300a-4, 300b-2, 310-4, 311-1, plus 2 hours of upper level laboratory work . .	28
Physics electives (recommended: 301, 304, 305, 320) .	15
<i>Secondary Concentration</i>	12-23
<i>Professional Education Requirements</i> (See Secondary Educa- tion, pages 91-93.)	32
<i>Electives</i>	17-6
<i>Total</i>	192

Secondary Concentration

A secondary concentration in physics includes Physics 211-12, 212-3, 300a-4, 300b-2, and electives numbered 300 (excluding 306) or above to total 27 hours.

The above is the minimum required for graduation. Most students take more than the required number of hours and still graduate in four years. It is important that the student contact the Physics Department concerning his program at the earliest possible date, even if he has not officially declared his concentration.

Pre-Law

Pre-law students must take account of two factors. One is the increasing difficulty of obtaining admission to law school. And two is the fact that law schools themselves do not recommend any fixed pre-law program.

In view of these circumstances, a pre-law student must do three things: (1) Prepare himself for rigorous academic competition. (2) Perfect his understanding and use of the English language. (3) Obtain skill in the analysis of human institutions and values.

While there is no fixed pre-law curriculum, some concrete suggestions can nonetheless be made. Students should take courses in accounting and business administration. American and English constitutional law and history, English composition and research, and logic are also strongly recommended, as are courses in the Departments of Psychology, Anthropology, Economics, and Sociology.

Students contemplating law school are urged to seek counseling at

the earliest possible stage in their careers at Southern Illinois University at Edwardsville. Dr. James Kerr, Department of Government, and Dr. John Taylor, Department of History, are prepared to counsel students.

Preprofessional (Predental, Premedical, Preveterinary)

Dental, medical, and veterinary schools do not require specific baccalaureate degree subject area concentrations for admission consideration, but do require applicants to have taken certain courses. The requirements are not uniform, and such preprofessional students should consult an adviser from the Preprofessional School Advisory Committee in the School of Science and Technology during the first year. Most students concentrate in biology or chemistry. Both programs have options designed for the preprofessional student.

Psychology

Undergraduate courses in psychology introduce the student to the methods and findings of the scientific study of human behavior. He is given an opportunity to learn what research has shown about how we perceive, learn, and think; how individuals differ from one another; how the personality develops from infancy to maturity; and how interpersonal factors affect human relations in the home, on the job, and in the community.

Bachelor of Arts Degree, SCHOOL OF EDUCATION

The Bachelor of Arts degree program is designed to meet the needs and interests of students with diverse interests. A concentration in psychology provides excellent training for students who are interested in preparing for (a) a professional career in human and community services, (b) business and industry, (c) graduate training in psychology or related disciplines, or (d) other preprofessional degree programs. In addition psychology is an excellent concentration for students who have no specific vocational plans but are interested in psychology because of its intrinsic interest.

One year of foreign language is required for a Bachelor of Arts degree.

<i>General Studies Requirements</i> (See Chapter 3.)	60
GSS 260 does not count toward concentration.	
<i>Requirements for Concentration in Psychology</i>	45
Psychology 300a,b,c	13
Psychology electives	32
<i>Secondary Concentration</i>	27
<i>Electives</i>	60
<i>Total</i>	192

All students should plan their program in consultation with the psychology adviser. The following is intended to serve as a guide in the selection of electives. It can be modified, but should be done so only after consulting with the psychology adviser.

As preparation for a professional career in human and community services, electives should be selected from the following: Psychology 301, 303, 304, 305, 307, 311, 420, 421, 431, 465, 473, 474, 490, 495.

As preparation for a career in business and industry, electives should be selected from the following: Psychology 304, 305, 307, 311, 313, 320, 421, 461, 465, 471, 473, 474, 479, 490, 495.

As preparation for graduate study in psychology, electives should be selected from the following: Psychology 301, 305, 307, 311, 312, 313, 314, 409, 421, 431, 440, 451, 461, 490, 495.

Because of its intrinsic appeal and its potential applicability for a future career, electives should be selected from any psychology courses offered (Psychology 432 excepted).

Bachelor of Science Degree, SCHOOL OF EDUCATION

This degree program is designed for the student who has made a commitment to the scholarly study of education and to teaching as a career. The course of study is designed for the student who intends to teach at the secondary level or pursue graduate studies in educational psychology or counselor education. Student teaching is a requirement for this degree. A student in consultation with the secondary education adviser should plan to have a strong second teaching field.

<i>General Studies Requirements</i> (See Chapter 3.)	60
GSS 260 does not count toward concentration.	
<i>Requirements for Concentration in Psychology</i>	48
Psychology 300a,b,c	13
Psychology electives	35
<i>Professional Education Courses</i>	37
See Secondary Education requirements, pages 91-93.	
<i>Secondary Concentration</i> (should be planned as a strong second teaching field)	28
<i>Electives</i>	19
<i>Total</i>	192

A student should plan his program in consultation with the psychology adviser. Psychology electives should be selected from the following: Psychology 301, 303, 305, 307, 311, 312, 313, 314, 409, 420, 421, 431, 440, 451, 461, 465, 490, 495.

Secondary Concentration

A secondary concentration in psychology consists of a minimum of 28 hours. Psychology 300a is required plus 24 hours of psychology electives. Psychology 432 and GSS 260 do not count toward a psychology secondary concentration. Students intending to pursue an occupation related to psychology (e.g., counseling, personnel work, or teaching psychology) should also include in their program Psychology 300b,c, plus psychology electives to meet minimum hour requirements.

Students who have completed GSM 244 or Sociology 308 should not include Psychology 300b in their program of study for a secondary concentration in psychology.

Recreation

A candidate for the Bachelor of Science degree in recreation is expected to follow a program of study which provides a broad rich background in recreational skills, activities, and knowledge. Program experiences and courses are in General Studies and appropriate disciplines. All students must work closely with the recreation faculty adviser in selecting courses for study and scheduling.

Graduates are able to qualify for employment in community, military, institutional, industrial, agency, private, governmental, or commercial recreation media. The student concentrating in recreation upon graduation receives a Bachelor of Science degree in recreation, a nonteaching degree offered within the School of Education.

Students must be admitted to the program before fulfilling the requirements. A transcript of previous courses and completed application on file precedes screening of the applicants. Those making application for admission to the program are notified by letter as to their approval. Approved students are given an advisement appointment.

Bachelor of Science Degree, SCHOOL OF EDUCATION

<i>General Studies Requirements</i> (See Chapter 3.)	60
<i>Requirements for Concentration in Recreation</i>	88-90
Professional courses	26
Recreation 100-4, 200-4, 348-3, 349-2, 365-3, 390-3, 410-4, 420-4	26
Professional experiences	20-22
Recreation 312-4 to 6 or 389-4 ¹	4-6
Recreation 400-16	16
Interdisciplinary Requirements	42
General Business Administration 140	4
Health Education 334s	4
Music 370	4
Nursing 270	4
Physical Education 355-2, 383-2, 385-2, 402-4, 427-4	14
Psychology 303 or 304, 307	8
Theater 410a	4
<i>Electives</i>	44-42
<i>Total</i>	192

Sanitation Technology

The sanitation technology program presents an in-depth academic experience in the vital areas of environmental quality monitoring and processes management.

The analytical methods for quality assessment of water and air are studied and practiced. Management principles of the various water

¹ Either course must be taken after sophomore year.

purification, wastewater reclamation, and air pollution control devices are examined. Solid wastes handling methods are studied. The fundamentals involved in monitoring systems and projects are explored. Adequate elective hours for enhanced study of these areas are provided.

Coupled with an appropriate secondary concentration such as business, chemistry, engineering science, or others, the student should find a ready market with municipalities and industries which operate pollution control equipment and monitoring systems and with regulatory agencies which oversee such activities.

*Bachelor of Science Degree, SCHOOL OF SCIENCE
AND TECHNOLOGY*

<i>General Studies Requirements (See Chapter 3.)</i>	60
<i>Requirements for Concentration in Sanitation Technology</i>	92
GSM 144-5, 221-4	(9)
Biology 215-3	3
Chemistry 110-10	10
Engineering 101a-3, 220-3, 221-1, 363a-3	10
Mathematics 214-4	4
Physics 206-15	(5) + 10
Sanitation Technology 101-3, 201a,b-10, 202-5, 203-3, 204-3, 311-3, 320-4, 330-3, 390-3, 420-4, 430-3, 440-4, 450-3, 490-3	55
<i>Electives</i>	40
<i>Total</i>	192

Secondary Education

It is assumed a candidate for the Bachelor of Science degree has made a commitment to the scholarly study of education and to teaching as a career. Secondary education programs include courses in professional education, the teaching fields, and general education. Students must take Secondary Education 215, Introduction to Secondary Education, before applying to the School of Education for acceptance to a teacher education program.

Completion of the program in secondary education entitles the student to teaching certificates in the twenty-eight states that recognize reciprocity in certification as members of the National Council for Accreditation of Teacher Education (NCATE).

The program includes GSS 220 or 300 or 301 or 302 or Government 203 or History 426, thereby fulfilling the state requirements for a course in either American history or government. No general foreign language applies to the Bachelor of Science degree in the School of Education.

The professional education part of the program requires that the student take his professional education course work at a Teaching-Learning Center. This is a three quarter sequence, which students may enter as a second quarter junior, third quarter junior, or first quarter senior. This sequence requires that a student spend half time

for two quarters and full time for one quarter in study and experience at the Center.

Bachelor of Science Degree, SCHOOL OF EDUCATION

<i>General Studies Requirements</i> (See Chapter 3.)	60
Must include general psychology, United States history or American government, health, and 3 hours of physical education.	
<i>Professional Education Requirements</i>	37
Secondary Education 215-4, 401-33	37
<i>Teaching Field Requirements and Electives</i>	75
A minimum of 48 hours is required for the principal teaching field.	
If a student prepares for a second teaching field, at least 27 hours are required in that subject.	
<i>Electives</i>	20
Total	192

Teaching Fields

In cooperation with other Schools at the University, a wide range of teaching fields are available to students concentrating in secondary education. Assistance in making a choice between these fields can be obtained from a secondary education adviser in the Office of Teacher Education (GOB 2228). The adviser also provides students with the details of the teaching field programs and directs them to a teaching field adviser.

A student who is preparing to teach at the junior or senior high school level may select first teaching fields (48 hours) from the following:

Biological Sciences	History
Chemistry	Mathematics
Economics	Physical Education
English	Physics
Foreign Languages:	Psychology
French, German, or Spanish	Sociology
Geography	Speech
Government	

The second teaching field shall be at least 27 hours, unless specified otherwise, and may be selected from any of the following:

Art	History
Biological Sciences	Instructional Materials:
Chemistry	Library Science or
Economics	Audio-Visual Option
English	Mathematics
Foreign Languages:	Music
French, German, or Spanish	Physics
Geography	Psychology
Government	Sociology
Health Education	Speech

Broad teaching fields (not requiring a second field) showing the hour requirement may be selected from the following:

Art Education (K-12 or 6-12 certification)	70
Business Teacher Education: Accounting/Data Processing, Economics, Secretarial Administration, or Marketing/Distributive Education	72
General Science and Mathematics (junior high school)	85 ¹
English	72
Language Arts (junior high school)	75 ²
Music Education (K-12 certification)	78-93
Physical Education (K-12 certification)	72
Physical Science Education	67
Social Studies (junior high school)	75 ³
Social Studies (senior high school)	91 ⁴

Sociology

Students who plan to secure the Bachelor of Arts degree with a concentration in sociology should arrange for an appointment with an undergraduate adviser shortly after their declaration of concentration.

Bachelor of Arts Degree, SCHOOL OF SOCIAL SCIENCES

<i>General Studies Requirements</i> (See Chapter 3. Waive GSS-8.)	60
<i>Requirements for Concentration in Sociology</i>	60
Foreign Language	12
GSS 130	4
Sociology 301, 312, 321, 451	16
Sociology electives. 410a is recommended for students planning to pursue graduate work in sociology.	28
<i>Secondary Concentration</i>	28
<i>Electives</i>	44
Total	192

Bachelor of Science Degree, SCHOOL OF EDUCATION

The requirements for this degree with a concentration in sociology include GSS 130, Sociology 301, 312, 321, and 451 and sociology electives to complete 48 or 36 hours, depending on whether the student has one or two secondary concentrations. See Secondary Education requirements, pages 91-93.

¹ Fifty-eight hours in general science: GSM 130-8, 306-4, Chemistry 111-15, 341-4, Physics 211-15, 6 related hours in earth science General Studies courses, 6 related hours in health science General Studies courses; 27 hours in mathematics: GSM 144-5, 244-4, Mathematics 150-8, 300-4, 320-3, one other mathematics course above 299.

² GSK 101, 123, 152, GHA 101, 203, 224, English 300, 309, 400, 403, 405b, 420b, 490, Theater 224, 410.

³ Twenty-seven hours in history, 24 hours in government or geography, and 12 hours in each of two of the following: anthropology, economics, geography, government, or sociology.

⁴ One concentration of 37 hours and two 27-hour concentrations from the areas of economics, geography, government, history, and sociology.

Secondary Concentration

A secondary concentration in sociology consists of 28 hours of course work in sociology and may include GSS 130.

Sociology/Social Welfare

A primary concentration in social welfare is offered within the Department of Sociology. The program of study is professional in nature. By focusing on the knowledge, values, and skills common to the social work professions, the program prepares the graduate for beginning practice or for entry into a graduate school of social work. The program prepares the student for responsible and skilled work with individuals, families, groups, and communities. In the tradition of the profession, the student is oriented both to direct services and to institutional and social change.

Course Work

Requirements for a primary concentration are 48 hours. This includes courses at a junior-senior level in social welfare and sociology. Students are encouraged to acquire a wide base of knowledge in the social sciences through electives and the choice of a secondary concentration. Especially recommended are courses in psychology, government, and economics. A foreign language is not required, but fluency in Spanish is desirable for many jobs in the field, and might increase employment opportunities.

Field Work

In addition to classroom courses, the student spends two hundred actual hours in a practicum setting. This is equivalent to eight credit hours and is usually taken in the senior year. The practicum is an individualized and closely supervised learning experience that gives the student an opportunity to apply his classroom learning and develop the skills necessary for the professional social work practitioner. Field settings are arranged to meet the student's individual needs and interests in settings suitable for practicum learning.

<i>General Studies Requirements</i> (See Chapter 3. Waive GSS-8.)	60
<i>Requirements for Concentration in Social Welfare</i>	60
Foreign Language	12
GSS 130	4
Social Welfare 200-4, 375-4, 381-4, 480-4, 481-4, 482-8.	28
Social welfare electives	8
Sociology 321	4
Sociology electives	4
<i>Secondary Concentration</i>	28
<i>Electives</i>	44
<i>Total</i>	192

Special Education

The Department of Special Education offers two programs to students interested in special education—dual certification and single

certification. Both programs fulfill University and School of Education requirements for a Bachelor of Science degree. The student, upon completion of one of the 56-hour areas of specialization, is qualified to receive by entitlement an Illinois Standard Special Certificate with an endorsement for teaching educable mentally handicapped, emotionally disturbed, or learning disabled children in grades K-14. No special certificate is issued by the state in the area of the gifted at the present time.

Students wishing a secondary concentration in special education must complete 28 hours in one or more of the areas of specialization.

Students enrolled in 410a, b, f, g, t, 411, 420a, b, t, and 430 are required to spend four hours per week in observation participation and/or in the Special Education Micro-Teaching Lab in addition to the usual four hours of class attendance.

Bachelor of Science Degree, SCHOOL OF EDUCATION

Dual Certification

<i>General Studies Requirements</i> (See Chapter 3.)	60
<i>Requirements for Concentration in Special Education</i>	56
One of the following specializations: (Must be taken in sequence.)	
EDUCABLE MENTALLY HANDICAPPED	
Special Education 414, 410g, 411, 420b, 430, 470, 481b	32
Special Education 353 (student teaching educable mentally handicapped children)	16
Counselor Education 422 or Psychology 421	4
Psychology 432	4
EMOTIONALLY DISTURBED	
Special Education 414, 410a, 410g, 411, 420a, 430, 470, 481a	32
Special Education 353 (student teaching emotionally disturbed children)	16
Counselor Education 422 or Psychology 421	4
Psychology 432	4
GIFTED (no state certification available)	
Special Education 414, 410c, 420c, 481c	16
Special Education 353 (student teaching gifted children)	16
Electives (with consent of adviser)	16
Counselor Education 422 or Psychology 421	4
Psychology 432	4
LEARNING DISABLED	
Special Education 414, 410g, 411, 420a, 430, 470, 481a, 496	32
Special Education 353 (student teaching learning disabled children)	16
Counselor Education 422 or Psychology 421	4
Psychology 432	4
<i>Professional Courses</i>	40
Elementary Education 200, 365, 314, 337, 437, 415	24
Instructional Technology 417	4
Physical Education 350	4
Special Education 354 (elementary student teaching)	8

<i>Specific Certification Requirements and Electives</i>	36
<i>Total</i>	192

Single Certification

<i>General Studies Requirements</i> (See Chapter 3.)	60
<i>Requirements for Concentration in Special Education</i>	60
One of the following specializations: (Must be taken in sequence.)	
EDUCABLE MENTALLY HANDICAPPED	
Special Education 414, 410b, 410g, 411, 420b, 430, 470, 481b	32
Special Education 353 (student teaching educable mentally handicapped children)	16
Special education elective	4
Counselor Education 422 or Psychology 421	4
Psychology 432	4
EMOTIONALLY DISTURBED	
Special Education 414, 410a, 410g, 411, 420a, 430, 470, 481a	32
Special Education 353 (student teaching emotionally disturbed children)	16
Special education elective	4
Counselor Education 422 or Psychology 421	4
Psychology 432	4
LEARNING DISABLED	
Special Education 414, 410g, 411, 420a, 430, 470, 481a, 496	32
Special Education 353 (student teaching learning disabled children)	16
Special education elective	4
Counselor Education 422 or Psychology 421	4
Psychology 432	4
<i>Professional Education</i>	16
Counselor Education 305	4
Elementary Education 314, 337, 437	12
<i>Specific Certification Requirements and Electives</i>	56
<i>Total</i>	192

92

Speech Communication

Students who plan either a primary or a secondary concentration in speech communication must, at the time they declare their concentration or earlier, consult with the speech communication coordinator of undergraduate studies and advisement for selection of an adviser to help develop their concentration in speech communication.

The SIUE campus community and the metropolitan St. Louis area provide a variety of communication activities and experiences. All speech communication students are expected to integrate campus and community speech activities into their formal academic program of course work. Examples of campus opportunities include: The SIUE Forensic Union, radio station WSIE, student government, intercollegiate forensics, and the Student Speech Communication Association. Speech Communication 309, Campus and Community Speech Practi-

cum, offers 4 quarter hours of academic credit for speech activities. In planning a program with his adviser, each student determines which speech activities will best enhance that program.

Twelve hours of a foreign language are required for the Bachelor of Arts degree.

Bachelor of Arts or Bachelor of Science Degree,
SCHOOL OF FINE ARTS

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Speech Communication</i>	48
Foreign Language	(12)
Speech Communication 301, 330, 410, either 302a or b....	16
Electives in speech communication	32
<i>Secondary Concentration</i>	24
<i>Courses in Cognate Fields</i> (other than student's secondary concentration, to be chosen at discretion of student and adviser).	12
<i>Electives</i>	48
<i>Total</i>	192

Students seeking certification for teaching must take the program outlined above, plus Speech Communication 461, and meet the other minimum standards for certification listed under secondary education and those set forth by the Office of the Superintendent of Public Instruction.

Bachelor of Science Degree, SCHOOL OF EDUCATION

Students seeking the Bachelor of Science degree offered by the School of Education must take the program outlined above, including Speech Communication 461, meet current certification requirements set forth by the OSPI, and meet the other minimum standards for certification set by the School of Education.

Secondary Concentration

A 24-hour secondary concentration (30 hours for second teaching field) in speech communication is composed of any courses offered in the speech communication curriculum, which the student and his adviser decide best fit the student's primary concentration and his career preparation. It is highly recommended that the secondary concentration include those courses listed above as requirements for primary concentrations in speech communication. Students electing speech communication as a second teaching subject must include Speech Communication 461. At the time they declare their secondary concentration or earlier, students are to consult with the speech communication coordinator of undergraduate studies and advisement. General Studies courses are not applicable to the 24 hours necessary for a secondary concentration.

Speech Pathology and Audiology

The professions of speech pathology and audiology are devoted to serving individuals with disordered communication. These services

are available in a variety of settings including public schools, community clinics, hospitals, rehabilitation centers, private practice, colleges and universities, industry, and state and federal government agencies. Service facilities exist in every state and in cities of all sizes.

The undergraduate concentration in speech pathology and audiology is a preprofessional training program designed to prepare students for graduate work in either speech pathology or audiology. The successful completion of the master's degree qualifies the student for the Illinois Certificate in Speech and Language Impaired; in addition, students completing the professional program satisfy the academic requirements for the Certificate of Clinical Competence in Speech Pathology or Audiology awarded by the American Speech and Hearing Association.

Bachelor of Arts or Bachelor of Science Degree,¹

SCHOOL OF FINE ARTS

<i>General Studies Requirements (Waive GHA-8.)²</i>	60
<i>Requirements in Speech Pathology and Audiology</i>	61-64
Basic courses: Speech Pathology and Audiology 231, 303, 312, 320	16
Speech pathology courses: 201, 441, and two of the fol- lowing: 442, 443, 444, 453	16
Audiology courses: Speech Pathology and Audiology 360, 461, 471	12
Clinical procedures and practices: Speech Pathology and Audiology 380-4, 449-1 to 4, 469-8	13-16
Optional courses: Speech Pathology and Audiology 450, 462, or approved elective	4
<i>Requirements in Related Areas</i>	12
Psychology 301, 305	8
Special Education 414	4
<i>Requirements for Illinois Certificate in Speech and Language Impaired</i>	20-28
GSS 370	4
Counselor Education 305	4
Elementary Education 351	8-16
Foundations of Education 355	4
<i>Approved Electives</i>	39-28
Students are encouraged to pursue a secondary concentration in a related field.	
<i>Total</i>	192

Student Teaching

Student teaching is the culminating experience in all professional baccalaureate programs of the School of Education. It is needed in order to meet the degree requirements of the School, the certifica-

¹ Twelve hours of foreign language are required for the B.A. option.

² Must include basic psychology.

tion requirements of the states of Illinois and Missouri, and the standards of the National Council for the Accreditation of Teacher Education.

A fully satisfactory student teaching experience necessitates full day involvement in a public school. Therefore, students should avoid taking other courses or employment during student teaching, and should schedule it at a time when they will be free of other demands upon time and energy. Requests for an overload during student teaching must be approved by the appropriate departmental coordinator of student teaching.

Student teaching during the summer quarter is not available to undergraduates in a degree program.

Application Procedure

The student teaching application procedure begins during the year prior to the assignment. Each Department has established policies regarding application for student teaching. Students should secure student teaching information from a School of Education adviser located in the General Office Building, Room 2228. Junior and senior transfer students should contact an adviser in that office during Orientation Week for application information.

Prerequisites to Student Teaching

GENERAL

The following are prerequisites that need to be met prior to registering and receiving an assignment for student teaching:

1. An intensive two-week pre-student teaching experience is required of all winter and spring student teachers. It consists of orientation sessions, and classroom observation and participation during the first ten days of the cooperating school's fall term. This usually begins the last week of August or the first week of September.

Students may enroll in this assignment at the beginning of either the junior or senior year; however, the former is preferred.

Application for the September Experience must be submitted to the School of Education Office of Teacher Education no later than the mid-term of the spring quarter in order to insure the availability of a public school situation.

Fall quarter student teachers fulfill the September Experience requirements by assuming their regular student teaching assignment at the beginning of the cooperating school year.

2. Student teaching assignments are made after admission to the School of Education and the completion of at least 144 quarter hours. Students must have a minimum overall 3.2 grade-point average two quarters in advance of the teaching assignment. This grade-point average must be maintained for the assignment to be allowed. Transfer students need to be in residence for a quarter prior to student teaching.

3. In compliance with state law, record of a physical examination taken within the last ninety days must be on file in the University Health Service. A report of a tuberculosis skin test or X-ray taken within six months of the student teaching assignment is also required.

EARLY CHILDHOOD EDUCATION

In addition to meeting the elementary education prerequisites, students concentrating in early childhood education must complete a 16-hour sequence in that specialization, culminating in Elementary Education 317.

ELEMENTARY EDUCATION

Students concentrating in elementary education complete a minimum of 24 quarter hours in professional education courses prior to student teaching. Courses to be included are Elementary Education 314, 337, and 365.

INTERCULTURAL/INTERNATIONAL STUDENT TEACHING

The Intercultural/International Student Teaching Program is sponsored jointly by the Foundations of Education Department and the Office of Teacher Education. The program was created to provide American students an opportunity to complete the student teaching requirement in one of the overseas American Schools in Central America and Mexico or in one of the Indian Reservation Schools within the continental United States. The program seeks to provide (1) a center for in-service teachers with provisional certification to complete their required student teaching, (2) a center for mature students with no teaching experience to complete the student teaching requirement, (3) a center which is typical of an American school system in a foreign environment, (4) an opportunity for students to work in an American school abroad, live in a foreign environment, and absorb a foreign culture while completing a part of their regular undergraduate preparation, (5) training for teachers who may wish to be employed in the American Overseas School System or in one of the American Indian Schools sponsored by the Bureau of Indian Affairs, and (6) an opportunity for students interested in American Indian cultures to live and work with Indian children.

Interested students seeking additional information concerning the Intercultural/International Student Teaching Program should contact the Office of Teacher Education.

SECONDARY EDUCATION

1. Students concentrating in secondary education must be admitted by the Department of Secondary Education Admissions Committee before an application for student teaching can be approved.

2. Student teaching is an integral part of Secondary Education 401a,b,c Secondary Education Teacher Training System, based at Teacher Learning Centers. Secondary Education 401c, Student Teaching, must be preceded by Secondary Education 215, 401a, and 401b in sequence.

3. It is also expected that secondary education students will have completed 32 hours of their studies in their chosen teaching field except that 48 hours will be completed by students who have chosen one of the following teaching fields: art education, business education,

general science and mathematics, language arts, physical education, physical science, and social studies.

4. Prospective secondary student teachers must present two recommendations, one from their education adviser and one from their teaching field adviser. Forms for this purpose will be distributed at an orientation meeting which will be held during the quarter preceding student teaching assignment.

5. Secondary Education 352, Student Teaching, may be assigned for students admitted to secondary teacher education before June 1973 or in special cases approved by the Secondary Education Department Chairman. This assignment requires 16 hours in professional education courses prior to student teaching including Counselor Education 305, Foundations of Education 355, and Secondary Education 315, and a specialized subject area methods course.

SPECIAL EDUCATION

In addition to the above elementary education prerequisites, a student concentrating in special education completes a minimum of 24 hours in special education before registering for student teaching.

SPEECH PATHOLOGY AND AUDIOLOGY

Students must secure written consent of the Speech Pathology and Audiology Department and must have completed GSS 370, Counselor Education 305, and Speech Pathology and Audiology 450 before registering for student teaching.

Theater

A concentration in theater provides instruction and training in all phases of dramatic production for the stage, television, and film.

Training in theater at the undergraduate level provides for the interrelated presence of three fundamental considerations: (1) a liberal arts orientation, (2) a liberal theater education, and (3) a meaningful, purposeful study of the art of theater and/or dance.

Students who concentrate in theater may elect any of the three possible programs of study: (1) theater concentration (acting/directing emphasis), (2) theater concentration (technical emphasis), (3) theater concentration (dance emphasis). The carefully devised complex of training studios enables the student to learn the art of theater and dance through instruction and participation in an extensive series of major and minor presentations for class, campus, and community audiences through the Quonset Theater, the University Theater, and the Dance Company. Each student's background and training is appraised to determine his needs. Individual programs provide training and practice in voice training, acting, directing, improvisation, technical production (including stagecraft, costuming, lighting, sound, scene design, scene painting, costume design, lighting design), business management, and dance. Additional courses in the theater curriculum allow the student to secure a background of knowledge in theater history, children's theater, dance history, black theater history, and playwriting.

For the first two years the student follows a program of from six to eight hours of instruction and four hours of participation in theater practice each quarter. The last two years provide a more individualized program including special projects in the elements of theater and/or dance. All productions are an integral part of the instruction. Upon graduation, the student possesses a background of training and practice in acting, directing, technical production, dance performance and choreography, business management, and theater education; an understanding of the nature of theater art through the study of aesthetics, history, and criticism; and a knowledge of dramatic literature.

Bachelor of Arts or Bachelor of Science Degree,¹

SCHOOL OF FINE ARTS

Acting/Directing Emphasis

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Theater</i> (acting/directing emphasis)	90
GHA 150-4	(4)
Theater 100a-6, 100d-4, 100s-4, 200a-12, 200b-2, 200c-4, 200l-4, 200m-2, 200s-4, 300a-8, 300b-2, 300r-4, 401-12	68
Theater 200p, 300p, 400p ²	12
Theater electives	10
<i>Electives</i>	42
<i>Total</i>	192

Technical Emphasis

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Theater</i> (technical emphasis)	90
GHA 150-4	(4)
Theater 100d-4, 100u-4, 100v-4, 100s-4, 200a-4, 200b-2, 200c-4, 200d-4, 200l-4, 200m-2, 200s-4, 300b-2, 300c-4, 300d-6, 300k-2, 300l-4, 300r-4, 400w-4, 401-12	78
Theater electives	12
<i>Electives</i>	42
<i>Total</i>	192

Dance Emphasis

<i>General Studies Requirements</i> (See Chapter 3. Waive GHA-8.)	60
<i>Requirements for Concentration in Theater</i> (dance emphasis)	90
GHA 150-4	(4)
Theater 100u-4, 100v-4, 200a-4, 200c-4, 200h-4, 200l-4, 200m-2, 200n-6, 200t-8, 300h-4, 300o-4, 300t-8, 300z or 400z-6, 400h-4, 400o-4, 400t-8, 400u-4, 402-4	86

¹ Students pursuing the Bachelor of Arts degree must complete 12 hours of foreign language.

² Rehearsal/performance credit (Theater 200p, 300p, or 400p) may not be taken for more than 12 hours toward the primary concentration. Credits in excess of 12 hours may count toward graduation but not toward the primary concentration.

Areas of Concentration

Theater / 103

Theater or dance electives	4
Electives	42
Total	192

Secondary Concentration

A 36-hour secondary concentration in theater must be planned in consultation, prior to advisement, with the Director of Theater.

Zoology

See Biological Sciences. A specific zoology program is not offered. The biological sciences program includes zoology courses adequate for career specialization and subsequent graduate study.

ASSOCIATE DEGREE

Child Care Services

The Associate in Arts degree with a specialization in Child Care Services is designed to help the student develop skills in working with children under seven years of age. All Child Care Services courses combine theory with its practical application through field experience.

This program is intended both for those who wish to acquire the skills needed to enter the field of nursery education and day care, and for those already holding positions in this field but who wish also to make use of the opportunity to improve performance of their current job or to prepare for advancement.

Students planning to continue working for the associate degree will need to complete all course requirements by June 1975 as that will be the last graduation exercise when the Associate in Arts degree will be conferred.

Associate in Arts Degree, SCHOOL OF EDUCATION

<i>General Studies Requirements</i>	47
<i>Child Care Services Courses</i>	41
<i>Electives</i>	8
<i>Total</i>	96

6 / Student Affairs

Student Affairs Division

SOUTHERN ILLINOIS UNIVERSITY at Edwardsville recognizes the importance of providing students every opportunity to benefit in the fullest manner from their university experiences. The primary goals of Student Affairs are to provide services which help students to continue their education and be in the best possible mental and physical conditions for learning in the classroom and to facilitate the growth and development of students through a variety of programs and activities.

The University is concerned with an integrated approach to student needs and problems in intellectual, social, spiritual, and physical areas. Students may learn about and be referred to specialized services throughout the University by publications describing the services and by various offices within the Student Affairs Division.

Vice President for Student Affairs

The Vice President for Student Affairs is responsible for the administration and coordination of the following services: The Dean of Students Office, Student Housing, Student Activities, Health Service, Student Work and Financial Assistance, University Placement Services, Student Development Services, Black Student Association, Foreign Student Services, Campus Recreation, and the Tower Lake Recreation Area. The department heads of these various offices work closely with students, faculty, and other University offices in planning and implementing an integrated program of activities and services. All members of the Vice President's staff function as generalists in helping individual students with a variety of questions and problems.

The Dean of Students Office

The Dean of Students functions as the primary officer to work with students charged with actions which are prohibited under the Current Student Rights and Conduct Code. Sanctions which can be applied to violations are listed in the Code. Top priorities are given to protecting the rights of the student and the University community. Every effort is made to maintain the confidentiality of disciplinary sanctions imposed for violations of the Student Rights and Conduct Code.

The personnel in the Dean of Students Office provide specific services for international students enrolled at the University. The

staff assists in locating students on campus in emergency situations such as death, accident, or serious illness in the immediate family. All staff members try to keep abreast of information of current social interest and provide counseling and referral service when necessary.

Withdrawals from School and Temporary Absences

A student who finds it necessary to withdraw from school while the quarter is in progress must report to the Office of Student Affairs to initiate official withdrawal action. Notification can also be made by phone or mail. No withdrawal will be permitted during the last two weeks of classes except under extraordinary circumstances. A refunding of fees is permitted only if the withdrawal and refund requests are officially completed within the first ten days of the quarter. See the Registration Calendar in the current Schedule of Classes for the specific dates concerning withdrawal and refunding of fees.

The personnel in the Office of Student Affairs provide notification service to instructors for students who must be absent from class for a specific length of time. Call 692-2020 for assistance.

Student Development Services

Student Development Services functions as an aid in helping students evaluate their strengths and limitations. The tests which are used may include measures of interest, aptitude, personality, and achievement. Testing programs for selection, placement, and research purposes are also provided. The American College Testing Program is administered regularly on the Edwardsville Campus. Personal and career counseling services are offered by trained personnel who can help students solve problems related to selecting careers, choosing and succeeding in academic programs, and surviving in a college environment.

University Housing Office

In accordance with the policies of the Board of Trustees, Southern Illinois University at Edwardsville offers all students the opportunity to select their places of residence while in attendance at the University.

The Student Housing Office seeks to provide and continually improve a living environment which assists each student in making the most effective use of the opportunity for higher education. The Housing Office has established a range of services, available to students on a voluntary basis, to include both on-campus housing (Tower Lake Apartments) and off-campus housing.

Upon completion of Phase II of the construction, the University's housing facilities, Tower Lake Apartments, will provide housing for approximately 1400 single students and 150 families. The University's objective is to provide temporary housing for faculty and staff members, and long-term housing for single and married students. Single students live in a co-op arrangement (furnished two- or three-bedroom apartments) which emphasizes individual responsibility, academic and personal growth and development, and community involvement through social and service projects and programs. Married

students have the option of two- or three-bedroom apartments, furnished or unfurnished, with easy accessibility to playground areas and laundry facilities. Resident Housing staff members are available to handle whatever problems residents might encounter in their living situation. A community center provides meeting rooms, lounge areas, social and recreational facilities, snack-bar facilities, laundry facilities, arts and crafts, programs for children and adults, and maintenance and administrative offices. Further information concerning application procedures can be obtained from the Housing Office, Room 1113, General Office Building, Southern Illinois University, Edwardsville, Illinois 62025 (telephone 692-3931).

Off-campus housing services include listings of available off-campus facilities, advisory services, informational brochures, telephone services and model rental agreements to assist students, faculty, and staff in locating suitable accommodations. Owners of off-campus facilities may use the University's contract form for student rental housing. The University reserves the right to deny the privilege of listing off-campus accommodations with the Housing Office if landlords do not comply with the Civil Rights Act of 1968, other laws governing discrimination, and governmental health and safety standards. Experience has indicated that attempting to obtain off-campus facilities by mail is generally unsatisfactory. Prospective students are urged to visit the campus and personally seek desirable living accommodations.

Student Activities

The staff of the Student Activities Office is available to all campus groups and individuals for assistance in planning, conducting, and evaluating activities and programs. Participation in any group or organization is open to all students.

Besides honorary organizations which stimulate and recognize academic achievements, other groups exist which appeal to the educational, religious, social, recreational, and political interests of students. Through the use of Student Activities funds, certain campus-wide organizations are able to sponsor a variety of programs for the entire campus community. Participation in these organizations and programs enables students to add a new dimension to their lives while at the University.

New Student Life

New Student Life, coordinated through the Student Activities Office, is a unique approach to orientation. The program is designed to help the new student adjust to the campus community quickly and comfortably so that his academic and social experiences at the University will be as rewarding as possible.

In order to assure all new students the opportunity of attending an orientation session, regularly scheduled sessions are offered every quarter. Students planning to enter for winter, spring, or summer quarters are invited to attend a one-day workshop. Students planning to enter in the fall can participate in a two-day, on-campus session. All workshops are conducted prior to the quarter of matriculation.

Every undergraduate student admitted to the University is automatically sent an invitation to attend the program.

Health Service

Health Service provides medical services to the students, faculty, and staff within the limits imposed by the size and professional status of the staff, by legal obligations, and by the available facilities and funds.

When entering the University for the first time a student must have a pre-entrance physical examination. This is to be completed by a private physician and submitted on a form provided by the Health Service prior to reporting on campus to register.

Physical examinations from other colleges will not be accepted if the examinations are more than one year old. A physical examination must be in the hands of the Health Service prior to registration.

Detailed information about the services provided and the voluntary health insurance program available to students at special rates may be obtained through a brochure available at Health Service, which is located in the General Office Building, Room 0202.

University Placement Services

The University Placement Services provides career counseling and assists students seeking career positions. Those desiring to use that office are urged to register in the fall quarter of the year they expect to obtain their degree. Services are also available to alumni.

One of the principal functions of that office is bringing qualified candidates to the attention of prospective employers from the business and industrial world as well as the educational world. On-campus interviews, which are conducted with visiting recruiters throughout the academic year, save students much time and effort. Thus, that office provides a meaningful service to both students and employers.

For further information, call 692-2800 or contact the Director in Room 0233 of the General Office Building.

Campus Recreation

The interaction and participation in organized and informal recreation is vital and necessary to accomplish the total physical and social development of all members of the University community. The basic goal of the staff is to provide facilities and activities that create opportunities for both competitive and informal recreation.

Recreation programming currently takes place either at the Bubble Gym or at the Tower Lake Recreation Area. Both areas offer a wide range of facilities and activities, and programs are scheduled on a year-round basis.

The Bubble Gym includes indoor facilities for basketball, volleyball, hoc-soc, tennis, and weight training. Outdoor facilities include handball courts, three softball diamonds, football and soccer fields, and six tennis courts. Tentative plans call for lighting the tennis and handball courts and one softball diamond. In addition to these facilities being used on a spontaneous basis, the Bubble Gym staff coordinates

an extensive program of intramural activities for those seeking recreation on a more formal and competitive basis.

Facilities at Tower Lake Recreation Area include a marina with canoes, sailboats, and rowboats available for a small rental fee and a 1,200-foot beach area with shower and locker facilities and a concession stand. A sheltered picnic pavilion, picnic tables, barbecue pits, and other outdoor recreational equipment are also available on the recreation peninsula. At the entrance to the Tower Lake Recreation Area is a bicycle and camping equipment check-out point.

Additional information about Campus Recreation can be obtained by contacting the Office of the Vice President for Student Affairs, telephone 692-2020.

Religious Center

The Religious Center ministers to as many segments of the University as possible. Supported financially by Baptists (American), Catholics, Disciples, Episcopalians, Lutherans, Methodists, Presbyterians, and the United Church of Christ, the Religious Center is available to a wide variety of on-campus and off-campus groups and activities. Regular Sunday morning worship services as well as a myriad of activities throughout the week are conducted.

The Center itself was designed by R. Buckminster Fuller and features a geodesic dome with a diameter of forty feet. The dome is a scaled representation of the earth. Oceans are painted in blue; land masses are left in natural gray colors of the Plexiglas. Religion is thus placed in the setting of the world and of the universe.

Student Rights and Conduct Code

This code contains the specific rights of students, disciplinary standards, and sanctions that may be applied to violations. Copies of the code may be obtained in the Vice President for Student Affairs Office.

University Regulations Pertaining to Students

Regulations and policies pertaining to functions of Student Affairs and other University activities may be obtained from the appropriate office. Students should be familiar with those policies which directly affect their lives such as motor vehicle regulations, housing regulations, and policies pertaining to Student Activities.

Identification Cards as Certificate of Registration

Each student receives an identification card which bears his photograph and serves to identify him while he is enrolled at Southern Illinois University at Edwardsville.

A certificate of registration, issued each quarter at the time of registration, certifies payment of tuition and various fees. The identification card is used with the certificate of registration for the current quarter to identify students who have paid the student activity fee and are eligible to use University facilities.

The identification card and the certificate of registration are legal documents. A student who loans, borrows, or alters these cards is subject to disciplinary action; in addition, such action may be considered

a criminal offense as well as an infraction of University regulations. It is important to obtain a new certificate of registration each quarter and to carry both the identification card and the current certificate of registration at all times. These cards are also used to borrow books from the University Libraries and for other situations on the campus where positive student identification is required. In special cases, the identification card, the certificate of registration, and other corroborating evidence may be requested to verify identification.

Student Work and Financial Assistance

Southern Illinois University at Edwardsville has an excellent program whereby a student may combine student work with other types of financial assistance to defray a large part of his educational expenses.

The Student Work Program provides part-time employment which relates, if possible, to the student's academic program. In addition to numerous jobs on campus, opportunities exist for employment in area businesses, industries, and community service agencies. Preference for on-campus employment is given to full-time students. Full-time summer employment opportunities are also available to students currently enrolled, or who are accepted for admission by the University.

The University has, in addition to student work, multiple programs of scholarships, loans, and grants for students who are enrolled at least half-time (6 credit hours or more). Specific information about financial aid programs can be obtained by writing or contacting the Office of Student Work and Financial Assistance.

There are three types of student work and financial assistance programs available to students who are enrolled at the University: Institutional, State, and Federal. In addition to the excellent part-time student employment programs offered by the University, several programs of loans, grants, and scholarships are available to the student under the category of Institutional Aid.

INSTITUTIONAL PROGRAMS

SIUE Tuition Waivers. The Board of Trustees of Southern Illinois University provides a limited number of tuition waivers which provide free tuition. These awards are based primarily on need, but also on scholarship records and participation and leadership in student activities. All tuition waivers are administered by the Office of Student Work and Financial Assistance.

Student-to-Student Grants. The Student-to-Student Grant Program (STS) provides cash grants of \$25 to \$100 to students attending the University. The Program was established through a \$1.50 per student fee assessment each quarter. Grants are made to full-time students (12 credit hours or more) who demonstrate financial need. Awards are made on a quarterly basis, and separate applications are required for each quarter for which the STS Grant is requested.

Athletic Scholarships. Funds for full or partial athletic scholarships are available through the Office of Student Work and Financial Assistance upon the recommendation of SIUE's Athletic Director.

Students interested in this type of scholarship should direct their inquiries to SIUE's Department of Athletics.

Emergency Short-Term Loans. Funds are available through SWFA for small, thirty-day emergency loans to full-time students. Such funds are not available for the purpose of meeting routine educational costs such as fees, room and board, or other normal expenses. When money is needed specifically for tuition and fees, applicants should inquire about the availability of other programs for meeting such costs.

Other Financial Aids. The SIUE Foundation has established several programs of loans and grants to assist students in meeting educational expenses. A partial listing of loan and grant funds follows:

<i>Scholarships and Grants</i>	<i>Student Loans</i>
Black Athletes Student Grant	Sav-Mart Student Loan Fund
Black Awareness Student Grant Program	Mid-West Rubber Loan Fund
Chemistry Fellowship Fund	George Wilkins Student Loan Fund
Cougar Athletic Fund	O. J. Sullivan Loan Fund
Delta Sigma Theta Sorority Scholarship Fund	Basler Electric Loan Fund
Edwardsville Campus String Scholarship Fund	Madison County Loan Fund
Martin Luther King Memorial Grant	Friends of Music Loan Fund
Leo and Hilda Kolb Memorial Scholarship Fund	Norman Lloyd Loan Fund
Mass Communications Grant Fund	Foundation Loan Fund
Try Student Grant Fund	A. O. Smith Loan Fund
	MASSA Loan Fund
	Slavic & East European Friends Loan Fund
	William A. Houston Loan Fund
	Bank of Edwardsville Loan Fund
	Eunice & Elmer Noxon Loan Fund
	Artex International, Inc. Loan Fund
	Jr. Service Granite City Loan Fund
	Industrial Management Loan Fund
	Music Student Loan Fund
	Xerox Corporation Loan Fund
	Chastain Nursing Loan Fund
	St. Paul's Highland Loan Fund
	L. W. Saunders Loan Fund

Information and applications for SIUE Foundation loan and grant funds can be obtained by contacting the SWFA Office.

The Robert Wood Johnson Foundation Student Aid Fund provides long-term educational loans for students who are enrolled in the School of Dental Medicine. The program is limited to students

who demonstrate financial need and who are female, are members of designated racial minority groups and/or from rural areas. The maximum loan per year is \$2,000.

Loans from the Robert Wood Johnson Foundation carry a maximum interest rate of three percent, and are payable over a period of no less than ten years. Repayment may be deferred during uniformed Peace Corps service or advanced professional study.

Grant funds are also available through the Robert Wood Johnson Foundation Student Aid Program. These funds are restricted to females, minorities, or students from rural areas and are based on financial need. The maximum grant per academic year is \$2,000.

United Student Aid Funds are another possible financial source to students of the University. USA Funds is a nonprofit corporation which endorses low-cost loans made by hometown financial institutions to deserving students.

STATE PROGRAMS

Illinois State Scholarship Commission Monetary Award. The Illinois State Scholarship Commission Monetary Award provides grants and scholarships to undergraduate students in the form of tuition and fees. The Award is available to residents of the State of Illinois who demonstrate financial need. Every undergraduate Illinois resident applying for financial assistance at SIUE should apply for this Award.

Special Education Traineeships and Fellowships. State and federal traineeships and fellowships are offered to students concentrating in special education. Special education students should apply through the Department of Special Education for these traineeships and fellowships which provide tuition, fees, and a stipend.

Junior/Community College Scholarships. Scholarships providing free tuition are available to Illinois residents who are graduates of a community college or junior college within the State of Illinois.

Illinois Veterans Scholarship. This scholarship is available to a student with at least one year of active military service who entered service as a resident of the State of Illinois and received an honorable discharge. If he was not an Illinois resident, he must have been a student at an Illinois state-supported college or university at the time he entered service.

General Assembly Scholarships. These scholarships are for residents of districts that are represented by a member of the General Assembly. They provide tuition and activity fee.

Illinois Guaranteed Loan Program. The Illinois Guaranteed Loan Program provides students with the opportunity to borrow as much as \$2,500 during their first two years of undergraduate study. The maximum amount for undergraduate students is \$7,500 and \$10,000 for graduate students. Funds are normally obtained from

banks participating in the program. Applications and a list of the banks which make such loans can be obtained from high school counselors or from the Office of SWFA.

FEDERAL PROGRAMS

College Work-Study Program. Various departments within the University hire students to do various jobs. Under this program, eighty percent of the wages are paid by the federal government through the University. This allows the University to provide a larger number of job opportunities for its students.

Students who qualify for these jobs do so by completing the Parents' Confidential Statement or the Student Financial Statement which determines financial need.

National Direct Student Loan Program. All entering freshmen, upperclassmen, and graduate students who can demonstrate financial need are eligible for National Direct Student Loans. The amount borrowed per academic year (\$5,000 for undergraduates and \$10,000 for graduates) accrues no interest as long as the borrower remains at least a half-time student at any institution of higher education or is serving in the United States Armed Forces for a period of no longer than three years. When repayment begins, three percent interest on the unpaid balance begins to accrue one year from the date the borrower ceases to be a half-time or full-time student.

Supplemental Educational Opportunity Grant. The basic purpose of the Supplemental Educational Opportunity Grant Program is to assist students of exceptional financial need who are from low-income families (normally below \$9,000 per year) and who are unable to enter or remain in school without financial assistance. The grants are not repayable, but must be matched with some other form of financial aid such as a National Direct Student Loan or College Work Study.

Nursing Student Loans and Scholarships. The Nursing Student Loan Program and the Nursing Scholarship Program assist students of exceptional financial need in attaining nursing careers by providing financial assistance in the form of long-term, low-interest loans or scholarships.

Under the Nursing Scholarship Program, a student may receive a maximum of \$3,500 per academic year to help defray educational expenses. The scholarship is not repayable and cannot exceed the student's estimated financial need.

Under the Nursing Student Loan Program, a student may borrow up to \$3,500 per academic year, with a total loan not exceeding \$7,500. The interest rate is three percent and cancellation provisions are provided.

To be eligible for either the Nursing Loan or Nursing Scholarship, the Parents' Confidential Statement or Student Financial Statement is required to determine financial need.

Health Professions Scholarships and Loans for Dental Students. Federal Health Professions Scholarships and Loans are available to help students who are pursuing the degree of Doctor of Dental Medicine. Applicants for the Health Professions Scholarships and Loans must be full-time dental students with financial need as determined by the Parents' Confidential Statement or Student Financial Statement. Recipients of the Health Professions Scholarship may receive up to \$3,500 per academic year. Health Professions Loans provide a maximum of \$3,500 per academic year with cancellation provisions.

Dental students interested in other programs of financial aid should contact the School of Dental Medicine Dean's Office.

Law Enforcement Educational Program (LEEP) Grants and Loans. LEEP Grants are available to in-service law enforcement officers of local, state, or federal government agencies for the payment of tuition and fees only. These grants are awarded without regard to financial need. Officers who receive awards must enter into an agreement to remain in the service of a law enforcement agency for a period of two years following completion of the academic year for which the grant funds were provided.

LEEP loans are available to full-time students who are taking courses leading toward a certificate or a degree in a program related to law enforcement. Law enforcement personnel on academic leave may borrow in excess of tuition and fees by demonstrating financial need. The principal amount of any loan, plus interest, will be cancelled for service as a full-time officer or employee of a law enforcement agency, at the rate of twenty-five percent per annum for each year of service or its equivalent.

Basic Educational Opportunity Grants. A new program of Basic Grants permits a student (full or part-time) to receive up to \$1,400 per academic year to cover educational expenses. Information and application procedures can be obtained by contacting the SWFA Office.

HOW TO APPLY FOR FINANCIAL ASSISTANCE

Applications for financial assistance at Southern Illinois University at Edwardsville should be received as early as possible for the academic year for which aid is requested. In order to receive maximum consideration for financial assistance, applications should be received by the following deadline dates:

Fall Quarter	June 1
Winter Quarter	November 1
Spring Quarter	February 1
Summer Quarter	May 1

All students seeking financial assistance are urged to mail the Parents' Confidential Statement or Student Financial Statement to the College Scholarship Service. The applicable financial statement must be on file before any consideration can be given for financial

aid based on financial need. Forms are available from high school counselors, community agencies, or the SWFA Office.

Additional information about each of the programs briefly described herein can be obtained by contacting the Office of Student Work and Financial Assistance, Southern Illinois University at Edwardsville, Edwardsville, Illinois 62025.

Below are listed all of the courses offered by Southern Illinois University at Edwardsville for credit toward a bachelor's or master's degree. Courses are listed numerically within each subject matter area. Areas are listed here in the order of their appearance on the following pages. Courses in these areas do not necessarily indicate that a concentration is available.

Subject Matter Areas

General Studies Social Area (GSA)	Greek
General Studies Natural Science and Mathematics Area (GSM)	Latin
General Studies Social Science Area (GSS)	Portuguese
General Studies Humanities and Fine Arts Area (GHA)	Russian
Interdisciplinary Studies (IDS)	Spanish
Accounting	Foundations of Education
Administrative Services	General Business Administration
Aerospace Studies	Geography
Artistic Studies	Government
Anthropology	Health Education
Art	History
Biological Sciences	Human Health
Business Education	Humanities
Chemistry	Human Services
Colloquium	Instructional Technology
Consumer Education	Journalism
Economics	Management Science
Elementary Education	Marketing
Engineering and Technology	Mathematics
English	Music
Experiment in Higher Education	Nursing
French	Philosophy
Foreign Languages	Physical Education
General Foreign Languages	Physical Therapy
Comparative Literature	Political Science
French	Psychology
German	Religion
	Science Technology
	Science and Technology
	Seventh-Semester

7 / Course Descriptions

HERE ARE LISTED all of the courses offered by Southern Illinois University at Edwardsville for credit toward a bachelor's or associate degree. Courses are listed numerically within each subject-matter area. Areas are listed below in the order of their appearance on the following pages. Courses in these areas do not necessarily indicate that a concentration is available.

Subject-Matter Areas

General Studies Skill Area (GSK)	Greek
General Studies Natural Science and Mathematics Area (GSM)	Italian
General Studies Social Science Area (GSS)	Latin
General Studies Humanities and Fine Arts Area (GHA)	Portuguese
Interdisciplinary Studies (GIS)	Russian
Accounting	Spanish
Administrative Services	Foundations of Education
Aerospace Studies	General Business Administration
American Studies	Geography
Anthropology	Government
Art	Health Education
Biological Sciences	History
Business Education	Honors Hours
Chemistry	Humanities
Colloquium	Human Services
Counselor Education	Instructional Technology
Economics	Journalism
Elementary Education	Management Science
Engineering and Technology	Marketing
English	Mathematics
Experiment in Higher Education	Music
Finance	Nursing
Foreign Languages	Philosophy
General Foreign Language	Physical Education
Comparative Literature	Physics
French	Production
German	Psychology
	Recreation
	Rehabilitation
	Sanitation Technology
	Science and Technology
	Secondary Education

Social Welfare	Technical and Adult Education
Sociology	Television-Radio
Special Education	Theater
Speech Communication	Child Care Services ¹
Speech Pathology and Audiology	

Explanation of Entries

The first entry for each course is a three-digit numeral which, together with the subject area, serves to identify the course. The first digit indicates that the course is for freshmen, sophomores, juniors, seniors, or graduate students only, depending on whether the digit is 1, 2, 3, 4, or 5, respectively.

Following the identification number are a dash and another number, which indicates the maximum credit allowed for the course. The maximum may be variable, such as History 410-2 to 5. Some courses do not terminate at the end of one quarter, as evidenced by two or more numerals in parentheses indicating the credit allowed for each quarter of participation in the course, such as GHA 240 (4,4,4,4,4). The bold face letters in parentheses correspond to the numerals in parentheses and are followed by a description of the material to be covered that quarter. Next is the title, followed by a description of the course. If certain requirements must be satisfied before enrollment in a course, they are listed as prerequisites.

Departments occasionally offer experimental courses with varying titles and content. The distinguishing course titles are recorded on the transcripts of students taking the courses. Course descriptions are available from department chairmen or the Office of Admissions and Records. Experimental courses are offered for only one year, evaluated, and, if determined appropriate, then made a part of the regular curriculum.

Not all of the courses described here are offered every quarter or even every year. To find out when and where a course is to be offered, consult the Schedule of Classes, which may be obtained from University Graphics and Publications, Southern Illinois University, Edwardsville, Illinois 62025. When requesting a schedule, please specify *quarter* (fall, winter, spring, or summer).

Skill Requirements (GSK)

101-4 English Composition. Practical and efficient training in the shorter written forms: the sentence, the paragraph, the short essay.

102-4 English Composition. Advanced practical training in college-level writing.

123-4 Oral Communication of Ideas. The basic principles and techniques of oral communication as applied to everyday speech activities.

152-4 Critical Thinking. Study and practice of critical thinking and correct problem-solving methods, with emphasis on organizing information, analyzing meaning, producing correct arguments, detecting fallacies, and using rational methods of investigation.

¹ Courses count only toward the Associate in Arts degree.

Natural Science and Mathematics (GSM)

101-4 Introduction to Physical Science. A nonmathematical study of motion, matter, electricity, magnetism, and the atom.

102-8 (4,4) An Observational Approach to Physical Science. A study of the fundamentals of physical science using the approach that experimentation is central to science. Through observation the student discovers for himself the laws which govern the physical world. Light, wave motion, mechanics, atomic and molecular properties, and the properties of crystalline solids. Two lecture, four laboratory hours per week. Must be taken in sequence.

110-4 Earth and Its Geographic Environment. An introduction to the earth's place in the solar system, the earth-sun relationships, and the earth's atmospheric activities.

111-4 Earth and Its Geologic Environment. An introduction to deformation of the earth's crust, mountain uplift, continental drift, earthquakes, rocks and minerals, and glaciation.

120-4 Contemporary Chemistry. A study of selected fundamental principles of chemistry, especially the atomic and molecular nature of matter and of the pervasive role of chemical knowledge and technology in the contemporary world.

130-4 Contemporary Biology. An examination of the major contributions of biology to an understanding of ourselves and our world. The development, nature, and human implications of the cell theory, heredity, the modern synthetic theory of evolution, population dynamics, and ecology and environmental problems.

131-2 Life: Ecology and Diversity. A study of living organisms and the environmental factors and evolutionary mechanisms influencing their diversity and distribution.

140-8 (4,4) Survey of Elementary Mathematics. An introduction to some fundamental concepts in mathematics. (a) Sets, logic, systems of numberation, integers, rational numbers, real numbers. (b) Sentences in one variable, non-metric geometry, metric geometry, probability, statistics. Prerequisites: (a) one year high school mathematics and satisfactory score on A.C.T., or consent of instructor; (b) 140a or consent of instructor.

144-5 Basic Concepts of Algebra. A concept-oriented course intended to provide insights into basic principles and properties of elementary mathematical and algebraic structures. Designed with the needs and interests of the general student in mind. Prerequisite: one and one-half years high school algebra and one year high school geometry, or equivalent.

210-4 Fossil Origins of Man. The origin, evolution, and morphology of the major invertebrate phyla and vertebrate classes that occur as fossils. The relationship of man to evolution and his paleontologic history.

212-4 Conservation of Natural Resources. The correct use of the natural resource base of our nation.

213-4 Weather. A general survey of the influences of weather and climate on man's occupations and his recreation and on industries, soils, vegetation, food production, and on animals.

221-4 Environmental Pollution. General aspects of the various types of pollution including sources, magnitude, harmful effects, and methods of controlling. Prerequisite: high school or college chemistry.

223-4 Nutrition. The nature, function, and metabolism of nutrients and of their effects on health.

230-4 Man and His Diseases. A study of the various types of diseases that can afflict man, and of the various defense mechanisms that are available to combat these. The metabolic and cellular bases of diseases are stressed. Viral, bacterial, and parasitic diseases, cancer, inherited disorders, congenital defects, diseases of various organ systems, endocrine disorders, the immune response, and the mode of action of antibiotics and antimicrobial agents. Prerequisite: 130.

231-2 Human Heredity and Society. Principles of human heredity as applied to individuals, kindreds, and populations. Genetic aspects of contemporary biological social problems. Prerequisite: one year high school biology.

232-2 Plants and Civilizations. An examination of the role of plants in man's social and economic history and of the role of man in the modification and distribution of plants. Prerequisite: one year high school biology.

233-4 Human Sexuality and Reproduction. A discussion of sexual anatomy and physiology; normal and abnormal embryonic and fetal development; pregnancy and birth; birth control; sexual relationships, attitudes, and behavior; sexual diseases and disorders; sex and the law. Prerequisite: one year high school biology.

234-4 Ecological Aspects of Pollution. A study of pollution from the viewpoint of an ecologist with emphasis on the general concept that man and nature must live in balance.

244-4 Statistics. Insight into the basic concepts of statistics. Methods of gathering and presenting statistical data, descriptions of chance events, drawing inferences from statistical data, testing data for correlation. Designed with the needs and interests of the general student in mind. Prerequisite: two years high school algebra or equivalent.

250-4 Technology and Society. The interaction of technology and society with emphases on: impact of technology on the social structure; whether technology is good, evil, or neutral (ethical and/or moral aspects); history of technology in relation to social development; present status in highly industrialized society, in emerging nations; technology assessment; forecasting.

300-4 The Energy Crisis and the Environment. A study of the problems and prospects of meeting the national and worldwide energy demand. The present and future roles of fossil fuel, nuclear, solar, and geothermal energy along with the environmental impact of these and other energy technologies. The scientific information necessary to acquire a critical attitude toward the controversies surrounding the energy crisis.

301-4 Physics of Music and Acoustics. Nature, sources, propagation, and receptors of sound; analysis and synthesis of sound waves; objective and subjective properties of musical sounds; musical intervals; physics of musical instruments; ears and hearing; physiology and psychology of sound; sound reproduction.

305-4 Light and Color. Nature, propagation, sources and receptors of light, spectra, pigments, dyes, and filters. The eye, sight, optical instruments, lasers, holography, optical aberrations, and illusions. Applications to art, photography, the media, and psychological phenomena.

306-4 Astronomy. The solar system, nebulae, cluster, galaxies, theories of stellar evolution, and cosmology. Evening observations in addition to lecture.

322-4 Radiation and Life. A study of the types, sources, and uses of radiation, its effects on biological systems, and the impact of its use on society. Prerequisite: one year high school biology.

350-4 Concepts of Technology. Feedback, stability, system modeling, optimization, and simulation with analog and digital devices—the most general concepts for possible application to problems in many other fields, such as business, economics, politics, social study, and individual activities. Study of simple examples from actual engineering situations, with discussion to consider the possible application to broader social areas.

365-4 Human Origins. A consideration of the fossil record and basic principles of human evolution.

383-4 The Nature and Impact of Physical Science. An investigation into the nature of physical science and its importance for individuals and society.

Social Science (GSS)

101-4 Introduction to the History of Western Civilization. Political, economic, and cultural history of Europe from the early Middle Ages to the end of the Napoleonic Age.

102-4 Introduction to the History of Western Civilization. The methods and materials of western civilization through analysis and interpretation of historical topics selected from the period since 1763.

105-4 History of Black America. A survey sequence to develop interest, understanding, and appreciation of black American culture and its African antecedents. Some factors leading to the current black social protest.

130-4 Sociology. An introduction to the ideas of sociologists, to the way sociologists look at the world, and to such major concepts as social structure,

role behavior, and social institutions. Those concepts which are part of the shared vocabulary of sociologists.

136-4 Sociocultural Factors in Contemporary Black American Life. An examination of the sociocultural context of contemporary black American life, including those factors which have led to black social protest.

150-4 Economics. A historical development of economic ideas and an introduction to economic concepts, institutions, and problems.

210-4 Anthropology. Development of man as a biological and social being; origins and development of culture from earliest times to the formation of great world traditions; comparative diversity in economy, social organization, language, ecology, political behavior, religion, and the arts; relationship between culture and personality; developing societies and the industrial world.

220-4 U.S. Constitution. An examination of the fundamental principles embodied in the United States Constitution, and the manner in which they affect and are affected by American political life. Particular attention to current political/constitutional issues. Fulfills constitutional requirement.

240-4 Geography for Modern Man. A general survey of selected elements of the geographic landscape of the earth. An examination of the world distribution of population, resources, and economic activities and a detailed analysis of selected geographic regions with particular emphasis on the interrelationship between man and his physical and cultural environment.

245-4 Urban Environmental Problems. Analysis and discussion of related urban environmental problems pertaining to urban development, location factors, classification, land use, recreation needs, and other up-to-date urban problems.

260-4 Modern Challenges for Psychology. A study of contributions psychologists can make to a variety of contemporary problems—mental health, behavioral control, intelligence testing, and others. Traditional human values as well as the scientific merits of given psychological methods.

280-4 Decision Making for Consumers. An introduction to consumer problems and measures to cope with such problems. The application of problem-solving in such areas as consumer credit, insurance, housing, and citizen-consumer responsibilities. Sources for consumer assistance and methods for initiating consumer action.

300-4 History of the U.S. A general survey of the political, social, and economic development of the United States. 1492 to 1815.

301-4 History of the U.S. A general survey of the political, social, and economic development of the United States. 1815 to 1900. Prerequisite: sophomore standing.

302-4 History of the U.S. A general survey of the political, social, and economic development of the United States. 1900 to present. Prerequisite: sophomore standing.

313-4 Women in Cross-Cultural Perspective. An investigation of the positions and roles of women in cultures from a variety of socio-economic levels and geographical areas of the world. Cross-cultural and other anthropological data in conjunction with the issues of feminism and the contributions anthropology can make to women's studies.

315-4 The Cultural Background of Developing Africa. An introduction to the many diverse cultures of Africa from the Egyptian civilization to the Bushman hunters.

319-4 Growth of Old World Civilization. Cultural origins and dispersals from paleolithic to protohistoric times with particular attention to the complex environmental and cultural factors that led to the rise of early Old World civilizations.

330-4 Marriage. An examination of marriage in various societies with an emphasis on the origins, changes, and present status of dating, courtship, and marriage in the United States.

332-4 Contemporary Social Problems. Discussion and analysis of selected contemporary social problems with consideration of alternative courses of action.

351-4 Economic History of the United States. European and colonial backgrounds of American economic history; industrialization and economic growth,

1790-1865; great transition from an agricultural to a predominantly industrial economy, 1865-1920; the dynamic 1920s, the Great Depression and the New Deal; challenges of a mixed economy, 1939-1973.

352-4 Comparative Economic Systems. Concepts of economic systems; capitalism in historical perspective; Smith to Marx, neoclassical to Galbraith; socialist thoughts, utopian and scientific socialism, liberal and authoritarian socialism; corporatism and fascism; case studies.

370-4 Education as a Social Institution in the United States. A critical study of education as a major social enterprise in a pluralistic society. The formative influences upon educational institutions in the United States; their basic characteristics, difficulties, and prospects are explored through the social scientific foundations of education. Designed for students irrespective of major discipline or professional pursuit; provides for a more informed and critical participation in the social institutions of this society.

383-4 The Nature and Impact of Social Science. An investigation into the nature of social science and its importance for individuals and their society.

388-4 Communism. (Same as GHA 388.) A critical examination of modern theories of communism, including those of Marx, Engels, Lenin, Stalin, and Mao. Prerequisite: junior standing.

Humanities and Fine Arts (GHA)

101-4 Introduction to Literature. The reading and discussion of English and American literary masterpieces in all genres in order to be able to read contemporary literature with enjoyment and understanding.

110-4 Introduction to Art. Basic introduction to the visual arts, particularly painting, sculpture, and architecture. The primary objective is to cultivate skill and discrimination in seeing and understanding works of art from many periods.

120-4 Religion, Reason, and Man. A philosophical examination of selected views on the question of a religious dimension in human experience, with emphasis on the factors involved in belief and nonbelief.

136-4 Introduction to Music History/Literature. An introduction to the elements of music, and to the important composers, periods, styles, and forms of music.

140-4 An Introduction to Modern Foreign Language. A comparative introduction to the modern Romance, Germanic, and Slavic languages, beginning with a consideration of the hypothetical Indo-European parent-speech and its development into the "Family" including the Germanic Group, the Italian Group, and the Balto-Slavic Group.

150-4 The Dramatic Media: Theater, Cinema, and TV. Designed to familiarize the general student with the nature and function of contemporary live theater. Emphasis on the workings of theater as they are designed to elicit specific responses from audiences. Lecture/discussions, readings, viewing of plays and films. Objective examinations and optional research activity.

168-4 The Fine Arts. An introduction to five of the forms in which art can occur: the visual arts, music, dance, theater, and the media of mass communications; their differences and their similarities. Discussion not through survey but through careful examination of individual works.

203-4 Literary Masterpieces of Antiquity. Reading (in translation) and discussion of selected literary texts from the Greek, Roman, and Judeo-Christian traditions.

204-4 Studies in Short Fiction. A study of the modern short story as an artistic expression, its techniques, and its versatility.

205-4 Afro-American Literature. Reading and discussion of selected literary texts from the earliest black American writers in the 1700s to the present.

206-4 Introduction to the Novel. A study of the novel, emphasizing the technique of the novelist and his concern with continuing human problems.

207-4 Changes and the English Language. An introduction to the evidences of the changes in English across time from the pre-English period to 449 A.D., from earlier English 449 to 1500 A.D. (pre-printing), and modern English 1500 A.D. to today (printing), illustrating through readings the changes in words, meaning, and linguistic patterns which are inherited from the past.

- 209-4 Classical Mythology and Its Influence.** The major myths; their origin, nature, interpretations, influence, relevance, and use in the modern world.
- 224-4 Philosophical Masterpieces.** Reading and discussion of selected philosophic masterpieces of western civilization. Prerequisite: sophomore standing recommended.
- 230-4 Music History/Literature.** Development of choral and instrumental music from the Renaissance to the present. Prerequisite: 136 or equivalent.
- 240-24 (4,4,4,4,4,4) The Quest for Integrity: Modern Literature in Translation.** (a) French; (b) German; (c) Italian; (d) Russian; (e) Spanish; (f) Spanish American. The study of problems of mankind in order to reach an adequate understanding of the intellectual background and the cultural differences of foreign countries, literature, and cultures, thus providing more profound insight into humanistic and humanitarian ideas.
- 282-4 Issues in Feminism.** Critical examination of the beliefs, values, and commitments of the women's movement.
- 303-4 Folklore.** The types of folklore, based on the culture-reflection approach, with extensive readings in American folklore and an introduction to European folklore; practice in collecting, classifying, and coding, and in the use of Thompson's Index.
- 305-4 Studies in Biography.** Reading, discussing, and evaluating various forms of biographical work in historical and literary context. Opportunity for individual work in the student's area of concentration.
- 306-4 Introduction to the Bible.** Reading and discussion of the Old and New Testaments in English translation, informed by attention to their literary, historical, and theological contexts.
- 307-4 Introduction to Shakespeare.** Designed to acquaint the general student with Shakespeare's life, the theater of his time, and representative plays and poems.
- 310-4 Modern Art A: the Nineteenth Century.** A survey of important artists and movements from 1789 to 1900 with special attention to their social contexts and intellectual milieux. David, Delacroix, Ingres, Courbet, Manet, Degas, Monet, Renoir, Rodin, and others.
- 311-4 Modern Art B: the Early Twentieth Century.** A survey of important artists and movements from the 1880s through the 1930s with special attention to the social context and intellectual milieu. Cezanne, Seurat, Van Gogh, Matisse, Rouault, Picasso, Braque, Gabo, Mondrian, and others.
- 312-4 Modern Art C: the Mid-Twentieth Century.** A survey of important artists and movements from 1900 to the present, emphasizing the later developments. Attention to the social contexts and intellectual milieux. German expressionism, surrealism, the Bauhaus, modern architecture, and contemporary American painting and sculpture.
- 315-5 American Art I.** A study of the visual arts in the United States. While the emphasis is upon architecture, painting, and sculpture in the context of American social and cultural evolution, the minor arts also are placed in perspective. 315, 316, 317 may be taken in any sequence.
- 316-4 American Art II.** A continuation of American Art I dealing with art of the nineteenth century. 315, 316, 317 may be taken in any sequence.
- 317-4 American Art III.** A continuation of American Art II with emphasis on the art of the twentieth century. 315, 316, 317 may be taken in any sequence.
- 320-4 Existentialism.** A critical examination of existentialism as a contemporary perspective on life and reality. Prerequisite: Philosophy 200.
- 321-4 Pragmatism.** A critical examination of pragmatism as a contemporary perspective on life, reality, and American culture. Prerequisite: Philosophy 200.
- 322-4 Ethics.** An investigation of the basic problems related to deciding how men ought to act and of modern discussions of individual and social morality. Prerequisite: junior standing.
- 338-4 Jazz.** Jazz forms and styles: development, illustrations, performances.
- 342-24 (4,4,4,4,4,4) Foreign Culture and Civilization.** (a) France; (b) Germany; (c) Italy; (d) Russia; (e) Spain; (f) Spanish America. Designed to help meet the recognized need for higher education to prepare university students for lives and careers in an increasingly interdependent world.

354a-4 Great Ages of Theater: from the Greeks to the Neoclassicists. An introduction to the theatrical practices of the great ages of western theater. The Greek, Roman, medieval, Italian and English Renaissance, French neoclassical, and eighteenth century English theaters. Special attention to selected plays from each period or movement and to the ways in which these works were staged.

354b-4 Great Ages of Theater: from Romanticism to the Present. An introduction to the theatrical practices of the great ages of western theater. The major movements of the nineteenth and twentieth centuries: romanticism, realism, naturalism, symbolism, expressionism, absurdist, and post-absurdist. Special attention to selected plays from each period or movement and to the ways in which these works were staged.

388-4 Communism. (See GSS 388.)

Interdisciplinary Studies (GIS)

340-4 The Problem of War and Peace. A consideration of the problem of war and ways of securing peace, drawing information from various disciplines including anthropology, economics, government, history, philosophy, psychology, and sociology.

Accounting

230-4 Accounting Principles. Study of the basic accounting principles, concepts, conventions, and standards; their application to the analysis and recording of business transactions; and the reporting of the accumulated results. Measurement of income, and matching of expense with revenues through the use of the accrual basis in the accounting system. Prerequisite: sophomore standing.

231-4 Financial Accounting Analysis. Introduction to valuation concepts of assets, liabilities, and ownership equities; control of cash, valuation of receivables, inventory valuations and price level changes, fixed asset valuation and depreciation policy, equity accounting and concepts, bonds, partnerships, and corporations; basics in financial statement analysis—use of ratios and their interrelationship with other factors; funds and cash flow concepts. Prerequisite: 230.

301-1 to 6 Accounting Readings.

334-4 Managerial Cost and Budgeting. Control concepts, essentials of job order and process costing; budgets and budgeting for planning and control, standards and flexible budgets and use of "exception" principle through variance analysis; control of fixed costs, relevant cost analysis for managerial decision making, capital planning. Prerequisite: 333.

335-4 Principles of Income Taxation. Study of the Federal Income Tax laws as they affect individuals, partnerships, corporations, estates, and trusts, in determination of the taxable income for computing the tax liability due. Prerequisite: 333.

341-4 Cost Accounting Principles. Comprehensive study of job order and process cost systems, related joint and by-product costing, and estimated cost procedures. Prerequisite: 333.

351a-4 Accounting Theory and Problems I. Comprehensive study of the asset accounts, their valuation, presentation, and preservation. Prerequisite: 333.

351b-4 Accounting Theory and Problems II. Comprehensive study of the equity accounts, their valuation, presentation, etc. Prerequisite: 351a.

432-4 Accounting Problems in Federal Taxation. Income tax problems of partnerships, corporations, estates, and trusts; brief study of social security, federal estate, and gift taxes; solving of complicated tax problems by research in source materials. Prerequisites: 335, consent of instructor and department chairman.

439-1 to 4 Independent Study in Accounting. An investigation of topical areas in greater depth than regularly titled courses permit. Individual or small group readings and projects. For qualified seniors. Prerequisite: consent of instructor and department chairman.

442-4 Advanced Cost Accounting. Comprehensive study of budgeting con-

cepts, standard costing and analysis of variances, decision making with alternatives, planning of capital acquisitions, direct costing, relevant cost concepts, and distribution cost problems. Prerequisite: 341.

453-4 Advanced Accounting Problems. Comprehensive study of problems in consolidation of financial statements, partnerships dissolution and liquidation, consignment, installment sales, and other advanced accounting topics. Prerequisite: 351b.

456-4 Auditing. Study of the concepts, principles, and practices of auditing, including ethics, professional standards, internal control, preparation of audit working papers, audit reports, and related services. Prerequisites: 351b, 442.

458-4 Accounting Systems.

461-4 Advanced CPA Problems.

Administrative Services

300-4 Introduction to Data Processing. An introduction to the principles underlying unit record equipment, information theory, electronic data processing applications, and management systems. Includes applications to demonstrate systems, concepts, and computer capabilities through the use of data processing equipment.

301-4 COBOL Programming. A study of the COBOL programming language, reserved words, programmer-supplied names, symbols, literals, level numbers, and pictures. Work requires preparation of flow charts, source programs, coding, testing, and debugging using the IBM-360 computer. Prerequisite: 300 or equivalent.

426-4 Office Management. The principles of management as applied to office problems. Emphasis on the role of the office in business management; office organization; physical facilities and layout of the office; office services, procedures, standards, and controls.

427-4 Information Storage and Retrieval Systems. The requisites for records administration. The value of files and their creation, control, retention, and disposition. Applications to such records as medical, legal, educational.

428-4 Systems and Procedures. A problems approach to the office systems-procedures function in the modern business firm; seminar and laboratory work on improvement of systems and procedures, administrative information and paperwork engineering; theory of office-systems design; systems administration and work simplification. Prerequisite: 426 or consent of instructor.

Aerospace Studies

100-0 Corps Training. Supervised training laboratory. Conducted as an organized cadet corps. Designed to develop each student's leadership potential. Prerequisite: concurrent enrollment in 101, 102, 103.

101-1 Evolution of Conflict. General military course. Lecture discussion. Introduction to factors of national powers; nature of war; military institutions of the great powers; legislation, organization, and function of the Department of Defense.

102-1 United States Defense Organization. Lecture discussion. Introduction to history, missions, and organization of the U.S. Air Force. Surveys the history and development of U.S. strategic offensive and defensive forces including their missions, functions, organization, and conventional nuclear weaponry.

103-1 United States Military Posture. Lecture discussion. Surveys civil defense, aircraft and missile defense, concepts of present and projections of future strategic defense requirements.

200-0 Corps Training. Supervised training laboratory. Conducted as an organized Cadet Corps. Designed to develop each student's leadership potential. Prerequisite: concurrent enrollment in 201, 202, 203.

201-1 United States Military Forces. Study of U.S. general purpose forces and how they support the U.S. commitment to allied nations. Includes army, navy, and marine forces with emphasis on American air power. Prerequisite: 101, 102, 103 or consent of PAS.

202-1 Aerospace Support Forces. Study of America's aerospace support forces,

including airlift, research and development, logistics, education and training, and related supporting agencies. Prerequisite: 101, 102, 103 or consent of PAS.

203-1 Ideological Conflicts. Discussion of the conflict between totalitarian and democratic ideologies, including a historical analysis of Soviet and Red Chinese communism and the continuing struggle for peace through treaty organizations and international cooperation. Prerequisite: 101, 102, 103 or consent of PAS.

300-3 Corps Training. Provides a supervised training laboratory in support of and mandatory when enrolled in 301, 302, and 303. Instruction is conducted within the framework of a cadet corps, organized and operated by cadets in 300 and 340, with a progression of experience designed to develop each student's leadership potential at the junior level. Emphasis is placed on Air Force customs and courtesies, drill and ceremonies, career opportunities in the Air Force, and the life and work of an Air Force junior officer.

301-3, 302-3, 303-3 Professional Officer Course. A study of the growth and development of aerospace power, the United States Air Force, astronautics and space operations, and the projected development of aerospace power. Involves specific exercise of each student's written and oral communication skill. Prerequisite: satisfactory completion of the GMC or the six-week field training course.

340-0 Corps Training. Provides a supervised training laboratory in support of and mandatory when enrolled in 351, 352, and 353. Instruction is conducted within the framework of a cadet corps, organized and operated by cadets in 300 and 340, with a progression of experience designed to develop each student's leadership potential at the senior level. Emphasis is placed on Air Force customs and courtesies, drill and ceremonies, career opportunities in the Air Force, and the life and work of an Air Force junior officer.

350-2 Flight Regulation and Navigation. A study of flight regulations, weather, and navigation. Four hours lecture, demonstration-performance. Prerequisite: enrollment in the Air Force ROTC Flight Instruction Program or consent of the PAS.

351, 352, 353-3 Professional Officer Course. A study of military leadership, professionalism as it relates to the Air Force, the military justice system, and the theory and practice of management principles and functions with special reference to the Air Force and the junior officer. Participation in problem-situation, and oral and written student assignments. Prerequisites: 301, 302, 303, or consent of the PAS.

American Studies

480-4 Popular Literature in America. A study of literary media, genre, and works not generally considered in literature courses or other courses but which are representative of popular tastes, or have helped form popular taste and hence American character.

498-4 Seminar in American Studies. A study of American culture with a view towards crossing the boundaries of traditional disciplines. Prerequisite: senior standing.

Anthropology

305-9 (3,3,3) Peoples and Cultures of the World I. The biological and cultural history of man in (a) North America, (b) Asia, and (c) Oceania from early times to the present.

307-3 Peoples and Cultures of Latin America and the Caribbean. Social and cultural aspects of contemporary Mexico, Central America, South America, and the Caribbean viewed in their historical and environmental contexts.

330-4 Archaeology of North America. An introduction to the methods of archaeology and a survey of prehistoric Indian culture north of Mexico, with particular emphasis on the cultures of the Mississippi Valley.

367-3 Growth of New World Civilization. Beginnings and rise of culture-centers in the New World, with special attention on Mexico, Yucatan, and Andean developments; ecological and cultural factors conditioning the rise of regional and inter-regional cultural manifestations.

375-4 to 12 Archaeological Field Methods. An introduction to archaeological

field techniques including site survey and evaluation techniques, excavation and data recording, laboratory methods and interpretation. Emphasis on new techniques for the recovery of information. Prerequisite: GSS 210 or consent of instructor.

400-4 Man and Culture. The nature of culture and cultural process. Relationships of culture and man as an individual and as a group. Emphasis on the anthropological point of view.

401-4 Anthropological Linguistics. (Cross-listed with English 401.) Introduction to concepts, methods, analytical techniques of linguistics with examination of their applicability to more general anthropological concerns; linguistic approaches to the anthropological study of meaning; applied anthropological linguistics.

404-4 Primitive Art and Technology. The development of man as a tool-using and art-loving being. Artistic and technological traditions of non-Western peoples, past and present.

405-4 Kinship and Kin Groups. A comparative approach to the basic organization of small societies. Functional aspects and distributions of kinship and kin groups.

406-4 Anthropology and Education. The dynamics of enculturation as they affect formal education and the interrelations between education and other parts of the culture.

408-4 History of Anthropological Thought. The beginnings of anthropology in the eighteenth century and its development as a discipline; important shifts in theory, method, and problem definition; evolution, structure, and configuration in anthropological thought. Prerequisite: junior standing or consent of instructor.

409-4 Anthropology and Modern Life. The applications of anthropological principles to the solution of problems of the modern world. Contributions of anthropology to the work of the educator, social worker, administrator, business man, government official, and other specialists dealing with man in Western and non-Western cultures.

410-4 Anthropological Perspectives on Primitive Religion. An anthropological approach to the study of primitive religion, with emphasis on religion as one aspect of culture. Historical and contemporary perspectives, and various religious expressions from selected ethnographic areas. Prerequisite: GSS 210 or consent of instructor.

411-4 Urban Anthropology. An anthropological approach to urban society, with an emphasis on the study of ethnic communities and the effects of industrialization and social complexity on modern man and his culture. Prerequisite: GSS 210 or consent of instructor.

416-4 Culture Change. Examination of long and short range culture change, acculturation process and innovation, theory and method in study of culture change.

424-4 Culture and Personality. A cross-cultural comparison and survey of personality in relation to cultural differences found in the "folk societies" with emphasis on the socialization and enculturation of the child; group variants in personality and measurement of their cultural correlates. Prerequisite: junior standing or consent of instructor.

426-4 The Family in Cross-Cultural Perspective. Family systems of the world, with a concentration on Asian, American Indian, and black family types. Alternative ways of organizing family relationships and how they articulate with economic and political systems within a society. The family as enculturating agent and as a unit in which age, sex, and kinship roles are structured and integrated within the total society. Prerequisite: GSS 210 or consent of instructor.

432a-4 Archaeology of the Midwest. A survey of prehistoric cultural developments in the Mississippi River drainage, with emphasis on events leading to the climax of the Mississippian culture at Cahokia; contributions to archaeological theory; field trips to local archaeological sites. Prerequisite: 330 or consent of instructor.

432b-4 Southwestern Archaeology. A survey of prehistoric-historic cultural developments in the southwestern United States with emphasis on Pueblo culture. Consideration to Mogollon and Hohokam cultures, the Mesoamerican

base, theory, and the use of analogy in archaeological reasoning. Prerequisite: 330 or consent of instructor.

442—4 Human Ecology. Systematic consideration of man-habitat relationships, especially concerned with cultural adaptations. Problems related to environmental change, migration, and population growth, technological and institutional changes; attitudes toward change and perception by people of problems involved in modifying their traditional habits and values. Prerequisite: sophomore standing or consent of instructor.

452—4 Political Anthropology. Cross-cultural comparison of political systems with emphasis on non-European peoples; functional relations between politics and society; the growth of political complexity; and systems of authority and leadership. Prerequisites: junior standing, consent of instructor.

470—4 to 12 Special Topics in Anthropology. Focus on a limited subject area on the frontiers of anthropology. Investigation of significant problems and issues which are not treated in other course offerings. Content varies with each offering and is announced in advance. Prerequisite: GSS 210 or consent of instructor.

475—4 to 12 Field School in Ethnology. Anthropological experience in cross-cultural setting to train students in ethnological field techniques and methods of research through the medium of controlled field experience. Field sites vary according to the instructor, but include American Indian reservations and rural communities and urban settings both within and outside of the United States. Students receive regular, personalized staff supervision while engaging in independent and/or group research projects. Prerequisite: GSS 210.

482—4 Indians of the Plains: Prehistory, Ethnohistory, and Culture. An advanced introduction to dynamic changes which produced the Plains Indian Culture-Area, including the acculturative history of Plains Indians after contact with Europeans. Prehistoric antecedents of the historic tribes; basic features of Plains Indian culture, with subareal variations; and ethnohistory and acculturation in the wake of the advancing frontier. Prerequisite: junior standing or consent of instructor.

483—1 to 8 Individual Study in Anthropology. Guided research on anthropological problems. Consult chairman before enrolling.

Art

Art Education Courses: 289, 300, 365, 408, 460, 466.

Art History Courses: 225, 424, 483, GHA 310, 311, 312, 316, 317.

Studio Courses: 100, 202, 302, 305, 310, 312, 325, 331, 358, 384, 386, 393, 401, 402, 410, 420, 441.

050—3 Avocational Painting. An exploration of painting and drawing media for the interested non-major. Emphasis upon individual development of understanding and appreciation of painting media through direct experience in the practice of painting. May be repeated. Three hours credit applicable to degree except in art and design and teacher education.

051—3 Avocational Ceramics. An exploration of the ceramics arts for the interested non-major. Emphasis upon individual development of understanding and appreciation of pottery media through direct experience in the practice of the craft. May be repeated. Three hours credit applicable to degree except in art and design and teacher education.

100—15 (3,3,3,3,3) Basic Studio. (a) Drawing I. Introduction to some of the various approaches to drawing, utilizing a variety of media. (b) Drawing II. Continuation of (a) with emphasis on development of ideas. (c) Life Drawing. A study of the human figure, utilizing a variety of media and further development of ideas and composition as they relate to the human figure. (d) Visual Organization I. Introduction to and exploration of art concepts and form with special emphasis given to color. Work in two dimensions. (e) Visual Organization II. Continuation of (d) with special emphasis given to three dimensions. **202—24 (3,3,3,3,3,3,3,3) Intermediate Studio.** (a) Sculpture. A study in form and design. (b) Printmaking. Introduction to fundamental printmaking techniques in relief and intaglio methods and multiple color printing. (c) Ceramics. Introduction to handbuilding with clay and to simple techniques and technology of glazing and firing. (d) Painting. Introduction to and exploration of

oils as a medium of expression. (e) Drawing. Exploration of various approaches to drawing and composition including some figure work. (f) Design. Problem solving relative to two-dimensional visual design, exploring a variety of tools and media stressing the organization and structure of creative design. (g) Watercolor. Introduction to and exploration of tools and media and their application. (h) Weaving/Textiles. The techniques of looping, crochet, macrame, finger weaving, block printing, batik, tie dye, silkscreening, and bleachout. Emphasis upon individual interpretation of these techniques to simple design problems. Need not be taken in sequence. Prerequisite: sophomore standing or consent of instructor.

225-9 (3,3,3) History of World Art. A study of painting, sculpture, and architecture from prehistoric to modern times. Emphasis is placed upon the major periods and great styles in relation to their geographical and social backgrounds. Open to all students. (a) The art and architecture of ancient and classical man. (b) Art of the medieval epoch. (c) Art from the Renaissance to the present.

289-3 Practicum in Art Education. An exploration of appropriate activities for art education in the elementary and secondary schools. Observation and involvement with children and youth at work. An introduction to the profession of art education. Prerequisite: 100-15.

300-12 (3,3,3,3) Art Education in the Elementary Schools. For students preparing to teach in elementary schools. A study of objectives, theory, and practice of art activities for grades K-6. (a) Exploration and experimentation of a variety of media with emphasis on interdisciplinary learning. (b) Study of crafts suitable to the interests and abilities of children in grades K-6. (c) Providing opportunity to pursue an individual interest in-depth, studio or academic. (d) For art concentrations only to introduce them to the elementary school child and his creative processes. A,b,c must be taken in sequence. Prerequisite: (a,b,c) junior standing; (d) 289.

302-12 (3,3,3,3) Basic Still Photography. Basic still, black and white photography as an art form; photography aesthetics; work with view cameras and hand held cameras; total dark room experience. Prerequisite: junior standing and/or consent of instructor.

305-12 (3,3,3,3) Ceramics. Intensive study of ceramics as an art form. Must be taken in a,b,c sequence. Prerequisite: 202-9, including 202c.

310-12 (3,3,3,3) Painting. Intensive study of painting as a medium of expression. Individual rather than group problems are engaged. Prerequisite: 202-9, including 202d.

312a-4 Advertising and Graphic Design. Deals with the basic tools of the advertising designer. Introduction to styles of type, lettering techniques, layout problems, and reproduction processes for advertisements and illustrations in papers, magazines, posters, television, and pamphlets. Creative exercises in designing with type and illustrations. Prerequisite: 202-9, including 202f.

312b-4 Advertising and Graphic Design II. Introduction to the problems of the advertising designer, with special emphasis on typography. Includes typesetting, proof printing, engraving, and lithographic processes. Application of the principles of design to a variety of contemporary projects, with professional standards and performances exacted. Creative and technical class work is supplemented by field trips to printing firms and advertising design studios. Prerequisite: 312a.

325-3 to 12 Studio. No more than 6 hours per quarter. Prerequisites: 9 hours in medium of choice (except where courses do not exist), consent of instructor.

331-3 Advanced Drawing. Exploration of various drawing techniques and media while intensively studying the human figure in environments. Prerequisite: 9 hours of drawing or consent of instructor.

358-12 (3,3,3,3) Printmaking. (a) Relief. A study of the materials, tools, and methods used in relief printing. (b) Intaglio. Fundamental etching, engraving, collographic, and embossing processes. (c) Serigraphy. An investigation of the various stencil processes used in screen printing. (d) Lithography. A study of the basic theories and processes of stone printing. Each part may be repeated once. Prerequisite: 202-9, including 202b.

365-4 Art Education in the Secondary Schools. For art education students preparing to teach at secondary level; includes studio projects designed to

develop awareness of technical and aesthetic needs of high school students, reading and discussion of literature, planning of curriculum. Fall quarter only.
384-12 (3,3,3,3) Weaving and Design in Textiles. Problems of design and techniques of working in fibers of various kinds. Consideration of the craft as an art form. Prerequisite: 202-9.

386-12 (3,3,3,3) Jewelry and Design in Metals. The basic processes involved in forming and finishing art objects of metal. Prerequisite: 202-9.

393-12 (3,3,3,3) Sculpture. Problems in modeling, carving, casting, and construction. Prerequisite: 202-9, including 202a.

401-3 to 12 Research in Painting. Prerequisite: 310-12.

402-3 to 12 Research in Sculpture. Prerequisite: 393-12.

408-3 to 12 Art Education for Elementary Teachers II.

410-3 to 12 Research in Prints. Prerequisite: 358-12.

420-3 to 12 Research in Pottery. Prerequisite: 305-12.

424-3 Art in the Eighteenth Century. A study of the visual arts during the eighteenth century. Rococo, rationalist, romantic, and middle class styles are examined against the revolutionary shift from the baroque to modern societies.

441-9 (3,3,3) Studio in Drawing. Studio in Drawing. Prerequisites: 12 hours 300-level art, junior or senior standing.

447-9 (3,3,3) Ancient Art. An interpretation of painting, sculpture, and architecture from prehistoric times through the ancient Egyptian, Mesopotamian, Greek and Roman civilizations, presented with consideration of the general cultural settings of the peoples involved. Prerequisite: 225-9 and/or consent of instructor.

448-9 (3,3,3) Early Christian and Mediaeval Art. (a) Early Christian and Byzantine Art. A survey of problems related to art and architecture produced in Christian communities and under the aegis of the Byzantine Empire until the fall of Constantinople. (b) Early Mediaeval and Romanesque Art. A study of the development of architecture and art in Europe from the fall of the Roman Empire to the formulation of the Gothic style. (c) Gothic Art. A survey of major developments in architecture, sculpture, and painting in Europe from the earliest formulation of Gothic style to its decline in the Renaissance period. Prerequisite: 225a-3 or consent of instructor.

449-9 (3,3,3) Renaissance and Baroque Art. Architecture, sculpture, and painting from the waning of the Middle Ages to the beginnings of modern movements in the 18th century. (a) The Renaissance in northern Europe. (b) The Renaissance in Italy and the south. (c) Mannerism, baroque, and rococo art. May be taken independently. Prerequisite: 225-9 and/or consent of instructor.

460-3 to 12 Research in Art Education.

466-3 to 12 Studio in Art Education.

469-12 (3,3,3,3) The Art of Africa, Oceania, and the Americas. (a) African Art. A study of the major stylistic regions of Sub-Saharan Africa with emphasis on the archaeological record, particularly as it relates to the Nok, Ife, and Benin Cultures. (b) Oceanic Art. A study of the arts of the peoples of Melanesia, Polynesia, and Micronesia. An assessment of their influences on 20th century European art. (c) Pre-Columbian Indian Art of the Americas. A summation of the decline of Mexican, Central, and South American cultures after European contact; the major focus on the cultures and stylistic regions of North America. Prerequisite: 225-9 and/or consent of instructor.

481-3 Objectives of 20th Century Art. Identification of the ideas and theories manifest in 20th century art. Examination of the literature as it attempts to define the various developments in the visual and plastic arts. Prerequisite: 225-9 and/or consent of instructor.

483-6 (3,3) Research in Art History. Individual research in the painting, sculpture, architecture, and related arts of the various periods. Prerequisite: 225-9 and/or consent of instructor.

484-12 (3,3,3,3) Research in Weaving/Textiles. Independent and individual research in technical and conceptual problems in weaving and textiles. Prerequisites: 202h, 384.

Biological Sciences

200-4 Introduction to Biological Sciences. An introduction to the major unifying concepts among the biological sciences, metabolism, physiology, organi-

zation, genetics, evolution, and ecology. Three hours lecture, three hours laboratory per week. Prerequisite: Chemistry 125a or concurrent enrollment.

204-1 Elementary Biology Laboratory. To accompany GSM 130. Optional. A laboratory designed for those who do not wish to concentrate in biology. Observations are made on biological materials, and elementary physiological experiments performed. Prerequisite: concurrent enrollment in GSM 130.

210-4 Bacteriology. A treatment of cytology; theories and techniques of staining; physiology and classification of microorganisms; and their medical relationships. Two lecture and four laboratory hours per week. Prerequisite: GSM 130.

215-3 Sanitary Microbiology. The microbiology of water, wastes, and sewage from the standpoints of significance, ecology, and conversion of organic matter. Laboratory work includes aseptic techniques, sterilization of culture media, plate counts, use of selective and differential culture media, staining techniques, and microscopy. Two lecture hours, one two-hour lab per week. Prerequisites: GSM 130, Sanitation Technology 101, 203, 204.

220-3 Nutrition and Metabolism. An introduction to biochemistry, with particular emphasis on the metabolism and energy production of carbohydrates, lipids, and proteins. Genetic aspects of metabolism. Three lectures per week. Prerequisites: 312a, Chemistry 240.

301a-5 Cell Biology. Cell structure and function. Structure, organization, and function of cells, organelles, and macromolecules. Four lecture and three laboratory hours per week. Prerequisites: 200, Chemistry 305a or 341a.

301b-3 Cell Biology. A continuation of 301a. The structure, function, and biogenesis of various cell parts; the biosynthesis of macromolecules; the mechanisms through which the cell regulates such processes as growth, metabolism, and gene expression. Research papers in the above areas are emphasized. Three lectures per week. Prerequisite: 301a.

301d-2 Cell Biology. Experiments designed to study the functional properties of cellular components, the regulation of cellular activities, and the response of the cell to changes in the chemical and physical environment. Various techniques used in the study of cells are introduced. Six hours laboratory per week. Prerequisite: concurrent enrollment in 301b.

301e-3 Basic Biochemistry. The relation between the structure and function of biologically important macro-molecules. Nucleic acids, proteins, and carbohydrates, with emphasis on the regulation of their biosynthesis and degradation. The importance of these ideas to modern biology. Three lecture hours per week. Prerequisites: Chemistry 305b, 341b.

302a-5 Animal Life. Sponges through mammals. Two lecture and six laboratory hours per week. Prerequisite: 200.

302c-5 Plant Life. Bryophytes through flowering plants. Three lecture and four laboratory hours per week. Prerequisite: 200.

302d-5 Physiology. Function and regulation in animals. Four lecture and three laboratory hours per week. Prerequisites: 302a, Chemistry 125.

303a-3 Genetics. Mechanisms of inheritance, gene action, and the origin of genetic diversity. Three lecture hours per week. Prerequisite: 200.

303b-3 Evolution. Evolutionary change including population genetics, ecological factors, selection, and speciation. Three lecture hours per week. Prerequisite: 200.

303c-4 Ecology. Life and environment; energy relationships and succession. Saturday field trips required. Three lecture and three laboratory hours per week. Prerequisite: 200.

303d-1 Genetics Laboratory. Prerequisite: 303a or concurrent enrollment.

304a-5 Introduction to Microbiology. The biology of bacteria, molds, yeasts, and viruses. Structure, growth, and the significance of these organisms in medicine, industry, and the environment. Three lectures and two three-hour laboratories per week. Prerequisite: 200.

304b-3 Medical Microbiology. Cultural and immunological properties of medically important bacteria and viruses and their epidemiology. Concepts of pathogenicity, antibiotic action, and drug resistance. Three lectures per week. Prerequisite: 304a.

304c-3 Medical Microbiology Laboratory. Methods for isolating pathogenic bacteria and determining their significant properties and immunological

features. Six laboratory hours per week. Prerequisite: 304b or concurrent enrollment.

312-8 (4,4) Human Anatomy and Physiology. (a) The structure and function of the human body. Tissues, skeletal, muscular, and nervous systems. Three lecture and two laboratory hours per week. Prerequisite: college chemistry. (b) Continuation of a. Endocrine, circulatory, respiratory, digestive, and urinary systems. Three lecture and three laboratory hours per week. Prerequisite: 312a.

315a-3 Developmental Biology. Morphogenesis, differentiation, growth, and regeneration in animals with emphasis on vertebrates. Three lecture hours per week. Prerequisites: 301a, concurrent enrollment in 315b.

315b-2 Developmental Biology Laboratory. Laboratory to accompany 315a. Emphasis on embryology of vertebrate forms. Two laboratory hours per week. Prerequisite: concurrent enrollment in 315a.

390-0 to 1 (.3, .3, .4) Undergraduate Biology Seminar. Presentations by faculty, visiting investigators, and students. Students give one seminar per year. May be repeated. Prerequisite: junior or senior standing.

401-2 Experimental Biochemistry. (Cross-listed with Chemistry 455.) A laboratory course in biochemistry designed to teach biochemical techniques relating to carbohydrates, lipids, proteins, and nucleic acids. Prerequisite: 301e or Chemistry 451a.

404a-3 Microbial Physiology. Bacterial growth, biochemical and genetic regulation of metabolism, effects of the physical and chemical environment. Three lecture hours per week. Prerequisites: 304a, Chemistry 305b.

404b-1 Microbial Physiology Laboratory. Metabolic patterns of bacterial growth as a function of nutrition, environment, and genetic control. Three laboratory hours per week. Prerequisite: 404a or concurrent enrollment.

406a-3 Cell Organelles and Inclusions. The function, structure, and formation of selected organelles and inclusions of eucaryotic cells. Current literature is covered in some detail and discussion sessions are held. Three hours lecture per week. Prerequisite: 301a, 301b, or biochemistry.

406b-1 Readings in Cell Organelles and Inclusions. Covering of current literature in a given topic. Presentation of a term paper covering this material. Prerequisites: consent of instructor, concurrent enrollment in 406a.

406c-1 Laboratory in Cell Organelles and Inclusions. Experiments studying cell organelles and inclusions. Three hours laboratory per week. Prerequisites: consent of instructor, concurrent enrollment in 406a.

407-5 (3,2) Electron Microscopy. (a) Theory, demonstration, exercises and review; two lecture hours and one demonstration hour per week. (b) Laboratory; six laboratory hours per week. Enrollment limited to number of lab spaces available. Prerequisite for a: consent of instructor; for b: concurrent or recent enrollment in 407a, consent of instructor.

410-4 Advanced Genetics. A study of quantitative inheritance, chromosomal evolution and organization, the regulation of gene action, and radiation genetics. Three lectures and one laboratory per week. Prerequisites: 303a, GSM 244.

411-3 Human Genetics. Principles of human genetics; human chromosomes; mendelian characters in man; genetic inference; pedigrees, twins, populations—mutation—genetics of races. Genetics and medicine. Three lecture hours per week. Prerequisite: 303a.

415-4 Experimental Embryology. A survey of the literature from the beginning of experimental embryology; the laboratory includes classical and modern techniques. Two lectures and two laboratories per week. Limited to ten students. Prerequisite: 301c.

420-4 Plant Synecology. The structure, development, and causative factors in the distribution of plant communities. Field techniques for quantitative measurements and interpretations of successful dynamics. Three lectures, one laboratory per week. Saturday field trips required. Prerequisite: 303c.

421-4 Economic Botany. The influence of plants and plant cultivation on the economic, social, and cultural history of man. An introduction to economically important plants and their products, especially as sources of food, shelter, clothing, drugs, and industrial raw materials; current problems

of agriculture, plant industry, and medicine; the use and conservation of natural plant resources. Prerequisite: 302c or GSM 232.

423-4 Principles of Parasitism. Principles dealing with parasitic relationships. Study of types of association, morphologic and physiologic adaptations of parasites, defensive mechanisms, immunity, and specificity. Selected examples from the plants and animals are used to illustrate the general principles and life histories. Two lectures, two laboratories per week. Prerequisite: 302a,b,c.

430-4 Environmental Microbiology. An examination of the ecological interrelation between microbes and animal and plant life, and the interaction of microorganisms with our terrestrial and aquatic environment. Three lectures and one laboratory per week. Prerequisite: 302b.

435-4 Ethology. A survey of animal interactions and the response of animals to environmental stimuli. Three lectures and one laboratory per week. Prerequisite: 302a.

436-3 Ecology and Man. A study of advanced topics in ecology which are relevant to man's interaction with his biological environment, including modified nutrient cycles, water pollution, food resources, diversity, and population dynamics. Prerequisite: 303c.

441-3 Mammalian Physiology. Nervous and endocrine coordinating processes, sensory function, circulation, respiration, alimentation, and regulation of body fluids, with special reference to man. Three lecture hours per week. No graduate credit. Prerequisites: organic chemistry and 302d or 310.

442-1 Mammalian Physiology Laboratory. Selected experiments with mammals including man. One three-hour laboratory per week. No graduate credit. Prerequisite: concurrent enrollment in 441.

443-4 Environmental Physiology. Physiological ecology of vertebrates with emphasis on physiological effects of environmental stress e.g., oxygen deprivation, temperature, salinity, and industrial pollution. Three lectures, one laboratory per week. Prerequisites: 302d, 441 or consent of instructor.

444-4 Integrative Physiology. Mechanisms of response and integration with emphasis on the role of the nervous systems. Three lectures and one laboratory per week. Prerequisites: 301a, 302a.

445-5 (3,1,1) Endocrinology. A survey of endocrine organs in chordates, higher invertebrates and plants with major emphasis on roles of endocrine glands and their hormonal secretions in integration, control systems and metabolism. (a) Lecture. (b) Laboratory. (c) Reading and conference. Prerequisites: (a) 301a or consent of instructor; (b,c) concurrent enrollment in a, consent of instructor.

446-2 Biochemical Aspects of Hormone Regulation of Metabolism. Designed to build upon the foundation laid in a basic course in biochemistry. Hormone regulation mechanisms at the molecular level. Prerequisites: 301e, Chemistry 451.

447-4 Topics in Plant Physiology. Photosynthesis, mineral nutrition of plants, water regime, growth and movement of plants. Two lectures and two laboratories per week. Prerequisite: 302c, Chemistry 125b.

454-4 Reproduction and Dispersal of Vascular Plants. The morphology and biology of reproduction and dispersal. Discussion and student reports include implications for species survival, ecology, biogeography, and plant-animal coevolution. Three lectures, one laboratory per week. Prerequisite: 302c.

455-4 Plant Anatomy. Cell types, tissues, and organography of seed plants with emphasis on phylogeny and trends of specialization. Laboratory on microscopical observations of plant tissues. Two lectures, two laboratories per week. Prerequisite: 302c.

456-2 Plant Microtechnique. Principles and techniques of preparing plant tissues for microscopic study. Four hours of laboratory per week. Prerequisite: 302c, 455, or consent of instructor.

458-5 Functional Morphology of Vertebrates. The phylogenetic approach to comparative form, function, and development of vertebrate organisms. Two lectures and three laboratories per week. Prerequisite: 302a.

470-4 Field Botany. Taxonomy, natural history, and distribution of local plants. Two lectures and two laboratories per week. Field trips cost \$10-\$25 per student. Prerequisite: 302c.

471-4 The Algae. Morphology, reproduction, ecology, and physiology of algae.

Laboratory includes field work, identification, culturing, and experimentation. Two lectures, two laboratories per week. Prerequisite: 302b or consent of instructor.

479-1 to 16 Tropical Studies. Courses taken in the tropics under the auspices of Associated Universities for International Education. May be repeated. Prerequisite: consent of department chairman.

480-4 Field Zoology. Taxonomy, natural history, and distribution of local animals. Two lectures and two laboratories per week. Field trips cost \$10-\$25 per student. Prerequisite: 302a.

483-5 Principles of Entomology. A study of the principles of insect morphology, physiology, development, systematics, ecology, and pathology. Three one-hour lectures, two three-hour laboratories per week. Prerequisite: 302a.

485-4 Ichthyology. Relationships, ecology, behavior, physiology, and anatomy of fishes. Field study of local fauna is stressed. Two lectures and two laboratories per week. Saturday field trips required. Prerequisite: 302a or consent of instructor.

486-4 Herpetology. A study of amphibians and reptiles, their evolution, relationships, morphology, and behavior. Two lectures and two laboratories per week. Saturday field trips required. Prerequisite: 302a,c or consent of instructor.

487-4 Ornithology. Natural history, relationships, behavioral ecology, and evolution of birds. Saturday field trips required. Prerequisite: 302a.

488-4 Mammalogy. Taxonomy, natural history, and evolution of mammals. Two lectures and two laboratories per week. Prerequisite: 302a.

491-1 to 4 Readings in Biology.

493-2 to 8 Research in Biology. Research on biological problems. No credit toward a secondary concentration in biology. Prerequisites: senior standing, consent of faculty.

494-2 to 4 Internship in Biology Teaching. Individually supervised experience in teaching, including planning laboratories, preparation and presentation of lectures, teaching laboratories, and designing handouts and exams. May be repeated for credit; credit toward concentration limited to 4 hours. Prerequisites: junior or senior standing, 3.5 average in biology, consent of instructor.

Business Education

201-9 (3,3,3) Typewriting. Mastery of the keyboard, speed and accuracy in the touch operation of the typewriter, and skill and knowledge needed for vocational and personal uses. (a) Prerequisite: may not be taken for credit by students who have had previous high school or other formal instruction in typewriting. (b) Prerequisite: 201a or one semester of other formal instruction in typewriting and the ability to type at least 30 words per minute. (c) Prerequisite: 201b or two semesters of other formal instruction in typewriting and the ability to type at least 40 words per minute and to prepare simple business correspondence, tables, manuscripts, and forms.

221-12 (4,4,4) Shorthand and Transcription. Study of Gregg shorthand theory and the development of skill and knowledge required for dictation and transcription. (a) Prerequisite: may not be taken for credit by students who have had previous high school or other formal instruction in shorthand. (b) Prerequisite: 221a or one semester of other formal instruction in shorthand-transcription. (c) Prerequisites: 221b or two semesters of other formal instruction in shorthand-transcription and the ability to take new-matter dictation at 60 words per minute for three minutes.

304-3 Advanced Typewriting. Development of advanced skills in typing business correspondence, manuscripts, forms, and tables; preparation of copy from rough draft materials. Prerequisites: 201c or three semesters of other formal instruction in typewriting and the ability to type at least 50 words per minute and to prepare business correspondence, tables, and manuscripts.

324a-4 Advanced Shorthand and Transcription I. The development of high-level dictation and transcription skill and knowledge. Prerequisites: 221c or three semesters of other formal instruction in shorthand-transcription and the ability to transcribe on the typewriter new-matter dictation taken at a sustained rate of 80 words per minute.

324b-4 Advanced Shorthand and Transcription II. A continuation of 324a. Prerequisites: 324a or four semesters of other formal instruction in shorthand-transcription and the ability to transcribe on the typewriters new-matter dictation taken at a sustained rate of 90 words per minute.

327-4 Office Theories and Procedures. A study of office efficiency, techniques, filing procedures, financial and legal responsibilities, and other office activities. Opportunities to explore reference sources, to prepare for and participate in interviews, to make self evaluations, and to pursue areas of special interest. Operation of dictating and transcribing equipment. Prerequisite: 201c or equivalent.

341-4 Office Machines. A study of the capabilities and operational characteristics of basic types of office machines; a consideration of appropriate uses of each kind of machine. Laboratory practice required. A unit in data processing gives opportunity for key-punch instruction.

350-4 Consumer Income Management. The development of concepts relative to the management of the personal financial affairs of the American consumer. Budgeting income and expenses, installment purchasing, comparison of prices, insurance, real estate, taxation, and savings and investments.

351-4 Foundations of Business Education. The role of the business teacher in the secondary and post-secondary school. An analysis of business education objectives and curriculum. A survey of trends and external influences as they affect business education. Should be taken in junior year.

360-4 Practicum in Vocational Education. Pre-student teaching clinical experiences in business education which develop an understanding of and techniques for working with economically disadvantaged students and give the prospective business education teacher an awareness of the needs of the disadvantaged youth and the techniques used in meeting these needs of these particular youth.

402-4 Teaching Typewriting and Office Practice. Instructional procedures, skill-building principles and techniques, selection and preparation of instructional materials, standards of achievement, and evaluation of pupil performance. Prerequisites: 351, 304 or equivalent.

404-4 Teaching Shorthand and Transcription. Instructional procedures, skill-building principles and techniques, selection and preparation of instructional materials, standards of achievement, and evaluation of pupil performance. Prerequisites: 324a, 351.

405-4 Teaching General Basic Business Subjects. Instructional procedures, analysis and selection of materials, preparation of teaching units, evaluation of pupil performance. Prerequisite: 351.

408-4 Teaching Data Processing and Bookkeeping. Instructional procedures, analysis and selection of materials, preparation of a teaching unit in data processing, and evaluation of pupil performance. Prerequisite: 351.

414-4 Organization and Administration of Cooperative Vocational Education Programs. Philosophy and objectives of cooperative vocational programs, methods of selecting students and work stations, placing and supervising students on part-time jobs, preparation of instructional materials, job analyses, conducting related information courses, evaluating workers and work stations, advisory committees, and public relations aspects of cooperative programs.

415-6 Supervised Business Experience and Related Study. Classroom study of the principles and problems of coordinating in-school and cooperative vocational business education programs, with analysis and evaluation of on-the-job experiences of the members of the class in relation to their future work as coordinators and vocational teachers.

490-1 to 4 Independent Study in Business Education. An investigation of topical areas in greater depth than regularly titled courses permit. Individual or small group readings and projects. Prerequisite: consent of instructor or department chairman.

Chemistry

105-5 Introduction to Chemistry. Preparation for university chemistry course. Mathematical techniques and problem solving; fundamental chemical terms, concepts, and laws. For students who do not have the basics of high school

chemistry. Grades are Pass or No Credit. May not be applied to a primary or a secondary concentration in chemistry. Three lecture, one quiz, three laboratory hours per week. Prerequisite: one year high school algebra or Mathematics 101.

110-12 (4,4,4) General and Organic Chemistry. A course in general chemical principles and practice for students other than chemistry majors. (a) Atomic structure and chemical bonding, periodicity, ionic equilibrium. (b) Study of the elements, general principles of carbon chemistry. (c) An introduction to aliphatic and aromatic compounds with emphasis on those of biological and environmental importance. Credit not applicable to a primary or secondary concentration in chemistry. Three lectures and one laboratory per week. Prerequisite: concurrent enrollment in GSM 144 or equivalent.

125-15 (5,5,5) Chemical Structure and Dynamics. University-level treatment of modern chemistry—atomic structure, molecular bonding, and structure. Basic principles governing chemical change and equilibrium. (a) four lecture hours, one three-hour laboratory per week. (b,c) three lecture hours, two three-hour laboratories per week. Aspects of quantitative analysis are covered in both lecture and laboratory. Must be taken in sequence. Prerequisite: high school chemistry.

135-5 General Quantitative Analysis. Introduction to theories and methods of volumetric and gravimetric techniques. Lecture and laboratory. Prerequisite: 125b with grade of C or better.

261-3 Chemical Energetics and Kinetics. Introduction to the principles of chemical thermodynamics, kinetics, and spectroscopy. Three lecture hours per week. Prerequisites: 125c, concurrent enrollment in Mathematics 150a.

305-9 (3,3,3) Organic Chemistry, Preprofessional. For secondary concentration in chemistry and preprofessional students. Three lecture hours per week. Prerequisite: 125c.

311-3 Inorganic Chemistry. Introduction to theories of bonding and structure; descriptive chemistry of less familiar elements, coordination compounds, and organometallics. Three lecture hours per week. Prerequisite: 125c.

341-9 (3,3,3) Organic Chemistry. A study of fundamental structure types of organic compounds correlated with their chemical and physical properties. Bonding, reaction dynamics, reaction types, stereochemistry, functional groups, and spectroscopic methods. Must be taken in a,b,c sequence. Prerequisite: 125c.

345-7 (2,2,3) Organic Chemistry Laboratory. (a,b) Introduction to the tools and techniques for determining physical and chemical properties of organic systems. Six laboratory hours per week. (c) Introduction to organic qualitative analysis; determination of unknown structures using chemical and spectroscopic analysis. One lecture and six laboratory hours per week. Must be taken in a,b,c sequence. Prerequisite: (a) 305a or 341a; (b) 305b or 341b; (c) 341c.

361-9 (3,3,3) Physical Chemistry. A study of mathematical models of the causes of chemical behavior, and their foundations in experiment. Thermodynamics, statistical mechanics, kinetics, and quantum mechanics with applications. Must be taken in a,b,c sequence. Prerequisites: 261, 12 hours of physics, one year of calculus.

365-4 (2,2) Physical Chemistry Laboratory. One lecture hour and four laboratory hours per week. Prerequisites: 345a, 361a.

375-0 to 3 Chemistry Seminar. One lecture hour per week. Prerequisite: senior standing.

396-2 Introduction to Research. Investigation of relatively simple research problems in chemistry under the direction of a staff member. May be repeated for maximum of 6 hours credit. Prerequisites: 3.0 average in chemistry courses, prior arrangement with a staff member, consent of chairman.

411-4 Physical Inorganic Chemistry. Modern inorganic chemistry including symmetry, atomic structure, chemical bonds, and stereochemistry of complex ions and metal chelates. Four lecture hours per week. Prerequisite: concurrent enrollment in 361b or c.

419-2 to 6 Special Topics in Inorganic Chemistry. The topic to be covered is announced by the faculty. Prerequisite: consent of instructor.

432-8 (4,4) Instrumental Analytical Measurements. Theory and practice of instrumental analytical measurements, including spectrophotometric, electro-

analytical, and chromatographic methods. Two lecture and six laboratory hours per week. Prerequisite: 361b or c or concurrent enrollment.

439—2 to 6 Special Topics in Analytical Chemistry. The topic to be covered is announced by the faculty. Prerequisite: consent of instructor.

441—3 Physical Organic Chemistry. Chemical equilibria, kinetics, and structure-reactivity relationships are studied in detail for their value as methods for determining the mechanisms of organic reactions. Lecture. Prerequisites: 261, 341c.

444—3 Organic Reactions. An intermediate course with emphasis on mono-functional compounds. Additional topics, not included in elementary courses. Three lecture hours per week. Prerequisite: 341c.

449—2 to 6 Special Topics in Organic Chemistry. The topic to be covered is announced by the faculty. Prerequisite: consent of instructor.

451—6 (3,3) Biochemistry. A study of life processes at the molecular level with emphasis on the relationships between the structure and function of biological molecules. Three lecture hours per week. Prerequisite: 305b or 341c.

455—2 Experimental Methods in Biochemistry. (Cross-listed with Biology 401—2.) Biochemical preparations, syntheses, separation techniques, and methods of identification. Six laboratory hours per week. Prerequisites: 345b, concurrent enrollment in 451a.

459—2 to 6 Special Topics in Biochemistry. The topic to be covered is announced by the faculty. Prerequisite: consent of instructor.

460—5 Physical Chemistry, Preprofessional. For secondary concentrations in chemistry and preprofessional students. Suggested for B.S. in Education degree. Traditional and biological aspects of physical chemistry without the requirement of calculus. Four lecture, three laboratory hours per week. Prerequisites: 125c, 305b or 341c, 345b, and one year of physics.

464—3 Intermediate Physical Chemistry. Intermediate between the first year of undergraduate physical chemistry and advanced physical chemistry. Three lecture hours per week. Prerequisite: 361b or c.

469—2 to 6 Special Topics in Physical Chemistry. The topic to be covered is announced by the faculty. Prerequisite: consent of instructor.

486—15 Argonne Quarter. Intensive course work and original research under the direction of Argonne National Laboratory staff to be taken in residence at the Laboratory. Prerequisites: senior standing, 4.0 average, consent of department chairman, prior approval of application by Argonne National Laboratory.

490—2 Chemical Literature. A study description of the various sources of chemical information and the techniques for carrying out literature searches. Two lecture hours per week. Prerequisites: 125c, 305b or 341c, reading knowledge of German or consent of instructor.

496—2 to 6 Chemical Problems. Investigation of chemical problems under the direction of a staff member. Prerequisites: senior standing, concentration in chemistry with 4.0 average, consent of department chairman.

Colloquium

300—1 to 4 Student Colloquium. Student-initiated, student-developed, student-run experimental colloquia. Credit offerings for innovative and experimental student-run courses not otherwise available in the university curriculum. Prerequisite: sophomore standing.

Counselor Education

305—4 Educational Psychology. Study of the learner and the learning process. Includes study of behavior, discipline, development, the school environment, application of learning theories, and methods of assessment. Prerequisite: GSS 260.

350—4 Survey of Human Development. Surveying knowledge and understanding of human development throughout the life cycle. The various phases of life in the areas of physical, affectional, socialization, peer-group relations, and self-development.

410—4 (2,2) Dynamics of Campus Leadership. An organized presentation of accurate information about the University's historical development and plans

for future growth, organizational structure, philosophy, administrative policies, and goals with emphasis on the role of student groups in the educational community. (a) Elected or potential student leaders. (b) Resident assistants. Prerequisite: consent of instructor.

422-4 Educational Measurements. Study of the philosophy and techniques of measurements. Special attention to statistical foundations of and use of teacher-made tests. Prerequisite: 305.

426-4 Individual Inventory. Procedures for studying individual pupils and their problems for guidance purposes. Emphasis on interview, observation, ratings, case study, cumulative record, etc. Prerequisite: 422.

442-4 Introduction to Guidance. Introductory course on student personnel services. Survey of philosophy, principles, and organization of guidance services. Not to be taken for graduate credit. Prerequisite: 305.

443-4 Introduction to Counseling the Disadvantaged Student. A study of the affective and cognitive factors in personal development and positive mental health with particular emphasis upon special problems encountered in aiding in the fullest development of disadvantaged students.

483-4 to 8 Community Programs for the Prevention of Juvenile Delinquency. Analysis of delinquency prevention in community programs administered by the public schools, social welfare, governmental agencies. A study of the various categories of juvenile delinquency is applied to a critique of existing programs and to the development of experimental programs. The roles of professional workers pertinent to such programs is delineated with special reference to the public school administration, counselor, the social workers, the court, probation officers, and police. Prerequisite: consent of instructor.

485-4 to 9 Workshop in Educational Utilization of Community Resources.

Economics

200-4 Macroeconomics. An introduction to national economic systems with attention to the meaning and measurement of national income, and the causes of fluctuations therein. National economic objectives and policies, including the distribution of income, the level of employment factors affecting stability and growth, the role of taxation. Prerequisite: sophomore standing.

201-4 Microeconomics. Principles and characteristics of the market economy. Theory of the business firm, supply, demand, and prices. Analysis of earnings of productive resources, including wages, rent, interest, and profit. Introduction to market structure and public policy. Prerequisite: sophomore standing.

300-4 The Monetary System and Economic Policy. Study of relationships between money, credit, prices, and economic activity. How the banking system creates money; the Federal Reserve System. Introduction to public finance and fiscal policy; the role of public finance in full employment policy. Introduction to international financial relationships. Prerequisite: 200.

310-4 Labor Problems. Survey of labor force, wage and employment theory, unemployment including economic insecurity, trade unionism, and collective bargaining from the standpoint of public policy. Prerequisites: 200, 201.

317-4 Economic History of the United States.

330-4 Public Finance I: National. The role of government in the economy, optimum levels of public activities, government budgets, and national income; financing of government expenditures, principles of taxation, examination of fiscal policy. Prerequisite: 300.

409-1 to 4 Independent Study in Economics. An investigation of topical areas in greater depth than regularly titled courses permit. Individual or small group readings and projects. Prerequisites: 340 or 441, consent of instructor and department chairman.

410-4 Government and Labor. A study of labor relations and legislation considering both constitutional and economic aspects. Prerequisite: 310.

411-4 Collective Bargaining and Dispute Settlement. An analysis of the collective bargaining process as determined and changed by labor legislation. Collective bargaining contracts, their scope and significance, together with the methods of dispute settlement such as grievance procedures and arbitration. Prerequisite: 410 or consent of instructor.

416-4 Advanced Money and Banking. Role of money and credit in U.S. economy; the commercial banking market structure and commercial bank-

ing operations; non-banking financial intermediaries, financial markets and the commercial banking system; issues regarding structure, service, and monetary management functions of Federal Reserve System; current approaches to monetary theory and policy; international monetary problems. Prerequisite: 300.

418-4 Economic History of Europe. A survey of the economic growth of Europe with emphasis on the development of European agriculture, industry, finance, and international trade since 1750. Prerequisite: 201.

420-4 Industrial Organization and Public Policy I. Analysis of the relationship among market structure, conduct, and performance. Microeconomic theory used to investigate the effects of market structure elements, such as concentration, entry barriers, and economies of scale, on the conduct of firms in an industry. This conduct is then evaluated in terms of performance criteria, and remedies to poor performance are explored. Monopoly power, conglomerates, advertising, and the problems of government regulation and antitrust. Prerequisite: 201 or equivalent.

422-4 Introduction to Economic Development. The preconditions, processes, and problems involved in economic development. The theory and policy relevant to development, with emphasis on the "developing" or "emerging" economies. Prerequisites: 200, 201.

429-4 International Economics. An introduction to the causes and effects of international trade, the reasons for and the impact of tariffs and common markets. The balance of payments and its impact upon income and employment. Gold, the international role of the dollar, and the international monetary system. Prerequisites: 200, 201.

430-4 Regional Economy. The impact of space upon economic analysis including such topics as the location of economic activity, regional economic development, and the theoretical and practical problems encountered in the planning of land use.

431-4 Public Finance II. State and local. Prerequisite: 330.

433-4 An Introduction to Urban Economics. The economic causes of urban growth and the economic-social problems which rapid unregulated growth creates. The growth of cities including a study of location theory, the effects of agglomeration, the structure of the economic base, and regional income accounting. A solution to the problems of cities including a designation of goals to eliminate the misuse of resources and an examination of possible techniques to attain these goals. Prerequisites: 200, 201.

440-4 Intermediate Micro Theory. An intensive treatment of price and income theory with emphasis on degrees of price and other competition. Prerequisite: 201.

441-4 Intermediate Macro Theory. Basic analytical concepts of the modern theory of aggregative income. Prerequisite: 200, 201 or consent of instructor.

450-4 History of Economic Thought. Contributions of political and economic philosophers and schools of thought from mercantilism to J. M. Keynes, with emphasis on the development of economic ideas and their influence on contemporary economic theory and national policy. Prerequisites: 200, 201.

465-4 Mathematical Economics I. A systematic survey of mathematical economic theory. Conditions of static equilibrium (including stability conditions), dynamic models using difference equations, and linear production models of input-output analysis and activity analysis (linear programming). Prerequisites: 440, consent of instructor.

467-4 Econometrics I. Introduction to resource allocation under uncertainty. Probabilistic economic models, theory of games and economic choices, and stochastic economic processes. Prerequisite: consent of instructor.

473-4 Business Enterprise and Public Policy. Some of the major problems of social control of business arising out of the operation of business in modern society; types of control, necessity, and effects of controls. Prerequisite: senior standing.

481-3 Comparative Economic Systems. Capitalism, socialism, fascism, and other forms of the economy. Prerequisites: 200, 201.

Elementary Education

200-4 Introduction to Elementary Education. First course in the elementary education sequence. Acquaints the student with the role of the teacher and

enables student to assess his own interests, skills, and abilities as related to that role. Satisfactory performance is required for admission to the teacher education program. Prerequisite: registration by permit only.

201-4 (2,2) Understanding the Pre-Primary Child. Introductory study of characteristics of pre-school children. (a) Emphasis on study and observation of individual infants and toddlers in informal settings. (b) Emphasis on group behavior of young children in more formal pre-school settings. Must be taken in a,b sequence.

202-4 (2,2) Leadership Roles in Early Childhood Education. Study of teacher roles in relation to others in the early childhood educational setting. (a) Development of individual role concepts among trainees. (b) Role interrelationships: teacher *vis-a-vis* children, colleagues, and administrators. Must be taken in sequence. Prerequisite: 201.

203-4 Understanding the Elementary School Child. Concepts needed to understand the child in the elementary school situation. Three hours lecture and two hours observation. Prerequisite: GSS 260.

314-4 Elementary School Methods. The fundamental principles of education, the interpretation of current educational theory and practice, the processes of teaching and learning involved in elementary education. Prerequisite: 365.

316-4 Kindergarten-Primary Methods. Philosophy and principles underlying the teaching of four-to-eight-year-olds. Emphasis upon organization, equipment, materials, and methods for promoting growth of young children. Prerequisite: Elementary Education 365.

317-4 Pre-Kindergarten Methods. Instructional strategies appropriate for pre-school children, with emphasis on interrelatedness of sensorimotor, conceptual, and social development. Learning objectives in language, numbers science, and social studies in the context of creative activities such as art, dramatics, storytelling, poetry, and music. Prerequisites: 201, 202.

337-4 Reading in the Elementary Schools. The principles of reading, factors that condition reading, together with grade placement of aims and materials; diagnostic and remedial treatment. Prerequisite: 314.

350-4 to 16 Early Childhood Student Teaching. Prerequisites: 316, 365.

351a-4 to 16 Elementary Student Teaching. Prerequisites: 314, 337, 365.

351d-4 to 16 Elementary Student Teaching: Physical Education. Prerequisite: 365.

365-4 Learning Theories and the Elementary School Child. Principles of learning applied to the mastery of materials used in elementary school subjects.

410-4 Principles of Pre-Primary Education. Examination of research and other materials dealing with intervention for strategies for preschool children. Principles governing the stimulation of readiness for school experiences and related strategies both for preschool children and of parent involvement.

412-4 Early Childhood Curriculum. Curriculum theory, design, and implementation of pre-primary education. Developing original sequences for field testing. Prerequisite: 317.

413-4 Children's Literature. Emphasizes types of literature, analysis of literary qualities, and selection and presentation of literature for children. Prerequisite: Elementary Education 365.

415-4 Teaching Mathematics in the Elementary School. Items to be taught, the grade placement of content, newer instructional practices and materials of instruction, and means of evaluating achievement. Prerequisite: 314.

433-12 (4,4,4) Field Study: Problems in Elementary Education. (1) Curriculum, (2) Language Arts, (3) Science, (4) Reading, (5) Social Studies, (6) Mathematics, (7) Early Childhood Education, (8) Elementary Organization and Supervision, (9) Open Education. May not be repeated for credit.

437-4 Corrective Procedures in Reading. Techniques and materials for diagnosing and correcting reading disabilities with emphasis on meeting instructional needs of each individual in the classroom. Involvement in laboratory experiences with disabled readers. Prerequisite: 337.

442-4 Teaching Science in the Elementary School. Study of content and methods of elementary school science. Prerequisite: 314.

443-4 Social Studies in the Elementary School. Organization of materials for teaching purposes, techniques of classroom presentation, bibliographies or

materials, use of audio and visual aids to instruction, and techniques for evaluating student progress. Readings, lectures, and discussions related to required teaching experience.

445-4 Language Arts in the Elementary School. Current practices in the teaching of the language arts other than reading. Attention to evaluation of teaching materials in these areas. Prerequisite: 314.

470-4 Workshop in Sex Education for Elementary Teachers. (Same as Health Education 470.) Designed to encourage elementary school teachers to integrate sex education concepts into their teaching program. Current theories and knowledge concerning the psychosocial aspects of the maturation process are related to the content used for teaching pupils at various grade levels. Specialists in psychology, public health, and social welfare offer a multi-discipline approach to help teachers plan a program based upon characteristics and needs of pupils.

480-4 Backgrounds of Urban Education. (Same as Secondary Education 480.) Social, economic, and demographic factors as they impinge upon programs in urban schools. Prerequisite: consent of instructor.

Engineering and Technology

101-9 (3,3,3) Engineering Graphics. (a) Principles of graphic communications. Sketching for shape description, pictorial projection, multiviews, various types of sectional views, auxiliary views, geometric construction. (b) Shop processes, dimensioning, axonometric drawing, tolerances, fasteners, and the complete detail and assembly drawing of a jig or fixture for an assigned problem. (c) Geometry of lines, planes, points solids, and irregular figures. Development of surfaces, solids, and intersections of planes and solids, transition pieces. Finding intersections and development by primary and secondary auxiliary drawings, use of cutting planes, and rotation of elements and planes.

110-1 Freshman Seminar. Introduction to engineering; description of major areas of engineering activity; discussion of available curricula at this University; procedures of the University and the Engineering Department. Taught by members of Department of Engineering with invited lectures from industry and other departments. Pass-No Credit grading only.

200-9 (3,3,3) Circuit Analysis. Required core curriculum course for electronic engineering concentrations. Integrated study of lumped element electric circuits in DC, sinusoidal steady state, and transient modes. Emphasis on analysis techniques including those suitable for digital computer implementation. Graphical, linear incremental modeling, convolution, and state space approaches as well as classical and transform methods for linear time-invariant circuits. Singularity functions, network theorems, and two part analysis. Must be taken in a,b,c sequence. Prerequisite: concurrent enrollment in Mathematics 305.

201-2 Circuit Analysis Laboratory. Laboratory experiments exemplify the material covered in 200. Laboratory procedures, techniques of measurement, and report writing are stressed. Prerequisites: 200a, concurrent enrollment in 200c.

205-4 Applied Electricity-Electronics. Fundamental principles and practice of AC/DC circuits, and equipment and control devices. Introduction to electronic instrumentation and control; special selected projects to illustrate application. Not for engineering concentrations or secondary concentrations; primarily a service course for sanitation technology program.

210-3 Engineering Computations. Engineering computation techniques including introduction to mechanical aids such as slide rule, desk calculators, mini-computers. Introduction to Fortran programming, time-sharing, and computer center services. Complex number manipulations, logarithms, functional notation, graphs, roots of equations, simultaneous equations, and computer routines associated with all the presented topics.

220-3 Electrical Circuits. DC and AC electrical circuits, including network models, Kirchhoff's laws, mesh current equations, superposition theorem, phasors, rms values, AC power, and the Fourier Series. Not for electronic engineering concentrations. Prerequisites: Mathematics 150b, concurrent enrollment in 221.

221-1 Electrical Circuits Laboratory. Laboratory study of DC and AC circuits, illustrating principles discussed in 220. Prerequisite: concurrent enrollment in 220.

230-3 Engineering Geology. Geological principles governing the solution of civil engineering problems which are connected with the use and occurrence of rocks, minerals, soils, and water in the design and construction of engineering works.

260-8 (4,4) Engineering Mechanics. (a) Static equilibrium conditions for external and internal force and moment systems. First and second moments of lines, areas, and volumes. Vector algebra used throughout. (b) Kinematics and kinetics of particles and rigid bodies. Newton's laws, momentum, and energy methods. Vector algebra and calculus used throughout. Prerequisites for a: Physics 211a, Mathematics 250 or concurrent enrollment; for b: 260a.

270-4 Mechanics of Solids. Elastic deformations and stresses in two dimensional structural elements due to axial, bending, shear, and torsion loads. Stress-strain relationships, Mohr's Circle. Prerequisites: 260a, Mathematics 250.

300-3 Thermodynamics. Elements of classical thermodynamics. Laws of thermodynamics and applications to open and closed systems. Introduction to statistical thermodynamics and its relationship to macroscopic properties of matter and transformation of energy. Prerequisites: Mathematics 305, Physics 211b.

301-3 (1,1,1) Junior Electronic Engineering Laboratory. Laboratory experiments which exemplify the material covered in junior electronics engineering courses. Characteristics of active devices and their uses, laboratory procedures, and measurement techniques. Prerequisites: 200c, 201.

314-6 (3,3) Soil Mechanics I, II. Study of the theoretical and empirical principles of soil mechanics. (a) Sampling, identification, classification, index properties, hydraulic properties, compressibility, and consolidation. (b) Settlement, shear strength, earth pressures, compaction, and bearing capacity. Laboratory included. Must be taken in sequence. Prerequisites: 270, 370.

315-3 Foundation Engineering. Application of the fundamental principles of soil mechanics in the design and analysis of retaining walls, cofferdams, footings, piling, pavements, and compacted earth fills. Estimates of settlement and slope stability analysis. Prerequisite: 314.

316-4 Hydraulics and Hydrology. Development of hydrological principles and their engineering applications, with an introduction to hydraulics of open channel and closed conduit flows. Statistical analysis of rainfall-runoff relationships, storm frequencies, and flood flows; surface water impoundments, drainage systems, pipeline networks, and groundwater systems. Prerequisite: 260.

320-3 Electronic Circuits. Active networks including physics of tubes and transistors, biasing of active devices, simple amplifier circuits, R-C coupled amplifiers, basic oscillators, feedback circuits. Not for electronic engineering concentrations. Prerequisite: 220.

321-1 Electronic Circuits Laboratory. Laboratory study of active networks illustrating principles discussed in 320. Prerequisites: 220, concurrent enrollment in 320.

325-4 Physical Electronics. Solid-state physics as applied to band theory of semiconductor devices; electron emission; diffusion and mobility of electrons and holes; selected topics in charged particle dynamics and statistical mechanics; analysis of some new semiconductor devices. Prerequisites: 200, Mathematics 305, Physics 300.

326-4 Linear Electronic Circuits. Linear electronic circuits using transistors, FET's, and vacuum tubes. Load lines and biasing of active devices. Feedback and its effects on circuits. Small signal amplifiers. Integrated circuits. Frequency response. Prerequisite: 325.

327-4 Pulse and Digital Circuits. Pulse and digital electronic circuits. Pulse transformers. Switching characteristics of active devices. Transistor switches. Comparators, clippers, and clippers. Logic circuits. Registers. Multivibrators. Prerequisite: 326.

330-8 (4,4) Engineering Electromagnetics. (a) Static electric and magnetic fields theory including field distributions and experimental field mapping methods. The formulation of Maxwell's equations in time-varying form and

the retarded potentials. (b) Maxwell's equations for time-varying fields, derivation and solution of the wave equation field theory approach to transmission lines. Steady state solutions for the loss-less transmission line, the Smith Chart, lossy transmission lines. Pulse propagation on transmission lines transient response of lossy lines. Must be taken in a,b sequence. Prerequisites: Mathematics 350b, Physics 211c.

340-8 (4,4) Structural Analysis I, II. (a) Analysis of statically determinate structures; influence lines and loading criteria for beams, trusses, and framed structures subjected to fixed and moving loads; computation of deformations by energy and geometric techniques; flexibility method of indeterminate structural analysis. (b) Classical stiffness methods of indeterminate structural analysis: slope-deflection and moment-distribution; influence lines for indeterminate structures: introduction to matrix stiffness methods and use of automated structural analysis programs. Must be taken in sequence. Prerequisites: 270, Mathematics 305.

351-3 Linear Systems Analysis. Introduction to the analytical tools available for study of the input-output relations of linear systems. Classification of systems, time and frequency domain techniques for both continuous and discrete systems, and signal flow graphs. Prerequisites: 200, Mathematics 350a or concurrent enrollment.

352-3 Stochastic Processes. Introduction to probability, stochastic processes, and methods of representing stochastic signals. Processing of stochastic signals, noise, and introduction to detection theory. Prerequisite: 351.

353-3 State Space Techniques. Introduction to general methods for study of input-output relations of engineering systems, particularly nonlinear systems. State space representation, transition matrices, and Liapunov stability theory for both continuous discrete systems. Machine computation and stimulation. Prerequisite: 352.

363-9 (3,3,3) Surveying. (a) Use and care of surveying instruments. Fundamental principles of surveying, computation, land surveying. (b) Field astronomy, route surveying, introductions to photogrammetry, triangulation, and building construction surveying. (c) Principles of photogrammetry and air photo interpretation. Field exercises included for all sections. Must be taken in sequence. Prerequisites: (a) consent of instructor; (b,c) consent of instructor, concentration in engineering.

370-4 Engineering Materials. Quantitative and qualitative behavior of materials as related to the physical and chemical structure of solids. Laboratory determination of mechanical properties of materials. Prerequisite: 270.

375-0 to 6 Seminar. Prerequisite: junior or senior standing.

380-12 (4,4,4) Environmental Engineering I, II, III. (a) Environmental Unit Operations. Selected topics from analytical and physical chemistry as applied to examination and treatment of water and waste water. Adsorption, extraction, coagulation, basic principles of chemical reactors. (b) Water Supply and Treatment. Planning and design of water supplies, distribution systems, and treatment systems. (c) Waste Water and Solid Wastes. Primary, secondary, and tertiary treatment of waste water. Solid waste disposal by incineration, sanitary landfills, wet combustion. Waste water treatment plant design, construction, and finance. Laboratory included. Must be taken in sequence, or have consent of instructor. Prerequisite: (a) Chemistry 125b; (b,c) 316.

395-2 to 8 Readings in Engineering. Supervised reading in selected subjects. Prerequisites: junior or senior standing, concentration in engineering, consent of chairman.

401-2 (1,1) Senior Electronic Engineering Laboratory. Laboratory experiments which exemplify the material covered in junior and senior engineering courses. Introduction to advanced measurements techniques. Must be taken in a,b sequence. Prerequisite: 301c.

419-3 Mechanics of Fluids. Fundamental properties of fluids; fluid statics and dynamics; continuity, momentum and energy equations; selected problems in laminar, compressible and turbulent flow, closed conduit and open channel flow. Prerequisites: 270, 300, 370.

420-4 Mass and Energy Transport. Principles and mechanisms of energy, mass, and momentum transport. Molecular motion, laminar flow of a continuum, and transport in solids. Turbulent flow, inter-phase transport, radia-

tive transfer, and macroscopic balances of mass, energy, and momentum. Scheduled laboratory projects. Prerequisite: 419.

421-1 Fluid Dynamics Laboratory. Laboratory experiments and projects to study the flow of fluids in free flow, conduits, and porous media. Dynamic similitude and basic concepts of laminar flow, boundary layers, turbulence, and energy dissipation. Prerequisite: concurrent enrollment in 419.

423-3 Hybrid Computation. The simultaneous use of the analog and the digital computer for the solution of engineering problems. Scaling of problems. Block diagrams and logic are stressed. Linear and nonlinear differential equations. Simulation as well as iterative analog computation are covered. Prerequisite: Mathematics 225.

440-4 Steel Structures. Fundamentals of structural steel design by "allowable stress" and "maximum strength" methods. Familiarization with various steel design codes. Prerequisite: 340a.

442-4 Concrete Structures. Investigation and design of reinforced concrete structural elements (beams, columns, slabs, footings). Emphasis on ultimate strength, time dependent behavior, and code requirements. Prerequisite: 340a.

443-4 Engineering Design. Principles of engineering design. Individual laboratory projects of a research, design, or development nature to study the principles of engineering systems or components. Prerequisite: senior standing or consent of chairman.

450-3 to 6 Topics in Engineering. A selected topic of special interest. The title includes the name of the topic (e.g. "Topics in Engineering: Urban Systems"). Prerequisite: consent of instructor.

465-4 Automatic Control Theory. Principles of feedback control of linear systems, using Nyquist, Bode, and root-locus methods; stability criteria; engineering examples, demonstrations, laboratory exercises. Prerequisites: 200c, 260b, Mathematics 305a.

466-4 Structural Systems. Study of civil engineering structural systems. Emphasis on industrialized buildings, framed domes, preassembled trusses, flooring systems. Field trips to job sites. Prerequisite: senior standing in structures option.

475-3 Urban Transportation. Introduction to systems engineering, deterministic models (linear programming, transportation networks, and critical path scheduling). Trip generation, trip distribution, and traffic assignment procedures as utilized in urban transportation planning. Prerequisite: senior standing.

476-3 Transportation Engineering. Selected topics in highway, air, rail, sea, and pipeline transport. Introduction to design of subgrades and pavements for highways. Prerequisite: senior standing.

477-3 Construction Engineering. Application of engineering principles to modern methods of construction; office and field procedures; construction planning including elements of critical path scheduling. Linear programming, and computer methods for civil engineering, design, and simulation. Prerequisite: Mathematics 305.

480-8 (4,4) Industrial Waste Treatment I, II. (a) Liquid and Solid Wastes. Problems arising from industrial water pollution and solid wastes, sources and characteristics of industrial wastes, effects on streams and other public waterways. Methods of treatment with specific applications to various industries. (b) Air Pollution. Basic principles of air pollution; causes, monitoring, and control. Monitoring equipment and networks. Control methods and equipment. Air pollution problems and technology as applied to various industries. Prerequisite: 380 or consent of instructor.

481-4 Functional Analysis of Digital Equipment. Logic circuits including standard gates, function realization and minimization, and logic diagrams. Sequential circuits including transition tables and timing diagrams. Internal organization and function of typical computers and controllers including common peripherals such as I-O devices, secondary storage, and D-A and A-D converters. Prerequisite: 200 or 320.

482-4 Introduction to Digital Equipment Design. Circuit realizations of logic and sequential functions. Relationship of operational specifications to circuit performance. Memories and associated circuitry. Diagnostic testing and trouble shooting. Design for easy maintenance. Case studies in hardware design. Prerequisite: 481.

483-4 Digital Processor Programming. Software requirements for general purpose, stored program digital processors. Machine instructions and information format required to transfer data of specific I/O devices, execute memory and register transfers, perform logical and mathematical operations, employ memory protect and interrupts and sense and display errors. Machine and source languages, assemblers, translators and compilers, loaders and system operation of a typical processor. Projects with interpretive and interactive programming, debugging, diagnostics and I/O utility programs for actual processors. Prerequisite: 481.

485-4 Communication Theory I. Elements of communication systems, spectral representation of signals and noise, filters and filtering, signal-to-noise ratios, analog (linear and exponential) modulation, sampling theory, pulse modulation and multiplexing. Prerequisites: 327, 353.

486-4 Statistical Communication Theory. Optimum receiver principles including both the correlation receiver and the matched filter receiver, block-orthogonal signaling, channel capacity, convolutional codes, sequential decoding, channel models. Prerequisites: 352 and 485 or consent of instructor.

490-4 Microwave Principles. An introduction to microwave principles beginning with Maxwell's equations. Plane wave propagation and reflections of waves at boundaries. The mathematical theory of waveguides both rectangular and circular. Resonant cavities, periodic structures, filters, and ferrite components. Prerequisites: 330b, 353.

491-4 Microwave Electronic Devices. The study of microwave electronic devices and some of their applications. Microwave tubes including the traveling wave tube, the klystron, the magnetron, and the backward wave oscillator. Microwave solid state diodes including the tunnel diode amplifier and the parametric amplifier. PIN diodes. Microwave transistors. The cavity maser amplifier and the traveling wave maser amplifier. Prerequisite: 490 or consent of instructor.

English

300-4 Principles of English Grammar. Required for English students. Others should take 391. Credit not allowed for both courses.

301-4 Basic Literary Criticism and Scholarship. An introduction to critical terminology, practice in criticism, discussion of literary theories. Practical application of elementary research methods.

302-12 (4,4,4) Survey of English Literature. (a) Beginnings to 1660, excluding Milton, (b) 1660-1830, including Milton, (c) 1830 to present. May be taken in any sequence, but chronological sequence is recommended.

309-8 (4,4) Survey of American Literature. (a) to 1860, (b) since 1860. May be taken in either sequence.

325-4 Technical Writing. Designed for students in engineering and the sciences. Principles of technical writing with emphasis on organization, style, grammar, and usage. Practice in writing technical reports, instruction, outlines, and summaries. Special instruction in library procedure and writing the annotated library research paper. Prerequisites: GSK 101, 102.

391-12 (4,4,4) Fundamentals of the English Language. (a) Review of Grammar and Written Composition. Refresher course, emphasizing well-formed sentences, variation in sentence structure, grammaticality, polished style. Development of expository themes. Recommended for all disciplines. (b) Sound Patterns and Word Constructions. The production of English sounds and word formations. Dialectal variations. The relationship of sounds to the spelling system. Recommended for language, speech, reading, education concentrations, and all foreign students. (c) Modern Grammar and Other Disciplines. Survey of grammatical applications to dialect, child language acquisition, reading problems, composition, foreign language teaching, language disability, and literary interpretation. Investigation of recent research done in these fields by language scholars and development of project or paper in concentration or area of interest. Need not be taken in sequence. Any one or all three sections may be taken for credit.

392a-4 Creative Writing: Fiction I. Emphasis on the writing of fiction that strives for literary excellence. Classroom conducted as a workshop, devoted to

discussion and evaluation of student manuscripts. Readings in fiction; problems of fiction examined in the work of established writers. Prerequisite: consent of instructor.

392b-4 Creative Writing: Poetry I. Major emphasis on the writing of poetry, but with study of the fundamentals of poetry, including prosody, figurative language, symbolism, and theories of poetry. Readings in poetry. In-class critiques of student writing by students and instructor to develop objective analysis as means of improvement. Prerequisite: consent of instructor.

400-4 Introduction to English Linguistics. An introduction to the methods of descriptive linguistics as applied to English: the phonemics, morphemics, and syntax of English. Recommended for those preparing to teach English.

401-4 Introduction to General Linguistics. (Cross-listed with Anthropology 401.) Introduction to concepts, methods, analytical techniques of linguistics with examination of their applicability to anthropological concerns—psycholinguistics, sociolinguistics, applied linguistics, literature, and folklore. Open to interested students in any discipline. Prerequisite: junior standing.

403-4 The History of the English Language. A survey of the development of the language from Indo-European to modern English with special emphasis on Middle and Early Modern English changes.

404-12 (4,4,4) Middle English Literature. (a) Middle English literature excluding Chaucer; (b) Chaucer: *Canterbury Tales*. (c) Chaucer; early poems and *Troilus and Criseyde*. May be taken separately. Prerequisite: junior standing.

405-8 (4,4) Methods and Theories of Language Analysis. (a) Procedures for identifying, describing, and constructing models of the smallest units in a linguistic system. Discussions of the relations between phonic, phonemic, and feature analysis concepts as currently formulated. Construction of an actual model of a grammar as limited by evidence in tape recordings of American English. (b) Procedures for identifying language units as large as or larger than a word. The usefulness of slot and filler, distributional, immediate constituent, and transformational-generative models is tested in their applicability to the structure of spoken and written English statements. May be taken independently. Prerequisite: junior standing.

410-4 Fundamentals of Literary Scholarship. Through lectures and practical exercises, an introduction to the use of research tools, form and style in critical writing, and literary history. Prerequisite: junior standing.

412-16 (4,4,4,4) English Nondramatic Literature. (a) Poetry and Prose of the English Renaissance: Sidney Through Spenser. (b) 17th Century. (c) Poetry and Prose of the Augustan Age: Dryden Through Pope. (d) Poetry and Prose of the Age of Johnson. May be taken separately. Prerequisite: junior standing.

413-4 Spenser. Reading and analysis of *The Faerie Queene*, Amoretti, and other major poems. Prerequisite: junior standing.

418-4 Applied Semantics. Applications of theories of verbal meaning to the interpretation of actual texts. Prerequisite: junior standing.

420-8 (4,4) American Poetry. (a) Trends in American poetry to 1900 with a critical analysis of the achievement of the more important poets. (b) The more important poets since 1900. May be taken separately. Prerequisite: 309a or 309b.

421-16 (4,4,4,4) English Poetry. (a) Early Romantics: major emphasis on general background and on Blake, Coleridge, and Wordsworth; (b) later Romantics: emphasis on Byron, Shelley, and Keats, the minor figures; (c) Victorian poets: Tennyson, Browning, Arnold, and other poets of England, 1830-1900; (d) modern British poets. May be taken separately.

431-12 (4,4,4) Major American Writers. Significant writers of fiction and nonfictional prose from the Puritans to the 20th century. (a) 1620-1800, (b) 1800-1865, (c) 1865-1915. May be taken separately.

438-4 Intellectual Backgrounds of American Literature. The relationship of basic ideas in America to American literature. Prerequisite: 309a or 309b.

441-4 The 18th Century Essay. The informal essay and the literary periodicals—*The Spectator*, *Tatler*, *Guardian*, *Rambler*, *Idler*, and Goldsmith's *Citizen of the World* ("Chinese Letters").

442-4 Romantic Prose. Fiction of Austen, Scott, Mary Shelley, Peacock, the

Gothic novelist; prose of Lamb, Landor, Hazlitt, DeQuincey; criticism, journals, and letters.

443-4 Victorian Prose. The chief writers of nonfictional prose from the late romantics to 1900. Prerequisite: 302c.

447-4 American Humor and Satire. A consideration of the writers and forms of 19th and 20th century humor.

454-12 (4,4,4) English Fiction. (a) 18th Century: Defoe through Jane Austen. (b) Victorian Novel: 1830-1900. (c) The English Novel in the 20th Century. May be taken separately. Prerequisite: junior standing.

456-4 Modern Continental Fiction. Selected major works of European authors such as Mann, Silone, Camus, Kafka, Malraux, Hesse.

458-8 (4,4) American Fiction. (a) The novel in America from its beginnings to the early 20th century. (b) Trends and techniques in the American novel and short story since 1914. May be taken separately.

460-20 (4,4,4,4,4) English Drama. (a) Elizabethan drama: from the beginning of the drama in late Middle Ages through its flowering in such Elizabethan playwrights as Greene, Peele, Kyd, Marlowe, Heywood, Dekker, but excluding Shakespeare; (b) Jacobean drama: the Jacobean and Caroline playwrights: Jonson, Webster, Marston, Middleton, Beaumont and Fletcher, Massinger, Ford, Shirley; (c) Restoration and 18th century drama: after 1660, representative types of plays from Dryden to Sheridan; (d) 19th century drama; (e) Modern British and Irish drama. May be taken separately. Prerequisite: junior standing.

464-4 Modern Continental Drama. The continental drama of Europe since 1870; representative plays of Scandinavia, Russia, Germany, France, Italy, Spain, and Portugal.

468-8 (4,4) American Drama. (a) The beginnings of American drama to World War I. (b) Modern American drama. Prerequisite: junior standing.

471-8 (4,4) Shakespeare. (a) Comedies and histories, (b) tragedies and non-dramatic works. May be taken separately.

473-4 Milton. Reading of *Paradise Lost*, *Paradise Regained*, *Samson Agonistes*, minor poems, major treatises.

485-4 Problems in the Teaching of English. Aims, methods, materials, tests, programs, and other aspects of English instruction in the high school.

486-2 to 8 Workshop in High School English. Intensive study in lectures, laboratory, conferences, to arrive at agreement on the teaching of English in high school. Curriculum, materials, methods, aims. Directed by competent authorities in the field.

487-2 to 8 Workshop in Junior High School English. Intensive workshop study in lectures, laboratory, conferences on the teaching of English in junior high school. Curriculum, materials, methods, aims. Directed by competent authorities in the field.

488-12 (4,4,4) Teaching Standard English as a Second Language. (a) Classroom techniques. (b) Laboratory methods. (c) Applications to problems arising from regional and social variations among speakers of American English. Prerequisite: junior standing.

490-8 (4,4) Advanced Composition. Expository writing. Prerequisite: junior standing.

492a-4 Creative Writing II: Fiction. Emphasis on the writing of fiction that strives for literary excellence. Classroom conducted as a workshop, devoted to discussion and evaluation of student manuscripts. Readings in fiction; problems of fiction examined in the work of established writers. May be repeated for total of 8 hours credit. Prerequisite: 392a and/or consent of instructor.

492b-4 Creative Writing II: Poetry. Major emphasis on the writing of poetry. In-class critiques of student writing by instructor and fellow students to develop objective analysis as means of improvement. May be repeated for total of 8 hours credit. Prerequisite: 392b and/or consent of instructor.

495-8 (4,4) Literary Criticism. (a) History of criticism: ideas and techniques from Aristotle to the end of the 19th century. (b) modern criticism: recent critics and critical attitudes, and practice in writing criticism.

498-4 Directed Writing. Not given for graduate credit. May be repeated for total of 8 hours credit. Prerequisite: consent of department.

499-2 to 6 Readings in English. For English students only. Departmental approval required. No more than 4 hours may be taken in any one quarter.

Experiment in Higher Education

101a,b,c,d-1 to 18 per quarter, 201a,b,c,d-1 to 18 per quarter University Studies. General education course series for the E.H.E. designed to provide General Studies equivalence credits. Prerequisite for 201: 101a,b,c,d.

Finance

320-4 Corporation Finance. A study of the principal duties of corporate financial officers and the problems of administrative financial management of business. Topics include planning, budgeting and control, external sources of capital. Prerequisites: Accounting 332, 333; Economics 200, 201.

420-4 Problems in Corporation Finance. Application of principles of finance to specific cases. Development of analytical ability and fuller comprehension of the nature of financial problems as encountered in business and industry by combining specific cases and collateral readings. Prerequisite: 320.

423-4 Commercial Banking Operations. The administration and operation of a commercial bank, including organization structure and asset management. Major problems are analyzed through the study of cases. Prerequisite: 320.

424-4 Financial Institutions. A study of the evolution, functions, and practices of the many types of financial intermediaries especially which have come into prominence since World War II. Particular attention is given to commerce and government. Prerequisite: 320.

425-4 Investments. A survey of the investment field in theory and practice. Study of the state and federal agencies concerned with regulation of the issuance and exchange of securities in the interest of the investing public. The analysis of the particular types of investment securities and the bases for investment decisions and the management of investment portfolios. Prerequisite: 320.

479-1 to 4 Independent Study in Finance. An investigation of topical areas in greater depth than regularly titled courses permit. Individual or small group readings or projects. For qualified seniors. Prerequisites: 320, consent of instructor and department chairman.

Foreign Languages

The student who has completed one year of foreign language in high school usually begins with the first quarter of the first year course which is in General Studies. The student who has completed two years of high school foreign language usually begins with the intermediate course.

Students taking work in any first year college foreign language series should note that the first two terms are not counted as electives toward graduation unless the third term is also completed.

Proficiency examinations may be taken for credit.

General Foreign Language

115-3 Elementary Intensive Foreign Language I. Intensive training in speaking and aural understanding. Admission only by special permit. Available in French, Spanish, Italian, German, and Russian. Prerequisite: concurrent enrollment in 116.

116-6 Elementary Intensive Foreign Language II. Intensive training in reading and writing. Admission only by special permit. Available in French, Spanish, Italian, German, and Russian. Prerequisite: concurrent enrollment in 115.

117-3 Elementary Intensive Foreign Language III. Completion of intensive training in speaking and aural understanding. Practice in grammar as language usage. Admission only by special permit. Available in French, Spanish, Italian, German, and Russian. Prerequisites: 115, 116, concurrent enrollment in 200.

200-6 Intermediate Intensive Foreign Language I. Continuation of 115. Intensive training in understanding the spoken language, in the oral expression of ideas, and in reading. Special attention to the role in world civilization of the culture expressed and transmitted by the chosen language. Admission only by special permit. Available in French, Spanish, Italian, German, and Russian. Prerequisites: 115, 116, concurrent enrollment in 117.

201-6 Intermediate Intensive Foreign Language II. Extended practice in listening, speaking, reading, and writing. Rapid reading of a variety of more difficult material. Written reports on various phases of the literature and culture represented by the chosen language. Special emphasis on contemporary developments. Admission only by special permit. Available in French, Spanish, Italian, German, and Russian. Prerequisites: 117, 200.

390-2 to 6 Readings. Readings in selected works of representative writers in the student's special field of interest. Offered in French, Spanish, German, Russian and Italian. May be taken for one, two, or three quarters. Primarily for students with no foreign language concentration, but may be taken for credit in foreign language concentration with consent. Prerequisites: 250, consent of department chairman.

410-4 Romance Philology I. Survey of phonology, morphology, and syntax changes in Romance languages in general; special attention to the developments in French and Spanish for students with concentration in these fields. Prerequisite: senior standing in Romance language.

486-8 (4,4) Materials and Methods for Teaching Foreign Languages. Application of language learning principles to classroom procedures at different levels. Theory and practice of the audio-lingual approach, the language lab, applied linguistics. Required for all majors intending to teach foreign languages. Prerequisite: one quarter of any 300-level course, or consent of department chairman.

Comparative Literature

410-20 (4,4,4,4,4) Comparative Literature: Genres in Translation. Readings selected from among French, German, Spanish, Italian, Russian, and Portuguese literatures. (a) Lyric and epic poetry. (b) Drama. (c) Prose. (d) Tragedy. (e) Novel.

490-4 Traditional Themes of World Literature. Prerequisites: any course in comparative literature and a course in English, foreign, or comparative literature.

French

123-12 (4,4,4) Elementary French. Open to students who have had no previous work in French. Must be taken in sequence.

220-4 (2,2) Intermediate French Conversation. (a) Practice in conversation. (b) Additional practice in conversation. May be taken separately. Prerequisite: 123 or equivalent.

250-8 (4,4) Intermediate Comprehensive French. Development of comprehension of the spoken language and oral expression, reading of modern prose selections, simple composition. Must be taken in a,b sequence. Prerequisite: 123 or two years high school French, or consent of department chairman.

280-4 History of French Literature and Language. A comprehensive view of literature and language with special emphasis on the development of dominant literary themes, schools and interpretation. This course or its equivalent is the prerequisite for all French courses numbered above 300. Prerequisite: 250 or equivalent.

301-12 (4,4,4) French Literature of the 18th and 19th Centuries. (a) Montesquieu, Voltaire, Diderot, Rousseau, and others, with reference to the social, political, and philosophic environment of the 18th century. (b) Representative writers of the romantic period: Chateaubriand, Hugo, Balzac, Stendhal, and others. (c) From realism to symbolism: Flaubert, Zola, Baudelaire, Verlaine, and others. May be taken separately. Prerequisite: 280 or consent of department chairman.

306-12 (4,4,4) Modern French Literature. (a) Representative writers from the "fin de siècle" to World War I: Claudel, Proust, Peguy, Apollinaire, and others. (b) Selected writers from World War I to World War II with special emphasis upon the novel: Malraux, St. Exupéry, Mauriac, Gide, Cocteau,

Anouilh, and others. (c) The post war works of Camus, Sartre, the anti-novel, Genet, Beckett, Ionesco, and others. May be taken separately. Prerequisite: 280 or consent of department chairman.

311-4 French Culture and Civilization. Study of significant aspects of French culture in a historical perspective. Designed to improve intercultural understanding and to continue the development of all language skills. Prerequisite: 280 or consent of department chairman.

312-2 Modern Literature of French Canada. Readings from the literature of modern French Canada with special emphasis upon the novel and poetry: Hemon, Gabrielle Roy, Lemelin, Grandbois, and others. Prerequisite: 280 or consent of department chairman.

313-2 Black French Literature. Representative writers from Africa and Les Antilles: Senghor, Césaire, Diop, Damas, Rainaivo, Matip Kane, Memmi, and others. A selection of works presented in several anthologies, an up-to-date review of new works in prose and poetry by the *Revue Présence Africaine* which concerns itself with the cultural aspects of the "mode noir," the black world. Prerequisite: 280 or consent of department chairman.

338-12 (4,4,4) French Literature from the Middle Ages Through the 17th Century. (a) French literature from *La Chanson De Roland* to François Villon with special reference to the social, political, and cultural development of the Middle Ages. (b) Representative works of the Renaissance: Rabelais, Montaigne, Marot, Ronsard, and others. (c) Corneille, Racine, Molière, Pascal and other writers of the 17th century with reference to the political and social environment of the period. May be taken separately. Prerequisite: 280 or consent of department chairman.

351-4 Advanced French Conversation. Oral work of a practical nature for advanced students. Prerequisite: 280 or consent of department chairman.

352-4 Advanced French Composition. Rapid grammar review, daily writing practice, controlled composition. Prerequisite: 280 or consent of department chairman.

451-6 (2,2,2) Seminar. Integration of the specialized major courses and the development of a comprehensive view of the major field in terms of its relationship to the growth of Western Civilization.

461-4 French Stylistics. Study of writing style in French and its application to the development of skill in written expression. For those who wish to do advanced work in the principles of French grammar and composition. Prerequisite: 9 hours of 300-level courses or consent of department chairman.

499-2 to 9 Readings in French. Readings in selected areas of French language, literature, culture, and civilization. Individual work or small groups under direct supervision of one or more members of the foreign language faculty. Prerequisites: 280, consent of department chairman.

German

126-12 (4,4,4) Elementary German. Open to students who have had no previous work in German. Must be taken in sequence.

220-4 (2,2) Intermediate German Conversation. (a) Practice in conversation. (b) Additional practice in conversation. May be taken separately. Prerequisite: 126 or equivalent.

250-8 (4,4) Intermediate Comprehensive German. Development of comprehension of the spoken language and oral expression, reading of modern prose selections, simple composition. Must be taken in a,b sequence. Prerequisite: 126 or two years high school German, or consent of department chairman.

251-4 Applied German. Extensive reading of publications that deal with developments in particular field of concentration. Prerequisite: one year of college German, or equivalent, or consent of department chairman.

280-4 History of German Literature and Language. A comprehensive view of literature and language with special emphasis on the development of dominant literary themes, schools and interpretation. This course or its equivalent is the prerequisite for all German courses numbered above 300. Prerequisite: 250 or equivalent.

311-4 German Culture and Civilization. Study of significant aspects of German culture in a historical perspective. Designed to improve intercultural

understanding and to continue the development of all language skills. Prerequisite: 280 or consent of department chairman.

313-12 (4,4,4) German Literature Before Romanticism. (a) The Old High German and Middle High German periods. (b) From the Ackermann in Bohmen to Johann Christian Gunther. (c) German literature from 1700 to the death of Schiller. May be taken separately. Prerequisite: 280 or consent of department chairman.

314-8 (4,4) German Literature from World War I to Post World War II. (a) World War I to 1945: The war as motif; literature under the Weimar Republic; depression literature; new tendencies; the Nazi years. (b) Post World War II: Destruction and resurrection; later works of Mann and Hesse; exile literature; the Swiss and Austrians; Boll, Grass, Lenz, et. al.; the "other" (East) Germans. May be taken separately. Prerequisite: 280 or consent of department chairman.

315-4 Literature and History of the German Theater. A general introduction to the history and literature of the German stage, from the Middle Ages to modern times, involving dramatic literature as well as the development of the stage itself in terms of public and artistic functions, techniques and influence, etc. Prerequisite: 280 or consent of department chairman.

316-12 (4,4,4) German Literature from Romanticism to Modern Times. (a) Introduction to the background, personalities and works of the period from 1798 to Heine. (b) The leading 19th century realists from Droste-Hulshoff to Fontane including the novel and drama of the period. (c) German literary masterpieces from naturalism to the present. May be taken separately. Prerequisite: 280 or consent of department chairman.

351-4 Advanced German Conversation. Oral work of a practical nature for advanced students. Prerequisite: 280 or consent of department chairman.

352-4 Advanced German Composition. Rapid grammar review, daily writing practice, controlled composition. Prerequisite: 280 or consent of department chairman.

401-4 Faust. Analysis of both parts of Goethe's masterpiece, its background, meaning, and impact on world literature together with a general survey of the life and times of the author. Prerequisite: 280 or consent of department chairman.

408-4 German Civilization. Intensive study of the German-speaking areas of the world, with emphasis on the anthropological and sociological aspects of their respective cultures (Austrian, German, Swiss, "Reichs-deutsch," etc.); lectures, reports. Prerequisite: senior standing in German language.

413-3 German Linguistics. Introduction to comparative German linguistics tracing relationships among German languages on the basis of phonology, morphology, and syntax. Prerequisite: senior standing in German language.

451-6 (2,2,2) Seminar. Integration of the specialized major courses and the development of a comprehensive view of the major field in terms of its relationship to the growth of Western Civilization.

499-2 to 9 Readings in German. Readings in selected areas of German language, literature, culture, and civilization. Individual work or small groups under direct supervision of one or more members of the foreign language faculty. Prerequisites: 280, consent of department chairman.

Greek

499-24 (4,4,4,4,4,4) Readings in Ancient Greek. (a) Selected readings designed to develop basic lexical and structural competence. (b) Continuation of a. (c) Study of a selected masterpiece of Greek literature. (d) Masterpieces in history. (e) Poetry. (f) Philosophy. A,b,c must be taken in sequence; d,e,f may be taken separately. Prerequisite for a,b,c: one year of college study of another foreign language, or the equivalent, or consent of instructor; for d,e,f: a,b,c or consent of instructor.

Italian

144-12 (4,4,4) Elementary Italian. Open to students who have had no previous work in Italian. Must be taken in sequence.

220-4 (2,2) Intermediate Italian Conversation. (a) Practice in conversation.

(b) Additional practice in conversation. May be taken separately. Prerequisite: 144 or equivalent.

250-8 (4,4) Intermediate Comprehensive Italian. Development of comprehension of the spoken language and oral expression, reading of modern prose selections, simple composition. Must be taken in a,b sequence. Prerequisite: 144 or two years high school Italian, or consent of department chairman.

280-4 History of Italian Literature and Language. A comprehensive view of literature and language with special emphasis on the development of dominant literary themes, schools and interpretation. This course or its equivalent is the prerequisite for all Italian courses numbered above 300. Prerequisite: 250 or equivalent.

311-4 Italian Culture and Civilization. Study of significant aspects of Italian culture in a historical perspective. Designed to improve intercultural understanding and to continue the development of all language skills. Prerequisite: 280 or consent of department chairman.

351-4 Advanced Italian Conversation. Oral work of a practical nature for advanced students. Prerequisite: 280 or consent of department chairman.

352-4 Advanced Italian Composition. Rapid grammar review, daily writing practice, controlled composition. Prerequisite: 280 or consent of department chairman.

499-2 to 9 Readings in Italian. Readings in selected areas of Italian language, literature, culture, and civilization. Individual work or small groups under direct supervision of one or more members of the foreign language faculty. Prerequisites: 280, consent of department chairman.

Latin

499-24 (4,4,4,4,4,4) Readings in Latin. Basic principles of the Latin language taught through reading selections from classical, mediaeval, and Renaissance Latin. For students specializing in Romance languages, English, history, or philosophy. (a) The Human Comedy: Aesopic fables by Odo, Phaedrus, Petronius, epigrams of Martial, humorous tales of shrewish women, and rogues from classical and mediaeval literature. (b) Loyalty and Love: Cicero on patriotism, on friendship; epitaphs; Apuleius; *Love and the Soul*; lyrics from Ovid, Catullus, Petrarch, Boccaccio. (c) Historical Selections: Joseph and his Brethren (the Vulgate); Alexander, King Lear (Geoffrey of Monmouth), Charlemagne (Einhard), Joan of Arc (Aeneas Silvius). Science and Discovery: Pliny's *Natural History*, Roger Bacon, Columbus' report on America, scientific method (quarrel of the seventeenth century). Philosophy: Alcuin on inductive logic; Quintillian on education; Seneca on stoicism; Cicero on immortality. (d) Classical: Comedy by Plautus, selections from Livy's and Tacetus' histories; satire of Horace, Martial, and Juvenal, selections from philosophic works of Cicero, lyric and epic poetry. (e) Mediaeval: Romances, miracle plays, Dante's *De Monarchia*, selections from the Church Fathers, historical annals, religious and secular poetry. (f) Neo-Latin: Selections from the following translators into Latin of Greek authors: Valla's Iliad, Herodotus, and Thucydides; Ficino's Plato; Guarino's Plutarch; selections from religious writers: Melancthon, Beze, Zivingli, *Hammer of Witches*; writers on international law: Grotius; science: Copernicus, Galileo, Kepler, Linnaeus, Harvey; Mathematics: Newton, Leibnitz, Pascal; and literary selections, prose and poetry; Falengo's *Maccarouri*. A,b,c must be taken in sequence; d,e,f may be taken separately. Prerequisite for a,b,c: one year of college study of another foreign language, or the equivalent, or consent of instructor; for d,e,f: a,b,c or two years high school Latin or consent of instructor.

Portuguese

152-12 (4,4,4) Elementary Portuguese. Development of listening, speaking, reading, and writing skills on the elementary level with special emphasis on pattern practice and structure drills, and on gaining cultural insight into the Luzo-Brazilian heritage. Credit given for the entire sequence only.

Russian

136-12 (4,4,4) Elementary Russian. No previous knowledge of Russian required. Must be taken in sequence.

220-4 (2,2) Intermediate Russian Conversation. (a) Practice in conversation. (b) Additional practice in conversation. May be taken separately. Prerequisite: 136 or equivalent.

250-8 (4,4) Intermediate Comprehensive Russian. Development of comprehension of the spoken language and oral expression, reading of modern prose selections, simple composition. Must be taken in a,b sequence. Prerequisite: 136 or two years high school Russian, or consent of department chairman.

280-4 History of Russian Literature and Language. A comprehensive view of literature and language with special emphasis on the development of dominant literary themes, schools and interpretation. This course or its equivalent is the prerequisite for all Russian courses numbered above 300. Prerequisite: 250 or equivalent.

499-2 to 9 Readings in Russian. Readings in selected areas of Russian language, literature, culture, and civilization. Individual work or small groups under direct supervision of one or more members of the foreign language faculty. Prerequisites: 280, consent of department chairman.

Spanish

140-12 (4,4,4) Elementary Spanish. Open to students who have had no previous work in Spanish. Must be taken in sequence.

220-4 (2,2) Intermediate Spanish Conversation. (a) Practice in conversation. (b) Additional practice in conversation. May be taken separately. Prerequisite: 140 or equivalent.

250-8 (4,4) Intermediate Comprehensive Spanish. Development of comprehension of the spoken language and oral expression, reading of modern prose selections, simple composition. Must be taken in a,b sequence. Prerequisite: 140 or two years high school Spanish, or consent of department chairman.

280-4 History of Spanish Literature and Language. A comprehensive view of literature and language with special emphasis on the development of dominant literary themes, schools and interpretation. This course or its equivalent is the prerequisite for all Spanish courses numbered above 300. Prerequisite: 250 or equivalent.

301-12 (4,4,4) Spanish Literature from the Medieval Period Through Romanticism. (a) Spanish literature from the 12th to the 15th century; the epic, *El-Cantar Del Cid*, ballads, lyric poetry, chronicles and other prose works. (b) Representative works of the 16th and 17th centuries: Cervantes, Tirso de Molina, Lope de Vega, and others. (c) Romanticism in Spanish literature during the 18th and 19th centuries: Espronceda; Duque de Rivas, Jose Zorilla, and others. May be taken separately. Prerequisite: 280 or consent of department chairman.

304-12 (4,4,4) Modern Spanish Literature. (a) Spanish literature of the 19th century as influenced by trends of European thought of the period: Galdos, Bazan, Benavente, and others. (b) Spanish literature of the 20th century with emphasis on the novel, essay, and poetry: Unamuno, Ortega y Gasset, Garcia Lorca, and others. (c) Spanish literature of the post-Civil War period, with emphasis on the novel, drama, and poetry. May be taken separately. Prerequisite: 280 or consent of department chairman.

311-4 Spanish Culture and Civilization. Study of significant aspects of Spanish culture in a historical perspective. Designed to improve intercultural understanding and to continue the development of all language skills. Prerequisite: 280 or consent of department chairman.

312-4 Spanish-American Culture and Civilization. Analysis of significant aspects of Spanish-American culture designed to improve intercultural understanding and to develop language skills. Oral discussions, readings, oral and written reports. Prerequisite: 280 or consent of department chairman.

315-4 The New Narrative in Spanish America. The new Spanish-American short story and novel of the last two decades of the twentieth century. Prerequisite: 280 or consent of department chairman.

351-4 Advanced Spanish Conversation. Oral work of a practical nature for advanced students. Prerequisite: 280 or consent of department chairman.

352-4 Advanced Spanish Composition. Rapid grammar review, daily writing practice, controlled composition. Prerequisite: 280 or consent of department chairman.

375-9 (3,3,3) Spanish-American Literature. (a) Colonial Spanish-American literature. The main writers of the Spanish-American colonial period until independence. (b) Writers and movements of the post-colonial period until the first World War. (c) Spanish-American literature from the first World War until the present. Prerequisite: 280.

415-3 Spanish Phonetics. Analysis of the sounds of Spanish and their manner of production; intonation; levels of speech; oral practice. Prerequisite: 250 or graduate standing or consent of department chairman.

451-6 (2,2,2) Spanish Seminar. Integration of the specialized major courses and development of a comprehensive view of the major field in terms of its relationships to the growth of Western Civilization.

461-4 Spanish Stylistics. Study of writing style in Spanish and its application to the development of skill in written expression. For those who wish to do advanced work in the principles of Spanish grammar and composition. Prerequisite: 9 hours of 300-level courses.

499-2 to 9 Readings in Spanish. Readings in selected areas of Spanish language, literature, culture, and civilization. Individual work or small groups under direct supervision of one or more members of the foreign language faculty. Prerequisites: 280, consent of department chairman.

Foundations of Education

355-4 Philosophy of Education. The philosophical principles of education and the educational theories and agencies involved in the work of the schools. Prerequisite: Counselor Education 305.

399-4 Anthropological Foundations of Education. Experimental course. The dynamics of enculturation as they affect formal education and the interrelationships between education and other parts of the culture.

406-4 Anthropology and Education. The dynamics of enculturation as they affect formal education and the interrelations between education and other parts of the culture. Prerequisite: GSS 260.

431-4 History of Education in the United States. Theory and practice of formal education in the United States since the seventeenth century in the perspective of contemporary issues.

490-4 to 12 International Study in Comparative Education. Selected aspects of national systems of education examined in their social matrix. By means of direct observation, conferences, lectures, or seminars, the student is helped to gain a mature understanding of other cultures and subcultures, to evaluate critically American educational patterns in light of alternatives, and to develop fresh curricular approaches in the area of intercultural understandings through an examination of other cultural patterns. May be repeated for credit with permission of instructor.

General Business Administration

140-4 Introduction to Business. An overview of the basic nature of business in an essentially market-disciplined economic system. Emphasis on the interdisciplinary nature of business and the broad administrative principles governing organized human endeavor. Introduction to business and economic terminology and to the case method of developing analytical ability.

340-4 Organization and Decision-Making. Development of understanding of organizational behavior and decision theory and of analytical skills through case analysis and discussion. Examination of processes group formation and development, conformity and direction, influence and decision-making, problem solving, role specialization and differentiation, status and social power distribution, satisfaction, and goal internalization and commitment. Prerequisites: 140, GSS 210.

341-4 Organizational Problems. Application of the concepts, understanding, and techniques to major categories of recurring organizational problems faced by complex business units and described in case situations. Features such as position specifications, authority structures, territorial imperatives, performance measurements, and procedures involving compensation, communica-

tion, and employee selection and promotion. Designing organizational patterns to meet specific situational needs. Prerequisite: 340.

342-4 Contracts—Agency Law. Study and discussion of the terminology, definitions, and principles of contract law applicable to the contractive problems in the operation of a business, including the relevant provisions of the uniform commercial code. The application of the principles of agency law by the entrepreneur in operating his firm, and his legal liability to his agency and third parties with whom he deals.

390-4 Business Communication. Improvement of the understanding of the vital role of effective communication in business and development of skill in business writing with emphasis on the preparation of reports. Opportunities to learn effective use of a business library; to collect and interpret data; to present information in a logically organized and acceptable form. Prerequisite: completion of General Studies written skills requirement.

430-4 Personnel Administration. The manager's role in effectively using manpower resources to achieve company objectives is the major focus. The personnel function as a corporate staff organization with its specialized task and liaison/service role to management and employees. Case discussion on topics assist in developing the varied responsibilities of managing personnel.

431-4 Leadership in Formal Organizations. Designed to develop understanding of the context and function of the leadership role in formal organizations through the examination of leadership research and theories of leadership effectiveness. The various bases for exercising influence and the situational factors affecting leadership. Emphasis on understanding the leadership function as well as developing thinking and action capabilities for improving leadership effectiveness.

432-4 Management of Conflict and Change. The study of the function of managing organizational change processes at the individual, group, and total organization levels of analysis. Understanding the sources, nature, uses, and resolution of differences and conflict at the interpersonal and intergroup levels of analysis is a major problem area for study within the context of organizational change. Emphasis on student development of skills pertinent to planning and implementing organizational change strategies.

433-4 Advanced Studies in Organizational Behavior and Development. A capstone course to develop an understanding of relationships between individuals, social interaction patterns, technology, and organizational arrangements and their environmental contexts. The objective is to explore the dimensions of effective organizational environments. The relationships between man and systems (technical and organizational) and the broader environment is the focal point. Emphasis on analyzing and evaluating related contemporary theories and issues.

434-4 Management of Human Resources. Contemporary issues in manpower utilization, including retraining of displaced technical personnel, problems of manpower development with minority groups, data banks as tools for human resources planning, pre-employment interviewing and selection, man and machine system considerations, and employee counseling for individual development. Prerequisite: senior standing.

440-4 The Legal Environment of Business. Varied facets of the external and internal legal environments within which business firms operate. Use of cases and readings which describe and analyze the legal framework supporting, facilitating, and guiding everyday business decisions. Common law, statutory law, administrative law as they affect business environment. Prerequisite: 140.

441-4 Business Policy. Development of a top-management view leading to the formulation of general policies to be followed by the organization. Determination of objectives, the development of plans for their achievement, organizing administrative personnel to carry them out, implementation of programs, measurement of results, and the reappraisal of objectives, plans, and action-patterns in the light of evolving situations. Prerequisites: 341, 440.

449-1 to 4 Independent Study in Business Administration. An investigation of topical areas in greater depth than regularly titled courses permit. Individual or small group readings and projects. Prerequisite: consent of instructor and department chairman.

Geography

- 302-4 Introduction to Physical Geography.** A study of the earth's physical surface, world distribution patterns of the physical elements, their relationship to each other, and their importance to man. Field trip and laboratory work.
- 304-4 Introduction to Economic Geography.** Study of the spatial distribution and interaction of economic activities. Introduction to locational theory.
- 306-4 Introduction to Cultural Geography.** An overview of the geographic viewpoint in the study of the human occupancy of the earth. Aspects of population, settlement, and political geography, and a generalized survey of major world cultural areas.
- 308-4 Introduction to Geographic Methods.** Designed to introduce the geographic methods of integrating physical, economic, and cultural elements in the study of areas. Cartographic and quantitative techniques utilized.
- 310-8 (4,4) Introduction to Cartographic Methods.** Properties of maps and air photos, their uses and sources; map symbols, map projections, and map construction. Introduction to the use of quantitative techniques as applied in geographic study. Laboratory.
- 400-4 The Earth in Space.** Planetary and stellar composition and structure; energy sources and arrangements of the universe as to position, size, dimensions, age, origin, and evolution.
- 401-4 The History of the Earth.** Methods and problems of interpreting geologic history. Physical history of continents (emphasis on North America) in terms of rocks, orogenies, and history of development and evolution of organisms and their adaptation to various environments.
- 402-12 (4,4,4) Physical Geography.** (a) Soils, (b) climate, (c) water.
- 403a-4 Principles of Geomorphology.** Processes and structures influencing the shape of the land surface.
- 403b-4 Regional Geomorphology of the Eastern United States.** Description, origin, and geomorphic history of the natural landform regions of the United States from interior lowlands east. Prerequisite: 403a or consent of instructor.
- 403c-4 Regional Geomorphology of the Western United States.** Description, origin, and geomorphic history of the natural landform regions of the United States from the Great Plains west. Prerequisite: 403a or consent of instructor.
- 404-12 (4,4,4) Urban Geography and Ecology.** (a) Urban Geography and Ecology. (b) Industrial Location. (c) Resource Base. Prerequisite: 304.
- 405-8 (4,4) Location of Economic Activities II.** (a) Area development. (b) Transportation.
- 406-8 (4,4) Population Geography.** (a) World population patterns. (b) Problems in population geography. Prerequisite: 306.
- 407-8 (4,4) Cultural Geography.** (a) Historical geography. (b) Settlement geography.
- 410-8 (4,4) Quantitative Methods in Geography.** Statistical and computer research techniques for geographers.
- 412-1 to 2 Illinois Conservation Problems.** Such problems as water, land use, air, mineral use, recreation, and waste disposal.
- 416-8 (4,4) Cartography.** Instruction and practice in (a) thematic mapping, (b) planimetric mapping. Prerequisite: 310a.
- 417-4 Air Photo Interpretation.** Techniques in the use of air photos as source material for research in the physical and social sciences. Laboratory. Prerequisite: 310a.
- 424-4 Regional Problems in Conservation.** The distribution, use, and interrelationship of the resources of the U.S. and the conservation techniques applied to them. Field study of selected cases.
- 426-12 (4,4,4) Photogrammetry.**
- 443-4 Teaching of Geography.** (Same as Secondary Education 443.) Presentation and evaluation of methods of teaching geography. Emphasis on geographic literature, illustrative materials, and teaching devices suitable to particular age levels.
- 444-4 Teaching of Earth Sciences.** (Same as Secondary Education 444.) The objectives of earth science education with emphasis on methods, skills, and techniques of instruction in lectures and laboratories. Prerequisite: junior standing.

- 450-3 to 15 Travel Study Course.** Enrichment through travel, supervised study, and readings on areas visited.
- 461-8 (4,4) Geography of Anglo-American.** (a) Tropical. Physical, cultural, and economic coverage. (b) Regional. Treatment of specific areas.
- 462-8 (4,4) Geography of Europe.** (a) Topical. Physical, cultural, and economic coverage. (b) Regional. Treatment of specific areas.
- 463-7 (4,3) Regional Geography of Mediterranean Lands and Southwestern Asia.** (See 462.)
- 464-7 (4,3) Regional Geography of Soviet World.** (See 462.)
- 465-7 (4,3) Regional Geography of Africa.** (See 462.)
- 466-7 (4,3) Regional Geography of Asia.** (See 462.)
- 467-8 (4,4) Geography of Latin America.** (a) South America. Physical, cultural, and economic coverage. (b) Middle America and Caribbean. Physical, cultural, and economic treatment.
- 468-7 (4,3) Advanced Regional Geography: Oceania.** (See 462.)
- 470-20 (4,4,4,4,4) Urban Planning.** (a) History of planning, (b) planning and politics, (c) planning and housing, (d) planning problems, (e) planning seminar.
- 471-8 (4,4) Regional Environmental Planning.** (a) Regional planning. (b) Location of urban and regional economic activity.
- 472-2 to 12 Planning Internship.** Work experiences in various planning agencies, both public and private, located anywhere in Illinois or nearby states. Senior and graduate students are screened for these internships. For primary concentrations only. Prerequisite: senior or graduate standing.
- 475-4 to 8 Field Study of Environmental Problems.** Field investigation of physical features of the environment and problems relating to man's use of the natural environment and resources. Prerequisite: advanced standing.
- 480-4 Workshop in the Teaching of Geography.** The geographic approach to man's activities in various cultural, economic, and political geography problems. Skills, techniques, and visual materials essential to the teaching of geography. Prerequisite: 8 hours of geography or a teacher of geography.
- 490-1 to 4 (8 total) Tutorial in Geography.** Individual and small group conferences with staff members to examine geographic concepts.

Government

- 200-4 Introduction to Political Science.** A general introduction to the study of politics with emphasis on contemporary theories for ordering political systems, the institutions of government and their processes, and the social roots of political behavior.
- 203-4 American National Government and Politics.** A study of the theory, organization, and operation of American national government and its social context. Meets State Constitution requirement.
- 308-4 Data Analysis and Elementary Statistics.** (Same as Sociology 308.) Elementary data analysis including coding of data, data processing, table construction, and simple multivariate analyses. Introductory statistical concepts such as measures of central tendency, measures of dispersion, probability and tests of significance.
- 320-4 Introduction to Public Administration.** A study of principles and problems of administrative organization and co-ordination, personnel and fiscal management, regulatory administration, and public responsibilities of administrative agencies. Prerequisite: 203.
- 321-1 to 6 Readings in Government.** Prerequisite: consent of instructor.
- 330-3 Illinois Government.** The development and functioning of government in Illinois.
- 340-12 (4,4,4) American Political Institutions.** (a) The American Chief Executive. A review of the legal, political, and administrative responsibilities of the chief executive in national, state, and local political units in the United States, with emphasis on the national level. (b) The American Legislative Process. An investigation of the legislative organization and processes in Congress and state legislatures. (c) The American Judicial System. A survey of the nature, purposes, and limitations of law as administered and interpreted by courts. The development, organization, and operation of the American judicial system with emphasis on the federal level. Prerequisite: 203.

- 342-4 Issues in American Public Policy.** A study of domestic public policy in the United States. Major emphasis on the substantive results produced. Such policy areas as poverty, civil rights, education, the regulation of business, labor and agriculture.
- 343-4 American State Governments.** An examination of the role of the states in the federal system and a survey of the governmental processes within the fifty states. Prerequisite: 203.
- 344-4 Local Government in the United States.** A survey of the structure, functions, and problems of the counties, municipalities, towns, townships, and special districts in the United States. Prerequisite: 203.
- 345-8 (4,4) American Political Parties and Interest Groups.** (a) A study of the historical development of American political parties. (b) An analysis of contemporary American political parties and interest groups. Prerequisite: 203.
- 350-12 (4,4,4) The Political Systems of Major European States.** (a) A comparative study of the British and German political systems. (b) An analysis of the French and Italian political systems. (c) An examination of the organization and operation of the Soviet political system. Prerequisite: 200.
- 355-12 (4,4,4) Political Systems of Major Non-European States.** (a) Latin America. An examination of the political systems of five representative states: Mexico, Brazil, Ecuador, Cuba, and Uruguay. (b) Asia. An analysis of four major political systems: China, Japan, India, and Indonesia. (c) Africa. A survey of African political systems. Prerequisite: 200.
- 370-4 Introduction to International Relations.** The nation-state system, diplomatic practice, problems of national interest, power, ideology, and conflict; strategy and instruments of foreign policy. Prerequisite: 203.
- 385-4 Introduction to Political Theory.** An introduction to the basic concepts and topics of political theory. Prerequisite: 200.
- 386-4 American Political Ideas and Their Origins.** Examination of eighteenth and nineteenth century sources of contemporary American political ideas. The American Revolution, the Constitution, age of Jackson, the Civil War, and the industrial and westward expansion; readings include works by Jefferson, Madison, Calhoun, Lincoln, De Tocqueville, as well as Supreme Court decisions and political speeches.
- 387-4 American Political Ideas in the Twentieth Century.** Examination of twentieth century American political ideas as they affect modern American political life. Pragmatism, Wilsonian liberalism, progressivism, the New Deal, and contemporary American political ideologies.
- 410-8 (4,4) Quantitative Methods in Government.** Statistical and computer research techniques for political scientists. (Same as Sociology 410.) Prerequisite: (a) 308 or consent of instructor or Psychology 211b.
- 421-4 Public Personnel Administration.** An analysis of problems of recruiting, retaining, and developing public service employees and related topics such as political neutrality, motivation, security, and manpower planning. Prerequisite: 320.
- 422-4 Public Financial Administration.** A survey of the problems encountered in the administration of public financial resources, including budgeting, accounting, auditing, and fiscal and monetary policy. Prerequisite: 320.
- 423-4 Comparative Public Administration.** An introduction to the administrative organization and practice of selected Western and non-Western nation states. Prerequisite: 320.
- 424-4 Administrative Law.** A study of the principles of administrative law in the United States with special emphasis on the law of public officers and on legal procedure for the enforcement of bureaucratic responsibility. Prerequisite: 320.
- 425-4 Constitutional Law and the Mass Media.** Meaning of the First Amendment of U.S. Constitution, as interpreted by the U.S. Supreme Court and the Illinois Supreme Court, in relation to speech, assembly, and mass media (press). Development and current status of American jurisprudence as to libel, invasion of privacy, regulation of "obscenity," prior restraint, and developing "right of access" to mass media by minority opinion groups. Surveys trends in FCC administration of broadcast standards and contrasts such administration against parallel judicial standards.
- 426-4 Public Administration and Public Policy Formation.** An analysis of the

role of formal organizations in contemporary society with an emphasis on decision-making in government administrative organizations. A treatment of internal and external forces affecting the policies and structure of operations in these organizations. Prerequisite: 320.

429-4 Topics in Public Administration. An intensive study of an administrative problem or process. Primarily for government students with advanced standing. May be repeated for total of 8 hours credit when content differs and consent of department chairman is received. Prerequisite: 320.

442-4 Politics in Metropolitan Areas. An investigation of significant problems that face metropolitan areas. Emphasis on the political implications of these problems and the difficulties involved in attempting to solve them. Prerequisite: 203.

444-4 Ethnic Politics in the United States. An analysis of the impact of the ethnic factors, race, religion, national origin and ancestry, on the politics in the United States. A discussion of the difficulties in participation and contribution of the various minority groups to the structure and process of American politics. Prerequisite: 203.

445-12 (4,4,4) American Political Behavior. (a) American Voting Behavior. Survey of studies of American elections emphasizing the psychological, sociological, and political-legal bases of voting behavior. (b) Personality and Politics in the United States. A survey of research findings concerning the relationship of psychological and sociological characteristics to the political process. (c) Public Opinion, Propaganda, and the Mass Media in the United States. A survey of research findings concerning the relationship of communications content and communications media to the political process. Prerequisite: 203.

446-4 Public Policy Analysis. An intensive analysis of a selected area of public policy. Content varies from quarter to quarter. Examples of areas are education, science and technology, the environment, or welfare. May be repeated for total of 8 hours credit. Prerequisite: 203.

447-4 Interest Groups in American Politics. An examination of interest groups in the American political process. Emphasis given both to the major theoretical arguments concerning interest groups and to the role which particular interest groups play in politics. Prerequisite: 203.

448-4 Intergovernmental Relations in the United States. An introduction to the relationships—political, legal, fiscal, administrative, etc.—between and/or among the national, state, and local governments. Prerequisites: 203, 343, and 344 or consent of instructor.

449-4 Topics in American Politics. An intensive examination of one significant facet of the American political system. Primarily for government students already having had considerable course work in the area. May be repeated for total of 8 hours credit when content differs and consent of department chairman is received. Prerequisite: 203.

456-4 Topics in Comparative Politics. A selective and detailed study of a major question of relevance to students of comparative politics. May be repeated for total of 8 hours credit when content differs and consent of department chairman is received. Prerequisite: 350 or 355.

472-8 (4,4) International Organizations. (a) General International Organizations. Description and analysis of both past and contemporary general international organizations, with special emphasis on the principles, structure, decision-making processes, operations, and problems of the United Nations and its related agencies. (b) Regional International Organizations. Examination and comparative analysis of the foundations, nature, and functioning of contemporary regional organizations, their relationship to the United Nations System, and their role in world politics. Attention is focused on such bodies as NATO, the Warsaw Pact, the OAS, SEATO, the Commonwealth, the Arab League, the Organization for African Unity, the European Communities, Comecon, and Lafta. Prerequisite: 200.

473-16 (4,4,4,4) Foreign Politics of Major Powers. (a) American Foreign Policy. Institutional framework and decision-making processes of American foreign policy; idealist and realist schools of thought; the national interest in historic and geographic perspective. (b) Soviet Foreign Policy. Analysis of objective strategy, and tactics of Soviet foreign policy, with emphasis on the combination of conventional and unconventional instruments including

role of Communist parties. (c) Foreign Policies of Western European States. Analysis of foreign policies of the major European powers, with emphasis on structural changes incident to the two world wars and the dissolution of colonial empires. (d) United States and Latin American Relations. Analysis of the foreign policy of the United States towards the Latin American nations with emphasis on the historical development of Pan-Americanism and its effect on the foreign policies of the member nations. Prerequisite: 370.

479-4 Topics in International Relations. A detailed study of a selected topic. Primarily for government students with advanced standing. May be repeated for total of 8 hours credit when content differs and consent of department chairman is received. Prerequisite: 370.

481-8 (4,4) Descriptive Political Theory. (a) Contemporary Systematic Political Theory. Intensive study of major contemporary attempts to devise a general systems theory of politics. (b) Contemporary Political Analysis. The character of scientific inquiry as it relates to the discipline of political science. Prerequisite: 200.

484-12 (4,4,4) History of Western Political Theories. Various topics are employed as analytical tools in the chronologically successive examinations of certain theories in the history of Western political thought. (a) The theories of Plato, Aristotle, the early and middle Stoa, Cicero, Augustine, and Aquinas. (b) The theories of Machiavelli, Bodin, Hobbes, Locke, Montesquieu, Rousseau, Burke, and Bentham. (c) The theories of Publius, Hegel, Comte, Mill, Marx, Green, Kropotkin, Sorel, the Fabians, and John Dewey. Prerequisite: 385.

485-4 Contemporary Political Philosophy. Analysis of recent works in normative political theory. Such thinkers as Arendt, Strauss, Voegelin, Juvenal, Oakeshott, as well as the political ideas associated with existentialism, the Freudian left, and postwar European communism, socialism, liberalism, Christian democracy, etc. Prerequisite: 385.

489-4 Topics in Political Theory. A comprehensive examination of the works of one major political thinker and the treatment of one major topic or idea by selected political thinkers. Primarily for government students with advanced standing. May be repeated for total of 8 hours credit when content differs and consent of department chairman is received. Prerequisite: 385.

495-12 (4,4,4) Constitutional Law. (a) A study of the development of American constitutional law chiefly through judicial opinion. Emphasis is placed on the analysis of federalism and the distribution of powers. (b) A study of government power and the rights of property. Special attention is directed to tension between the public welfare and private rights, the extent of government power to regulate property rights, and state versus federal power over commerce and taxation. (c) A study of the nature and extent of civil rights and liberties in the United States. Special attention to freedom of speech, press, and association, separation of church and state, equal protection of the laws, rights of persons accused of crime. Prerequisite: 203.

496-4 American Judicial Behavior. Introduction to the methods, goals, and limitations of behavioral research on American courts and judges. Attention given to the impact of technology on the judicial process. Prerequisite: 340c.

498-2 to 8 Legal Aid Internship. Assisting legal-aid attorneys and public defenders with legal research, preliminary interviews of clients, investigating of complaints, and organizing welfare-rights groups. May be taken for one or two quarters, but no more than 8 hours credit may be earned. Students work as paraprofessionals ten hours per week for 4 hours credit and twenty hours for 8 hours of credit. Not for graduate credit. Prerequisite: 340c or 495 recommended.

499-4 to 8 Internship in Government. Internships consist of full-time day-to-day assignments in Congressional or administrative offices under the supervision of regular professional employees of that office. Arrangements are made in advance to ensure that the student's internship experience is varied and relevant to his professional development, while also making a positive contribution to the office to which he is assigned. Internships may be one or two quarters duration, depending on arrangements and student interest. Not for graduate credit. Prerequisite: 16 hours of graduate work or senior standing with a government concentration.

Health Education

201-3 Healthful Living. Personal and community health. Presents scientific health information as a basis for developing wholesome health attitudes and practices.

205-4 Principles and Foundations of Health Education. Introduction to philosophy and history of health education as well as functions of the school health department and voluntary agency interaction in the health education program. Prerequisite for all 300-level courses and above.

300-3 Communicable Disease. A study of the communicable diseases with emphasis on control and principles of prevention, and application of these principles to the individual school and community.

302-4 Driver Education and Training. Preparation of the college student for teaching driver education and training in the secondary school. Prerequisite: a valid driver's license.

313s-4 Introduction to Safety Education. Preparation for safety education in the public schools. Concerned with safety as a social problem, development of safety skills, accident causes, teacher liability, and research in the field.

334s-4 First Aid. Red Cross First Aid Course with lectures, demonstrations, and practical applications. Red Cross Instructor's Certificate given.

350-4 Methods and Materials in Elementary Health Education. Designed to show the prospective teacher fundamental processes, techniques, and material aids involved in elementary school health teaching.

355-4 Introduction to Public Health. Philosophy, organization, administration, and functions of federal, state, and local, official and voluntary public health agencies. Periodic field trips involved.

400-4 Health Appraisal of School Children.

415s-4 Workshop in Driver Education and Traffic Safety.

443s-4 Methods and Materials in Driver Education.

445s-2 Driver Simulation. For in-service and pre-service teachers and supervisors of driver and traffic safety education. A program enabling teachers to instruct a large number of students in correct driving procedures and orient students to emergency situations too hazardous to duplicate on the highway. Prerequisite: 443s.

460-4 Methods and Materials in Secondary School Health Education.

461-4 Workshop in Health Education.

470-4 Workshop in Sex Education for Elementary Teachers. (See Elementary Education 470.)

471-4 Organization and Administration of School Health.

480s-4 Workshop in Safety Education.

History

100-4 Survey of Ancient Civilization. Ancient Period to 1000 A.D.

102-4 Survey of Asian Civilization. An introduction to the history of East Asia from the earliest times to the twentieth century. Emphasis on China and Japan.

107-4 The World in Modern Times: 1919 to the Present. An introduction to the major economic, political, and cultural developments in the world since 1919.

306-12 (4,4,4) History of Rome. (a) The Republic. (b) The Western Empire. (c) The Eastern Empire. Prerequisite: 100 or equivalent.

308-4 History of Illinois. A history of the State of Illinois from French settlement to the present. A survey of the political, social, economic, and cultural history of Illinois.

309-4 The Negro in America. The role of the Negro in America from the 17th century to the present with emphasis on the period since 1865.

313-4 Witchcraft, Magic and the Occult. The general theory of magic and of the history of magic and witchcraft in the western world.

316-12 (4,4,4) History of Africa. (a) Africa south of the Sahara from pre-historic to colonial times. (b) Africa south of the Sahara from colonial times to the present. (c) Africa north of the Sahara. Emphasis on the lands, people, and state from Islamic times to the present.

- 317-8 (4,4) **The Westward Movement in American History.** (a) To 1845. (b) 1845 to the present. The land policies, immigrations, settlements, and exploitation of the American lands since the first European settlements.
- 322-12 (4,4,4) **History of the Near East.** (a) The formation of Islamic civilization. (b) Islamic civilization in the period of the Crusades and the Ottoman Empire. (c) Nationalism and modernization in the Near East.
- 332-12 (4,4,4) **Medieval History.** (a) Early Middle Ages, 500-1000. (b) High Middle Ages, 1000-1300. (c) Late Middle Ages, 1300-1500. Prerequisite: sophomore standing.
- 334-12 (4,4,4) **History of China.** The study of Chinese civilization from pre-historic times to the present with emphasis on institutional development, Chinese society, and the principal intellectual achievements. (a) Pre-modern China to 1800; (b) modern China to the present; (c) Chinese intellectual history.
- 335-4 **History of Modern Japan.** A study of Japan in the 19th and 20th centuries with particular reference to its relationships with the Western World. An emphasis on the traditional versus the Western-inspired elements in Japan in modern times.
- 338-8 (4,4) **History of Greece.** (a) Hellenic history. (b) 401-133 B.C. Prerequisite: 100 or equivalent.
- 341-8 (4,4) **History of Religion in Western Civilization.** (a) Religion in European history. (b) Religion in the United States. A study of religious institutions, ideas, and practices in Western civilization and their relationship to society.
- 342-8 (4,4) **History of Canada.** (a) French period to Dominion status (1867). (b) Modern Canada since 1867. The origins, and political, economic, and social development of the modern Canadian state.
- 352-12 (4,4,4) **History of Latin America.** (a) Colonial Latin America, (b) Independent Latin America, (c) Latin America in World Affairs. May be taken separately or in any sequence.
- 355-8 (4,4) **History of Italy.** Political, intellectual, and social history of Italy (a) from 1494 to 1870; (b) from 1870 to the present.
- 372-12 (4,4,4) **History of Russia.** (a) 900-1801-The Early Empire. (b) 1801-1914-The Late Empire. (c) Since 1914-War, Revolution, and Soviet Russia.
- 390-4 **The Women's Rights Movement in the United States.** A history of the struggle women have had in the United States for legal, political, economic, and social rights. Attention to leaders in the movement as well as the influence of and connection with other reform movements.
- 401-8 (4,4) **History of the South.** (a) The Old South. (b) The New South. An intensive study of the social, economic, political, and cultural developments of the South.
- 405-4 **The American Civil War.** Emphasis upon the clash of national and sectional interests: economic, political, and military aspects of the conflict. Prerequisite: GSS 301 or consent of instructor.
- 406-4 **Post Civil War America: 1865-1896.** Prerequisite: GSS 301.
- 408-8 (4,4) **History of the Ancient Near East.** (a) Earliest times to 1200 B.C. (b) 1200 B.C. to 330 B.C. Prerequisite: 100 or equivalent.
- 410-2 to 5 **Special Readings in History.** Supervised reading for students with sufficient background. Registration by special permission only. Offered on demand. Prerequisites: minimum 4.0 average in history, consent of chairman.
- 412-8 (4,4) **Intellectual History of the United States.** (a) To 1865. (b) Since 1865. Prerequisite: a course in U.S. history.
- 414-8 (4,4) **History of Eastern Europe.** (a) 1815-1918. An analysis of the rise of nationalism with emphasis on the problems of the Austro-Hungarian Monarchy. (b) Since 1918. An analysis of the problems of the Succession States.
- 415-12 (4,4,4) **Early Modern Europe.** (a) Renaissance. (b) Reformation. (c) Age of Absolutism and Enlightenment. Prerequisite: GSS 101 or consent of instructor.
- 417-16 (4,4,4,4) **Advanced English History.** (a) Constitutional and Legal History. (b) Tudor England, 1485-1603. (c) Stuart England, 1603-1714. (d) The Empire-Commonwealth. Prerequisite: GSS 101, 102, or consent of instructor.
- 420-4 **The French Revolution.** A sketch of the passing of feudalism in France,

the background and development of the revolutionary movement, and the Napoleonic period. Prerequisite: GSS 102 or consent of instructor.

421-12 (4,4,4) Great Britain Since 1760. (a) 1760-1850; (b) 1850-1914; (c) since 1914.

424-12 (4,4,4) Intellectual History of Modern Europe. A study of the principal intellectual currents in European history from the Age of Louis XIV to the present. (a) 17th and 18th centuries; (b) 1815-1870; (c) 1870-1950. Prerequisites: GSS 101, 102.

425-4 American Colonial History. Founding of the American colonies and the development of their institutions to 1763. Prerequisite: GSS 300.

426-4 The Revolution and the Constitution. A study of the conflicting forces which produced the American Revolution, led to the creation of the federal union, and shaped the early republic. Prerequisite: GSS 300.

427-4 History of the Arab-Israeli Conflict. A history of the origins and developments of relations between the Arab world and Israel.

428-4 The Age of Jackson. Origins, background, and development of that phase of American democracy associated with the Jacksonian era. The political, social, and economic history of the years 1815-1844 considered in detail. Prerequisite: GSS 301.

429-4 Problems in Contemporary East Asia. A study of problems which the East Asian nations (China, Japan, Korea, and Vietnam) have encountered in their efforts to modernize their states and societies. Emphasis on reforms, revolutions, and diplomatic relations. Prerequisite: a course in Asian history.

430-12 (4,4,4) Late Modern Europe. (a) Age of Revolution, 1815-1880. (b) 1880-1918. (c) Since 1918. Age of Dictatorships.

431-4 Problems in the Religious History of the Modern West. A study of critical issues of theological adaptation, institutional accommodation, and church-state relationship which characterize the religious history of Europe and America since the seventeenth century. Attention to factors contributing to crises in modern religious thought and institutions, to the various responses of religious, social, and political institutions, and to the implications of these responses for Western societies.

434-4 Problems in the History of the Modern Near East. A study of select problems relevant to contemporary times, e.g. the Great Powers and the Near East since World War I, Arab social and intellectual thought, Islam and the West.

435-12 (4,4,4) Advanced American History. (a) 1896-1921. (b) 1921-1945. (c) 1945 to present.

437-8 (4,4) American Military History. (a) The development of American military institutions and their place in American society to 1914. (b) The increasing power and influence of the military establishment in an era of global conflict. Prerequisite: a course in U.S. history.

440-8 (4,4) History of American Diplomacy. (a) To 1919. (b) Since 1919.

445-4 The Russian Revolutions: 1900-1930. A study of the revolutions and civil war of 1917-1921 within the context of the problems which Russia encountered under the Tsarist regime, the Tsarist government's efforts to solve them, and the extent to which the Soviet government continued or changed Tsarist policies. Delineation of the relationship between Russian and Communist elements in shaping Russian Communism.

446-4 The Grand Duchy of Moscow, 1450-1613. Economic, political, and social relations in the emerging Russian state; foreign affairs and Muscovite expansion; Russia, the Renaissance, and the Reformation. Prerequisite: GSS 101 or equivalent.

447-4 Problems in Russian Social and Cultural History. An overview of Russian cultural history concentrating on such problems as the schism and the Old Believers, the *mir*, definition of the role of the autocrat, the police, and law in Russian society. Prerequisite: one course in Russian studies.

451-8 (4,4) A Survey of Historical Writing. (a) Classical and European historiography. (b) American historiography. Prerequisite for a: GSS 101, 102; for b: a course in U.S. history.

452-4 Historical Research. The rules of historical research studied and applied to a selected topic. Required of all students with a primary concentration in history. Prerequisite: junior standing.

453-8 (4,4) History of Modern France. (a) An in-depth study of the problem

of nineteenth century France which led from an empire to a democratic republic. (b) A study of France in the twentieth century.

454-4 Biography in American History. Outstanding leaders and their contributions to the history of the United States. Attention to historical writers who specialize in biography. Prerequisite: a course in U.S. history.

455-4 Men and Women of Modern Europe. A biographical history course. A study of the lives and contributions of leading figures of the eighteenth, nineteenth, and twentieth centuries.

456-8 (4,4) Recent German History. (a) Germany from the close of the Napoleonic Wars through unification. (b) Germany from the Second Empire through World War II. Prerequisite: GSS 102 or consent of instructor.

458-8 (4,4) Science and Civilization. (a) To 1500. (b) 1500 to 1900. Prerequisites: GSS 101, 102.

460-12 (4,4,4) Social and Intellectual History of the Middle Ages. (a) 500-1000. (b) 1000-1250. (c) 1250-1500.

470-4 History of Brazil. The history of Brazil from the fall of the Empire until the present.

471-8 (4,4) History of Mexico. (a) Spanish conquest to the death of Juarez. (b) Death of Juarez to the present.

473-8 (4,4) The Caribbean Area. (a) Island States of the Caribbean. (b) Central American Area.

477-8 (4,4) American Economic History. Aspects of American economic history from (a) the colonial period to 1860 and (b) from the Civil War to 1929, with special attention to recent econometric studies of the American growth. Prerequisite: a course in U.S. history.

Honors Hours

101, 201, 301, 401-16 (1 to 4) Dean's College. Special and pertinent activity, designed and supervised by carefully selected faculty members, suited to advance the educational development of a Dean's College student (e.g. work on a specific project, progress through a set of assigned readings, preparation of a major paper, etc.).

Humanities

301-3 to 4, 302-3 to 4, 303-3 to 4 Humanities Honors. Prerequisites: sophomore standing, invitation of the Humanities Honors Program Committee.

Human Services

101-12 (4,4,4) Orientation to Human Services. A seminar on human problems in American society, focusing on the interrelated topics of poverty, education, employment, delinquency, crime, health, and welfare. Occupations pertinent to the alleviation of these problems are explored. Field trips to social agencies and institutions. Prerequisite: consent of instructor.

201-12 (4,4,4) Field Study in Human Services. Prerequisite: 101.

301-12 (4,4,4) Research in Human Services. Emphasis on applied research in such fields as demography, ecology, education, economic development, criminal behavior, and social planning. Acquisition of skills in the areas of problem formulation, questionnaire construction, interviewing, observation, data analysis, and program evaluation. Prerequisite: consent of instructor.

401-12 (4,4,4) Practicum in Human Service. A year-long concentrated practicum experience with extensive supervision and weekly seminars. Each quarter focuses upon a broad topical area. (a) Descriptive objectives of the human service system. (b) Services and operations that are dispensed. (c) A systems approach to planning for change. Each quarter includes a project designed to capitalize upon the experience by applying practically the entire human service degree program. Not for graduate credit. Prerequisite: consent of instructor.

402-1 to 8 Seminar: Selected Topics. Seminar discussions devoted to human service systems. Content varies depending upon the interest of the students and faculty. Prerequisites: senior standing, consent of instructor.

404-4 Volunteer Programs in Juvenile Court Settings. An evaluation of the economic, judicial, and social issues leading to the Volunteer Probation Movement. Techniques for organization and assessment of community-based volunteer programs related to youth corrections. The historical development, the purpose, structure, function, operation, and procedures for the implementation of volunteer programs for dealing with youthful offenders in trouble with the law. Prerequisite: consent of instructor.

405-4 The Etiology of Juvenile Delinquency. An indepth survey of various factors which have been proposed as having a causative relationship to juvenile crime. A variety of theoretical positions regarding delinquency are critically examined and evaluated in light of relevant research in the area. Acquaintance with the wide variety of delinquency causes which have been proposed and critical appraisal of a number of the more important theoretical positions. Prerequisite: consent of instructor.

408-4 Treatment Modalities in Corrections. A survey of the treatment modalities currently being applied in the human services. Prerequisite: consent of instructor.

409-4 Community Based Programs: Corrections in the Community: Presentation of the rationale for community-based programming for the offender and exploration of existing and potential programs. Focus on group care homes, half-way houses, foster care, expanded use of probation, youth service bureaus, youth hostels, and other community-based programs directed toward the juvenile and adult offender. Prerequisite: consent of instructor.

Instructional Technology

401-4 Introduction to School Librarianship. Organization of library materials for effective service. Acquisition, classification, cataloging, preparation, preservation, and circulation. Laboratory assignments.

402-4 Book Selection. Principles for selection and evaluation; use of standard selection aids, reviews and annotations, including policies governing the building and maintenance of the collection.

403-4 School Library Functions and Management. Effective library services in relation to the educational objectives of elementary and secondary school programs: organization, supervision, finance, housing, equipment, standards, and evaluation.

405-4 Library Materials for Children. Study of the aids, methods, and criteria for the selection and use of books and other instructional materials for children in the elementary schools. Open to juniors with consent of instructor.

406-4 Library Materials for Adolescents. A study of the aids, methods, and criteria for the selection and use of books and other instructional materials for the students in the high school. Open to juniors with consent of instructor.

407-4 Basic Reference Sources. Evaluation, selection, and use of reference sources for elementary and secondary school libraries. Principles and methods of reference service.

408-4 Introduction to Cataloging and Classification. Underlying principles, existing theories, practical applications and experience in the cataloging and classification of book type materials.

410-4 Public Library Administration. Administration of municipal, county, and regional libraries, both large and small, with emphasis on meeting the needs of different types of communities.

413-4 Cataloging of Non-Book Materials. The classification, cataloging preparation, and circulation of all types of non-book material such as films, filmstrips, slides, realia, etc.

417-4 Audio-Visual Methods in Education. Selection and utilization of instructional materials in the learning environment, elementary through adult levels. Audio and visual materials and procedures are emphasized with some attention given to bibliographies and reference books for teachers.

420-4 School Library Activities and Practice. Supervised practice and observation integrated with instruction in typical activities of school librarianship: storytelling, publicity, developing units of library instruction, and work with students. Prerequisites: 403, 405, or 406 and 407.

430-2 Basic Audio-Visual Maintenance Techniques. Basic instruction in simple

maintenance techniques required to keep audio-visual equipment operating in instructional situations. Useful in media centers without services of an audio-visual technician. Laboratory type course with short lectures.

440-2 Photography for Teachers. Techniques of picture-taking and the preparation of color slides of community resources for use in classroom instruction and for school public relations.

445-4 Preparation of Teacher-Made Audio-Visual Materials. Laboratory practice in the preparation of bulletin boards, opaque materials, models, slides, recordings, feltboards, and other graphic materials. Prerequisite: 417 or consent of instructor.

456-4 Graphics for Instructional Television. Preparation of visual materials for instructional television programs for teaching in home schools. Prerequisite: 445.

457-4 Radio and Television in the Classroom. Educational programs and their value to the teacher in the classroom. Sample tapes of radio programs and kinescopes are used.

458-4 The Medium of the Motion Picture. A study of the full range of expression by motion pictures including the documentary, theatrical, educational, experimental, and industrial films. Representative films are screened.

470-4 Programmed Automated Instruction. The principles and practices of writing both linear and intrinsic types of programmed instruction with emphasis on pictorial and performance branches. Individual experience in planning and producing programs.

Journalism

101-3 Journalism and the Day's News I. The role of the press in modern society by surveying contemporary newspapers and magazines and how they cover the day's news; interpretation of the day's events in response to information and commentary from the print media; attention to the development of the newspaper and other media in America.

103-3 News. Study of the newspaper story with experience in reporting, writing, and rewriting the news.

201-8 (4,4) News Writing and Editing. Advanced practice in reporting and writing the news; preparation of copy for publication in local media; copy editing; introduction to typography and makeup. Two-hour laboratory session required. Prerequisite: 103.

210-6 (3,3) Introduction to Photojournalism. Experience with cameras used in journalism; darkroom techniques, including developing, enlarging, special processes; a study of the elements of good news and feature photography; weekly assignments covering news stories with camera; exercises in photo editing; legal aspects of photography. Still photography, black and white, some with color. Prerequisite: 103.

212-2 Editing of Photographs and Artwork. The assignment of illustration for newspaper and magazine stories; the evaluation of photographs and artwork; the selection, the editing, and the production of such artwork; the study of esthetics of photography combined with practical exercises in editing and displaying it. Prerequisite: 210a.

245-4 The Contributions of Journalism to Literature. A study of the newspaper and magazine writings of such American authors as Ernest Hemingway, Mark Twain, William Cullen Bryant, Theodore Dreiser, and Stephen Crane; a study of the contemporary press for instances where writing exceeds everyday standards and may approach the status of literature; a look at history to determine where journalists—writers, photographers, cartoonists—have contributed to literature and art.

303-8 News Editing and Design. Advanced copy editing, makeup, typography production techniques for newspapers and magazines; stress on simulating newsroom of professional publication; the role and performance of editors; creative editing. Includes one three-hour laboratory session per week. Prerequisites: 103, 201.

310-12 (4,4,4) Color Photography in Mass Communications. (a) Color positives: how to see and use color. (b) Color printing from positive and negative films. (c) Use of creative color in processes of mass communications. Trans-

lating previous experience with black-and-white photography to color. Shooting and developing with color positive film, moving on to shooting and printing color negative film, finally applying the techniques to completing projects in using color for reportage, for persuasive communication, and for illustration in the mass media. Prerequisite: 210.

320-4 Depth Reporting and Writing. Reporting contemporary events, problems, and issues in greater depth than required in 103 and 201; studying techniques for writing the long news story; interpretive and investigative reporting; analyzing and backgrounding the news; planning, reporting, and writing the series of articles. Prerequisite: 201 or Television-Radio 302.

321-4 Public Affairs Reporting. Covering the courts and the affairs of city, county, and state government; practical assignments in news coverage of governmental agencies and of court trials; a study of stories of socioeconomic nature, such as urban renewal, the poverty program; local politics. Seminar techniques are used. Prerequisite: 201 or Television-Radio 302.

330-4 Editorials. The work and the responsibility of the editor, editorial writer, and broadcast commentator with emphasis on persuasive writing and thinking. Problems, methods, policies, and styles of persuasion as they are applicable to editorials.

340-4 The Law of Journalism. Legal limitations and privileges affecting publishing, fair comment, criticism, contempt of court, right of privacy, copyright, and legal provisions affecting advertising.

345-4 History of Mass Communications. Development of American journalism with emphases upon the struggle for freedom of the press; outstanding men and institutions of mass communications; and social, political, and technological influences on and by print and broadcast journalism.

346-4 History and Philosophy of Photojournalism. Studying visual communicators from Matthew Brady and Lewis Hine to Henri Cartier-Bresson and W. Eugene Smith to understand the growth of photographic communication in the mass media and to gain insight into the motives behind photojournalism.

352-8 (4.4) Magazine Article Writing and Production I, II. The nature of magazine operation as it applies to the staff member and by the free lance writer; studies of nonfiction magazine articles with submission by students of articles for publication; experience in magazine editing and production. Prerequisite: 103, 391, or consent of instructor.

355-4 Business and Industrial Publications. The role of trade, company, and institutional newspapers and magazines; how they function, how they are staffed, and how they are produced; relationship of management and administration to editorial policies. Articles are written by students for submission to these specialized publications. Prerequisites: 103, consent of instructor.

361-3 Contemporary Readings in Journalism. In a seminar, students read new books (published within the year) about journalism and discuss responses to them; written responses required; final paper required of student. May be repeated for 6 hours credit. Prerequisite: concentration in journalism.

362-1 to 4 Independent Studies in Journalism. Selecting an area of journalism for reading and research, presenting a final written report to a faculty member who approves the plan for study and agrees to be consultant to the student. May be repeated for total of 8 hours credit. Prerequisite: consent of instructor.

370-4 Principles of Advertising. Advertising fundamentals in relation to modern business activities; economic and social aspects, research, media, appeals, production, schedules.

375-4 Advertising Copywriting. Processes and practices in the preparation of copy and layouts in the production of advertising for the print media. Prerequisite: 370 or Television-Radio 303.

391-3 Feature Writing. How to plan and write newspaper features and special articles.

402-2 to 8 Journalism Practicum. Study, observation, and participation in publication of the campus newspaper, and/or participation in a comparable professional setting, with the number of credit hours to be determined by agreement of the instructor and the student's adviser in his concentration. Prerequisite: consent of instructor.

410-4 to 16 Internship in Journalism. Professional experience with local media in the various phases of journalism, under joint supervision of members of the

journalism faculty and of the media. May be repeated to maximum of 16 hours credit. Prerequisites: upperclass standing in journalism, consent of director of journalism.

415-4 Senior Seminar in Journalism: Communication in the World of the Future. A study of such topics as the new journalism—fact or myth?; the underground press and its effect on society; space-age communications systems; automation and its effects on publications. Prerequisite: upperclass standing in journalism.

424-2 or 3 Workshop in High School Publications. A short course for prospective and in-service teachers to give them practical experience in reporting, writing, editing, and producing publications fitted to the high school.

426-4 High School Publications. Designed for prospective teachers of journalism and mass communications and advisers to publications, as well as for in-service teachers. The role of the school newspaper, editorial leadership and responsibility, reporting and writing school news, production techniques, the journalism or mass communications curriculum, experience producing a publication; preparing course outlines.

435-4 Seminar in Publications Management. A study of advertising, business, and circulation phases of newspaper and magazine production with the aid of guest speakers and instructors; observation of professional techniques and operations; assignments in solving management problems. Prerequisite: upperclass standing.

480-1 to 3 Special Problems in Journalism. Students and/or faculty initiate a significant topic drawn from journalism; members of the class undertake investigation of the topic, making final reports in oral or written form. May be repeated to include 8 hours credit. Prerequisite: junior standing in mass communications or consent of instructor.

481-4 Practicum in Specialized Reporting. Specific practical experience with local media in areas of specialized reporting, such as sports, science, education, critical writing for mass media, technical writing, investigative journalism. May be repeated with consent of adviser. Prerequisite: consent of instructor.

482-3 or 4 Special Studies in Photojournalism. Students and faculty choose an area in photojournalism for special study (i.e. photo essay, special reproduction techniques) and then combine theory and experience to solve problems in that area. May be repeated to include 8 hours credit. Prerequisites: 201, consent of instructor.

483-4 Critics and Philosophers of Journalism. Study and evaluation of the commentaries of Marshall McLuhan, Will Irwin, Daniel Boorstin, Harold Innis, and other individuals, past and present, who have offered criticism and theory about print media, and their successes and failures.

Management Science

311-4 Statistical Analysis for Business Decisions. A continuation of statistical concepts as applied to business, including analysis of variance, correlation and regression analysis, stochastic processes, and probability distributions. Prerequisite: GSM 244.

313-4 Introduction to Quantitative Methods. Introduction to modern mathematical concepts and methods applicable to business decisions including matrix algebra, linear programming, and elementary calculus. Prerequisites: 311, GSM 144.

380-4 Management Systems I. A study of organizational decision making within the concept of systems with emphasis on information flows, decision centers and the application of data processing techniques. A major portion of the course is student development of an information, decision-making, and control system for a specific small-scale business enterprise. Prerequisite: General Business Administration 140.

381-4 Management Systems II. The study of the application of principles of systems analysis and systems design to business problems. Attention upon the complexities involved in the simultaneous design and integration of production, marketing, and other sub-systems. Prerequisites: 313, 380, concurrent registration in Production 315.

382-4 Management Systems Simulation. Presentation of theoretical and practical aspects of simulation techniques in the evaluation of design and control of management systems. Construction of simulation models to evaluate the effectiveness of a systems model. Prerequisites: 381, Production 315.

480-4 Integrated Management Systems. The study of organizations from a total systems concept—integrated decisions, physical, and information systems. Prerequisite: 382.

489-1 to 4 Independent Study in Management Science. An investigation of topical areas in greater depth than regularly titled courses permit. Individual or small group readings or projects. For qualified seniors. Prerequisite: consent of instructor and department chairman.

Marketing

370-4 Consumer Behavior. An interdisciplinary approach to the analysis and interpretation of consumer buying habits and motives and the resultant purchases of goods and services. The purchaser's psychological, economic, and sociocultural actions and reactions are stressed as they relate to a better understanding of consumption. Prerequisites: GSS 130, 150.

371-4 Principles of Marketing Management. An introductory survey of the problems encountered by the marketing executive and the analytical and evaluative systems available which can be used to improve his operating efficiency. Emphasis is placed on the use of marketing management factors in the areas of markets, products, distribution, price, and promotion. Prerequisite: 370.

377-4 Marketing Research. A development of the concepts necessary for understanding and performing research primarily in the marketing area of business. The basic procedures and theories underlying research are investigated, evaluated and applied to marketing decision making. Market, advertising, and sales research. Prerequisites: 371, Management Science 311.

452-4 Physical Distribution Management. A systematic integrated treatment of problems of managing the flow of raw materials, parts, semi-manufactured and finished goods from their sources to the ultimate consumer. Stress on the application and logic of quantitative decision tools to the problems of spatial relationships of plant capacity and storage facilities and their connecting transportation linkages. Prerequisites: 470, Management Science 315.

471-4 Advertising Policy and Management. Advertising strategy, planning, and research and their relationship to other marketing tools. Emphasis on problems faced by marketing and business executives in administering the advertising effort. Prerequisite: 470.

472-4 Sales Policy and Management. An examination of the organization of the sales effort and of functions of salesmen and sales managers (including all echelons from the general marketing managers to the territory salesmen). Problem areas such as sales department organization, recruitment of salesmen and their motivation and supervision, design and administration of sales territories, appraisal of salesmen's performance. Prerequisite: 470.

473-4 Advanced Marketing Management. Development of the student's ability to identify marketing problems, investigate alternative solutions, and render decisions. Should be the final marketing course taken by the undergraduate marketing major. Prerequisite: senior standing.

474-4 Retail Management and Promotion. Functions, organization, and management of retail enterprises; impacts of recent and contemporary forces. Detailed study of merchandising and promotional activities. Retailing careers and appropriate preparation. Designed for teachers of Distributive Education and applies toward state Distributive Education certification. Prerequisite: 370.

479-1 to 4 Independent Study in Marketing. An investigation of topical areas in greater depth than regularly titled courses permit. Individual or small group readings and projects. For qualified seniors. Prerequisite: consent of instructor and department chairman.

Mathematics

101-4 Fundamental Mathematics. Basic notions of sets; number systems and their algebraic properties and some computational aspects; ordering of real

numbers, inequalities, and absolute value; intuitive geometry; relations, variables, and functions. Individual instruction given as needed until completion of intermediate algebra. Ten lecture and laboratory hours per week. May not carry credit toward some degrees. Graded on pass-fail basis only.

105-4 Basic Mathematics. Numbers and the number line, rational expressions, operations with complex numbers, elements of plane geometry, first degree equations and inequalities with absolute values, exponential and logarithmic equations, applications of algebra to different disciplines, elements of probability and statistics. Prerequisite: 101 or equivalent.

140-5 Precalculus Mathematics. A study of elementary properties and applications of polynomial, exponential, trigonometric, and certain other functions. Some topics from analytic geometry are included. Prerequisites: six semesters of college preparatory mathematics with a C average, satisfactory score on A.C.T. mathematics test.

150-8 (4,4) Elementary Calculus and Analytic Geometry. Elementary differential and integral calculus with analytic geometry and applications. Includes the definite integral and differentiation of transcendental functions. Must be taken in a,b sequence. Prerequisite: 140.

214-4 An Introduction to Differential and Integral Calculus. Functions; limits; derivatives; area under a curve; exponential and logarithmic functions; differential equations of growth and decay; applications to biology, economics, and elementary physical problems. May not be taken for credit after credit has been received for 150b and does not count as credit toward a mathematics concentration. Prerequisite: 140.

225-4 Programming in Fortran IV. Basic programming techniques and program structure. Debugging. Introduction to the use of flow charts. Emphasis on various computer applications throughout. Prerequisite: GSM 144.

226-4 Algorithmic Languages for Digital Computers. Basic features of PL/1, plus string manipulation features, ON-conditions, and dynamic storage allocation. Comparisons to Fortran and Algol. Computer applications emphasized. Prerequisite: 225.

229-8 (4,4) Introduction to Computer Science. (a) Number systems and internal representation; procedures and algorithms; introduction to computer organization; information systems and components. (b) Machine language, assembler language; addressing techniques; macros; symbol tables; specification languages; general features of supervisory systems. Prerequisite: 225 or 226.

250-4 Calculus and Analytic Geometry. Continuation of 150. Differential and integral calculus, applications, infinite series. Prerequisite: 150b.

305-4 Differential Equations for Applications. Ordinary differential equations, numerical methods of solution, second order linear differential equations with singular points, special functions. (Some knowledge of computer programming is desirable.) Prerequisite: 250.

310-4 The Teaching of Elementary Mathematics. (For elementary education concentrations only.) A professional treatment of the subject matter of arithmetic methods and a study of trends and current literature on the teaching of arithmetic. Prerequisite: one year college preparatory mathematics or equivalent, or consent of instructor.

311-4 The Teaching of Secondary Mathematics. A study of the nature and objectives of the secondary mathematics curriculum. Stress on the means of introducing new ideas into the high school program. For students preparing to be certified teachers of secondary mathematics. Does not count toward a mathematics concentration for Bachelor of Arts degree students. Prerequisites: 321, Secondary Education 315.

321-4 Elementary Linear Algebra. The arithmetic of matrices, determinants, and inverses; systems of linear equations; a first look at vector spaces, linear mappings, Euclidean spaces, and eigenvalue problems. Prerequisite: 150.

326-9 (3,3,3) Applied Logic, Algorithms, and Discrete Structures. Sets, relations, and mappings; Boolean algebra; the propositional calculus; algorithms and computing machines; the first order predicate calculus; formal languages; introduction to combinatorial mathematics; graphs, trees, networks; introduction to data structures. Prerequisite: 225 or 226.

350-8 (4,4) Multivariable Calculus. Linear algebra, vector calculus functions of several variables, the differential and integral calculus, directional deriva-

tives, maxima and minima, gradient, divergence and curl, line and surface integrals, Green's theorem, Stoke's theorem, and integrals independent of path. Students may not receive credit for both this course and 300b,c. Prerequisite: 250.

400-3 History of Mathematics. A historical introduction to the development of selected mathematical concepts. Prerequisite: 350 or consent of instructor.

410-12 (4,4,4) Statistical Analysis. Statistical methods not requiring the calculus. Includes (a) elements of probability, estimation, and testing hypotheses; (b) the general linear model (multiple linear regression, analysis of variance, analysis of covariance) and non-parametric statistics; (c) design of experiments. May not be used to satisfy requirements for a mathematics concentration. Three lectures and two laboratory hours per week. Must be taken in sequence. Prerequisite: GSM 144.

411-4 Sample Surveys. Basic concepts of sampling: stratified, multistage systematic and cluster sampling; design of surveys, sampling from imperfect frames. May not be taken for graduate credit by mathematics students. Prerequisite: 410a or GSM 144.

415-2 to 12 Special Topics for Teachers of Elementary Mathematics. (a) Numbers and Number Systems. (b) Algebra. (c) Geometry. (d) Number Theory. (e) History of Elementary Mathematics. (f) Probability and Statistics. (g) Computer Science. May not be taken for credit towards a concentration in mathematics. Prerequisite: consent of instructor.

416-2 to 12 Special Topics for Teachers of Secondary Mathematics. (a) Analysis. (b) Algebra. (c) Number Theory. (d) Probability and Statistics. (e) Computer Science. (f) Geometry. (g) History of Mathematics. (h) Applied Mathematics. May not be taken for credit towards a concentration in mathematics. Prerequisite: consent of instructor.

420-6 (3,3) Fundamental Concepts of Algebra. An introduction to abstract algebraic structures: groups, rings, fields, and vector spaces. Must be taken in sequence. Prerequisite: 321 or consent of instructor.

421-9 (3,3,3) Linear Algebra. A study of finite dimensional and multilinear vector spaces and linear mappings. Must be taken in sequence. Prerequisite: 321 or consent of instructor.

425-3 Elementary Number Theory. The divisibility of integers, linear and quadratic congruences, primitive roots, number theoretic functions, and the distribution of primes. Prerequisite: 321.

430-6 (3,3) An Introduction to Topology. The elements of set theory, metric and topological spaces, separation axioms, connectedness, compactness, product and quotient topologies, locally compact spaces, complete metric spaces, and applications. Prerequisite: 350 or consent of instructor.

435-9 (3,3,3) Fundamental Concepts of Geometry I. An axiomatic study of plane Euclidean geometry by means of groups of transformations. Axioms, motions, groups, crystallographic groups, circles, metric geometry, similitude, hyperbolic geometry and elliptic geometry. Must be taken in sequence. Prerequisite: 321 or consent of instructor.

436-9 (3,3,3) Fundamental Concepts of Geometry II. An axiomatic study of n-dimensional Euclidean geometry, affine geometry, and projective geometry by means of groups of transformations. The crystallographic groups and the affine and projective classification of quadrics. Must be taken in sequence. Prerequisite: 435 or consent of instructor.

437-3 Differential Geometry. Curves and surfaces in Euclidean n-space. Intrinsic properties. Prerequisite: 350 or consent of instructor.

450-9 (3,3,3) Fundamental Concepts of Analysis. The real number system, topology of \mathbb{R}^n , continuity and differentiability of functions from \mathbb{R}^m into \mathbb{R}^n , the Riemann integral, elementary analysis in normed linear spaces. Must be taken in sequence. Prerequisite: 321, 350; or consent of instructor.

451-9 (3,3,3) Elementary Complex Analysis for Applications. A survey of the theory of functions of one complex variable with applications. Selected topics in the operational calculus, asymptotic analysis, and partial differential equations. Must be taken in sequence. Prerequisite: 350 or consent of instructor.

458-6 (3,3) Finite Mathematics. An introduction to topics in finite mathematics such as logic, sets, probability, linear algebra, and Markov chains. De-

signed for students preparing for high school teaching and for advanced students in the behavioral sciences. Prerequisite: 250.

461-4 Fourier Series for Applications. Fourier series and boundary value problems, series solutions of the partial differential equations of heat conduction and wave motion, numerical Fourier series, special functions. Prerequisites: 305, 350a.

462-4 Transforms for Applications. Fourier transforms, fast Fourier transforms, convolution and superposition integrals, applications to initial and boundary value problems, introduction to generalized functions. Prerequisites: 305, 350a.

465-9 (3,3,3) Numerical Analysis. An introduction to numerical methods with error analysis, solution of nonlinear equations, numerical differentiation and quadrature, numerical integration of ordinary and partial differential equations, solution of systems of linear algebraic equations, approximation theory, finite differences and interpolation, least squares curve fitting, eigenvalue problems. Must be taken in sequence. Prerequisites: 225, 305, 321.

470-9 (3,3,3) Data Structures, Programming Languages, and Compiling Techniques. (a) Data structures—lists, trees, multilinked structures; formal specifications and algorithms. Dynamic allocation. (b) Characteristics of programming languages. Structure of simple statements; algorithmic languages, list processing and string manipulation languages. (c) Compiler construction; compiler organization. Must be taken in sequence. Prerequisites: 229, 326; or consent of instructor.

473-9 (3,3,3) Systems Programming and Computer Organization. (a,b) Batch processing systems, multiprogramming and multiprocessor systems, addressing techniques, core management, file system design and management, parallel processing of input/output, and error handling in inter-process communications. (c) Systems programming—applications and class project. Must be taken in sequence. Prerequisite: 470a or consent of instructor.

474-6 (3,3) Switching Theory and Sequential Machines. Finite automata and sequential machines. Equivalence of states and machines; congruence, generalized and incomplete machines. Must be taken in sequence. Prerequisite: 326 or consent of instructor.

480-9 (3,3,3) Introduction to Mathematical Statistics. A mathematical development of statistical theory. Probability models, distributions of random variables, sampling distributions, generating and characteristic functions, central limit theorem and limiting distributions, estimation of parameters, statistical hypotheses, nonparametric methods, linear models. Must be taken in sequence. Prerequisite for a,b: 350; for c: 321.

481-3 Applications of Statistical Methods. Applications of the fundamental concepts of statistics presented in 480. Selecting appropriate mathematical models, finding solutions to practical problems, and reporting the results; computer simulation to test procedures, and packaged programs to handle large amounts of data. Prerequisite: 480c or concurrent enrollment.

482-6 (3,3) Linear Statistical Models for Applications. Aspects of multivariate analysis, regression, analysis of variance, and design of experiments. Prerequisite: 480.

485-4 An Introduction to Stochastic Processes. Applications of Markov chains, Markov processes with discrete states in continuous time, and examples of Markov processes in continuous time with continuous state space. Prerequisite: 480b or consent of instructor.

486-9 (3,3,3) Operations Research. An introduction to topics of operations research: linear programming, transportation and network models, PERT, dynamic programming, queueing and inventory models, digital simulation, Markov chains. Emphasis on mathematical modeling and related methodology. Must be taken in sequence. Prerequisites: 225, 480a; or consent of instructor.

487-3 Nonparametric Statistics. Statistical inference using distribution free methods. Randomization, the sign test, Wilcoxon and Mann-Whitney tests, signed-rank tests, goodness-of-fit tests, independence, correlation, and regression. Prerequisite: 480b or consent of instructor.

495-1 to 6 Independent Study. Research and reading in a specified area of interest. (a) Algebra. (b) Geometry. (c) Analysis. (d) Probability and Statistics. (e) Mathematics Education. (f) Logic and Foundations. (g) Topology.

(h) Computer Science. (i) Operations Research. Prerequisite: consent of adviser.

499-3 (1,1,1) Senior Seminar. A problem seminar for senior mathematics concentrations. Prerequisite: consent of instructor.

Music

021-1 Symphonic Band. May be repeated. Prerequisite: by audition.

022-1 University Band. May be repeated.

023-1 Stage Band. May be repeated. Prerequisite: by audition.

031-1 University Orchestra. May be repeated. Prerequisite: by audition.

041-1 Community Choral Society. May be repeated.

042-1 University Chorus. May be repeated.

043-1 Concert Chorale. May be repeated. Prerequisite: by audition.

101-3 (1,1,1) Class Applied Piano. Minimum instruction for passing proficiency examination in piano which is required for all music concentrations. Must be taken in sequence.

105-12 (4,4,4) Theory of Music. Fundamentals of music through sight singing, dictation, written and keyboard harmony. Must be taken in a,b,c sequence. Prerequisite: piano proficiency or concurrent enrollment in 101.

111-3 (1,1,1) Class Applied Strings. Practical training in basic principles of playing violin, viola, cello, and string bass. Introductory techniques and methods for teaching these instruments in elementary and secondary schools. May be taken in any sequence.

112-2 (1,1) Class Applied Woodwinds. Practical training in basic principles of playing woodwind instruments of the band and orchestra. Introductory techniques and methods for teaching these instruments in elementary and secondary schools. (a) Clarinet, saxophone. (b) Flute, oboe, bassoon. Must be taken in sequence.

113-2 (1,1) Class Applied Brass. Practical training in basic principles of playing brass instruments of the band and orchestra. Introductory techniques and methods for teaching these instruments in elementary and secondary schools. May be taken in either sequence.

114-1 Class Applied Percussion. Practical training in basic principles of playing the percussion instruments of the band and orchestra. Introductory techniques and methods for teaching these instruments in elementary and secondary schools.

115-3 (1,1,1) Class Applied Voice. Training in the basic principles of correct singing and diction. Introductory techniques and methods for teaching singing in the elementary and secondary schools. Must be taken in sequence.

140, 240, 340, 440-2 or 4 Private Applied Music. Offered at five levels in the areas listed below. Credit is given at 2 or 4 hours on each level. Consult with adviser for details of credit and requirements. May be repeated for three quarters at each level. Students with a concentration in Performance usually take 4 hours. Concentrations in Music Education and all secondary concentrations usually take 2 hours. Prerequisite for 140: music concentration or secondary concentration or consent of music faculty. Prerequisite for higher levels: three quarters at the previous level on the same instrument or consent.

- a. Violin
- b. Viola
- c. Cello
- d. String Bass
- e. Flute
- f. Oboe
- g. Clarinet
- h. Bassoon
- i. Saxophone
- j. Percussion
- k. Piano

- l. French Horn
- m. Trumpet
- n. Trombone
- o. Tuba
- p. Baritone
- q. Voice
- r. Organ
- s. Harpsichord
- t. Harp
- u. Classical Guitar
- v. African Percussion

165-3 (1,1,1) Piano Practicum. Keyboard harmony, sight reading, score reading, transposition, analysis at keyboard, improvisation, and harmonic examination of keyboard forms and techniques. May be repeated for credit up to 3 hours.

200-3 Fundamentals of Music. Rudiments of music for those with little or no

musical background. Recommended as a course preliminary to 300 (not for music concentrations). May be taken concurrently with 101.

201-3 (1,1,1) Class Applied Piano. Minimum instruction for passing piano proficiency examination which is required of all music concentrations. Must be taken in sequence.

205-12 (4,4,4) Theory of Music. Advanced harmonic techniques, modulation, altered chords, chromatic harmony, counterpoint, and introduction to contemporary harmonic principles. Must be taken in sequence. Prerequisite: 105c.

240-2 or 4 Private Applied Music. (See 140.)

300-3 Music Education—Elementary. (For non-music concentration only.) Teaching music in the elementary grades. Prerequisite: 200 or equivalent.

301-9 (3,3,3) Music Education. (a) Music in the elementary school curriculum, grades K-6. Analysis of instructional materials, development of rhythmic and melodic expressions, creative, instrumental, listening activities. Creating a musical environment in the classroom. (b) Junior high school: Curriculum, organization, and administration of choral, instrumental, and general music classes; resource units; the adolescent voice. (c) Senior high school: Curriculum, organization, and administration of choral, instrumental, and general music classes. May be taken in any sequence. For music concentration only.

307-4 Recreational Music. For those interested in the less formal approach to music and for prospective leaders for recreational activities.

309-9 (3,3,3) Orchestration. The techniques of writing for orchestral instruments. Must be taken in a,b,c sequence. Prerequisite: 205c.

312-9 (3,3,3) Composition. Original composition in the smaller forms. Must be taken in sequence. Prerequisite: 205c or consent of instructor.

318-6 (3,3) Conducting. (a) General: Fundamental conducting patterns, size of beats, use of each hand; conducting experience with laboratory groups both choral and instrumental; discussion and study of musical terminology. (b) Choral and Instrumental: Continued conducting experience through laboratory group; study of rehearsal techniques, balance, blend, and the relationship of parts to the total ensemble; evaluation and analysis of literature suitable for school groups of all levels of ability. Must be taken in a,b sequence.

326-9 (3,3,3) Analysis. Analysis of the important musical forms and styles. Must be taken in sequence. Prerequisite: 205c.

330-6 (2,2,2) Jazz Improvisation. Theory and techniques of jazz improvisation, with emphasis on functional harmony, melodic form, special scales, tune studies, ear training, and development of style. Prerequisite: consent of instructor.

340-2 or 4 Private Applied Music. (See 140.)

355-4 (1,1,1,1) Chamber Music Ensembles. (a) Brass, (b) Woodwinds, (c) Strings, (d) Percussion. May be taken in any sequence. Any part may be repeated for 12 quarters. Prerequisite: consent of instructor.

357-9 (3,3,3) Music History and Literature. Prerequisite: GHA 230.

365-1 Piano Ensemble. Piano four hands, two pianos; piano and voice; piano and other instruments. May be repeated for credit at discretion of instructor.

401-3 Psycho-Physiology of Music. The essential human capacities, their relationship to musical potentials and development as well as with the acoustical foundations of the world of music.

411-9 (3,3,3) Music Literature. (a) Symphonic Literature. Development of the symphony and the symphonic poems to 1900. (b) Choral Literature. The literature of the larger vocal forms such as the cantata and oratorio to 1900. (c) Chamber Music Literature. Chamber music literature from the Renaissance to the present.

412-9 (3,3,3) Composition. Original composition in the larger forms for various media. Must be taken in sequence. Prerequisite: 312c or consent.

413-9 (3,3,3) Piano Literature. A survey of the entire spectrum of repertoire for piano; methods of teaching the techniques of such literature. Taught in sequence. Prerequisite: 340k.

420-1 Music Education Practicum. A shop-laboratory course dealing with the selection, adjustments, maintenance, and repair of musical instruments.

440-2 or 4 Private Applied Music. (See 140.)

442-9 (3,3,3) Counterpoint. (a) Sixteenth-century counterpoint; (b) eighteenth-century counterpoint; (c) larger contrapuntal forms with emphasis on fugue. Prerequisite: 205c.

451-3 Teaching General Classroom Music.**455-2 to 6 Elementary Music Education Workshop.**

460-6 (2,2,2) Practicum in Opera. Skills, techniques, and literature used in the performance and production of operatic scenes, chamber operas, and operettas. Prerequisites: audition, 6 hours in applied theater.

461-9 (3,3,3) Teaching Techniques and Materials. (a) Methods, (b) materials, (c) observation and teaching. Designed to meet the needs of applied students in which the problems of private studio teaching and college-level teaching are discussed. Must be taken in a,b,c sequence. Prerequisite: 340k.

465-3 Development and Teaching of Strings. Place and function of string education in the elementary and secondary schools. Techniques of heterogeneous and homogeneous string teaching. Developing and sustaining interest in the string program. Resource aids. May be repeated for a total of 9 hours credit. Prerequisite: senior standing.

481-2 to 6 Readings in Music Theory.**482-2 to 6 Readings in Music History and Literature.****483-2 to 6 Readings in Music Education.**

499-1 to 3 Independent Study. The capable student engages in original investigations with faculty specialists. May be repeated for credit. Prerequisite: consent of instructor.

Nursing

Courses on the 300 level are open only to those students who are concentrating in nursing.

270-4 Growth and Development. A developmental study of the individual from conception to senescence, with emphasis on the physiologic, psychologic, and social development. Prerequisite: GSS 210 or consent of instructor.

285-4 Introduction to Health Care. A survey of professional nursing at the present time in relation to historical and other influences upon it. An introduction of the student to nursing through concepts of health starting with community agencies. Promotion and maintenance of health and prevention of illness. Prerequisite: sophomore standing or consent of instructor.

290-2 Psycho-Social Concepts. A study of concepts related to the understanding of human behavior as a basis for providing therapeutic patient-centered nursing care. Prerequisite: concurrent enrollment in 310 or consent of instructor.

310-6 Introduction to Clinical Nursing. Fundamental skills basic to all clinical nursing. Through a problem-solving process, students plan and administer patient-centered nursing care in community clinical facilities. Prerequisites: 285, 290 or concurrent enrollment, Biology 210, 312b.

320-4 Pathophysiological Concepts. Disturbances in normal physiology and the way these disturbances alter structure, physio-chemical composition, and function. Prerequisites: Biology 210, 220 or concurrent enrollment, 312b.

330-6 Maternal-Newborn Nursing. Developing a concept of family-centered care for mothers and newborns. The aspects of nursing necessary to provide effective care throughout the maternity cycle - antepartum, intrapartum, puerperium, and care of the newborn. Concurrent clinical laboratory within an appropriate setting. Prerequisites: 310, 320.

340-8 Nursing of Children. Developing a concept of family-centered care for infants and children. Providing nursing care based upon the developmental needs of the child, and the problems confronting him and his family. Concurrent clinical laboratory. Prerequisites: 270, 310, 320.

375-6 Psychiatric Nursing. The interpersonal interaction and the communication which makes up the nurse-patient relationship. Focus upon increasing awareness of the self as potential tool for therapeutic effectiveness. Prerequisites: 290, 310.

380-6 Medical-Surgical Nursing I. Focus upon the nursing intervention based on underlying scientific principles relevant to the care of patients with selected medical-surgical conditions and/or illness. Emphasis on care of the patient with problems of the respiratory, cardiovascular, integumentary, and endocrine-metabolic systems. Prerequisites: 310, 320.

390-6 Medical-Surgical Nursing II. Focus upon the nursing intervention

based on underlying scientific principles relevant to the care of patients with selected medical-surgical conditions and/or illness. Emphasis on care of the patient with problems of the nervous and special senses, musculo-skeletal, digestive, and urinary-reproductive systems. Prerequisites: 310, 320.

400-2 Nursing Seminar. Nursing areas which present certain professional, national, and international challenges.

410-4 Health Care Management. Beginning principles of management and administration emphasized in the application to health care settings. Problems involved in finding solutions to successful and acceptable plans to meet health care goals. Not for graduate credit. Prerequisite: consent of instructor.

420-1 to 4 Independent Study. Student projects and study in an area of nursing. Prerequisite: consent of instructor and dean.

470-6 Community Health Nursing. Perspectives in organized community health care and health services including community health nursing components concurrent with clinical laboratory practice. Not for graduate credit. Prerequisites: 290, 310, 320.

480-6 Episodic Nursing. Nursing practice that is essentially curative and restorative, generally acute in nature, and provided in the setting of the hospital or inpatient facility. Prerequisite: consent of instructor.

490-6 Distributive Nursing. Prevention of disease and maintenance of health. Largely directed toward continuous care of persons not confined to health care institutions. Not for graduate credit. Prerequisite: consent of instructor.

Philosophy

200-4 Introduction to Philosophy. Survey of the traditional branches and problems of philosophy, such as religion, metaphysics, epistemology, ethics, political theory, aesthetics, and history.

230-4 Introduction to Deductive Logic. An introduction to formal, deductive logic, with emphasis on the use of formal techniques for analyzing correct reasoning. Propositional logic, syllogistic and class logic, predicate logic, and the applications of logic to philosophical problems.

300-4 Introduction to Metaphysics. Presentation of answers to the most general problems of existence. An attempt to unify all scientific approaches to reality through the laying down of common principles.

301-4 Philosophy of Religion. An analysis of problems in the psychology, metaphysics, and social effects of religion. The nature of mystical experience, the existence of God, and problems of suffering, prayer, and immortality.

302-4 World Religions. A historical and comparative study of the principal religions of the world. Particular attention is given to such non-Christian faiths as Hinduism, Buddhism, and Islam.

306-4 Introduction to Phenomenology. An introduction to the dominant movement in contemporary continental philosophy. Attention to the central works of representative thinkers, e.g., Husserl, Heidegger, Sartre, Merleau-Ponty, and Ricoeur, in order to expose the problems, doctrines, and methods which characterize phenomenology as a mode of philosophizing. Prerequisite: sophomore standing.

307-4 Advanced Philosophy of Science. A critical exploration of the connections between scientific and nonscientific modes of knowing, the logical structure of scientific accounts, and the modifications of our views of the world resulting from such scientific theories as the theories of relativity and quantum mechanics. Prerequisite: consent of instructor or one of the following courses, GSM 383 or GSS 383.

308-4 Introduction to Philosophical Analysis. An introduction to the dominant movement in contemporary philosophy in English speaking countries. Attention to the central works of representative thinkers, e.g., G. E. Moore, Bertrand Russell, Gilbert Ryle, and Ludwig Wittgenstein, in order to explain the problems, doctrines, and methods which characterize analytic philosophy as a mode of philosophizing. Prerequisite: sophomore standing.

342-4 Social and Political Philosophy. Analysis of the philosophical problems of social and political theory and conduct, and their expression in social and political organization and values. Prerequisite: sophomore standing.

345-4 The Aesthetics of Film. An examination of the major genres of film and film theory.

355-4 Philosophy of Education. Survey of theories of education and their relationships to educational policies and practices, as elucidated by the great teachers. Satisfies the education requirement, Foundations of Education 355.

360-4 Philosophy of Art. The significance of art as a human activity, its nature and standards as seen in the problems of criticism, and the relation of art to other forms of knowledge.

376-4 Advanced Ethics. An investigation of problems raised in modern discussions of individual and social morality. Prerequisite: GHA 322.

385-20 (4,4,4,4,4) History of Western Philosophy. (a) Greek and Roman. (b) Medieval and Renaissance. (c) Classical Modern (17th and 18th centuries). (d) 19th Century. (e) 20th Century.

386-4 American Philosophy. A survey of American philosophic thought from colonial days to the present, with emphasis on such recent thinkers as Peirce, James, Royce, Dewey, and Santayana.

391-4 Introduction to Theory of Knowledge. A study of the various kinds of knowledge, of the foundations of knowledge in thought and perception, and of the rational and empirical elements constituting the structure of knowledge.

402-4 Hindu Thought. A historical survey of Indian philosophy from the Upanishads to Vedanta. Prerequisite: 302.

403-4 Buddhist Thought. An investigation of Buddhist philosophy from Theravada through Zen. Prerequisite: 302.

430-4 Symbolic Logic. Use of symbols as tools for analysis and deduction. Study of truth tables, Boolean Expansions, propositional calculus and quantifiers, logic of relations, and their functions in logistic systems.

443-4 Philosophy of History. Classical and contemporary reflections on the nature of history and historical knowledge as the basis for dealing with the humanities.

484-12 (4,4,4) History of Western Political Theory. (Same as Government 484.) (a) Ancient and Medieval. (b) Renaissance and Early Modern. (c) Recent. May be taken separately.

490-2 to 12 Special Problems. Seminar for qualified seniors and graduate students to pursue specific topic in depth. Varied content. Prerequisite: consent of instructor.

495-2 to 12 Independent Readings. Independent study in philosophy on a tutorial basis. Prerequisite: consent of instructor and chairman.

Physical Education

Courses numbered 102-104 are for men; 112-114 are for women; 115-118 are for both men and women.

102-1 Physical Fitness (Men).

104-(1 per activity) Individual and Team Activity (Men). (c) Basketball, (f) Soccer, (g) Speedball, (j) Softball, (n) Cross Country, (t) Touch Football, (u) Wrestling, (x) Handball.

112-1 Basic Body Movement (Women).

114-(1 per activity) Individual and Team Activity (Women). (c) Basketball, (f) Soccer, (g) Speedball, (j) Softball, (n) Field Hockey, (o) Physical Conditioning.

115-3 (1,1,1) Restricted Physical Education.

116-(1 per activity) Swimming. (a) Beginning Swimming, (b) Intermediate Swimming, (c) Diving.

116d-1 Life Saving and Water Safety. Theory and practice of techniques involved in water safety. Personal safety and rescue methods for use in, on, and about the water. Leads to American Red Cross Senior Life Saving Certificate. Prerequisites: proficiency test, preliminary swimming.

117-(1 per activity) Dance. (a) Square, (b) Folk, (c) Social, (d) Beginning Contemporary, (e) Intermediate Contemporary, (f) Basic Rhythms, (g) Modern Jazz Dance.

118-(1 per activity) Individual and Team Activity. (a) Archery, (b) Badminton, (d) Bowling, (e) Golf, (f) Billiards, (h) Tennis, (i) Volleyball, (k) Horseback Riding, (l) Sailing, (m) Fencing, (o) Boating and Canoeing, (p)

Ice Skating, (q) Fly and Bait Casting, (r) Stunts and Tumbling, (s) Gymnastics, (w) Track and Field, (y) Judo, (z) Recreational Sports.

199-1 Dance, Modern Jazz. Experimental course. History and background of modern jazz as an American dance form; introduction to basic technique and movements.

300-10 (2,2,2,2,2) Techniques for Men. (a) Soccer, Flag Football, and Speedball. (b) Stunts, Tumbling, and Gymnastics. (c) Fitness and Wrestling. (d) Softball and Track and Field. (e) Basketball, Volleyball, and Badminton. Prerequisite: primary or secondary concentration in physical education.

301-10 (2,2,2,2,2) Techniques for Women. (a) Soccer, Flag Football, and Speedball. (b) Stunts, Tumbling, and Gymnastics. (c) Basic Movement and Modern Dance. (d) Softball and Track and Field. (e) Basketball, Volleyball, and Badminton. Prerequisite: primary or secondary concentration in physical education.

302-12 (2,2,2,2,2,2) Techniques for Men and Women. (a) Basic Rhythms, Folk Dancing, and Square Dancing. (b) Golf and Tennis. (c) Archery, Bowling, and Fencing. (d) Canoeing and Sailing. (e) Beginning and Intermediate Swimming. (f) Advanced Swimming and Senior Life Saving. Prerequisite: primary or secondary concentration in physical education.

303-10 (5,5) Homokinetics. (a) Structural and functional basis of human performance; elements of physiology essential to physical activity. (b) Mechanics applied to physical performance; analysis of selected motor activities; applications of physical principles to specific instructional problems. Must be taken in sequence. Prerequisite: course in general biology or zoology.

304-5 Basic Concepts of Physical Education. Provides a background for the understanding of the history, principles and scientific bases for physical education. Designed to orient the beginning student of physical education about the profession.

305-3 Physical Education for the Atypical Student. The recognition of physical deviations and the provisions of special or modified physical education or recreational activities for such students. Prerequisite: 303.

323-3 (1,1,1) Officiating Techniques. Study of rules and their interpretation; requirements for ratings given by the United States Field Hockey Association and the Division for Girls' and Women's Sports. Officiating practice required. (a) Fall: field hockey and soccer. (b) Winter: basketball. (c) Spring: volleyball and softball.

350-4 Methods and Materials for Teaching Physical Education Activities in the Elementary School. The organization and conduct of the program, program planning, evaluation of materials, observation and practice in creative rhythms, singing games, folk dancing, and games of low organization. (Required for elementary education.)

355-2 Techniques of Teaching Swimming. Methods of teaching, analysis of strokes, and the devices for teaching swimming and life saving. Prerequisite: senior lifesaving.

381-4 Theory of Coaching. Principles underlying participation in competitive interscholastic athletics. Theory of coaching sports, technique, strategy, organization and administration of programs.

382-5 Methods and Organization of Physical Education for the Secondary School. Conduct of programs in physical education for grades 7-12. Emphasis on teaching methods and materials for the instructional program. Attention to routine procedures and common problems related to teaching. Prerequisite: six physical education foundation courses.

383-2 Outdoor Group Games. Prepares student to develop outdoor group game activities. Emphasis on correct techniques, fundamentals, strategy, and evaluation procedures. Stresses lead-up approach to group activity. Includes practical experiences. Prerequisite: consent of instructor.

384-2 Rhythmical Activities. Deals with all phases of the rhythmical program, teaching techniques, analysis of problems, evaluation techniques. Includes experience in working with children. Prerequisite: 117a,b,f.

385-2 Indoor Group Games. Basic indoor activities of the elementary school program. Stress on correct techniques, fundamentals, strategy, and evaluation procedures. Emphasizes lead-up approach to group activity. Prerequisite: consent of instructor.

387-2 Development Skills. Stresses basic developmental skills that should be

included in physical education program for the elementary school. Emphasis upon progression from gross skills to refined skills. Prerequisite: consent of instructor.

388-2 Self Testing Activities. Prepares the student to develop programs of self testing skills. Stresses knowledge of problems, techniques, materials, safety factors, and evaluation procedures. Includes experience with children. Prerequisite: 118s.

389-4 Affiliation in Physical Education. Observing and assisting instructor in planning, scheduling, and conducting a physical education program by working in area schools. Prerequisite: consent of instructor.

390-3 Evaluation Techniques in the Elementary School Physical Education Program. A study of the methods and concepts in measuring a child's growth and development and physical fitness index with emphasis on analyzing various skill tests and their application to the child.

400-16 (2,2,2,2,2,2,2,2) Coaching. Advanced theory and practice relating to skills, strategies, conditioning, organization, and administration of the principles underlying participation in interscholastic (a) soccer, (b) baseball, (c) basketball, (d) wrestling, (e) cross country, (f) track and field, (g) golf, (h) tennis. Prerequisite: related activity course.

402-4 Organization and Administration of Intramural and Extramural Activities. Planning intramural programs of sports. Planning and co-ordinating extramural activities commonly associated with physical education.

404-4 Workshop in Dance for In-Service Teachers. Includes history of dance, values of dance, interpretation of music for dance, teaching techniques and facilities, and fundamental dance movements leading to knowledge and command of dance skills.

410-4 Organization and Administration of Physical Education Programs. The nature of the administrative process; analysis of resources in program planning; policies and procedures for implementation of programs; line and staff relationships; budget and finance; facility use; legal considerations. Prerequisite: senior standing or graduate standing.

420-4 Physiological Effects of Motor Activity. The general physiological effects of motor activity upon the structure and function of body organs; specific effect of exercise on the muscular system.

425-4 Care and Prevention of Athletic Injuries. An introduction to the various athletic injuries. Considerable attention to those injuries which commonly occur to athletes. Prerequisite: 303a or equivalent.

427-4 Physical Education and Recreation for the Handicapped. (Same as Special Education 427.) Characteristics of handicapped children as they affect the feasibility of physical education and recreation activities. Values of specific activities for certain types of children, and methods and materials for teaching physical education and recreation skills. Emphasis on activities suitable to classroom, home, and institution. Prerequisite: Counselor Education 305.

470-4 Measurement and Evaluation in Physical Education. Test and norm construction use of tests as diagnostic, prognostic, and instructional tools; evaluation of curricula, courses, and methods; analysis of test results; survey of common standardized tests in physical education and related aspects of human performance adaptation of tests to meet specific needs. Prerequisite: course in elementary statistics.

475-2 to 4 Individual Research. The selection, investigation, and writing of a research paper under the supervision of instructor.

476-2 to 4 Teaching Athletic Skills. Modern techniques of teaching skills, conditioning, and strategies; for prospective physical education teachers and coaches.

Physics

206-15 (5,5,5) College Physics. Designed to meet premedical requirements and the needs of students majoring in the biological sciences. Laboratory. Must be taken in a,b,c sequence. Prerequisite: GSM 144.

211-12 (4,4,4) University Physics. A basic course for science, mathematics, and pre-engineering students. (a) Kinematics, dynamics, and statics. (b) Thermodynamics, wave motion, acoustics, electrostatics. (c) Optics, electric current

theory, magnetism, and electromagnetic waves. Three lecture and two recitation hours per week. Prerequisite: (a) Mathematics 150b or concurrent enrollment; (b,c) 211a.

212-3 (1,1,1) University Physics Laboratory. Experiments in mechanics, heat, wave motion, light, electricity, and magnetism. Meets two hours per week. Prerequisite: concurrent enrollment in 211.

300a-4 Introduction to Modern Physics. A continuation of 211 covering topics from atomic, nuclear, and solid state physics. Three lectures and two recitation hours per week. Prerequisites: 211, Mathematics 150a.

300b-2 University Physics Laboratory IV. Classic experiments in modern physics; Franck-Hertz, "e/m", Michelson Interferometer, black body radiation, photo-electric effect, Rydberg constant along with experiments in nuclear physics. Lecture and laboratory work totaling three hours per week. Prerequisites: 212, concurrent enrollment in 300a.

301-8 (4,4) Introduction to Classical Mechanics. Statics of a particle, of a rigid body, and of a flexible string; the principle of virtual work, motion of a particle in a uniform and in a central force field, simple harmonic motion, motion of a system of particles, rigid body motion in a plane; non-inertial reference frames; generalized coordinates, Lagrange's and Hamilton's equations of motion; vibrating systems, normal coordinates, and wave motions. Prerequisite for a: 211a,b, Mathematics 250; for b: 301a.

304-4 Thermodynamics and Kinetic Theory. A macroscopic study of the thermal properties of matter and the laws of the thermodynamics. Kinetic theory and the distribution of molecular velocities. Transport phenomena. Prerequisites: 211b, Mathematics 250.

305-8 (4,4) Introduction to Electromagnetic Field Theory. Vector treatment of the theory: electrostatics in vacuum and in matter, steady currents, magnetism, magnetic materials, and electromagnetic radiation. Must be taken in a,b sequence. Prerequisite for a: 211c, Mathematics 250; for b: 305a.

306-4 Elementary Health Physics. An introductory health physics course for students in biology, nursing, pre-dentistry, pre-medicine, and other health related fields. What radiation is, how it interacts with matter, and how it is measured. Some of the harmful effects and beneficial uses of radiation. Ionizing and non-ionizing radiation. Prerequisite: 206 or GSM 101 or 102.

310-4 Physical Optics. Theory of interference and interferometers, Fresnel and Fraunhofer diffraction, Fourier transform theory of diffraction; velocity of light, polarization, electromagnetic theory of light applied to reflection and refraction in isotropic media and anisotropic media; birefringence, optic axis, crystal optics, optical activity; theory of normal and anomalous dispersion, scattering of light by particles; quantum optics, lasers. Prerequisites: 211, Mathematics 250.

311-1 Optics Laboratory. Advanced experiments in geometrical and physical optics. Two laboratory hours per week. Prerequisite: 310 or concurrent enrollment.

320-4 Special Relativity. An introduction to Einstein's Theory of Special Relativity. Develops the notion of space and time and treats relativistic kinematics, dynamics, and electromagnetism. Four lecture hours per week. Prerequisites: 211, Mathematics 250.

375-1 Seminar. Topics selected from a wide range of physical theories and applications. One hour per quarter with a maximum of 3 total hours on a pass/no credit basis only. Prerequisite: consent of instructor.

390-1 to 15 Physics Honor Project. Honors work in physics mostly in the junior and/or senior years. Entrance by invitation of any member of the Physics Department. Prerequisite: 305a.

399-3 Dynamical Meteorology. Experimental course. Thermodynamics of atmosphere, water vapor, radiation, transport equation, circulation, turbulence, storm systems, and weather modification. Prerequisite: 301.

404-3 Introduction to Statistical Mechanics. A brief treatment of the kinetic theory of gases; introduction of phase spaces and ensemble theory. Shows the connection between mechanical and thermodynamic concepts and obtains a statistical interpretation of thermodynamic processes. Prerequisite: 301, 304, or consent of instructor.

415a-4 Wave Mechanics. Cites the evidence for a need of new "quantum theory." Considers the Schroedinger equation, and the Born interpretation

of the wave function. Develops the theory of quantum harmonic oscillators, the rigid rotator and hydrogen-like atoms. Develops perturbation theory and a description of radiation from atomic systems. Prerequisites: 300a, Mathematics 405.

415b-4 Atomic Physics. Exploits the theoretical considerations developed in 415a by considering their application to the study of atomic and molecular systems. Prerequisite: 415a.

415c-4 Nuclear Physics. A systematic discussion of the properties of the atomic nucleus. Examples of the application of wave mechanics to the study of the nucleus. A consideration of nuclear forces, subnuclear particles, and nuclear models. Prerequisite: 415a.

418-1 to 4 Modern Physics Laboratory. An advanced laboratory course including work with pulsed and continuous lasers and optical detectors, nuclear magnetic resonance, nuclear spectroscopy, vacuum techniques, mass and beta spectroscopy, semiconductor physics. May be repeated. Prerequisite: 300 or consent of instructor.

419-8 (4,4) Introduction to Theoretical Physics. Discussion and application of a variety of mathematical techniques to problems selected from the area of theoretical physics. (a) Treatment of solutions of the homogeneous partial differential equations of theoretical physics in the presence of boundaries. (b) Treatment of inhomogeneous equations and the comparison of the eigenvalue problem in a matrix representation with that in the function space representations. Prerequisites: 300a, Mathematics 305a.

420-2 to 4 Special Experimental Projects. Each student is assigned to a definite investigative topic. Adapted to advanced undergraduate students. May be repeated to total of 6 hours. Prerequisites: 301, 305.

435-3 Plasma Physics. Basic equations and conservation laws; first order orbit theory with applications to static and dynamic problems; small amplitude plasma waves; hydromagnetic shocks; collision effects; diffusion across a magnetic field; stability; coupling of plasmas and radiation. Prerequisite: 305a,b.

445-4 Solid State Methods. Simple lattice theory, elementary theory of phonons, x-ray and neutron diffraction, x-ray fluorescence analysis, neutron activation analysis, electron paramagnetic resonance, ferro, antiferro and ferrimagnetism, ferroelectrics, piezoelectricity, cyclotron resonance, Mossbauer Effect, electron microscopes, nuclear magnetic resonance. Prerequisite: 300.

450-4 Introduction to Solid-State Physics. A study of the fundamentals of solid-state physics including classification of solids, interatomic and intermolecular forces, lattice energies, specific heats, lattice dynamics, free electron theory of metals, lattice defects, color centers, luminescence, magnetic materials, radiation damage, transport in ionic crystals. Fermi-Dirac statistics, Fermi distribution, and semiconductors. Prerequisites: 300a, 305.

Production

315-4 Production and Operations Management Models and Systems. A study of the basic systems and models of production and operations management. The objectives and relationships of materials management systems including purchasing, production planning, inventory control, and transportation as well as quality control, cost control, and work measurement systems. Basic planning and control models and decision rules. Emphasis on the impingement of real world conditions on such systems and the necessity of integrating such systems. Prerequisite: Management Science 313.

460-4 Production Management. Analysis of the basic functions of manufacturing firms. Students work on a project of their choice in conjunction with the lectures and class discussions. Topics include blueprint reading, equipment and tools, plant layout, product flow, materials handling, quality control, cost control, production control, methods engineering, product engineering, inventory control, the use of PERT, and financial concepts as related to production management. Several plant visits are conducted during the course. Prerequisite: General Business Administration 340.

461-4 Methods Design and Work Measurement. Design of work systems, methods, and the techniques employed in the measurement of work. Emphasizes current philosophy underlying improvement of work methods and pro-

cedures used to measure work performed. The course covers four major areas: methods design, standardizing the operation, work measurement, and training the operator. A number of projects correlating with the course material are assigned. Prerequisite: 460.

462-4 Production Planning and Control. Analyzes and describes the recurrent problems of managing the flows of materials, services, and information produced in response to changes in market demand. Emphasizes the top-level decisions necessary to plan and control operations so that customers are served on time and penalty costs are minimized, as well as the decisions made by middle and first line managers in regard to scheduling and controlling, purchasing, production, and distribution. Selected decision-making techniques are analyzed and evaluated from the production manager's point of view. Prerequisite: 460.

463-4 Advanced Production Management. Examines the operating decisions that confront the managerial and supervisory production personnel of large, medium, and small scale manufacturing firms using a variety of production processes. Emphasizes decision-making leading to the solution of production operating problems, and to the formulation of plans of action. Assigned cases provide a view of the types of decisions involved in planning, organizing, coordinating, integrating, and controlling resources so that production goals may be realized. Prerequisites: 460, 461, 462.

Psychology

300a-4 Foundations of Psychology. An in-depth survey of the following content areas: history, psychological methods and techniques, biological foundations of behavior, personality, psychopathology, development, social psychology, motivation and learning.

300b-4 Introduction to Statistics. An introduction to the methods used in the interpretation of psychological data including organizing and presenting data, describing individual and group performance, model distributions, measures of relationship, measures of reliability, and tests of significance. Three lecture, two laboratory hours per week.

300c-5 Methods of Psychological Enquiry. A survey of laboratory, field, and social techniques that psychologists use to study behavior. Four lecture, two laboratory hours per week. Prerequisite: 300a,b.

301-4 Child Psychology. A study of the biological and psychological development of the child from birth through puberty, and of relevant research methods and results. Prerequisite: 300a or GSS 260.

303-4 Adolescent Psychology. Examines the physical and psychological development of the adolescent, and the relevance of childhood development to adolescent problems. Prerequisite: 300a or GSS 260.

304-4 Psychology of Maturity and Old Age. A consideration of psychological factors in later maturity and old age and their concomitant problems, both individual and societal. Prerequisite: 300a or GSS 260.

305-4 Introduction to Personality Dynamics. Exploration of human motivations, personality patterns, and ways of coping with the stresses of modern life. Prerequisite: 300a or GSS 260.

307-4 Social Psychology. Introduction to the study of the individual's interaction with his social environment. Considers problems of social learning, attitude formation, communication, social influence processes, and group behavior. Prerequisite: 300a or GSS 260.

308-4 Social Psychology of Nonverbal Behavior. A systematic introduction to the study of nonverbal behavior in generalized settings. Contributions from anthropology, psychology, speech, and other areas are integrated to provide an opportunity for increased sensitivity to student's own and others' nonverbal behavior. Prerequisite: GSS 260 or consent of instructor.

311-4 Experimental Psychology: Learning. Investigates the processes governing behavioral change. Emphasizes experimental studies of conditioning, memory, and forgetting. Laboratory work includes the design and conduct of experiments with humans and animals. Lecture and laboratory. Prerequisite: 300a or consent of instructor; 300c recommended.

312-4 Experimental Psychology: Perception. Investigates the variables influencing an organism's stimulation by his environment. The structure and

operation of the sense organs as well as complex perceptual phenomena are examined in lectures and laboratory. Prerequisite: 300a or consent of instructor; 300c recommended.

313-4 Experimental Psychology: Motivation. An examination of both biological and social variables influencing the activation, direction, and maintenance of behavior. Laboratory work examines the effects of motivation upon behavior. Lecture and laboratory. Prerequisite: 300a or consent of instructor; 300c recommended.

314-4 Experimental Psychology: Comparative and Physiological. An examination of the physiological and phylogenetic variables affecting behavior. The laboratory involves work with different types of organisms emphasizing physiological concomitants of behavior. Lecture and laboratory. Prerequisite: 300a or consent of instructor.

320-4 Industrial Psychology. A study of the functions of psychology as a science and as a profession in contemporary business and industry. Prerequisite: 300a or GSS 260.

404-4 Theories of Perception. An examination of the different theories concerned with an organism's sensory contact with his environment. Physiological, social, and organizational theories of perception. Prerequisite: 312 or consent of instructor.

407-4 Theories of Learning. A consideration of the major contemporary learning theories and their relation to experimental data. Prerequisite: 311 or consent of instructor.

408-4 Theories of Motivation. An examination of instinct theories, biological drives, emotions, social motives, and psychodynamic theories as they contribute to a comprehensive psychology of motivation. Prerequisite: 313 or consent of instructor.

409-4 History and Systems. Study of the important antecedents of contemporary scientific psychology. Considers issues, conceptual developments, and research advances, and presents the major schools and systems. Prerequisite: 300a or GSS 260.

420-4 Experimental Analysis of Behavior. An examination of the principles of respondent and operant conditioning in human and animal behavior. Lecture and laboratory. Prerequisite: 300a or GSS 260.

421-4 Psychological Tests and Measurements. Principles of psychological measurement, including errors of measurement, techniques of estimating reliability and validity, techniques of test construction, and problems in assessment and prediction. The laboratory includes the use of selected instruments. Lecture and laboratory. Prerequisite: 300b.

431-4 Psychopathology. Classification, description, etiology and treatment of the disorders of personality organization and behavioral integration. Observations in a state mental hospital setting. Prerequisite: 305 or consent.

432-4 Mental Hygiene. An integration of psychological knowledge and principles concerning factors and conditions affecting the individual which tend to facilitate or determine health.

437-4 The Psychological Interview. Development of basic skills and techniques of interviewing. Consideration of various types and theories of interview and interview data interpretation and evaluation. Prerequisite: 305, 307 or consent of instructor.

440-4 Theories of Personality. A review and critical evaluation of major personality theories and their supporting evidence. Prerequisite: 305 or consent of instructor.

451-4 Advanced Child Psychology. An examination of concepts, methods, and problems of human development with consideration of both its psychological and psychosocial aspects. Prerequisite: 301 or 303 or consent of instructor.

461-4 Advanced Social Psychology. Examines current areas of interest in the study of social behavior: language behavior, communication, social influence, attitude change, interpersonal perception, etc. Emphasis is on the individual in the social context. Prerequisite: 307 or consent of instructor.

465-4 Group Dynamics and Individual Behavior. Examination of research and theory in the area of small-group interaction. Examines such topics as group structure and function, group problem-solving, leadership, etc. Prerequisite: 305.

471-4 Work Methods and Measurement. A study of the analysis and evalua-

tion of jobs and the measurement of work performances by the use of standard time tables. Prerequisite: 320 or consent of instructor.

473-4 Personnel Psychology. Psychological methods in selection, placement, evaluation, and criterion development. Emphasis is on principles and techniques with some examples of application to decision making in business and industry. Prerequisite: 320 or consent of instructor.

474-4 Psychology of Employee Relations. A study of job satisfaction and morale, psychological aspects of labor relations, industrial counseling, social and organizational variables as they affect psychological climate in employee relations. Prerequisite: 320 or consent of instructor.

479-4 Psychology of Industrial Conflict. Consideration of social and psychological factors underlying controversies between workers and management. Prerequisite: 320 or consent of instructor.

490-1 to 8 Independent Projects. Independent readings and projects in psychology. Prerequisite: consent of instructor and chairman.

495-1 to 8 Seminar: Selected Topics. Varied content. To be offered from time to time as need exists and as faculty interest and time permit. Prerequisite: consent of instructor.

Recreation

100-4 Introduction to Recreation. The philosophy and history of recreation. Emphasis on principles and standards conducive to sound program development.

200-4 Programs in Recreation. An introduction to the various recreational media. Considerable attention to those programs commonly found in a leisure oriented society. Prerequisite: 100.

312-2 to 6 Playground Leadership. Field Experiences. Prerequisite: consent of instructor.

348-3 Camp and Community Leadership. Fundamentals of scouting, camping, and counseling. A weekend camping trip required.

349-2 Camping Education. Designed to give the potential camp counselor an understanding of the camp; its physical set-up, equipment, and necessary routines; its personnel, purpose, traditions, and possibilities.

365-3 Organization and Administration of Community Recreation. The social, economic, and governmental structure of the community; establishing the community recreation program; problems of facilities, equipment, finance, promotion; selecting and supervising personnel; integration with associated programs. Prerequisite: consent of instructor.

390-3 Recreational Planning. Analysis of planning principles and standards for areas and facilities associated with recreation programs. Attention to general building features as well as special requirements. Prerequisite: 200.

400-16 Internship in Recreation. Participation as full-time intern for one quarter in one or more recreational agencies. Under university and agency supervision, the intern engages in planning, administering, and implementing recreational activities. Not offered for graduate credit. Prerequisite: 390.

410-4 Problems in Recreation. Analysis of specific contemporary factors relating to relevant economic, political, sociological, and psychological problems. Prerequisite: 390.

420-4 Parks and Recreation Law. Interpretation and application of local, state, and federal statutes pertaining to recreation programs operated by public and quasi-public agencies. Emphasis on personal negligence, liability, and governmental immunity. Prerequisite: 390.

Rehabilitation

480-2 Introduction to Rehabilitation. A survey of historical and legal developments in rehabilitation agencies, with particular emphasis on current theories and trends.

Sanitation Technology

101-3 Introduction to Sanitation Technology. An introduction to the problems identified with the technical, legal, economical, and regulatory aspects of water and air quality, water pollution and treatment. Three lectures per week.

201-10 (5,5) Water Quality I. A systematic study of laboratory procedures in water purification analysis and waste water treatment as related to plant control. Introduction to theory and laboratory techniques. Lecture and laboratory. Prerequisite: Chemistry 110a,b.

202-5 Water Quality II. Theory and application of instrumental water analytical including electro analytical, spectrophotometric, and chromatographic methods. Prerequisite: 201.

203-3 Wastewater Treatment. A study of the elementary engineering aspects of design, maintenance, and operation of wastewater treatment plants. Prerequisites: 101, Engineering 101a,b, Chemistry 202.

204-3 Water Purification. A study of the elementary aspects of the design, operations, and maintenance of water purification plants. Prerequisites: 101, Chemistry 201.

311-3 Contracts, Specifications, Codes, and Costs. A study of the procedures for completing an engineering contract which involves two or more parties, and codes and cost limitation. Prerequisites: 203, 204, GSM 144, Engineering 101a,b.

320-5 Basic Hydraulics. An understanding of practical design as it applies to the collection, treatment, and distribution of water and the collection and treatment of domestic and industrial wastewater. Prerequisites: 311, Physics 206a.

330-3 Air Pollution Principles. An introduction to the broad field of air pollution. Characteristic emissions from stationary and mobile sources, atmospheric dispersion and meteorological models, health and ecological effects, and methods of assessment.

390-3 to 6 Supervised Work Experience. Supervised work experience with industries, municipalities, or some other water related organization. A range of experience related to course work. Prerequisites: 203, 204.

420-4 Water Pollution. An investigation of the causes and effects of stream pollution, the mechanisms of stream self-purification, and nature's ecological balance in rivers and streams. Prerequisites: 203, 204, Chemistry 202.

430-3 Air Pollution Principles. An understanding in the measurement and control of air pollution. Air quality standards, methods for evaluation of emissions from transportation vehicles, municipal incinerators and specific industries, and the legal and enforcement aspects of air pollution control. Prerequisite: 330.

440-4 Advanced Treatment of Wastewater. A review of hydraulics, hydrologic cycles, sewage systems, characteristics of sewage, sludge characteristics, digestion, chemical treatment of wastewater, and principles of biological treatment. Prerequisites: 203, 320, Chemistry 201, 202.

450-3 Special Topics. Advanced topics in water and wastewater processing. Prerequisite: consent of instructor.

460-3 Industrial Waste. A study of specific processes, operational characteristics and associated problems encountered in industrial waste treatment facilities, treatment of combined municipal and industrial water, and by-products recovery. Prerequisites: 203, 420, Chemistry 202.

490-3 to 6 Supervised Work Experience. Supervised work experience with industries, municipalities, or some other water related organization. A range of experience related to course work. Prerequisite: 203, 204.

Science and Technology

401-3 to 6 Classical Mechanics. A systematic treatment of mechanics which assumes only a modest background in algebra. Emphasis on those concepts which historically were defined for mechanical systems but which have proven important in all areas of physics. Primarily for teachers of the physical sciences. Subject matter is related to texts and material available in most secondary schools. May be repeated to maximum of 10 hours.

402-3 to 6 Modern Physics. The development of physics in this century. For teachers of the physical sciences. Emphasis on the phenomena which led to the formulation of quantum theory in the twenties. A qualitative discussion of atomic and nuclear physics. May be repeated to maximum of 10 hours. Prerequisites: 401, Physics 206.

403—3 to 6 Experiments and Techniques of Physics. Conducting of experiments and consideration of equipment for teaching physics at the pre-college level. Lectures on experimental techniques. May be repeated to maximum of 10 hours.

406—3 to 6 Mathematical Physics for Teachers. Mathematical topics from trigonometry, analytical geometry, the calculus and applied mathematics with regard to their usefulness in describing physical concepts such as work, power, energy, and potential. May be repeated to maximum of 10 hours.

412—3 to 6 Physical Science Curriculum. A study of the secondary school physical science curriculum and instructional methods, including evaluation of curricular materials and specialized equipment. May be repeated to maximum of 10 hours. Prerequisite: 401 or Physics 206.

415—1 to 6 Instructional Innovation for the Physical Sciences. A variety of subject matter is considered with regard to its order of presentation in a course, the type of plausibility arguments most successful in a "derivation," the types of demonstrations most appropriate to the subject matter, and the relation of laboratory work to the lecture content.

421—4 Basic Concepts of Chemistry. A general background in chemistry. A body of chemical principles with emphasis on the existence, size, structure, and bonding of atoms. Four lecture hours per week.

Secondary Education

215—4 Introduction to Secondary Education. Through three types of setting—field experiences and on campus and off campus seminars—students are given the opportunity to explore, experience, and study teaching as a profession. Required of all students before they may be considered for admission into secondary teacher education.

315—5 High School Methods. Study and discussion in various types of procedures used for effective classroom teaching. The problem approach and unit method are stressed. Participation in micro-teaching laboratory. Prerequisites: Counselor Education 305, Foundations of Education 355.

352—4 to 16 Secondary Student Teaching. Practice of teaching in junior and senior high school subjects in the student teacher's area of concentration. The application of theory to practice as it applies to the teacher's responsibility in the secondary education classroom and the school as a whole. These experiences to be arranged under the direction of a University supervisor in cooperation with a qualified and experienced public school teacher.

401—33 (8,9,16) Secondary Education Teacher Training System. The preparation of secondary school teachers through a systems approach with emphasis on field experiences conducted in Teacher Learning Centers. Alternative learning experiences provided according to needs of students and profession. Must be taken in sequence or consent of department chairman. Not for graduate credit. Prerequisites: 215, admission into secondary education.

407—4 The Middle and Junior High School. Designed to help prospective middle and junior high school teachers understand the background and present status of these schools. The development, population, curriculum purposes, and methods of the schools with a major emphasis on curriculum.

440—4 Teaching Reading in the Secondary School. A foundation course in how to teach reading in junior and senior high school: developmental and corrective reading programs, appraisal of reading abilities; methods and materials of instruction. Prerequisite: 315.

443—4 Teaching of Geography. (See Geography 443.)

444—4 Teaching of Earth Sciences. (See Geography 444.)

480—4 Backgrounds of Urban Education. (See Elementary Education 480.)

481—4 Drug Use and Abuse. Relevant background information for teachers, curriculum development specialists, administrators, and others who are interested in the problems in drug use and abuse as they relate to students at the secondary school level and above.

487—4 Teaching the Natural Sciences in Secondary Schools. Objectives of science education; instruction methods and techniques appropriate for teaching science; desirable equipment, audio-visual aids, and instructional materials; development of a course outline and at least one instruction unit.

488-4 Teaching Social Studies in Secondary Schools. Objectives, scope and sequence of curriculum, methods of teaching different courses and age groups, materials and evaluation. Prerequisite: 315.

495-1 to 8 Selected Topics. Varied content. To be offered from time to time as need exists and as faculty interest and time permit. May be repeated until a maximum of 16 hours have been earned provided no topic repeats itself. Prerequisite: consent of instructor.

Social Welfare

200-4 Introduction to Social Work. A pre-professional introductory course designed to acquaint the student with the major aspects of the profession of social work and to provide him with the opportunity to evaluate his interest in continuing training for the profession.

375-4 Social Welfare as a Social Institution. Interdependence of social, cultural, political, and economic factors in the history, theory and practice of social welfare, with special reference to development of the social work profession in response to welfare problems. Prerequisite: GSS 130 or Sociology 301 or consent of instructor.

381-4 The Field of Social Work. A pre-professional course intended to acquaint the student with the philosophy, theoretical base, scope and aims of the helping services and of social work as a helping service profession. Prerequisite: GSS 130, Sociology 301 or consent of instructor.

382-4 Analysis of Social Welfare Organizations. Examination of contemporary urban social welfare organizations in their attempt to meet the economic and social needs of the recipients. The structure, function, and auspices of public and voluntary organizations. Social welfare organizations in their broad context and their adequacy in meeting common and unique human needs. Prerequisites: Sociology 312, 321.

383-4 Introduction to Interviewing. Theory and practice of interviewing as a means of gaining information, and of understanding and imparting the same. Focus is on the interview as a tool in social work, but principles are generally applicable. Prerequisite: GSS 130 or Sociology 301 or consent of instructor.

389-2 to 5 Readings in Social Welfare.

480-4 Social Work Theory and Methods I. Designed to develop further understanding of basic concepts and principles encompassing the core of values and knowledge generic to social work practice. Emphasis on translation of this core into practice skills. A problem solving framework consisting of problem identification, problem assessment, analysis and planning for intervention, intervention, and evaluation of intervention, provides a model within which specific practice skills are introduced, practiced, and learned. Skills emphasized are interpersonal and planning skills designed to facilitate competence in social work practice. Prerequisites: 375, 381.

481-4 Social Work Theory and Methods II. Theory, rationale, and practice of casework, group work, social welfare organization, and the roles of supervision, administration, and research in relation to each. Case material study and discussion with field observation and practice. Prerequisite: 480.

482-4 or 8 Social Work in Selected Agencies. Study of representative literature on casework in family, psychiatric, medical, school, military, child welfare, and correctional settings and others. Case material study and discussion with field observation and practice. Prerequisite: 481.

490-4 Senior Social Welfare Seminar. A summarizing course. Designed to prepare the graduating senior for entry into employment of choice or graduate education. Format to be determined by individual instructor and class body. Not for graduate credit. Prerequisite: 482.

Sociology

301-4 Social Theory and Methods of Inquiry. An examination of the relations between theory construction and research methods. Problem identification, hypothesis formulation, research design and report writing.

306-4 Social Control. The means and principles of social controls; social institutions as factors in control; techniques of directing social action. Prerequisite: 301 or GSS 130 or consent of instructor.

- 308-4 Data Analysis and Elementary Statistics.** (See Government 308.) Prerequisite: 301 or GSS 130 or consent of instructor.
- 312-4 Research Methodology and Data Analysis.** Principles of research design; methods of data collection and data analysis. Prerequisite: 301 or GSS 130 or consent of instructor.
- 320-4 Race and Ethnic Relations.** Racial and cultural contacts and conflicts; causes of prejudice; status and participation of minority groups; national and international aspects of racial, ethnic, and minority problems. Prerequisite: 301 or GSS 130 or consent of instructor.
- 321-4 Individual and Society.** The process of socialization in infancy, childhood, and adolescence; development of habits; attitudes, sentiments; emergence of the self; integration of the individual and society. Prerequisite: 301 or GSS 130 or consent of instructor.
- 322-4 Propaganda and Public Opinion.** Techniques and characteristics of propaganda; methods of measuring public opinion. Prerequisite: 301 or GSS 130.
- 332-4 Social Organization.** An examination of the determinants of social organization; intensive analysis of institutional configuration, social stratification, and systems of social control; review of significant writing. Prerequisite: 301 or GSS 130 or consent of instructor.
- 333-4 Community Organization.** Factors involved in community organization; types, aims, and objectives; community analysis; individual case study of specific community.
- 335-4 Urban Sociology.** The rise, development, structure, culture, planning, and problems in early and modern cities. Prerequisite: 301 or GSS 130.
- 336-4 Local Urban Problems.** General examination of urban problems as they exist in the local community. Problems of welfare, race, city government, federal program administration, with emphasis on the city of East St. Louis, Illinois.
- 338-4 Industrial Sociology.** Social organization and processes within the formal and informal structure of the industrial unit; research and experimental materials concerning social determinants of morale, status, and role of the worker. Prerequisite: 301 or GSS 130.
- 340-4 The Family.** The family in historic and contemporary society; evolution of the modern family; change in family functions, structures, and roles. Prerequisite: 301 or GSS 130.
- 351-4 Sociology of Religion.** Functions of religious institutions in society and their relationship to other major social institutions; role in social control and group solidarity. Prerequisite: 301 or GSS 130.
- 366-4 The Sociology of Youth.** Youth, youth culture, and intergenerational conflict examined in cross-cultural perspective with focus on familial and educational institutions. Prerequisite: 301 or GSS 130 or consent of instructor.
- 371-4 Population and Migration.** Characteristics of population, problems of growth, composition, distribution differential fertility, international and internal migration. Prerequisite: 301 or GSS 130 or consent of instructor.
- 372-4 Criminology.** The nature of crime; criminal statistics; causal factors; theories and procedures in prevention and treatment. Prerequisite: 301 or GSS 130 or consent of instructor.
- 374-4 Sociology of Education.** Methods, principles, and data of sociology applied to the school situation: relation of the school to other institutions and groups. Prerequisite: 301 or GSS 130 or consent of instructor.
- 396-1 to 5 Readings in Sociology.** Supervised reading in selected subjects. Prerequisite: consent of chairman.
- 405-4 Current Sociology.** A survey of important trends in contemporary sociology and social thought and an examination of the social organization of sociology as a profession. Prerequisite: 301 and 312 or consent of instructor.
- 406-4 Social Change.** An examination of the processes of social change in the modern world; culture lag and conflict of norms; individual and social problems arising from conflicting systems of social values and cultural norms. Prerequisite: 301 and 312 or consent of instructor.
- 410-8 (4.4) Quantitative Methods in Sociology.** Statistical and computer research techniques for sociologists. (Same as Government 410.) Prerequisite: (a) 308 or consent of instructor; (b) 410a or consent of instructor.

414-4 Complex Organizations. Analysis of formal and informal organizations. Theories of function and structure, with reference to the work of Weber, Barnard, Simon, and others. Comparative analysis of various kinds of organizations: factories, schools, prisons, hospitals, churches, voluntary associations. Pressures toward equilibrium and change. Prerequisite: 301 and 312 or consent of instructor.

420-4 Social and Cultural Aspects of the Afro-American Experience. An examination of the experiences of black people in America; a comparison of the African cultural modes of their origin and the essentially European cultural modes black people encounter in America; the economic, political, and social factors in past and current Afro-American history. Prerequisite: 301 and 312 or consent of instructor.

424-4 Collective Behavior. The behavior of people in large groups; collective interstimulation and emotions; crowds, audiences, and publics; mass stimuli and mass response. Prerequisite: 301 and 312 or consent of instructor.

426-4 Social Psychology of Interpersonal Relations. The study of how group situations and interpersonal relations affect beliefs, behavior, and personality; the development of concepts, attitudes, and values; theories of motivation, perception, and cognition as related to social processes. Prerequisite: 301 and 312 or consent of instructor.

427-4 Sociology of Deviance. Comparative theoretical orientations to the study of deviance; the relationship between deviant and conforming behavior; deviance as a social product; the effect of societal reaction on deviance; the development of deviant subcultures; selected deviances. Prerequisite: 301 and 312 or consent of instructor.

429-4 Sociology of Drug Use. A survey of drug use and abuse with emphasis on the sociological implications for institutions in the United States; an analysis of not only the behaviors associated with use but also the social and legal response to such use. Prerequisite: 301 and 312 or consent of instructor.

433-4 Urban Social Problems. A focus on some of the major social problems found in contemporary urban life. Of particular concern are the problems of race relations, poverty, ghettoization, urban decay, urban education, and political structures and responses. Includes both micro and macro analyses of the urban situation. An attempt to relate the structural conditions of American urban life to the problems that are conventionally viewed as personal troubles or characteristic of particular groups. Prerequisite: 301 and 312 or consent of instructor.

434-4 The Urban Family. The family is studied as (1) an institution and (2) the origination of personal values and attitudes. Special attention to social reform in relationship to problems of families in the city. Prerequisite: 312 or 321 or consent of instructor.

435-4 Social Inequality. Social inequality with respect to status, income, and power as these vary among societies. Factors affecting the degree of inequality in a society and the consequences of inequality and social class on individuals and societies. Prerequisite: 301 and 312 or consent of instructor.

436-4 The Social Structure of the United States. An examination of the social structure of the United States with special attention to the structures of government, the military, and the economy. Prerequisite: 301 and 312 or consent of instructor.

437-4 Social Structure of Latin America. Analysis of social structures and processes including the major social institutions, demographic characteristics, agrarian reform, racial and ethnic groups, stratification, and the urbanization. Special attention to sociocultural change in contemporary societies and to Brazil as a case study.

438-4 Sociology of Occupations. Natural history and institutional aspects of occupations in our society, cultural context of occupations in both primitive and modern society, preparation for jobs, human values in work, promotion and discharge, mobility, retirement. Prerequisite: 301 and 312 or consent of instructor.

439-4 Medical Sociology. An analysis of the sociological factors in illness and health and the role of medicine and the health professions in modern society. Prerequisite: 301 and 312 or consent of instructor.

451-4 Social Thought: The Sociological Movement. The rise and development of sociological reasoning as a response to the Industrial Revolution. Prerequisite: 301 and 312 or consent of instructor.

453-4 Social Movements. A sociological study of modern social movements; social and cultural backgrounds, forms of expression and organization; social structure of social movements, their role and function in modern society. Prerequisite: 301 and 312 or consent of instructor.

455-4 The Sociology of Sociology. Examines several issues raised within the sociological discipline about the practice of sociology: the nature of the responsibility of the researcher to his subjects, the possible dysfunctional effects of academic practices for producing and disseminating knowledge, and the adequacy of currently employed methodological tools. Prerequisite: 301 and 312, or consent of instructor.

460-4 Sociology of Punishment. Theoretical and methodological aspects of the study of punitive behavior in everyday life encounters and situations. Analysis of interpersonal relations in a given social area with reference to unsanctioned punishment of human beings. Prerequisite: 301 and 312 or consent of instructor.

470c-4 Urban Planning. (See Geography 470.)

472-4 Treatment and Prevention of Crime. Principles of penology; history of punishment and prisons; criminal law, police function, criminal courts; the prison community; the juvenile court and related movements. Prerequisites: 312 or 321 or consent of instructor, 372.

474-4 Crime and the Legal Process. An analysis of the administration of criminal law in America. The emergence of legal norms, law enforcement, prosecution, trial and sentencing, with consideration of the impact of legal sanctions on deviant behavior. Prerequisites: 312 or 321 or consent of instructor, 372.

484-4 Marriage Counseling. Survey and analysis of the field of marriage counseling; assessment of current practices and techniques; case studies and supervision. Prerequisite: consent of instructor.

485-6 Community Programs for the Prevention of Juvenile Delinquency. Analysis of delinquency prevention in community programs administered by various agencies. A critique of existing programs and development of experimental programs. The roles of professional workers pertinent to such programs is delineated with special reference to the public school administration, counselor, the social workers, the court, probation officers, and police. Prerequisite: 301 and 312 or consent of instructor.

Special Education

351d-8 Elementary Student Teaching.

353-8 to 16 Special Education Student Teaching. The practice of teaching, under the immediate supervision of a critic teacher and the general supervision of a University instructor. Involves lesson preparation and planning of instruction.

354-8 Elementary Student Teaching. Student teaching in elementary grades. Regular student teaching experience coordinated with special education experience. Prerequisite: concurrent registration with 353.

410a-4 Problems and Characteristics of the Emotionally Disturbed Child. Diagnosis, screening, classroom management, placement considerations, goals, and the effective use of ancillary services. Emphasis on the understanding of maladaptive behavior through principles of learning and behavior dynamics. Observations.

410b-4 Problems and Characteristics of the Mentally Retarded Child. Educationally significant characteristics including cognitive, emotional, and sociological considerations. Problems of definition, screening, diagnosis, classification systems, and classroom management. Prerequisite: 414 or concurrent enrollment.

410c-4 Problems and Characteristics of the Gifted Child. Designed to help teachers in the identification of, and programming for, gifted and talented children. Prerequisite: Counselor Education 305 or Psychology 301 or 303.

410f-4 Problems and Characteristics of the Socially Maladjusted Child. Definition and characteristics of the socially maladjusted, as related to problems of identification and classroom practice. A developmental approach to causes and to recommended practice at pre-school, elementary, and secondary levels. Prerequisite: 414 or concurrent enrollment.

410g-4 Problems and Characteristics of the Learning Disabled Child. Study of the child with a wide discrepancy between ability and achievement, accompanied by serious educational maladjustment. Emphasis on definition, identification, diagnosis, individualized remedial programs and placement. Prerequisite: 414 or concurrent enrollment.

410t-4 Problems and Characteristics of the Trainable Mentally Handicapped. Basic concepts in the dimensions of intelligence, psychological testing, educational assessment, causation of retardation as they relate to educational and therapeutic considerations for the trainable mentally handicapped child. Prerequisite: 414.

411-4 Assessment and Remediation of Learning Disabilities. Special tests and remedial programs designed for children with specific learning disabilities of a perceptual or coordination nature and who may demonstrate related adjustment problems. Prerequisites: 410a or g, 414.

413a-4 Directed Observation of Emotionally Disturbed Children. Student observation and participation in group and individual work with mentally retarded children. Often taken concurrently with 410b. Prerequisite: consent of department chairman.

413b-4 Directed Observation of the Educable Mentally Handicapped. Student observation and participation in group and individual work with mentally retarded children. Often taken concurrently with 410b. Prerequisite: consent of department chairman.

413c-4 Directed Observation of the Gifted. Taken concurrently with 410c. Provides student observation and participation in individual work with gifted children. Prerequisite: consent of instructor.

414-4 The Exceptional Child. Physical, mental, emotional, and social traits of all types of exceptional children. Effects of handicaps in learning situations. Methods of differentiation and techniques for rehabilitation. Individual case studies used; observations and field trips.

420a-4 Methods and Materials for Children with Learning and/or Behavioral Problems. Methods and materials needed in teaching children with learning and/or behavioral problems in special education programs. Prerequisites: 410a,g, consent of instructor.

420b-4 Methods and Materials in the Education of the Educable Mentally Handicapped. Offered in conjunction with practice teaching. Methods and materials needed in teaching educable mentally handicapped children.

420c-4 Methods and Materials in the Education of the Gifted. Offered in conjunction with practice teaching. Methods and materials needed in teaching gifted children.

420t-4 Methods and Materials in the Education of the TMH Child. Basic educational and remediation processes needed to assist in the overall academic development of the trainable mentally handicapped child. Methods and materials, both commercial and teacher developed, are examined. Prerequisites: 410g, 410t, 414.

427-4 Physical Education and Recreation for the Handicapped. (See Physical Education 427.)

428-4 Speech Correction for the Classroom Teacher. (Same as Speech Pathology and Audiology 428.) Etiology and therapy of common speech defects. Open to in-service teachers and administrators, seniors, and graduate students in education.

430-4 Behavior Modification in Special Education. The application of learning theory to the management of behavior in retarded, emotionally disturbed, and other exceptional children. Prerequisites: 414. Psychology 420.

440-4 Preschool Education for Exceptional Children. A survey of preschool programs for the exceptional child. Investigation of theories of child development as related to special education. Observation experience with preschool exceptional children. Prerequisite: any Special Education 410-4.

441-4 Prescriptive Teaching - Preschool Exceptional Children. The use of formal and informal instruments in the assessment of academic, cognitive, and perceptual-motor development of preschool exceptional children. Emphasis on diagnosis and remediation. Participation experiences with preschool exceptional children and parent involvement. Prerequisite: 430.

453-4 or 8 Practicum. Supervised classroom, small group, or individual teaching experiences in a school or institutional program for atypical children.

Open only to graduate students with no prior student teaching experiences with the exceptional child in the area of specialization. Prerequisites: 410, 420, candidate in the area of specialization, consent of staff.

470-4 Secondary School Programs for Exceptional Children. Organizational, administrative, and curricular aspects of programs for exceptional children at the secondary level. Emphasizes adjustments needed because of intellectual, behavioral, physical, or learning disabilities. Stresses work-study programs. Prerequisites: 410, 420.

481a-4 Seminar: Emotionally Disturbed.

481b-4 Seminar: Educable Mentally Handicapped.

481c-4 Seminar: Gifted.

496-1 to 8 Readings and Independent Study in Special Education. Study of a highly specific problem area in the education of exceptional children. Open only to selected seniors and graduate students. Prerequisites: 414, consent of staff.

498-4 Seminar: Selected Topics in Special Education. Special education concepts, teaching strategies, or current concerns to various educational personnel. Prerequisite: consent of department chairman.

Speech Communication

200-4 Persuasive Speaking. Designed for students who desire increased proficiency in preparation and delivery of speeches.

300-4 Communication in Interviewing and Counseling. Survey of the communicative aspects of interviewing and counseling, the causes of failure in such situations, and the roles that speech communication can play in re-establishing contact. Practice with critiqued video playbacks featured. For students entering fields of education, counseling, social work, personnel management, and law.

301-4 Principles of Small Group Communication. Principles and methods of group discussion. Current problems used as focus for exploring group behavior.

302-8 (4,4) Oral Confrontation of Ideas. Theory and practice in researching and debating problems of (a) fact and value; (b) policy.

303-4 Speech Communication in Business and Organizations. Exploration of the effects of organizations and businesses on the speech communication behavior of individuals. Emphasis on improving individuals as organizational communicators.

309-4 Campus and Community Speech Practicum. Individual and group analysis, preparation, and evaluation of various speaking experiences on campus and in the community.

310-4 Black Rhetoric. Survey of influential black spokesmen in the United States. Discussion of communication problems of black spokesmen in a predominantly white society. Prerequisite: GSK 123.

330-4 Theories of Communication. An introduction to models of and approaches to the process of communication. Multidisciplinary content. A foundation course on which a later, more advanced study of communication strategies and effects is built.

409-4 Senior Seminar in Speech Communication. For speech concentrations. Designed to tie together the entire undergraduate program in speech communication. Emphasis on the field of speech in academic, social, and career settings. Not open to graduate students. Prerequisites: 24 hours in speech, senior standing.

410-4 Concepts and Role of Speech Criticism. An introduction to various methodologies and viewpoints in speech criticism as a prelude to the formation of student-developed concepts of the critical act. The role of speech criticism as a force in society. Prerequisite: GSK 123.

411-4 Explorations in American Rhetorical History. Critical treatment of various topics as important rhetorical highlights of American history. The role of statesmen, preachers, scientists, artists, and reformers in creating oral history in America. Prerequisite: 410 or consent of instructor.

412-4 Criticism of Contemporary Speaking. Practical training in the role of speech critics. Analysis and criticism of speaking on campus, in the community, and in contemporary society. Prerequisite: 410 or consent of instructor.

413-4 Analysis of Political Communication. The influence of psychological and sociological factors in determining political communication strategies. Voter behavior, image promotion, forms of decision making, lobbying behavior, public opinion formation and interpretation, as they affect the form and effectiveness of speech communication in politics.

419-4 Seminar in Special Rhetorical Problems. The impact of contemporary culture, art, media, and values in the development of communication relationships in society. Focus on pertinent contemporary problems.

430-4 Theories of Persuasion. A survey of prominent literature on attitude change and the varieties of social influence. Emphasis on theories supporting and generating relevant research.

431-4 Psychological Theory and Speech Communication. The psychology of behavior, motivation, learning theory, maturation, and self-esteem as it applies to communication.

432-4 Sociological Theory and Speech Communication. The selection of topics and subfields within sociology which complement most closely the concerns of speech communication. An overview intended to stimulate interest in, but not preclude, courses in sociology.

433-4 Linguistic Aspects of Speech Communication. The role and impact of language development and evolution on man. Emphasis on communicative barriers resulting from intracultural and intercultural differences in language usage.

460-4 Oral Communication in the Elementary Schools (K-6). Explores activities which may be incorporated into the elementary classroom to develop basic communication skills. Emphasis on the classroom as a verbal community. Recommended for elementary education concentrations and specialists.

461-4 Strategies for Teaching Speech Communication. Philosophy of speech education and approaches for teaching speech in curricular and co-curricular settings. Meets for 5 hours. Prerequisite: 16 hours of speech or consent of instructor.

Speech Pathology and Audiology

100-0 to 2 Speech Clinic. Designed for students with speech and hearing deviations who need individual help.

201-4 Human Communication and Its Disorders. Basic orientation to the professional field of speech pathology and audiology including history, goals, and career opportunities.

231-4 Phonetics. An introduction to the phonology of general American speech. Description and transcription of speech.

303-4 Introduction to Speech and Hearing Sciences. Basic orientation to the study of normal human communication. Consideration of the physiological, acoustical, linguistic, and psychological aspects. Prerequisite: 231 or consent of instructor.

312-4 Normal Language and Speech Acquisition. Normal development of the linguistic code. Prerequisite: 231 or consent of instructor.

320-4 Anatomy and Physiology of the Speech Mechanisms. Structures and functioning of the normal communication system. Prerequisite: 231 or consent of instructor.

360-4 Human Hearing and Its Disorders. A basic orientation to the professional field of audiology. Basic acoustics, psychoacoustics, anatomy and physiology of the ear, and significant pathologies.

380-4 Clinical Procedures in Speech Pathology and Audiology. Principles underlying the clinical interview and client relationships. Procedures in obtaining, recording, and evaluating test results. Emphasis on principles of therapeutic methods. Prerequisite: consent of instructor.

400-1 to 4 Independent Study in Speech Correction and Audiology. Activities involved are investigative, creative, or clinical in character. May be repeated up to 6 hours of credit. Prerequisites: graduate standing, consent of instructor.

405-4 Clinical Practice in Speech Pathology and Audiology. Diagnostic and therapeutic procedures in speech pathology and audiology; record keeping and preparation of reports. One hour of class per week and two hours of

clinical activity for each hour of credit. May be repeated up to 12 hours of credit.

412-4 Cerebral Palsy. An investigation of the etiology, problems, and therapy of cerebral palsy. Prerequisite: 212 or consent of instructor.

414-4 Anatomy and Physiology of Speech and Hearing Mechanisms.

415-4 Aphasia. An investigation of the etiology, problems, and therapy of aphasia. Prerequisite: 412, 414 or consent of instructor.

416-4 Introduction to Audiology. A basic orientation to the professional field of audiology, its history, and its goals. Basic acoustics; the phylogeny, anatomy, and physiology of the human ear; and significant pathologies of the ear.

417-4 Techniques and Interpretation of Hearing Tests. Principles and techniques of testing hearing and interpretation tests in terms of the individual's needs. Prerequisite: 416 or consent of instructor.

418-4 Methods and Materials for Speech-Clinical Practice in the Schools. Orientation to speech-clinical practice in the schools. Emphasis on methods, organization, administration, procedures and materials for speech-clinical practice in the schools. Stresses techniques and materials for group speech therapy. Prerequisite: 405.

419-4 Communication Problems of the Deaf and Hard of Hearing. Objectives and techniques for the teaching of lip reading, speech conservation, and auditory training. Prerequisite: consent of instructor.

420-4 Advanced Clinical Audiometry. Principles and procedures for advanced audiometric testing, advanced problems in bone conduction measurements, in evaluation of loudness recruitment, in topodiagnostic audiometry, and non-organic hearing loss. Practical techniques include speech audiometry, Bekesy audiometry, conditioned pure tone electrodermal audiometry, and use of the Zwislocki Acoustic Bridge. Prerequisite: 416.

422-4 Tests and Measurements for Speech Pathology and Audiology. Study of philosophy and techniques of measurement for speech pathology and audiology. Special attention to tests utilized in these fields. Prerequisite: junior standing.

428-4 Speech Correction for the Classroom Teacher. (See Special Education 428.)

Technical and Adult Education

100a-1 Study Skills. Techniques and opportunities to improve the basic learning skills of the motivated student. Reading improvement, effective listening, and general study skills as they apply to note-taking, studying for examinations, budgeting of time, and use of the library.

100b-1 Developmental Reading. Improvement of basic reading abilities through developmental exercises for increasing reading rate and comprehension. Includes application of techniques for improving skills in study-type and leisure reading. Continued practice is given in reading a variety of types of material at varying degrees of difficulty suited to individual needs and abilities. Optional individualized laboratory assistance.

Television-Radio

100-4 Process and Effects of Mass Communication. Lecture. Examination of the theories, processes, and effects of the mass media in society. Interrelationships of the media.

159-4 Development of the Motion Picture. Emphasis on those artistic, technological, economic, and sociological factors influencing the growth of film. Screening and discussion of selected feature films.

200-4 Survey of Broadcasting. Lecture. The history of broadcasting, network structure, the industry as a part of American business, the Federal Communications Commission, and related areas.

201-4 Broadcast Writing. A study of the fundamentals of radio and television continuity writing including commercial copy, talks, interviews, music, and feature programs. Prerequisite: typing skills.

202-4 Broadcast Performance. A skills course. Provides extensive studio prac-

tice in all forms of broadcast talent, including both commercial and voice-over announcing, on-camera host experiences for talk, and/or public affairs presentations. Preparation of own material for studio presentation. One lecture, four hours laboratory per week, intensive practice in studios.

230-5 Radio Production. A skills-content course. Production of programs for WSIE-FM, and/or participation in preparation of programs for other broadcast agencies. Intensive use of tools of broadcasting. Work with faculty, staff, and students in planning and producing programs. One lecture-critique session, four laboratory hours per week.

252-4 Television Laboratory. A skills-content course designed to acquaint the student with basic television equipment and principles of studio operation. Emphasis on the production of laboratory programs with students participating in various jobs involved in studio production. Prerequisite: consent of instructor.

301-5 Television Production. A skills-content course. The use of scenic design and set construction, properties, lighting, special effects, graphics, costuming, make-up, and acting for television. Each student produces no less than a thirty-minute program suitable for presentation on public television. Three lecture-critique sessions, 4-6 hours laboratory per week. Prerequisites: 252, consent of instructor.

302a-4 Radio News. The principles and philosophy of radio news. Instruction and exercises in writing news copy for radio, including broadcast on WSIE. Emphasis on style, format, and delivery. Recording news events on assignment in the field. Prerequisite: 201.

302b-4 Television News. The principles and philosophy of television news. Emphasis on writing style and format, news program structuring and editing. Examines newsfilm, develops skills in newsfilm shooting, editing, and writing. Filming and editing news stories on assignment. Prerequisite: 201.

303-4 Broadcast Advertising. Radio and television as advertising media and comparison with other media. Planning a campaign, production techniques, agency relationships, cost factors. Extensive preparation of commercial materials. Merchandising, promotion, interpretation of research. Case studies. Prerequisite: 200 and/or consent of instructor.

356-4 Motion Picture Production for Television. The philosophies, techniques, and equipment used in the production of film for the television medium. Participation in film production learning skills of camera operation, lighting, sound recording, editing, and finishing. Prerequisite: consent of instructor.

357-4 Motion Picture Production for Television II. Theory, procedures, and practice in sound-on-film production. Advanced problems in production, sound, editing, transfer, and mixes. Selection of topics, research, planning, and budgeting. Group preparation of filmed projects for television. Prerequisite: 356.

359-4 Dramatic Writing. A study of basic structure of drama; writing of scenes and analysis of short and long dramatic works. Term project is a play analysis paper or original short play. Individual students are given permission to work in the areas of television, film, or radio. Prerequisite: consent of instructor.

390-3 Special Problems in Mass Communications. Special projects, research, and independent reading in mass communications for students capable of individual study under the guidance of a faculty adviser. Prerequisite: consent of instructor.

400-4 Seminar in Mass Communications. Problem-solving term projects using inter-media approaches. A team-taught course involving many members of the faculty, both in the mass communications area and the faculty at large. Invited professional guests. Prerequisites: consent of instructor, completion of other broadcast concentration courses.

401-4 Criticism in the Public Arts. Television, radio, and film programs as art forms. Comparison and contrast with other of the "lively" and fine arts. Social, moral, aesthetic, and commercial evaluations. Development of critical standards, extensive viewing and hearing programs on videotape, film, and other. Prerequisite: senior standing.

402-4 Seminar in Broadcast Management. Management executives from stations are "guest faculty." Management responsibility, research goals, use of

capital, advertising, public relations, etc. A research paper. Prerequisite: consent of instructor.

403-4 Seminar in Educational Broadcasting. Application of broadcasting skills and technology to the dissemination of information in a formal or an informal manner. Intended for those who expect to continue their education on the advanced degree level in educational broadcasting, who plan to enter educational broadcasting, or for teachers who will have responsibilities in the administration or use of the broadcast media as a part of their curriculum. Prerequisite: senior standing or consent of instructor.

404-4 Research in Broadcasting. The application of research techniques to the broadcast media. Evaluation of research. Participation in a research project designed by the class. Three class sessions per week, extensive arranged laboratories. Prerequisite: consent of instructor.

405-8 (4.4) The Documentary Film. (a) Survey of the development of the documentary film from the beginnings to the present. Directed readings; viewing of representative films; criticism; discussion of the documentary film movement. (b) The filmed and/or taped documentary as a basic programming concept in American television. The use of advanced editing equipment, sound and videotape recordings. Group projects for television documentary productions. Prerequisite for (a): 356 or Philosophy 345.

406-4 Special Events. Broadcasting on radio and television of special events. Emphasis on remote broadcasting. Training in the preparation and production of one-time and/or occasional broadcasts. Live, audio, and videotaped program preparation. Prerequisite: consent of instructor.

407-4 World Broadcasting. Analysis of foreign systems of broadcasting and comparison with the American system. Broadcasting as an international force in social, economic, and political areas. Problems and developments in space communications, satellite broadcasting, international cooperation. Prerequisite: consent of instructor.

408-4 Television and Radio Regulations. Federal legislation with emphasis on Communications Act of 1934 and the regulations of the Federal Communications Commission, legal problems in program operations, censorship and editorial selections, copyright, and author-producer relations. Prerequisite: 200 or consent of instructor.

410-4 to 16 Internship in Broadcasting. Professional experience with local media in the various phases of broadcasting, under joint supervision of members of the broadcasting faculty and of the media. May be repeated to maximum of 16 hours credit. Prerequisites: upperclassman in this concentration, consent of instructor.

450-4 Seminar in Special Problems. Varied content. To be offered from time to time as need exists and as faculty interest and time permit. Prerequisite: consent of instructor.

466-6 (3,3) Advanced Practices. Advanced work in any area in which the student has completed all of the formal material or course work. Project work in news, advertising, writing, announcing, and production and direction. Prerequisite: consent of instructor.

Theater

100, 200, 300, 400-2 or 4 Applied Theater. Offered at four levels in the areas listed below. Credit is given at 2 or 4 hours on each level. Consult Schedule of Classes and adviser for information regarding credit and offerings during a particular quarter. May be repeated three additional quarters at any level.

- | | |
|----------------------------------|----------------------------|
| a. Acting | k. Sound for Theater |
| b. Business Management | l. Lighting |
| c. Costume Design-Production | m. Make-up |
| d. Scene Design | n. Rhythmic Structure |
| e. Contemporary Theater Problems | o. Dance Composition |
| f. Fencing | p. Rehearsal-Performance |
| g. Musical Theater | q. Special Projects |
| h. Ballet | r. Directing |
| i. Improvisation | s. Stagecraft |
| j. Mime | t. Modern Dance Techniques |
| | u. Movement |

v. Voice**w. Scene Painting**

200-2 or 4 Applied Theater. (See 100.) Prerequisite: 100.

224-4 Communicative Reading. Study and practice of techniques used in the oral presentation of various forms of literature: prose, poetry, and drama. Textual analysis, vocal and physical skills, and staging techniques as applied to performance situations.

300-2 or 4 Applied Theater. (See 100.) Prerequisite: 200.

301-4 Black Theater History. Historical development of black theater practices. Emphasis on script analysis, scene study, and the contribution of black playwrights to the theater discipline.

400-2 or 4 Applied Theater. (See 100.) Prerequisite: 300.

401-12 (4,4,4) History of the Theater. A study of drama, performance, architecture, design, and cultural environment of (a) Primitive, Greek, Roman, Pre-Renaissance; (b) Renaissance, Neo-Classical; (c) Romantic and Modern.

402-4 History of Dance. A survey course tracing the development of dance from its beginnings in primitive societies to its present art form.

404-2 Workshop in Dance for In-Service Teachers. History of dance, values of dance, interpretation of music for dance, teaching techniques and facilities, and fundamental dance movements leading to knowledge and command of dance skills.

409-4 High School Production Problems. Designed to acquaint the prospective teacher with some of the problems of directing a curricular and co-curricular dramatic program in the high schools. Prerequisite: senior standing.

410-12 (4,4,4) Children's Theater. A study of the techniques and actual practice in the dramatization of children's literature for elementary school children. Recommended for elementary education and theater education concentrations. (a) Introduction to children's theater techniques. (b) Practicum in children's theater production. (c) Special projects in children's theater production. Must be taken in sequence.

ASSOCIATE DEGREE

Child Care Services

101-4 Child Care. An introduction to the development of children from infancy to year seven. Observations in preschool centers and principles of preschool education.

103-2 Child and Nutrition. Nutritional needs of the young child. The establishment of good food habits. The individual child and his feeding behavior.

105-3 Language Arts. The development of language and cognition in the preschool child. A study of appropriate literature, story telling, and creative dramatics. The presentation of projects in preschool centers and their evaluations. Prerequisite: 101.

107-2 Health and First Aid. The physical needs, development, and care of the young child.

109-5 (2,3) Personal Interaction. (a) Analysis of interpersonal relations with an emphasis on the role development in preschool centers of teachers, directors, and aids within the educational facility. (b) Analysis of interpersonal relations with an emphasis on teacher-parent and teacher-community interaction. Must be taken in a,b sequence.

111-2 Audio-Visual Aids. The study of films, filmstrips, and other materials suitable to the preschool child and the development of skills in operating audio-visual equipment. Artistic preparation and display of materials for children and parents.

115-2 Art and Music. Creative arts materials suitable for the preschool child and methods of presentation. Appropriate musical instruments and experiences. Development of projects; their presentation and evaluation in preschool centers.

117-6 (3,3) Science and Nature. (a) Introduction to general knowledge in biological and natural sciences that the student must know to develop experiences for the child under seven. (b) The development of projects in the nat-

tural and physical sciences appropriate to the young child; their presentation and evaluation in preschool centers. Must be taken in a,b sequence.

203-3 Parent and Community. Through contacts, both individual and group, the student experiences ways of working with the parents of children under seven. Some focus is given to the relationship of community agencies to educational centers and parents. Prerequisites: 101, 109, or consent of adviser.

207-4 Administration of Preschool Centers. Policy and ethics of the preschool center, selection of personnel, records and record keeping, the purchase of appropriate equipment, toys and materials, state regulations and licensing. Prerequisite: consent of adviser.

209-4 Preschool Practicum. Field experience in a preschool center combined with total program planning and child guidance. Prerequisite: sixth quarter standing or consent of adviser.

211-4 Socially Disadvantaged Child. Sociology of the disadvantaged and special needs of the preschool child.

8 / Faculty

School of Business

PAUL E. SULTAN, *Dean*

Accounting/Finance

Professors John J. Glynn, Vern H. Vincent, Stuart E. White.

Associate Professors James O. Eaton (*Chairman*), Melvin A. Hanson, Richard J. Milles.

Assistant Professors Anele L. Iwu, Burton Nissing.

Lecturer Robert Carver, Jr.

Visiting Assistant Professor Walter L. Eckardt.

Visiting Lecturers Jack A. Hale, David K. Palit, Linda M. Tinney.

Business Administration

Professors Walter Blackledge, Marshall J. Burak, Homer L. Cox, Arthur E. Hoover (*Chairman*), S. Kumar Jain, Ralston D. Scott, Paul E. Sultan, William B. Wait.

Associate Professors Gareth S. Gardiner, Richard N. McKinney, Hans Steffen.

Visiting Associate Professor James S. Sagner.

Assistant Professors Dale F. Blount, Emery R. Casstevens, Edward J. Harrick, Edward L. Welch.

Visiting Assistant Professor Charles A. Armitage.

Instructors Morris F. Carr, Luther D. Statler.

Lecturer James B. Hansen.

Visiting Lecturer Curtis Cook.

Business Education

Professor Robert A. Schultheis (*Chairman*).

Associate Professors John E. Clow, Gerald L. Hershey, Gene L. Houser, Patricia Patsloff, Willie O. Pyke.

Assistant Professor Janet K. Taylor.

Instructor Walter M. Hansel.

Economics

Professors Leo Cohen, Louis S. Drake, Jerome J. Hollenhorst (*Chairman*), Don A. Livingston, Gilbert L. Rutman, Ann S. Schwier, Paul E. Sultan.

Associate Professors David E. Ault, Rasool M. Hashimi, Robert E. Kohn, An-Yhi Lin, David C. Luan.

Visiting Assistant Professor Stanford Levin.

Management Science

Professors Robert S. Hoeke, John E. Megley, III, David J. Werner.

Associate Professors Donald C. Aucamp, Donald W. Fogarty (*Chairman*), Lester Krone, Boulton B. Miller, John P. Phillips, Glenn T. Wilson.

Visiting Associate Professor James E. Benjamin.

Assistant Professors John Ingwersen, Paul R. Tarpey.

Visiting Assistant Professor Martin Goldberg.

Lecturer Thomas E. Schaeffer.

Marketing

Professors James M. Gwin, David J. Luck, Arthur E. Prell (*Chairman*).

Associate Professors Odies C. Ferrell, Raymond LaGarce, William J. Whitmore.

Assistant Professor Daniel Bosse.

Instructor Everett T. Mauger.

School of Education

W. DEANE WILEY, *Dean*

Counselor Education

Professors Joann Chenault, Charles Combs, Howard V. Davis, Donald T. King (*Chairman*), Cameron W. Meredith, Dean E. Rochester, Raymond E. Troyer.

Associate Professors Thomas D. Evans, William Mermis, Virginia Moore, John R. Reiner.

Assistant Professors William Burcky, John Forhertz, Harold D. Gray, Katherine Popp, Donald Repovich, Terry Rohen.

Instructor David R. Van Horn.

Educational Administration

Professors George C. Ackerlund, Gene D. Allsup, Robert G. Andree, H. Bruce Brubaker, W. Deane Wiley.

Associate Professors A. Raymond Helsel, Stefan P. Krchniak.

Assistant Professor Raymond L. Lows (*Chairman*).

Elementary Education

Professors David E. Bear (*Chairman*), Regan Carpenter, Ruth Richardson, Ivan Russell.

Associate Professors James Comer, Donald Darnell, Olin Hileman, Arthur Jordan, Thomas O'Brien, Roy S. Steinbrook, Charles J. Turner.

Assistant Professors Donald Baden, James L. Owens, Robert E. Rockwell, Dartha F. Starr.

Instructors Barbara Havis, Bobbi Knewitz, Susan Nall, Robert Williams.

Lecturer Anne Harris.

Experiment in Higher Education

Associate Professor Charlotte Lee.

Instructors Phillip Anala, Wilbert Barbee, Henry Campbell, Amos Cofield (*Coordinator*), Rex Fernando, Jeanette Handling, Arnell Johnson, Leonard Long, Fannie McCollum, Nolen Ross, Herbert Smith, Louis Viridure.

Lecturers Joseph Harrison, Janice Haynie, James King, Alvin Pulliam, Betty Sanders, Sandra Schneider.

Foundations of Education

Professors Robert E. Mason, Francis Villemain.

Associate Professors A. Dudley Curry (*Chairman*), David C. Hofmann, Jerome Popp, Rosanda Richards.

Assistant Professors James F. Andris, Robert Hildebrand.

Instructor M. Harvey Taylor.

Professor Emeritus Dale Wantling.

Health, Recreation, and Physical Education

Professor Zadia C. Herrold (*Chairman*).

Associate Professors Rosemarie Archangel, Barbara J. DeLong, Walter C. Klein, Norman E. Showers.

Assistant Professors Harry Gallatin, Arthur Grist, Robert M. Guelker, Roy E. Lee, Larry Moehn.

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Lecturer Sara Carpenter.

Instructional Technology

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Adjunct Assistant Professors Kenneth Polakoski, Thomas Ruh, Frederick Sweet.

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Adjunct Assistant Professor of Medical Technology Joyce A. Torrey.

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Instructors Marilyn D. Hauschild, Martin L. Osborne, Nadine L. Verderber.

Lecturer Beverly A. Macon.

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Professor Emeritus William C. Shaw.
Adjunct Assistant Professor John Matlock.

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Assistant Professors Sidney G. Denny, Theodore R. Frisbie.

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Instructor Donald W. Clements.

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Assistant Professors William R. Feeney, Suzanne D. Jacobitti, Don F. McCabe, Michael A. Quinn, Carl D. Tubbesing, Louis P. Westefield.
Instructor John V. Farrell, III.

Historical Studies

Professors Michael C. Astour, Earl S. Beard, Robert F. Erickson, John G. Gallaher, Stanley B. Kimball, Allan J. McCurry, Samuel C. Pearson (*Chairman*), Patrick W. Riddleberger, Herbert H. Rosenthal.
Associate Professors James M. Haas, Wilbur C. McAfee, Richard L. Millett, James J. Weingartner, Stuart L. Weiss.
Assistant Professors Nedra R. Branz, Ching-chih Chen, Samuel B. Grant, Edmund E. Jacobitti, Norman E. Nordhauser, Wayne D. Santoni, Ronald A. Steckling, John A. Taylor.
Adjunct Assistant Professor Dorris W. Wilton.
Adjunct Instructor William L. Farrar, Jr.

Sociology

Professors Robert B. Campbell, Paul J. Campisi, Betty I. Crowther, Donald L. Taylor.
Associate Professors Jane A. Altes, Robert R. Blain, James M. Henslin, Deryl C. Hunt, Robert H. Lauer (*Chairman*).
Assistant Professors Robert E. Ashpole, Hugh D. Barlow, Judith Cingolani, Warren H. Handel, Lawrence E. Riley, Richard L. Swaine.
Instructor Leland B. Cohen.

Aerospace Studies

Professors Capt. Roger A. Bailey, Lt. Col. Charles M. Johnson, Major William J. Weiland.
Adjunct Instructors S/Sgt. Gerald L. Derr, S/Sgt. Clifford W. Gardner.

Associate Professor Nicholas A. Reuterman.
Assistant Professors Robert S. Gilland, Thomas R. Hughes, James A. Jacobson, James R. Stein.
Instructors W. Duane Bridenbaugh, Benjamin F. Quillian.
Lecturer James J. Reidelberger.

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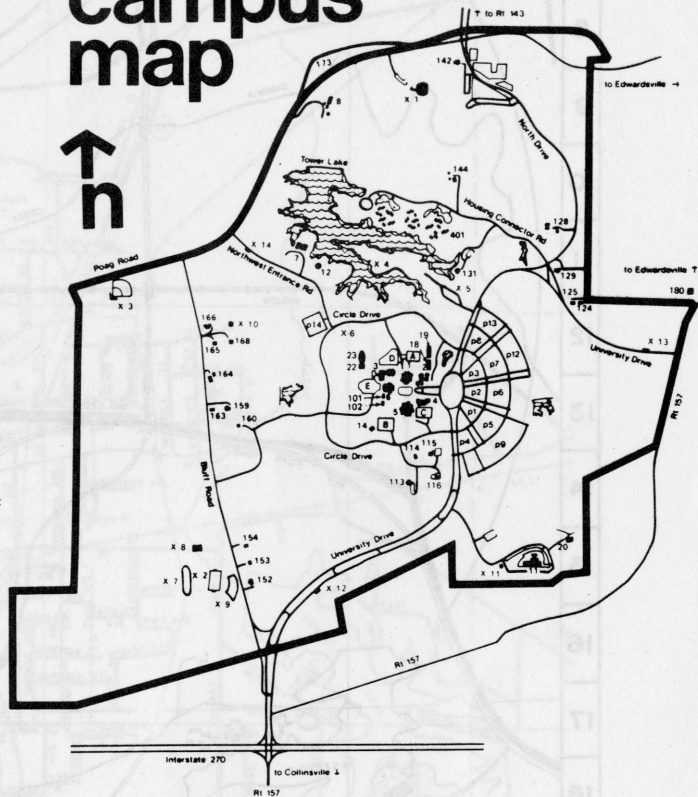
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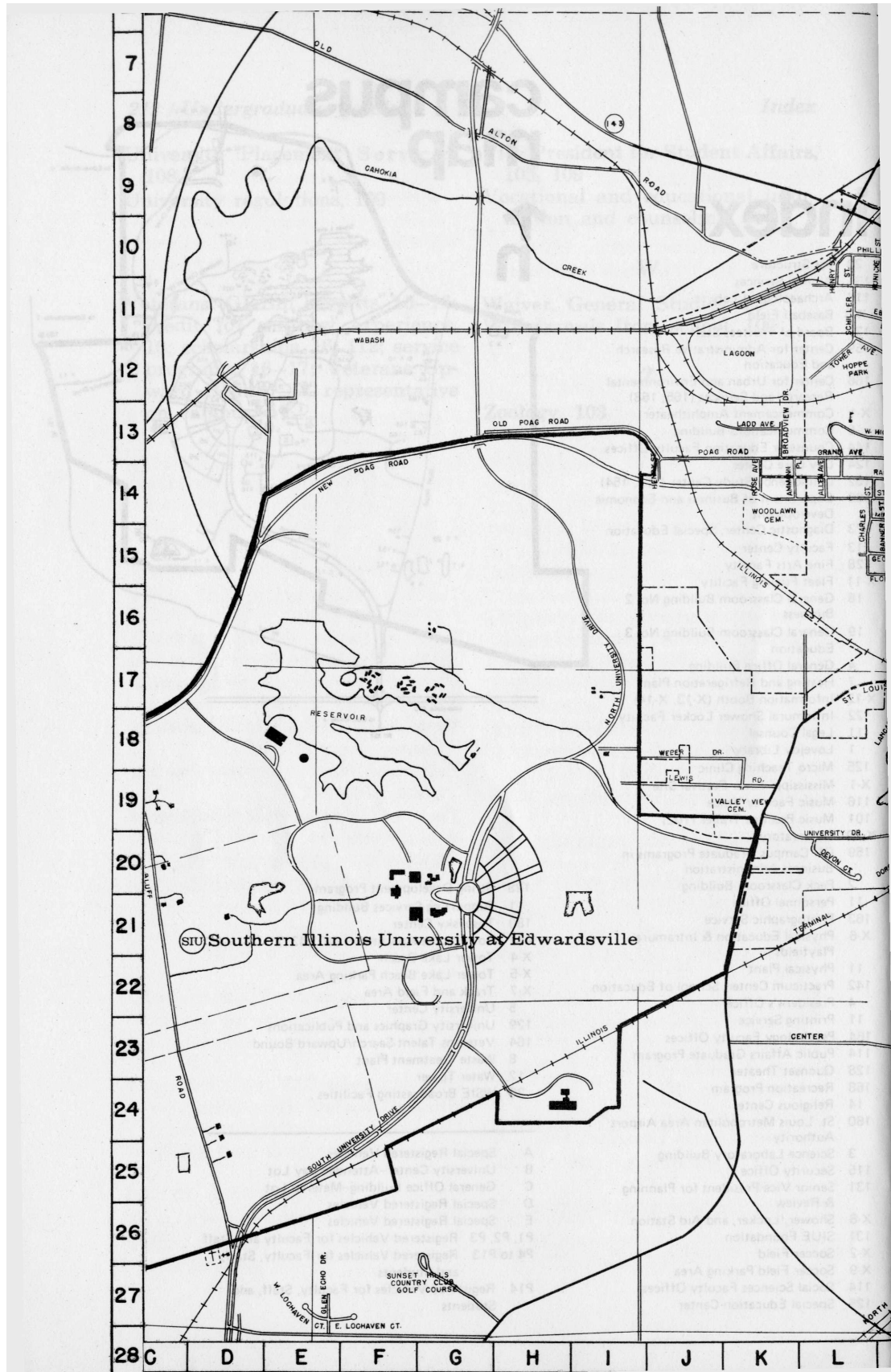
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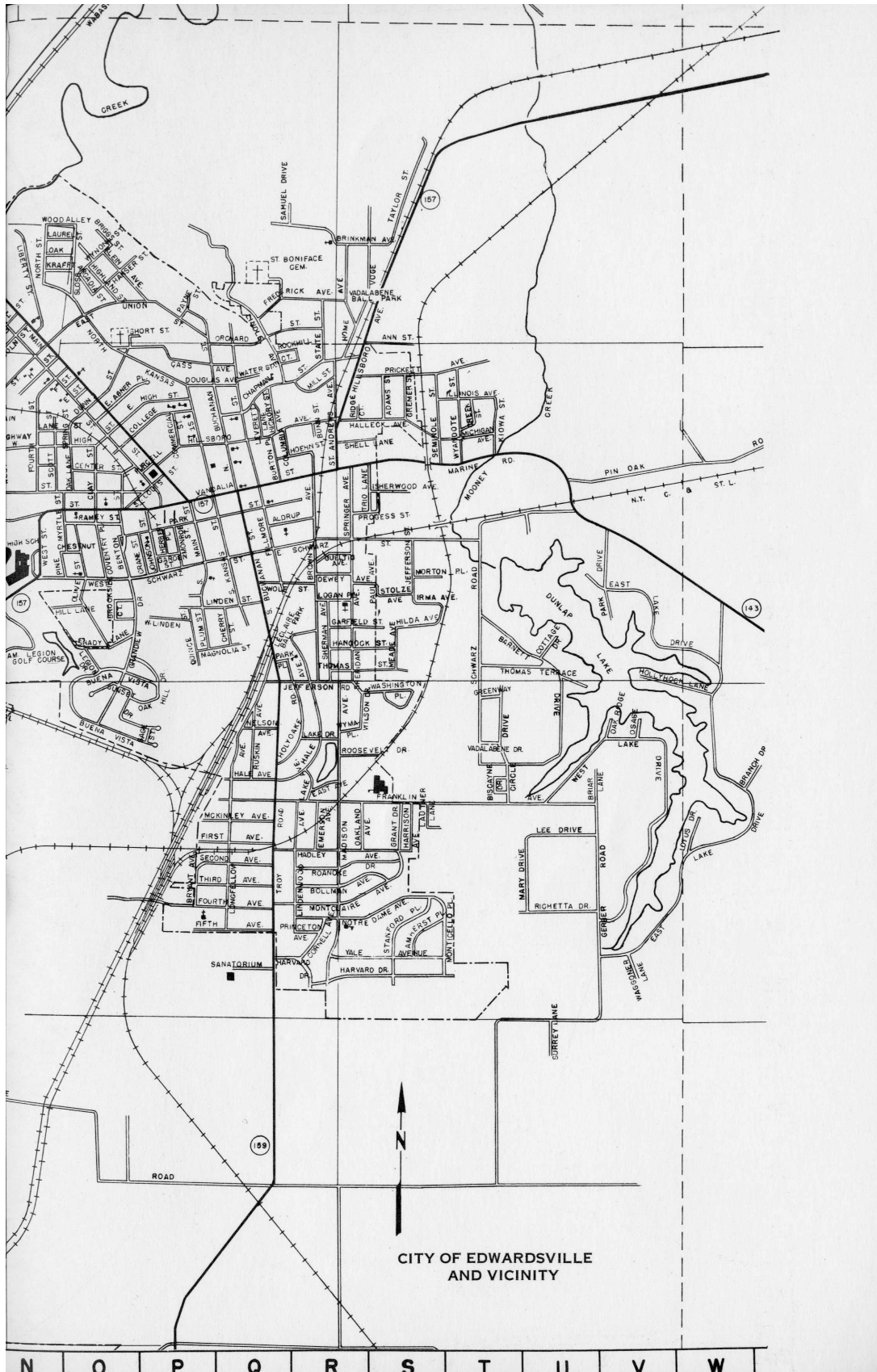
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