

1969

## 1969-1970 Southern Illinois University Bulletin Edwardsville Campus (Undergraduate Catalog)

Southern Illinois University Carbondale

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*One Dollar*

Southern Illinois University  
*Bulletin*

*1969/1970 Undergraduate Catalog*  
*Edwardsville Campus*

SIU

## OBJECTIVES OF SOUTHERN ILLINOIS UNIVERSITY

### TO EXALT BEAUTY

*In God,  
in nature, and  
in art;  
Teaching how to love the best  
but to keep the human touch;*

### TO ADVANCE LEARNING

*In all lines of truth  
wherever they may lead,  
Showing how to think  
rather than what to think,  
Assisting the powers  
of the mind  
In their self-development;*

### TO FORWARD IDEAS AND IDEALS

*In our democracy,  
Inspiring respect for others  
as for ourselves,  
Ever promoting freedom  
with responsibility;*

### TO BECOME A CENTER OF ORDER AND LIGHT

*That knowledge may lead  
to understanding  
And understanding  
to wisdom.*

# Southern Illinois University *Bulletin*

*1969/1970 Undergraduate Catalog  
Edwardsville Campus*



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## This Issue . . . . .

of the *Southern Illinois University Bulletin* covers in detail questions concerning the undergraduate program and applies to the Edwardsville Campus. It supersedes Volume 9, Number 11.

THE FOLLOWING ISSUES of the *Southern Illinois University Bulletin* may be obtained free from Central Publications, Southern Illinois University, Edwardsville, Illinois 62025.

Division of Technical and Adult Education.

Graduate School Catalog (Carbondale or Edwardsville).

Guidelines for Prospective Students (Carbondale or Edwardsville).

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

Student Work and Financial Assistance.

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 either edition (Carbondale or Edwardsville) of the catalog may be purchased at the University Bookstore for \$1; mail orders should be sent to Central Publications and must include remittance payable to Southern Illinois University.

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# University Calendar

*SPRING, 1969* Quarter Begins Wednesday, March 26 \*  
 Memorial Day Holiday Friday, May 30  
 Final Examinations Wednesday–Tuesday, June 4–10  
 Commencement (Edwardsville) Tuesday, June 10  
 Commencement (Carbondale) Wednesday, June 11

*SUMMER, 1969* Quarter Begins Tuesday, June 17 \*  
 Independence Day Holiday Friday, July 4  
 Final Examinations Monday–Friday, August 25–29  
 Commencement (Edwardsville) Friday, August 29  
 Commencement (Carbondale) Saturday, August 30

*FALL, 1969* New Student Week Sunday–Tuesday,  
 September 21–23  
 Quarter Begins Wednesday, September 24 \*  
 Thanksgiving Vacation Tuesday, 10 P.M.–  
 Monday, 8 A.M., November 25–December 1  
 Final Examinations Monday–Saturday,  
 December 15–20

*WINTER, 1970* Quarter Begins Monday, January 5 \*  
 Final Examinations Monday–Saturday,  
 March 16–21

*SPRING, 1970* Quarter Begins Monday, March 30 \*  
 Memorial Day Holiday Friday, May 29  
 Final Examinations Monday–Saturday, June 8–13  
 Commencement (Carbondale) Friday, June 12  
 Commencement (Edwardsville) Saturday, June 13

\* Classes begin with the evening classes after 5:30 P.M. on the Carbondale Campus and with the evening classes after 4:30 P.M. on the Edwardsville Campus.

## Board of Trustees and Officers of Administration

### BOARD OF TRUSTEES

*Term expires*

Lindell W. Sturgis, <i>Chairman</i> , Metropolis	1971
Harold R. Fischer, <i>Vice-Chairman</i> , Granite City	1969
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# 1 / The University

SOUTHERN ILLINOIS UNIVERSITY is a multi-purpose and diversified university that, since its establishment in 1869, has sought to meet the educational needs of the times for the people which it serves as a public institution. It is fully accredited by the North Central Association of Colleges and Secondary Schools.

Though the student population has increased manifold from its beginning, the formation of schools, colleges, divisions, and departments within the University enables the institution to concentrate on the special interests of its individual students. The University in total size now ranks twentieth in the nation. It offers facilities and faculty to give general and professional training to students ranging from two-year programs leading to associate degrees to the doctoral degree level.

Because of the growing demand for educational opportunities in the Madison-St. Clair counties area, the University established the Alton Residence Center and the East St. Louis Residence Center in 1957, the former on the campus of what used to be Shurtleff College, the latter in a senior high school building.

During the year 1958-59, communities in Madison and St. Clair counties launched a drive that helped acquire a large central campus site on the outskirts of Edwardsville, Illinois, approximately twenty miles east of St. Louis, Missouri. From what was once farm land has now risen a complex of uniquely designed buildings which constitute the Edwardsville Campus.

Thus, though Southern Illinois University is a single university, it has several campuses with the major designations being the Carbondale Campus, with its Vocational-Technical Institute and Little Grassy Lake installation, and the Edwardsville Campus, the latter including the East St. Louis Center, the Alton Center, and the campus at Edwardsville.

## Edwardsville Campus

The general administrative offices for the Edwardsville Campus are located on the central campus, which is comprised of 2,600 acres of rolling farm land and wooded valleys along the bluffs flanking the Mississippi River southwest of Edwardsville, Illinois.

The master plan for the Edwardsville site provides facilities for a daily commuting student body of 18,000.

Buildings now occupied are Lovejoy Library, Peck Classroom Building, Communications Building, Science Laboratory Building, the University Center, and the General Offices and Services Building. In the planning or construction stages are buildings for physical education and theater and fine arts, as well as an office wing on the Science Laboratory Building.

The facilities of the former Shurtleff College have been leased by the University for the operation of the Alton Center. Eight permanent build-

ings form the nucleus of this 40-acre campus. Nine additional buildings have been prepared on a temporary basis to meet current needs.

The East St. Louis Center is located on Ohio Street at Ninth and Tenth. Laboratories, classrooms, libraries, and other facilities of a former senior high school have been redesigned and equipped for university-level operation. In addition to the regular University offerings, the United States Office of Economic Opportunity is co-sponsoring with the University an experimental college project at this center.

### **The University Libraries**

The Edwardsville Campus libraries contain 370,000 volumes, 4,150 current periodicals, 50,000 maps, and 7,000 phonograph records.

Recognizing the importance of good libraries in a college education, the University has given attention to both quantity and quality of library development. During the past two years the collections have grown at the rate of more than 50,000 volumes a year. About ninety percent of the collections are housed at the Lovejoy Library at Edwardsville.

Lovejoy Library has four subject libraries—Education, Humanities and Fine Arts, Science, and Social Sciences and Business—and a General Reference Service.

Smaller collections at the Alton and East St. Louis libraries support the General Studies curriculum and special programs.

## 2 / Admission, Advisement, and Registration

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

### Admission

Applications for admission to the University are accepted any time during the calendar year but should be initiated in ample time to permit the necessary work of processing to be completed.

#### *Admission of Freshmen*

To be eligible for admission, a person must be either a graduate of a recognized high school (graduates of non-recognized high schools may be admitted by the Director of Admissions by examination) or must have passed the General Educational Development Test. A person seeking admission through the latter procedure will be considered only after his high school class would have graduated.

In-state high school graduates who rank in the upper half of their graduating class based upon class rank or by scores on the American College Test (A.C.T.) will be permitted to enter any quarter, while those who rank in the lower half of their graduating class will be permitted to enter with a condition of Scholastic Warning for the summer quarter only. Please see pages 9 and 20 for further information.

Out-of-state high school graduates who rank in the upper forty percent of their graduating class based upon class rank or by scores on the American College Test (A.C.T.) will be permitted to enter any quarter, while those in the lower sixty percent but in the upper half of their graduating class will be permitted to enter conditionally during the summer quarter only.

Both in-state and out-of-state lower-ranking students who elect to enter during the summer quarter can qualify for fall quarter attendance by carrying a minimum academic load of 8 hours and completing them with at least a C average.

Students will be considered for admission after completion of the sixth semester of high school. All prospective freshmen must submit high school records and furnish University entrance examination scores prior to being admitted to the University.

All admissions granted students while in high school are subject to the completion of high school work and maintenance of rank upon which the admission was made.

A student entering the University as a freshman seeking a bachelor's degree is enrolled in the General Studies Division.



### *Admission of Transfer Students*

Students applying as undergraduate transfer students from four-year institutions are admissible to any quarter provided they had a 3.00 grade-point average at the institution of last attendance. Students who do not have a 3.00 grade-point average at the institution of last attendance but are eligible to continue will be considered for admission on probation for summer, winter, and spring quarters. Those who are not eligible to continue at their last institution will be considered for admission on probation for summer and spring 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.

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.

Students applying for admission from two-year institutions are subject to the same conditions specified above for transfer from four-year institutions. 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.

Also, students who have graduated with an associate degree in a baccalaureate oriented program from a two-year institution may enter Southern Illinois University any quarter without regard to their average provided they have not taken additional work since their graduation. If they have taken additional work, their admission will be considered from the same standpoint as a student transferring from a four-year institution.

Transfer students suspended for any reason other than academic failure must be cleared by the Dean of Students Office before admission will be granted by the Director of Admissions.

### *Admission of Foreign Students*

Each foreign student must submit, in addition to the regular admission papers, a questionnaire for foreign students showing all previous schooling. The foreign student must also submit an official statement showing sufficient proficiency in English to do successful college work (results of Test of English as a Foreign Language Examination). Such a student should make adequate provision for his financial needs and be able to provide a statement of such. The University does not assume responsibility for a student who arrives with inadequate financial resources.

### *Admission of Former Students*

A former student of Southern Illinois University not in attendance on a campus at the close of the quarter preceding application for admission must apply to the Admissions Office for re-entrance prior to registration.

A former student who is not in good standing must clear his status before the Admissions Office will prepare his registration permit. It is advisable for such a student to initiate re-entrance clearance early so that all inquiries may be answered and so that the applicant can find time to complete any requirements that may be imposed upon him.

## **Advisement**

After a student has been admitted to Southern Illinois University, he should talk with an adviser about his educational plans and complete his registration for the quarter he expects to enter the University.

To insure that an undergraduate student is properly advised concerning the choice of a course which will fulfill the requirements of the University and prepare him for his chosen career, academic advisement has been made the special responsibility of a group selected from the teaching faculty. During his first two years the student will receive prime advice from an adviser responsible to the Dean of General Studies. If he chooses to declare a special field of interest then, his General Studies adviser will refer him to someone representing his special field of interest for secondary advice; but formal admission to a specific field will be deferred until the student completes 64 hours of General Studies credit. All students in General Studies must initiate transfer into their chosen unit before enrolling again, after completion of 96 hours of credit.

After admission to some special field, the student will receive prime advice from a representative of that field.

## **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**

At Southern Illinois University, a system of advance registration is in operation. The period of time from the third through the tenth week of each quarter is used for advisement for the following quarter. For example, a student who plans to attend during the winter quarter may be advised between the third and tenth week, inclusive, of the fall quarter. A new student may also register on the opening day of each quarter. All students are urged to take advantage of the advance registration period.

Registration for any session 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 Registrar by the dean of the Student Affairs Division.

Detailed information about the dates and procedures for advisement and registration appears in the Schedule of Classes, available from Central 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. Those fees which will be in effect for the fall quarter of 1969 follow.



	Not more than 5 hrs.	More than 5, less than 11	11 or more
Tuition Fee—Illinois Resident .	\$22.00	\$45.00	\$67.00
Tuition Fee—Out of State . . . .	(69.00)	(137.00)	(206.00)
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 . . . . .	5.00	5.00	5.00
<i>Total</i> —Illinois Resident . . . . .	<u>\$41.50</u>	<u>\$79.50</u>	<u>\$115.50</u>
<i>Total</i> —Out of State Resident .	(88.50)	(171.50)	(254.50)

In addition to the above fees, a student is subject to certain other charges under the following conditions:

1. A late registration fee, which is \$2.00 for the first day and which increases \$1.00 each day to a maximum of \$5.00 when a student registers after the regular registration period has ended.
2. A \$2.00 program change charge whenever a student changes his program from the one for which he originally registered, unless the change is made for the convenience of the University.
3. A graduation fee of \$17.00.

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.

Extension course fees are \$6.00 per hour plus a \$1.05 book rental fee per course. (Graduate students must purchase their textbooks.)

Adult education course fees are computed on the basis of approximately sixty cents per contact hour.

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.

A student is entitled to a free transcript of his university record each time he has added academically to his record through work taken at this University, provided he has fulfilled all his financial obligations to the University. There is a charge of \$1.00 for each additional transcript.

PAYMENT AND REFUNDING OF FEES

All fees are payable at the time of registration and are subject to changes whenever conditions necessitate changes.

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 application for a refund is received in the Registrar's Office within ten school days following the last regular registration day. (See Registration Calendar in the Schedule of Classes for specific dates.) This means that for quarters starting on a Monday the withdrawal from school must have been officially made within the first two calendar weeks of the quarter and the refund application received by Monday of the third week. No refunding of fees is made for a withdrawal occurring after the first two weeks.

A student who originally pays full fees and then finds that he must reduce his program to fewer hours may receive a refund 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 head of his academic unit to take as many as 21 hours. In no case may a student carry, or be credited with, more than 21 hours in any quarter.

A student on scholastic probation may not take more than 14 hours without approval of the Dean of the General Studies Division. 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. For example, Public Law 358 (the new GI Bill) requires 14 hours on the undergraduate level for full-time, 10 to 13 is considered three-quarter load, and 7 to 9 hours, half load. A student concerned with Selective Service on the undergraduate level needs to carry 12 hours to be considered full-time. However, for Selective Service purposes, a student must also be making satisfactory progress. Therefore, he needs to accumulate 48 passing hours each year. Because of this, he must consider 12 hours as only a minimum load for full-time purposes with 16 hours per quarter as the average load he must maintain throughout the year. Further information on both Public Law 358 and Selective Service is available in the Registrar's Office.

### *Unit of Credit*

Southern Illinois University 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.

### *Class Standing*

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



pleted toward the degree. A freshman is a student who has completed fewer than 48 hours; a sophomore, from 48 through 95; a junior, from 96 through 143; and a senior, 144 or more.

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, con- tinuing nature such as thesis or research.	
Abs—Unauthorized withdrawal. Same as <i>E</i> for academic retention purposes.	
S—Satisfactory. Used only for non-credit courses.	
U—Unsatisfactory. Used only for non-credit courses.	
Au—Audit. No grade or credit hours earned.	

All complete grades and the grades of *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 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.

The grades of *S* and *U* are used to indicate satisfactory or unsatisfactory completion of a non-credit course.

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 Registrar's Office. 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.

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

*Scholastic Standards*

A student who fails to maintain a satisfactory grade-point average will be placed in categories other than Good Standing and may be required to discontinue attendance at the University for a period of time. (For transfer students, these requirements apply to his academic record at this University and to his over-all academic record.)

SCHOLASTIC WARNING

A student who is in Good Standing will be placed on Scholastic Warning at the end of a quarter in which he fails to make a 3.00 grade-point average provided he has calculated hours and an accumulative grade-point average as follows:

- fewer than 96 calculated hours and less than a 3.00 average,
- 96 but fewer than 144 calculated hours and less than a 3.10 average,
- 144 or more calculated hours and less than 3.15 average.

He is returned to Good Standing at the end of a quarter in which he makes a 3.00 average or better while on Scholastic Warning.

SCHOLASTIC PROBATION AND SUSPENSION

When a student on Scholastic Warning fails to make a 3.00 grade-point average for a quarter, he is placed on Scholastic Probation and may be subject to suspension from the University for scholastic reasons at the end of a quarter in which he fails to earn a 3.00 grade-point average while on Scholastic Probation.

To insure that a student is making progress toward the 3.00 grade-point average required for graduation he must maintain a progressively improving accumulative grade-point average. At the end of each spring quarter a student who has accumulated the number of calculated hours listed below must also have obtained the corresponding accumulative grade-point average:

QUARTER HOURS	REQUIRED AVERAGE
48- 95.5	2.60
96-119.5	2.70
120-143.5	2.80
144-159.5	2.90
160-	2.95

Otherwise he will be suspended from the University for scholastic reasons. He may seek reinstatement after a minimum of two quarters' interruption but must furnish tangible evidence that additional education can be successfully undertaken.

*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 4.25 or more for all of his work



through the winter quarter of his senior year receives special honor. Each junior having a 4.25 grade-point average and each sophomore and freshman having a 4.50 grade-point average is also honored at the convocation. Except in the case of a graduating senior, a student must be attending full time to be eligible. A transfer student must have earned the average indicated for work at Southern Illinois University only, as well as for the total record. Graduating seniors are also recognized at Commencement on the graduation program, and their diplomas designate honors granted on the basis of Highest Honors (4.90 or higher); High Honors (4.75–4.89); and Honors (4.50–4.74).

### **Special Programs for Credit**

#### *Credit for Military Experience*

Credit will be accepted for USAFI courses within the limitations enforced for extension and correspondence work. No credit is allowed for college-level G.E.D. tests. In evaluating credit possibilities based upon formal service school training programs, the recommendations of the American Council on Education as set forth in the Guide to the Evaluation of Educational Experiences in the Armed Forces are followed.

In order to receive credit for military service a veteran must present a copy of his separation papers to the Registrar's Office.

#### *Extension and Correspondence*

A maximum of one-half of 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 courses.

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

#### *The Deans College*

The Deans 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 Deans 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. Students selected for the Deans College must complete the usual 192 hours for the bachelor's degree.

Each Deans College student is assigned a senior faculty adviser who is a member of the Deans College, and 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. This program, assigned on the authority of the adviser and the Deans College Coordinator, substitutes for all other University and divisional requirements. 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 Deans College should write or call the Deans College Coordinator.

# 3 / General Studies

STUDENTS WHO EXPECT to receive the baccalaureate degree from this University must complete the General Studies Program.

A General Studies Committee, composed of faculty 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 division 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 vitally necessary to prepare each student to assume his proper responsibilities in a world of rapidly expanding knowledge, of 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 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. A man, to be truly educated, should have some familiarity with each of these areas. Each area is designated by a particular letter.

Area A—Man's Physical Environment and Biological Inheritance—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.

Area B—Man's Social Inheritance and Social Responsibilities—is concerned with those subjects generally referred to as the "social" sciences. 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 Area B 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.

Area C—Man's Insights and Appreciations—includes the subjects usually referred to as "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 Man's Insights and Appreciations 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 Man's Insights and Appreciations 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."

**Area D—Organization and Communication of Ideas**—deals with the general area of communication in a broad sense. Subjects like English, speech, foreign languages, and mathematics are included. Effective communication of ideas is basic to organized society. Transmission of information from one human being to another enables the second person to benefit from the experiences and insights of the first. Mutual exchange of ideas can be quite helpful. The experience of centuries can be communicated to those who live in the present. Language, whether oral, written, or symbolic, is the fundamental means of communication.

**Area E—Health and Physical Development**—includes the subjects of physical education and hygiene. Because life does put such a demand on self-discipline, compulsion of performance, and in many cases rigid standardization of programs, many students need and seek an outlet for a healthy expression in some recreational activity. Health is the foundation for all of one's activities. Health does not mean merely that the individual is free from illness. Rather, it implies a positive state of complete physical, mental, and social well-being.

### General Studies Requirements

The specific requirements in General Studies are listed and explained in this section. These general statements must be qualified in many cases by the variations and exceptions explained in the section following this one. Since each student has a third-level waiver, he should check that section.

The General Studies courses are classified into the five previously-listed areas. Within each area, there may be as many as three levels—100, 200, and 300.

In the following, a listing such as GSA 101-8 (5,3) (physics-chemistry) refers to the course sequence numbered 101; 8 refers to the total of the two parts, in this case a and c, in General Studies Area A which carries 5 hours' and 3 hours' credit with the general subject matter listed. The listing GSC 151-3 Introduction to Poetry refers to the course numbered 151 in Area C and indicates that it carries 3 hours of credit and consists of only one part. See Chapter 8 in which the courses are described in detail.

**Area A**—Each student must meet a requirement of 22 hours. He must complete an 8-hour sequence on the first level. The two sequences currently offered are GSA 101-8 (5,3) (physics-chemistry) and GSA 110-8 (4,4) (earth science).

On the second level he must complete an 8-hour sequence. The sequence currently offered is GSA 201-8 (4,4) (biology).

On the third level, 6 hours are required (unless the student is entitled to a waiver in this area). This requirement is met by taking any two of



the third-level courses in Area *A* (not necessarily a sequence), with the exception that GSA 330 and GSA 331 may not both be counted toward the requirement.

Area *B*—The requirement in Area *B* is 22 hours. Each student must complete an 8-hour sequence at the first level. Currently offered are GSB 101-8 (4,4) (history) and GSB 103-8 (4,4) (sociology-economics).

At the second level a sequence of 8 hours is required. At present the two sequences available are GSB 201-8 (4,4) (anthropology, psychology) and GSB 203-8 (4,4) (government, geography).

At the third level, the student may select any two GSB courses numbered 300-399 for 6 hours of credit. (Note the exception if this is the area of the student's waiver.)

Area *C*—The Area *C* requirement is 22 hours. At the first level, the student must complete 8 hours. As presently constituted, the student must complete GSC 151-3 (poetry) and one of the courses GSC 155-5 (art), GSC 156-5 (music), GSC 157-5 (dramatic media), or 158-5 (fine arts).

At the second level the student takes GSC 252-4 (logic) and one of the courses GSC 253-4 (literary masterpieces) or GSC 254-4 (philosophical masterpieces).

Third-level requirements are completed by any two GSC courses numbered 300-399 for 6 hours of credit. (See note about waiver.)

Area *D*—This area requires 18 hours. Nine of these are satisfied by GSD 101-6 (3,3) (English composition) and GSD 103-3 (speech). The remaining 9 hours are met by completing either a sequence of three General Studies courses in one foreign language or a sequence of 9 hours in General Studies courses in mathematics. Foreign language courses now being offered are: GSD 123-9 (3,3,3) (French); GSD 126-9 (3,3,3) (German); GSD 136-9 (3,3,3) (Russian); GSD 140-9 (3,3,3) (Spanish); GSD 144-9 (3,3,3) (Italian).

Mathematics sequences which may be selected are GSD 112-9 (4,5) (Introduction to Mathematics) or GSD 114-9 (5,4) (algebra, trigonometry) or GSD 114-9 (5,4) (algebra, statistics). In making the choice between foreign language or mathematics, the student should note that some concentrations and degrees have specific requirements in these subjects. The student should check those requirements before he makes his selection. Students having had high school foreign language or mathematics should see a General Studies adviser for exemption or advanced standing possibilities.

Area *E*—The requirement for Area *E* is 6 hours. On the first level of Area *E*, each student is required to take GSE 116a-1 (swimming), and GSE 102-1 (physical fitness—men) or GSE 112-1 (basic body movement—women) plus 1 additional hour of General Studies physical education courses, thus making a total of 3 hours. A student who passes a swim test or for whom no swimming facilities are provided must take 102 or 112 and 2 hours from 117 or 118. Until adequate facilities are available, each student, for General Studies purposes, is excused from 1 hour of the physical education requirement for each quarter of attendance in which more than one-half of his credit hours are taken at Edwardsville.

On the second level, each student is required to take GSE 201-3 (health education).

In summary, the student must satisfy a total of 84 hours of credit in General Studies.

In each of the Areas *A*, *B*, and *C* he presents 22 hours except for the area of his waiver (see the following section) in which he presents 16 hours. Area *D* requires 18 hours and Area *E* requires 6 hours.

### 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 Third-Level Waiver*

Each student is entitled to waive the third-level courses in the area (*A*, *B*, or *C* only) most closely related to the area in which he will concentrate his work. The following third-level waivers have been approved:

Area *A*—applied science; biology; chemistry; engineering electronics, engineering physics; general science and mathematics; health, recreation, and physical education; mathematics; medical technology; nursing; and physics.

Area *B*—American studies (*B* or *C*), anthropology, business administration, business teacher education, economics, geography, government, history, psychology, public administration and planning, sociology, and speech pathology and audiology (*B* or *C*).

Area *C*—American studies (*B* or *C*), art, art education, elementary education, English, foreign language, music, philosophy, professional writing, special education, speech, speech pathology and audiology (*B* or *C*), and theater.

#### *Advanced Standing*

It is possible for a student to gain advanced standing (that is, to by-pass 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.)

#### AREA A

- 101a-5 Introduction to Physical Science (physics).  
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.
- 101c-3 Introduction to Physical Science (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.
- 110a-4 The Earth and Its Environment (earth science).  
One course of earth science in high school, 85th percentile on A.C.T. natural science test; or by examination.
- 110a,b-8 The Earth and Its Environment (earth science).  
One year of earth science in high school, 85th percentile on A.C.T. natural science test; or by examination.



- 201a,b-8 Man's Biological Inheritance (biology).  
Two years of high school biology with a minimum grade of *B*, 85th percentile on A.C.T. natural science test.

## AREA B

- 101b,c-8 Survey of Western Tradition (history).  
One year of world, western, or European history in high school, 90th percentile on A.C.T. social science test; or by examination.
- 103a-4 Sociology-Economics (sociology).  
A course in sociology in high school, 90th percentile on A.C.T. social science test; or by examination.
- 201c-4 The Individual and His Cultural Environment (psychology).  
A course in psychology in high school, minimum grade of *B*, 85th percentile on both the natural science and social science sections of A.C.T.
- 203a-4 American Politics in the World Environment (government).  
A course in American government in high school, 90th percentile on A.C.T. social science test. (Advanced standing will *not* meet the Constitution requirement.)
- 203b-4 American Politics in the World Environment (geography).  
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.

## AREA C

- 151-3 Introduction to Poetry (composition and poetry).  
By examination only.
- 253-4 Literary Masterpieces of Antiquity.  
By examination only.
- 254-4 Philosophical Masterpieces.  
By examination only.

## AREA D

- 101a-3 English Composition (composition and literature).  
Minimum ranking of 70th percentile on English section of A.C.T. and 85th percentile on E.T.S. Reading Comprehension Test (administered on campus).
- 101b-3 English Composition (composition and literature).  
By examination only.
- 103-3 Oral Communication of Ideas (speech).  
A course in speech in high school, 85th percentile on A.C.T. English test; or by examination.
- 123-144 Foreign Languages.  
Student is exempted from the 9-hour sequence if he has had two years of foreign language in high school; or by examination.
- 114a-5 College Algebra.  
A course in college algebra, a year of plane geometry, a course in trigonometry, 75th percentile on A.C.T. mathematics test; or by examination.
- 114c-4 Trigonometry.  
Two years of algebra, a year of plane geometry, a course in trigonometry, 75th percentile on A.C.T. mathematics test; or by examination.

### *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 all General Studies courses as well as certain courses in other subjects.

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 should initiate the procedure with a General Studies adviser. The adviser has the student fill out the form for requesting the examination, and furnishes related information if requested to do so. In most cases, course guides and reading lists are available 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, nor in a course which is a prerequisite for a more advanced course which the student has already completed. (c) No credit granted by proficiency examination may be recorded until the student has earned at least 16 hours' credit of *C* grade or above in residence at this University.

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.

### *Substitution*

In a limited number of cases, a student may be permitted to substitute courses in other disciplines for the regularly prescribed General Studies courses. The following substitutions have been approved for students whose concentration is in the Science and Technology Division or in the Department of Nursing: Physics 206a,b-10 for GSA 101a-5; Physics 206a,c-10 for GSA 101a-5; Physics 211a,b-8 for GSA 101a-5; Physics 211a,c-8 for GSA 101a-5; Chemistry 110-4 for GSA 101c-3; Chemistry 111a-5 for GSA 101c-3; Chemistry 111b-5 for GSA 101c-3; Mathematics 111a,b-10 (no longer offered) for GSD 114a,c-9; Mathematics 111a,b-10 (no longer offered) for GSD 114a-5; Mathematics 410-8 for GSD 114d-4.



Students concentrating in Art and Design may substitute Art 225a,b,c-9 for one of the General Studies courses: GSC 155, 156, 157, or 158.

### *College Entrance Examination Board*

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 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: GSA 101c-3, 111a-5, 111b-5, 111c-5.
- (3) Biology: GSA 201a-4, GSA 201b-4.
- (4) History: European: GSB 101b-4, GSB 101c-4; American: GSB 300a-3, GSB 300b-3, GSB 300c-3.
- (5) English: GSC 151-3, GSD 101a-3, GSD 101b-3.
- (6) Foreign Languages: French: GSD 123-9, French 123-3, French 201-3; German: GSD 126-9, German 126-3, German 201-3; Spanish: GSD 140-9, Spanish 140-3, Spanish 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.

### *Modifications of the Original General Studies Program*

Students who matriculated under the original General Studies Program (1962-1966) may be able to benefit by utilizing certain provisions of the revised program.

If the student chooses, and the faculty of his concentration approves in writing, he may exercise a third-level waiver under the new pattern instead of a first-level waiver as under the original pattern.

If the student did not have a waiver originally, he now has one as far as General Studies is concerned.

A student under the original General Studies Program may now be able to meet a first- or second-level sequence requirement with new courses in an 8-hour sequence instead of the previously required 9 hours. If the student has an incompleted sequence, he should discuss with a General Studies adviser the appropriate means of completing the sequence.

### *Effect of Concentration Requirements*

The student should be careful to note that certain areas of concentration (as described elsewhere in this catalog) have specific requirements which have the effect of reducing the choices the student normally has in General Studies. For example, the area of concentration may require a specific General Studies course or sequence whereas the General Studies requirements provide an option or a waiver. It should be clear to the student that these are requirements of the concentration, not of General Studies.

### *Transfer Credit*

See the section, General Studies and the Transfer Student, at the end of this chapter.

### *The General Studies Advisement Office*

The General Studies Division maintains a General Studies Advisement Office at each of the centers (Edwardsville, Alton, East St. Louis) for the assistance of students.

Each student in the Division is required to be advised by a General Studies adviser for each term of attendance. Appointments for such advisement should normally be made early in the preceding quarter, well in advance of the registration period for the quarter in which the student plans to attend. Appointments may be made with the General Studies Advisement Office at East St. Louis, at Alton, or at Edwardsville, regardless of which center the student plans to attend. New students are sometimes advised as part of a group orientation procedure and should not make individual appointments for advisement if the group orientation and advisement is being provided.

If a student has made a tentative selection of his educational goal, the adviser assists the student in selecting courses in his area of special interest if it is appropriate to do so. The adviser can refer a student to other sources of assistance, including concentration 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, requests for proficiency examinations, advanced standing, etc. (See the appropriate sections for statement of related policies.)

### *Probationary Students*

The General Studies Advisement Office advises every student who is on scholastic probation. Each undergraduate student on probation, including those who have officially declared a concentration (major), must see a General Studies adviser and get his class schedule approved before he



may register. 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 in the next section.

### *Scholastic Standing*

In order to complete a degree on this campus, a student must have achieved at least a *C* average (3.00 on a 5.00 scale) in all of his work and also in his area of concentration. For a transfer student, these rules apply to his academic record at this University as well as to his over-all academic record.

There are four classifications of students with respect to their academic standing: (a) Good Standing, (b) Scholastic Warning—Good Standing, (c) Scholastic Probation, (d) Scholastic Suspension.

Each student admitted to the University is assigned to one of the first three classifications on the basis of his high school record, A.C.T. test scores, and the quarter of first attendance.

In order to remain on Good Standing, a student's overall cumulative average must equal or exceed the following standards: (a) if he has fewer than 96 calculated hours, a 3.00 average, (b) if he has 96 to 143 calculated hours, a 3.10 average, (c) if he has 144 or more calculated hours, a 3.15 average.

A student on Good Standing is placed on Scholastic Warning at the end of the quarter if he fails to make a 3.00 or better for the term provided his overall average does not meet the standards for remaining on Good Standing as listed in the preceding paragraph.

If a student on Scholastic Warning makes a 3.00 or better for the term, and meets the standards for the cumulative average, he is returned to Good Standing. If he makes a 3.00 for the term but does not meet the cumulative grade-point standards, he remains on Scholastic Warning. If he makes less than a 3.00, he is placed on Scholastic Probation for the following quarter.

If a student on Scholastic Probation makes a 3.00 or better for the term, and his cumulative average meets the requirements for Good Standing, he is placed on Good Standing. If he makes a 3.00 or better but does not meet the standard for the cumulative average, he will be on Scholastic Warning. If he fails to make a 3.00 for the term, he is placed on Scholastic Suspension and is dropped from the University. Ordinarily, two quarters must elapse before a suspended student is eligible for re-admission. The student may also be requested to furnish tangible evidence that additional education can be successfully undertaken.

At the end of the spring quarter, a special "spring suspension rule" is applied. Regardless of the student's standing at the beginning of the spring term, he is suspended if he fails to make a 3.00 average for the term and also fails to meet the following standards for his overall cumulative grade-point average in relation to his accumulated calculated hours:

QUARTER HOURS	REQUIRED AVERAGE
48– 95.5	2.60
96–119.5	2.70
120–143.5	2.80
144–159.5	2.90
160–	2.95

*Transition from the General Studies Division to Another Division*

A student ordinarily is classified into the General Studies Division until he officially declares an area of concentration. In order to do this, he must have completed 64 quarter hours of credit. He is required to make this declaration before he enrolls for his 97th hour. The student initiates his declaration of concentration in the General Studies Advisement Office. After a student has officially declared a concentration, he is classified into the academic division which grants the degree sought by the student. If a student is going into an associate degree curriculum, however, he may declare his concentration and be classified into the appropriate division without having completed any hours. In fact, it is desirable for such a student to make his declaration as early as possible.

The student should not confuse the official declaration of concentration with the indication of interest forms used while the student remains in the General Studies Division.

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

A transfer student entering with 96 or more hours must make an official declaration of concentration with the General Studies Advisement Office before he registers for classes.

*General Studies and the Transfer Student*

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. Three-fourths of the credit hours accepted for transfer must have a grade of C or higher. 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 3 semester hour course, for example, will receive 4.5 quarter hours' credit.

If, at the time of original entry into the University, the transfer student is given *no* credit for course work in one of the General Studies Areas A, B, or C, he must complete the requirements of that area, sequence by sequence, in the same manner as regular students.

If the transfer student is given credit for previous work in an area of General Studies, he must complete the requirements of the area by taking General Studies courses so that his total university and college experience meets the following standards.

For Area A, he must complete 22 hours in science (physics, chemistry, biology, earth science, etc.). A minimum of three specific fields which includes work in both the physical and the biological sciences must be included. A maximum of 6 hours' credit at the third level may be applied toward the area requirement.

For Area B, he must complete 22 hours in the social sciences (geography, history, economics, government, sociology, psychology, anthropology,

etc.). At least three specific fields must be included. A maximum of 6 hours at the third level may be applied toward the area requirement.

For Area *C*, he must complete 22 hours in the humanities and fine arts (art, music, literature, philosophy, logic, etc.). At least three distinct fields must be included. A maximum of 6 hours at the third level may be applied toward the area requirement.

The 22-hour requirement is reduced to 16 hours in the area of the student's third-level waiver (*A*, *B*, or *C*).

For Areas *D* and *E*, he must complete courses essentially equivalent to those required of the regular student. If a student has taken 9 quarter hours (or 6 semester hours) of Freshman English (composition and literature) at another university or college, those credits are normally applied to this University's requirement of GSD 101a,b and GSC 151. A grade equivalent to *D* within such a sequence, however, is not acceptable for transfer.



# 4 / Instructional Units

## General Studies Division

S. D. LOVELL, *Dean*

*Man's Physical Environment and Biological Inheritance; Man's Social Inheritance and Social Responsibilities; Man's Insights and Appreciations; Organization and Communication of Ideas; Health and Physical Development*

The General Studies Division administers and coordinates the General Studies Program. It is also responsible for the academic advisement of freshmen and sophomores who are working toward a baccalaureate degree. (See preceding chapter which discusses in detail the General Studies Program.)

## Business Division

KENNETH H. MYERS, *Dean*

*Accounting; Business Administration; Business Education; Economics; Finance; Management Systems; Marketing; Personnel and Industrial Relations; Production*

The Business Division provides educational preparation for young men and women who plan careers in business and in the related professional fields of economics and business education. The following degree programs are offered:

**Business Administration**—The Bachelor of Science degree with a concentration in business administration is granted by the division. Students supplement the general program in business with a sequence of courses in one of the following specializations: accounting, general; accounting, professional; business administration, general; economics; finance; management systems; marketing; personnel and industrial relations; and production.

**Economics**—Two somewhat different degree programs are granted by the division, the Bachelor of Science degree with a concentration in economics and the Bachelor of Arts degree with a concentration in economics. In addition, the Education Division offers a degree program in which students may choose to specialize in economics.

**Business Education**—The Bachelor of Science degree with a concentration in secretarial and office administration is offered by the Business Division. In addition, the Bachelor of Science degree with a concentration in business-teacher education is granted by the Education Division. 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.

### *A General Philosophy*

The General Studies Program of the University undergirds each of the degrees offered by the Business Division and assures the student of a broad base in the cultural heritage of this society as well as in the scientific and technological foundations of this dynamic age. Beyond these considerations, the Business Division has the following general objectives:

1. To encourage recognition of the transitory nature of even the best of present theory and practice in each of its fields, and to this end to anticipate and facilitate scientific, technological, and cultural advancement rather than to disparage and resist it.

2. To identify and emphasize that which is fundamental to each of its disciplines, and to this end to stress conceptual and analytical capability rather than the power to recall facts or to repeat routines.

3. To encourage an inquiring mind, a constructive skepticism, and a creative outlook; and to this end to sharpen the ability both to perceive problems and to transform them into opportunities for positive action.

4. To emphasize the importance of communicating facts, concepts, analyses, and proposals clearly and succinctly, whether in oral or written form, and before large groups as well as small, and to strengthen skills pertaining thereto.

5. To advance the concept that an individual's education can be and should be a continuing process; to encourage both formal and informal programs of post-graduate development as technology advances and individual responsibilities grow.

6. Above all, to temper the carefully calculated response with consideration for one's fellowmen and to hold to a high standard of personal integrity and social responsibility both in professional and personal life.

These general objectives impinge both upon the Business Division's curriculum, or choice of subject matter, and its pedagogy, or choice of teaching method. In respect to the latter, the Business Division endeavors to use the methods of teaching which consider the students as active participants in an on-going learning process rather than as passive vessels into which a certain quantity of knowledge is to be poured at daily lectures and measured at quarterly intervals. It follows that the quality of the student's intellectual processes, as well as his knowledge of particular subject matter, are factors of vital concern to the Business Division.

### **Education Division**

W. D. WILEY, *Dean*

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

The Education Division, in keeping with the traditions of Southern Illinois University, stands committed to the development of effective professional educators. Teachers are prepared for all levels of learning and in the subject matter areas of the public school program. The Education Division offers programs dedicated to the development of professional educators capable of meeting, with ever broadening horizons, the needs of a variegated and changing community.

For undergraduate students preparing to teach at either the elementary



or the secondary school levels, the preparation for teaching, including student teaching, is taken in the Education Division. A subject matter concentration that is not education is taken in another division. Courses of study for supervisors, administrators, and specialists, as well as basic and advanced courses in the fields of psychology, guidance, and the foundations of education, constitute an important part of the broad offerings of the division.

Students anticipating careers in education may prepare for secondary, elementary, and kindergarten teaching; for school administration and supervision; for health, recreation, and physical education; for counselor education, psychology, and special education; for instructional materials; and for other community services.

Supervised student teaching is conducted in the public schools of the broad and varied geographic area served by Southern Illinois University.

The Education Division offers programs leading to the Bachelor of Science degree and the Bachelor of Arts degree in psychology.

### *Teacher Certification Programs*

All students who wish to undertake programs leading to teacher certification are required to make application to the Education Division. This may be done after completion of 64 hours. Students will be eligible to take education courses after favorable action on their application. Upon satisfactory completion of the teacher education program and other related University requirements the dean of the Education Division will recommend to the State Superintendent of Public Instruction that the student be granted a teaching certificate.

### **Fine Arts Division**

ANDREW J. KOCHMAN, *Dean*

*Art and Design; Mass Communications; Music;*

*Speech and Theater*

The objectives of the Fine Arts Division 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 art, design, music, speech, 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 ends of liberal and professional education. The performing arts are emphasized through exhibitions, concerts, lectures, and theatrical productions.

### **Humanities Division**

GERALD J. T. RUNKLE, *Dean*

*American Studies; Comparative Literature; English Language and Literature; Foreign Languages and Literature; Journalism; Philosophy; Professional Writing*

The Humanities Division provides instruction in the intellectual disciplines of English and other languages, of literature, and of ideas. The Division 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 the concomitant recognition of its

civilizing values. The Division 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.

### Science and Technology Division

LAURENCE R. McANENY, *Dean*

*Biology; Chemistry; Engineering; Mathematics; Physics;  
Science and Technology*

The Science and Technology Division 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 Science and Technology Division 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 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.
4. Upon completion of 64 hours of credit, each student in the division must file a tentative curriculum outline with his division adviser.

Candidates for the Bachelor of Science degree in education who select an area of concentration within the Science and Technology Division 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 Science and Technology Division 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.

### Social Sciences Division

EARL S. BEARD, *Dean*

*American Studies; Anthropology; Geography; Government;  
History; Public Administration and Planning; Sociology*

The Social Sciences Division 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 provide him with a better understanding of social organizations, technologies, and the nature and variety of human beliefs and attitudes.



## Department of Nursing

LUCILLE McCLELLAND, *Dean*

The Department of Nursing was established by the Board of Trustees at Carbondale in 1953 as an autonomous unit in the University's educational structure. It was formally activated in 1956. The first program was considered supplementary and offered to registered nurses in the spring of 1956. The first class of students in the basic generic program was admitted in the fall of 1956. In the fall of 1963 the two programs were combined. In July, 1963, the Board of Trustees approved moving the nursing program to the East St. Louis Center of the Edwardsville Campus. At present the entire program may be taken at the Edwardsville Campus, or the first four quarters (including the summer quarter of the first year) which are preclinical and primarily liberal arts subjects, may be taken on the Carbondale Campus; the remainder must be taken at the Edwardsville Campus starting in the fall quarter of the sophomore year. Plans are being made to offer the sophomore year concurrently on the Carbondale Campus.

The Department of Nursing has as its controlling ideal the education of students in a broad understanding of their cultural heritage; the appreciation of spiritual, aesthetic, and moral values in personal, civic, and professional living; the cultivation of critical and constructive thinking related to general as well as health needs of all individuals and to local, national, and international health problems. The curriculum (1) is based on a broad foundation of liberal arts, (2) emphasizes the importance of prevention of illness as well as its curative requirements, (3) gives understanding of the physical, mental, emotional, and social aspects of health and illness and their interrelatedness, (4) helps each student develop the ability and desire to give the best possible nursing care to society, and (5) serves as a foundation and stimulus for graduate study.

Applicants to the program may be either registered nurses, graduates of diploma or associate degree programs, or high school graduates who wish to become registered nurses and obtain a baccalaureate degree in nursing.

Applicants must meet all of the requirements for admission to the University. When they become students, they are subject to all of the University rules and regulations.

There are no restrictions regarding age, marital status, race, color or creed to admission of applicants providing they meet all other requirements of admission to the University and later to the Department of Nursing. Students are evaluated on the basis of mental and physical health, personality and character traits, academic achievement, and progress toward professional maturity.

A registered nurse who wishes to enter the program must meet all requirements for admission to the University and in addition:

1. Be a graduate of a state-approved school of nursing.
2. Be a registered nurse currently licensed to practice.
3. Show satisfactory placement on the National League for Nursing Graduate Nurse Examination. These tests are used as guidelines to determine eligibility for proficiency tests in beginning nursing courses.

The steps to take for admission to Southern Illinois University are as follows:



1. Obtain application forms from the University and proceed with all instructions therein.

2. Arrange for a personal interview with a faculty adviser in the Department of Nursing during the first quarter of attendance at the University.

3. Early registration for classes according to the schedule which will be mailed the applicant is advisable.

During the summer quarter of the first year students must arrange to purchase uniforms. The approximate cost is \$40 for two uniforms; other accessories will bring the total cost to approximately \$80.

Students may live at home, in residence halls, or in University-approved off-campus housing.

Several hospitals, public health agencies, day care centers, nursery schools, and other community institutions are used for clinical experience. Students are expected to pay their own travel expenses to and from these facilities. Private transportation is essential.

A limited number of scholarships, traineeships, grants, and loans are available to student nurses from national, state, and local resources.

Inquiries may be addressed to Office of Student Affairs or Dean, Department of Nursing, Southern Illinois University, Edwardsville, Illinois 62025.

### Aerospace Studies

MAJOR MURRAY J. HANCOCK, JR., *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, Edwardsville, is a senior division unit established in September 1965. It is administered by commissioned officers of the USAF who have been assigned by Department of the Air Force with approval of the University.

The Air Force ROTC program at Edwardsville is a two-year course of study. To compete for entry into the program an applicant must qualify competitively on a written exam, pass a physical examination, and be selected by an interview board of Air Force Officers. Selected applicants must first successfully complete a six-week field training course conducted at an Air Force base prior to entry into the two-year program. The applicant must have two academic years of undergraduate or graduate study or combination of the two remaining. Upon completion of the two-year program, the Professional Officer Course, and the institutional requirements for a degree, the cadet is commissioned as a Second Lieutenant in the U.S. Air Force. Unless he is granted an educational delay to pursue or continue graduate work, the new officer enters active duty shortly after graduation.

The six Professional Officer Courses (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, if qualified, to develop and stimulate a growing desire on his part to enter the Air Force Flight Instruction Program. 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 prob-

lem-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 flying hours at an FAA approved flying school.

The 18 academic hours (six courses of 3 hours each) of the Professional Officer Course are allowable toward a bachelor's degree.

Six non-credit hours of Corps Training (six courses meeting one hour per week each quarter) are taken concurrently with the Professional Officer Course. These courses provide leadership training experiences which will improve a cadet's ability to perform later as a USAF officer.

Air Force ROTC textbooks will be furnished on a loan basis to all the Air Force ROTC students.

Selection of students for application and/or enrollment will be 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 will apply.
  - c. The applicant must be accepted as a student in Southern Illinois University and be in good academic standing.
  - d. The applicant must have not reached his twenty-fifth birthday at the time of initial enrollment in the POC.
  - e. An applicant must have:
    - (1) been selected and successfully completed six weeks field training; or,
    - (2) completed the General Military Course. This is for transfer students from institutions which offer the Air Force ROTC four-year program; or,
    - (3) had previous training or honorable service. On the basis of previous service in the Air Force, Army, Navy, Marine Corps, or Coast Guard a cadet may request a waiver for the General Military Course.
  - f. At the time of acceptance, the applicant must have two academic years remaining either at the undergraduate or graduate level or a combination of the two. This will not exceed more than two academic years prior to completing all prerequisites for an undergraduate degree from the University.
2. Condition of Service. All POC students will become members of the Obligated Air Force Reserve and will be under contract with the Government. The contract will contain the following provisions:
  - a. The student agrees:
    - (1) unless sooner released for the convenience of the Government to complete the POC.
    - (2) to accept an appointment as Second Lieutenant, United States Air Force Reserve, if and when tendered.
  - b. The Department of the Air Force agrees to pay the student a retention fee at a monthly rate as announced. The current rate is \$50 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.
  - b. In excess of \$125 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 and published at appropriate times.

### University Extension Services

RAYMOND H. DEY, *Dean*

H. BRUCE BRUBAKER, *Assistant Dean*

The University Extension Services is an all-university agency with offices on both the Carbondale and Edwardsville Campuses. Its major function is to impart knowledge to persons not in regular attendance at the University. This is done in two ways: (1) The Extension Class Program, and (2) The Educational Conference Program.

Extension classes, which offer college credit and are identical to similar classes offered on the campus, are scheduled in the various communities in the southern half of the state of Illinois or are offered by radio or television for Southern Illinois residents, where there is a need for them. Classes are also scheduled in foreign countries when there are definite advantages to having them offered there.

The Educational Conference Program is conducted on both campuses of the University and occasionally off campus in nearby cities and towns. Assistance is not only given for local conferences but for state and national conferences. Persons attend these conferences from the state of Illinois, from all parts of the country, and in some instances from all over the world.

The University Extension Services, in its programs, uses professional faculty members, distinguished visiting authorities, library facilities, various teaching aids, and many other resources of the University in carrying out its function.

#### *Policies and Procedures of the Extension Class Program*

##### CLASS MEETINGS

Three-hour Extension classes meet weekly for a period of 12 weeks, each meeting being 2½ hours in length unless otherwise stated. Four-hour Extension classes meet weekly for a period of 16 weeks, each meeting being 2½ hours in length, or weekly for 12 weeks with 4 extra meetings being arranged by the instructor and the group, with the exception that 4-hour graduate classes meet weekly for 12 weeks.

##### FIRST CLASS MEETING

The date of the first meeting of an Extension class is arbitrarily set by the Extension dean. The instructor and the group, at the first meeting of the class, decide upon which day of the week subsequent meetings are to be held if the instructor has other days available.



#### TUITION AND FEES

Tuition is \$6.00 per quarter hour of credit plus a \$1.05 textbook rental fee. The textbook rental fee must be paid by all students, including holders of Normal School and Military scholarships, except graduate students who must purchase, or make other arrangements for, their books. (The instructor has the privilege of requiring the purchase of additional books and materials.)

#### REGISTRATION

Registration for Extension classes will be conducted by the instructor during the first and second meetings of the class. Students are urged to register at the first meeting. Students registering after the second meeting of the class must have unusually good reasons for doing so which must be approved by the dean of University Extension Services. A late registration fee of \$5.00 will also be charged.

All Extension students must have their Social Security numbers with them in order to complete their registration at the first class meeting.

#### AUDITING

Persons not interested in receiving credit may audit courses, if facilities are available, by receiving permission from the instructor. Auditors pay the same fee as those who register for credit.

#### TEXTBOOKS

Undergraduate students will be able to obtain rented textbooks at the first meeting of the class. Graduate students may either purchase books at the first meeting of the class or complete a form for ordering them. In this case, the books ordered will be available at the second meeting of the class.

#### LIBRARY FACILITIES

Each instructor may, if he so desires, take a number of supplemental reading books, perhaps thirty or forty, to his Extension class. These books are readily available to the student, as they are kept in the room where the class is conducted. Students are also issued a Library Permit which enables them to use any of the libraries at any of the centers. There is no charge for these services.

#### EXTENSION CREDIT APPLICABLE TO THE BACHELOR'S AND MASTER'S DEGREES

Extension credit may be applied to meet graduation requirements or towards a master's degree. University policy provides, however, that not more than one-half of the total credit required for graduation, or 96 hours, may be obtained in off-campus courses. Sixteen hours of Extension credit may be applied toward a master's degree.

#### COURSE NUMBERING SYSTEM

Any 400-level course may be used for either undergraduate or graduate credit. The 500-level courses are open to graduate students only. Only students who have graduate standing or more than 96 hours of undergraduate credit, which is at least junior standing, may register in a 400-level course. Other Extension courses are open to students who are high

school graduates or over 21 years of age (students who have been forced to drop school because of low grades are not eligible for Extension work unless permission is obtained from the proper campus academic dean). Those starting to work toward the master's degree must come to the Graduate School Office before the end of their first course and have an adviser assigned to help plan the rest of their graduate program.

#### SCHEDULING EXTENSION CLASSES

Extension courses will be scheduled under the following three conditions: (1) Where it is apparent that there is a need present and adequate enrollments to justify scheduling the class; (2) When it is possible to obtain a faculty member to teach the class; and (3) When adequate laboratory and library facilities are available.

#### *Educational Conference Program*

##### PURPOSE OF THE PROGRAM

Educational conferences are scheduled when off-campus persons are in need of knowledge which may be obtained from our professional faculty members, from outstanding authorities who may be brought to the campus, or which may evolve as a result of panel and other discussion techniques participated in by those mentioned above as well as others.

##### ORIGIN OF CONFERENCE

The idea of a conference may originate from one or more persons who are members of one of our academic departments or divisions, from one or more persons with similar interests off-campus, from a member of the University Extension Services, or by a combination of these as well as other persons.

A call to the University Extension Services will set in motion the process which results in a specific conference.

##### CONFERENCE PLANNING

A conference planning group is usually desirable in order to determine if there is a real need for a conference, to better define this need, and to discuss the best personnel and conference techniques to meet this need.

##### ASSISTANCE PROVIDED BY THE UNIVERSITY EXTENSION SERVICES

In addition to helping determine and assemble a conference planning group, to advise this group of conference techniques which will probably be most successful for this particular conference, and to perform other details incidental to planning, many other activities are often carried on by the University Extension Services. Some of these are as follows:

1. Make arrangements for persons to appear on the conference program, including subject matter specialists as well as representatives from the University Administration.
2. Assemble the conference program and have it printed.
3. Determine a mailing list and send invitations.
4. Arrange for publicity about the conference through a number of media.
5. Reserve auditoriums and other meeting rooms.
6. Arrange for coffee hours, luncheons, and banquets.
7. Requisition microphones, movie and slide projectors, and other paraphernalia of this type.

8. Arrange for registering persons attending the conference.
9. Make any special parking arrangements needed.
10. Make arrangements for lodging for conferees.
11. Arrange tours of campus and other facilities.
12. Arrange social hours for spouses of those attending the conference.
13. Meet trains and airplanes where necessary.
14. Type and distribute copies of speeches presented at the conference.
15. Perform a number of other activities often necessary for a particular conference.

#### COSTS

A conference registration fee is often assessed to cover some of the conference costs. On some occasions other sources of funds are used to pay for bringing outstanding authorities to the conference and to cover other expenses.

### Division of Technical and Adult Education

ERNEST J. SIMON, *Dean*

E. R. CASSTEVENSON, *Assistant Dean*

The Division of Technical and Adult Education supervises all associate degree programs and noncredit courses offered by Southern Illinois University. The associate degree programs serve adults and high school graduates interested in obtaining a college-level course of instruction of a shorter duration than the usual four-year college program qualifying them for employment at the semi-professional and technical level in industry and business. The purpose of the noncredit courses is to serve the needs of the community for educational programs that will improve the economic and social standards and provide new interests for business and industry in the community.

The associate degree programs offered by Southern Illinois University are listed at the end of Chapter 5 in this bulletin. Course descriptions for associate degree programs are given at the end of Chapter 8.

#### *Adult Education*

The fundamental purposes of adult education are to help strengthen communication skills; to help adults increase their ability and desire to change in a changing world; to improve human relations; to participate as responsible citizens; to seek personal growth; and to develop creativity in leisure time and to seek ways of spending time productively. Program brochures specifying the required courses are available from the Office of the Division of Technical and Adult Education.

#### *Industrial Management Program*

The Industrial Management Program is designed to give present and future foremen and supervisors some of the skills and information they need for improved job performance. This program leads to the two-year certificate in industrial management. Successful completion of eight courses is required for a certificate in industrial management. They are offered once each week for ten weeks.

#### *In-Plant*

On request from industry, courses from the Industrial Management Pro-



gram may be offered in-plant to accommodate foremen or supervisors who cannot attend the evening program. Special programs may be developed to meet the unique problems of a particular industry, or present courses or programs may be adapted for presentation in-plant. Consultation and advice on the total training needs of personnel in industrial plants are given on request.

#### *Traffic Management Program*

The Traffic Management Program is a course of study, its purpose being to prepare candidates for the examinations leading to certification by the American Society for Traffic and Transportation and furnish a complete working knowledge of Interstate Commerce Law. This is a certificate program.

#### *Development Program for Middle Management*

The Development Program for Middle Management is a program for department heads, superintendents, general foremen, and the heads of small businesses which are production-oriented. These men meet for dinner once a week having an hour and a half discussion with a recognized authority on a given subject before dinner and a different one after dinner. The subjects are grouped into four broad categories and are tied together by a coordinator into an integrated program.

The purpose of the program is to assist companies in the routing development of middle managers in a changing environment. This program is designed to sharpen management skills, especially the decision-making skill; to provide opportunity for the practice of newly-developed techniques for handling quantified data; and to review the fundamentals of management.

#### *Advanced Development Program for Middle Management*

The Advanced Development Program for Middle Management is designed only for those persons who have completed Southern Illinois University's Development Program for Middle Management. It is a fifteen-session program that provides further development in management skills through the case study method.

#### *Executive Development Program*

The purpose of the Executive Development Program is to provide business executives at near top management levels with an educational experience, and a broadened outlook to the job of managing and directing men and resources for the total business activity. The program provides opportunities to review new developments in business management, through the vehicle of business games, case studies, and other techniques to expand their capabilities for decision-making on a broadened basis. Participants in the program are provided with an opportunity to exchange ideas with other executives; to engage in creative and reflecting thinking; and to improve their managerial skills.

#### *Special Courses, Programs, and Conferences*

In order to meet the special needs for adult education additional courses, programs, and conferences are developed for those who have unique situations.

*Policies and Procedures of the Technical and Adult  
Education Program*

ADMISSION

A student must be officially admitted to the University before registering for courses in an associate degree program. The student, to be permitted to attend classes at Southern Illinois University, must have completed registration, which includes admission, advisement, sectioning, and payment of fees.

ADVISEMENT

At the initial counseling interview the candidate for the associate degree must declare his intention and select his field of concentration and so indicate on the form provided (Student Declaration of Concentration). After the student has completed the Student Declaration of Concentration, advisement will be the responsibility of the Division of Technical and Adult Education.

PLACEMENT SERVICES

Upon the completion of 80 quarter hours, the associate degree student may register with University Placement Services. The student is encouraged to register early to take advantage of the opportunities for interviews with the representatives of various companies. There is no fee for this service.

GRADUATION

No later than the beginning of a student's last quarter, he must apply for graduation. At this time his courses and grades are reviewed by the Registrar's Office to determine whether the requirements of the University have been met and by the Division of Technical and Adult Education to determine whether the requirements for the Associate degree have been met.

**Center for the Study of Crime, Delinquency, and Corrections**

CHARLES V. MATTHEWS, *Director*

The Center for the Study of Crime, Delinquency, and Corrections spans both campuses of the University—the Carbondale Campus, emphasizing adult corrections; and the Edwardsville Campus, focusing on the problems of delinquent youth.

The Delinquency Study and Youth Development Project, located on the Edwardsville Campus, is a federal training center under the joint sponsorship of Southern Illinois University and the President's Committee on Juvenile Delinquency and Youth Crime. This Project, funded annually, is made possible by a federal grant of \$115,988 plus a Southern Illinois University matching grant of \$134,035. These grants were awarded under the provisions of Public Law 87-274.

The staff of the project consists of an inter-disciplinary team of social scientists working at problems of youth. In the three years of its existence it has both studied the problems of youth—especially youth from urban slums—and helped train those who work with them. Demonstrative programming for youth, in-service training of professionals and para-profes-

sionals, regional conferences, and action research have been typical project activities.

The project offers course work in the behavioral sciences, and graduate assistantships are available for students working toward a degree in the "helping professions."

### **Labor Institute**

JOHN M. McDERMOTT, *Director*

NORMAN JOHNSEN, *Assistant Director*

The function of the Labor Institute is to promote harmony and cooperation between labor and management by encouraging the training of students and others interested in labor and industrial relations and to provide advice on the technical aspects of labor and industrial relations to labor, to industry, and to the public.

### **Center for Business Services/Small Business Institute**

ARNOLD G. FRANKE, *Assistant Director*

The primary objective of the Center for Business Services/Small Business Institute is to develop executives for small businesses, rather than to create specialists in a single field such as accounting, finance, sales, etc. Management of a smaller business requires more all-around "know-how." While concepts taught are those of modern big business, the applications are directed to small business operations.



# 5 / Areas of Concentration

## *Fields of Study*

Below are the fields of study in which Southern Illinois University grants bachelor's degrees to Edwardsville Campus students. Also appearing in this chapter is information on dentistry, instructional materials, secondary education, and student teaching. A bachelor's degree normally requires four years of study.

American Studies	Journalism <sup>1</sup>
Anthropology	Mass Communications
Art	Mathematics
Biology	Music
Business Administration	Nursing
Business Education	Philosophy
Chemistry	Physical Science
Comparative Literature <sup>1</sup>	Physics
Economics	Professional Writing
Elementary Education	Psychology
Engineering	Public Administration and Planning
English	Sociology
Foreign Languages	Special Education
Geography	Speech
Government	Speech Pathology and Audiology
Health, Recreation, and Physical Education	Theater
History	

Below are the fields of specialization in which Southern Illinois University grants associate degrees to Edwardsville Campus students. An associate degree normally requires two years of study.

Accounting	Industrial Management
Child Care Services	Secretarial Studies

## *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 306-9 indicates a third-level course of 9 hours in the Social Sciences Division, and History of Rome 306a,b,c indicates that the course has at least three parts.

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<sup>1</sup> Secondary concentration only.

The five areas of General Studies are referred to as GSA, GSB, GSC, GSD, and GSE. The three-digit numerals following these abbreviations function similarly to those noted above. Numerals 1, 2, or 3 following one of these abbreviations and separated by a dash indicate the level requirement in that area. For example, GSA-3 indicates the third-level requirement in General Studies Area A.

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. For example, under Biology, GSA 201 satisfies part of the General Studies requirements and contributes 8 hours toward the 84 hours required. It also satisfies one of the requirements for the concentration in biology but does not contribute to the printed total of 94-101 hours.

### American Studies

#### *Bachelor of Arts Degree*, HUMANITIES DIVISION

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3 or GSC-3.)	84
<i>Requirements for Concentration in American Studies</i>	68
American Studies 398	4
English 309-8	8
Foreign Language (two or three years in a language) (9) + 9	
GSB 300-9 (6) + 3	
Philosophy 381b,c, 386-4	12
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, viz., archaeology, ethnology, social anthropology, linguistics, and physical anthropology. A student is expected to elect anthropology courses to develop further his knowledge in one of the five divisions.

#### *Bachelor of Arts Degree*, SOCIAL SCIENCES DIVISION

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.)	84
<i>Requirements for Concentration in Anthropology</i>	35
GSA 365, GSB 201a, GSD FL (16)	
Anthropology 304, 400, 405, 408, 409, 430	27
Electives to complete 42 hours in anthropology chosen in consultation with the faculty (GSA 365 and GSB 201a contribute 7 hours to the concentration.)	8
<i>Secondary Concentration</i>	27
<i>Electives</i>	46
<i>Total</i>	192

Anthropology courses adapted to the General Studies program may be used as electives. Students demonstrating an interest in linguistics can use English 400 to meet concentration requirements.

Secondary Concentration

A secondary concentration in anthropology consists of 27 hours. GSA 365-3, GSB 201a-3, 351b-3, 336-3, and English 400-4 may be counted as part of the concentration.

Art

Undergraduate offerings in art provide introductory and specialized studio work, an introduction to our historical heritage, and professional preparation for the future teacher. Limited offerings are available for those with an avocational interest.

The Faculty of Art and Design 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 is not required for graduation; permission to participate is extended in recognition of industry and ability.

Bachelor of Arts Degree, FINE ARTS DIVISION

General Studies Requirements (See Chapter 3. Waive GSC-3.)	84
Requirements for Concentration in Art	81
GSD FL	(9)
Art 100-15, 202-15, 225-9	39
Art 305-4, 310-4, 358-4, 393-4, art history 6 hours	22
12 additional hours from one of the following: ceramics, painting, prints, sculpture, or art history	12
Art electives	8
Electives or Secondary Concentration	27
Total	192

STANDARD SECONDARY CERTIFICATE

Requirements for certification include 8 hours in art education, Educational Administration 355-4, Counselor Education 305-4, Secondary Education 315-4, and 352d-12 (32 hours).

Bachelor of Science Degree, EDUCATION DIVISION

For this degree the following courses constitute a concentration in art: 100-15, 202-15, 225-9, 300-4, 305-4, 310-8, 358-8, 365-4 for a total of 67 hours.

Secondary Concentration

One desiring a secondary concentration in art should consult the faculty chairman.



## Biology

Students planning to concentrate in biology should consult with the biology faculty representatives.

### *Bachelor of Arts Degree*, SCIENCE AND TECHNOLOGY DIVISION

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.)	84
<i>Requirements for Concentration in Biology</i>	94-101
GSA 201-8	(8)
GSD FL	(9)
FL 126-3	3
GSD 114a,b-9 and 114d-4	13
Physics 206-15, or GSA 101a-5 and Mathematics 150-8	(5) + 8-10
Chemistry 111-15, and 305-10 or 341-15	(3) + 22-27
Biology 301-11, 302-20, 303-12, 390-1	44
One elective in biology at the 400 level (minimum of 4 hours)	4
<i>Electives Recommended</i> : Three additional quarters of foreign language elected, quantitative analysis, physical chemistry, calculus.	14-7
<b>Total</b>	<b>192</b>

### *Bachelor of Science Degree*, EDUCATION DIVISION

For this degree, the requirements for concentration in biology are as listed above, under Bachelor of Arts degree, except that no foreign language is required.

### *Bachelor of Science Degree*, SCIENCE AND TECHNOLOGY DIVISION

Students planning to enter dental, medical, or veterinary schools or become medical technologists should consult with the appropriate biology faculty representative to work out their individual courses of study.

#### *Medical Sciences*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.)	84
<i>Requirements for Concentration in Biology (Medical Sciences)</i>	82
GSA 201-8	(8)
GSD 114-9	(9)
Physics 206-15	15
Biology 302a or b or c-5, and electives from 301, 302, 303, or 400 level (only one course from 400 level)	22
Transfer (one year from an approved dental, medical, or veterinary school)	45
<i>Secondary Concentration</i>	27
Chemistry 111-15, 235-5, 305-6, 345-4	(3) + 27
<b>Total</b>	<b>193</b>

Upon successful completion of one year of study in a program leading to a dental, medical, or veterinary degree at an approved school, the student is credited with 45 hours toward the Bachelor of Science degree, of which 16 count toward the 64 hours of senior college credit needed for graduation from Southern Illinois University.

Medical Technology

General Studies Requirements (See Chapter 3. Waive GSA-3.)	....	84
Requirements for Concentration in Biology (Medical Technology)	..	84
GSA 101a-5, 201-8	.....	(13)
GSD 114-9	.....	(9)
Biology 301-11, 302-20, 303a-4, 390-1	.....	36
Medical Technology (one year at an approved medical technology school)	.....	48
Secondary Concentration	.....	27
Chemistry 111-15, 235-5, 305-10	.....	(3) + 27
Total	.....	195

Upon successful completion of one year of study and laboratory work at a school of medical technology approved by the Science and Technology Division, the student will usually be credited with 48 hours towards the Bachelor of Science degree (of which 16 will count towards the 64 hours of senior college credit needed for graduation from Southern Illinois University). Coordinated programs have been worked out with Jewish Hospital, St. Louis, and St. Elizabeth's Hospital, Belleville, Illinois.

Schools of medical technology approved by the Council on Medical Education and Hospitals of the American Medical Association require for entrance the completion of three years (135 quarter hours) from an accredited college or university, with credit for 24 hours in biological science and 24 in chemistry. 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).

Secondary Concentration

A secondary concentration in biology consists of 27 hours and includes at least one quarter of 302. Four hours of GSA 201 may be counted toward the 27 hours as may GSA 314 and GSA 328.

A secondary concentration in chemistry consists of 27 hours including the requirements listed under the Bachelor of Arts degree with a concentration in biology and 3 hours of chemistry.

Business Administration

The academic program in business administration is designed to anticipate the needs of students who will graduate in the early 1970's and whose business careers may extend well beyond the year 2000. We assume that, as business practices and technology change, and as individual business responsibilities grow or alter, our former students will need to adapt continuously to the demands and opportunities of the dynamic fourth quarter of the 20th century. This process of continuing adjustment will be accomplished in many ways: on-the-job training, non-degree courses offered within business and by external agencies, formal academic programs such as those leading to the Master of Business Administration degree, and do-it-yourself programs of professional development. As Southern Illinois University's graduates advance in their careers, all of

the foregoing modes of continuing education will be increasingly needed and used.

*Bachelor of Science Degree, BUSINESS DIVISION*

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

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.) . . . .	84
<i>Requirements for Concentration in Business Administration</i> . . . . .	80
Accounting 230, 231, 330 . . . . .	12
Business Communications 390 . . . . .	4
Economics 200, 201, 300 . . . . .	12
Finance 320 . . . . .	4
General Business Administration 140, 340, 341, 440, 441 . . . .	20
Management Operating Systems 380, 381 . . . . .	8
Marketing 370, 371 . . . . .	8
Quantitative Methods 210, 211, 310 . . . . .	12
One of the specializations below . . . . .	16 or 28
PROFESSIONAL ACCOUNTING . . . . .	(28)
Accounting 331, (341 in lieu of 330), 351-8, 442, 453, 456 . . . . .	24
General Business Administration 342 . . . . .	4
GENERAL ACCOUNTING . . . . .	(16)
Accounting (341 in lieu of 330), 351-8, 442, 453 . .	16
ECONOMICS . . . . .	(16)
Economics 440, 441, and electives . . . . .	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)
Accounting 341 . . . . .	4
Management Operating Systems 380 . . . . .	4
Marketing 452 . . . . .	4
Production 460 . . . . .	4
PRODUCTION . . . . .	(16)
Production 460, 461, 462, 463 . . . . .	16
PERSONNEL MANAGEMENT AND INDUSTRIAL RELATIONS . . . .	(16)
Personnel and Industrial Relations 450, 451, 452, 453 . . . . .	16
<i>Electives</i> . . . . .	12 or 0
<i>Total</i> . . . . .	192

*General Studies.* As part of the program of General Studies, business students are asked to take certain foundation subjects of great significance to their later work in the business program. Particularly relevant are the courses in economics and sociology, in psychology and anthropology, in college algebra and statistics, and in oral and written communication. Concurrent with their lower division (freshman and sopho-



more) General Studies work, business students will also take carefully selected basic courses in business offered by the division.

*Core Curriculum.* The mission of the core curriculum in business is threefold. First, it aims at providing students with a comprehensive understanding of industrial dynamics, structure of industry, business organization, and managerial technique. Second, it seeks specifically to develop the student's managerial capabilities in the three critical areas—analysis, communication, and human relations. Third, it aims at re-enforcing both the motivation and the capacity for life-long professional growth and development.

*Specialization and Electives.* The student's choice of a specialization and his use of electives will reflect his preference as to a point of entry into business. We say *point of entry* rather than *career* because well over half of our students are expected to shift fields of specialization within a few years after graduation. That is to say, students whose point of entry is field  $x$  may soon find themselves working in field  $y$ . Nevertheless, if a student aspires to a specialization such as professional accounting, he will be advised to devote both his specialization and his elective course work to subjects relevant to that objective.

Similarly, a student interested in management systems may take the four-course sequence in that area and may, if he chooses, use his elective courses to bolster his strength either in business subjects or in a related field, such as mathematics or the computer sciences. Alternatively, electives may be used to expand cultural or other nonprofessional interests. Students choosing other areas of specialization such as finance, marketing, or personnel and industrial relations may use their electives in like fashion.

Still another use of the time allocated to "specialization" and "electives" is afforded by the general business administration option. A student choosing this avenue may substitute (for a specialization in business) 16 or more hours in an approved sequence in a non-business area, such as economics or sociology or mathematics. Thus a student who desires to acquire depth and breadth in some specific non-business area of study may do so by applying his choices in "General Studies," in "Specialization," and in "Electives" to that end. One purpose of this option is to allow a student who anticipates graduate study in business to receive a "liberal" undergraduate education and yet to qualify for a Master of Business Administration degree (MBA) in one additional year of study instead of the two-year program often required of non-business baccalaureates. A second objective is to provide additional discretion to students who, while desiring to prepare for careers in business, are uncertain as to an exact point of entry. A third group who may choose this option are pre-law students who anticipate engaging in business-related law practice. Finally, there is an increasing demand in business for graduates who have combined a sound program in business with depth in some related area such as those cited.

*In summary.* The program in business is designed to facilitate both entry into business and long-term professional growth. During his business career we expect a former student to find that, because of changing business practices and growing responsibilities, less and less of his

course work in specific business subjects is directly relevant to his needs. As this occurs, he will draw more and more upon the generalized portion of his program at Southern Illinois University, supplemented and extended by his work experience, by his continuing program of self-instruction, and by post-graduate professional-development programs of the types previously indicated.

#### ACCOUNTING

The operation of a business and its financial condition are of interest to its owners, to its employees, to its creditors, to various governmental bodies, and to the public. Accounting is the means by which the transactions of a business are analyzed, recorded, presented, and interpreted to and/or for the various interested groups. In many instances such data is attested by a particular type of professional accountant, the licensed certified public accountant (C.P.A.).

The skills of the accountant are not easily acquired; serious and thorough study is necessary. The breadth and depth of this study depend somewhat upon the post-graduate objectives of an individual student. Differences in student objectives are recognized by two specializations in accounting, either of which will satisfy degree requirements for graduation.

The professional accounting program is recommended for students who wish to meet the educational requirements for taking the C.P.A. examination in Missouri, Illinois, and other states; for governmental career positions in accounting; and the expectations of many public accounting and private business firms. Those who aspire to become a C.P.A. (Certified Public Accountant) should familiarize themselves with the laws and regulations covering the certification of public accountants in the state of their choice. The regulations for the State of Illinois are published by the Committee of Accountancy, University of Illinois, Urbana, Illinois.

The general accounting program is recommended for those students who intend to continue the study of accounting in graduate school, or for those students who desire a more thorough coverage of some other area or areas as an undergraduate.

#### FINANCE

Various career opportunities are available to students who choose to specialize in finance. In broad terms they are corporate finance, investments, commercial banking, and insurance. Within each of these areas there are many sub-categories of professional expertise. Depending upon the student's preference within finance, additional work in related areas such as accounting, economics, or management systems is highly recommended.

An objective of the courses offered in the area of finance is to provide the student with a comprehensive introduction (a) to the functions of corporate financial officers, (b) to the fields of investment policy and investment analysis, (c) to the special characteristics of the major types of financial intermediaries. In addition, they provide knowledge of certain principles of financial analysis and decision making and practice in the application of these principles to specific cases, thereby developing analytical ability and fuller comprehension of the nature of financial problems as encountered in business and industry.



### GENERAL BUSINESS ADMINISTRATION

The general business administration courses help the student to understand the foundations of our market-oriented economy and the role of business enterprise therein; and provide a firm foundation in the area of theory, the external environment of a business or an industry (the scientific and technological, economic and market, legal and political, goal-setting, and attitudinal environments within which business institutes operate), and the decision-making processes involved in the choice of particular business policies and practices. The overall goal is to enhance understanding the internal and external factors affecting the operation of business firms and skill in the management of essential entrepreneurial resources—human, financial, physical, and technical.

This area of specialization provides the student with an opportunity to obtain further depth of study in related subjects offered by the other divisions. Among the topical areas to which this option is applicable are applied science, economics, foreign languages, government, mathematics, psychology, and sociology. Other areas may be approved upon application to the chairman.

In each instance, the student will pursue 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 chairman or other appropriate officer of the faculty.

### MARKETING

Marketing, which includes all activities concerned with determining and satisfying desires and needs of individual and institutional consumers, is a major function in all forms of business enterprise. Marketing knowledge and concepts provide the tools for developing and distributing goods and services in today's dynamic economy and tomorrow's as well. Courses are offered in the areas of consumer behavior, advertising, marketing management, distribution, sales administration, and market research.

### MANAGEMENT SYSTEMS—QUANTITATIVE METHODS—PRODUCTION

All three are concerned with (a) the design of information and decision-making systems for business, governmental, and other institutional requirements, (b) the application of appropriate techniques of quantitative analysis to administrative problems, (c) the utilization of EDP (electronic data processing or computer) capability in management information and decision-making systems. This includes the study of techniques often described under the heading of operations research. Three distinct areas of study are recognized within this broad field: management operating systems, quantitative methods, and production and operations management. This specialization is designated management systems.

*Management Systems.* The systems concept of organization within business and government is receiving many benefits from computer applications. Many new career opportunities are arising as a result of the rapid growth of computer usage. Students with an understanding of systems, computers, and quantitative techniques will be equipped to identify and solve certain types of problems in the management of business or government.



*Quantitative Methods.* The courses introduce students to modern mathematical and statistical concepts and methods as applied to business activity. A major objective is to develop skill in the formulation of logical models useful in making business decisions under conditions of both certainty and uncertainty. An additional goal is to develop means of measuring and evaluating the performance of business and other goal-seeking institutions in whole and in part. Linear and dynamic programming, inventory models, simulation, and statistical decision theory are some of the specific methods of analysis studied.

*Production.* The objective is to assist the student who is interested in a career in production or operations management to find a proper point of entry into his chosen field, and to perform competently thereafter. Because of the rapidly changing technological base of the production and operations functions, emphasis is upon tools and concepts of a fairly general character and lasting relevance.

#### PRODUCTION

The production function is responsible for creating the goods and services which are inputs to the marketing function of a firm. Viewed in this manner, a distinct production function is to be found in a variety of business activities. In a major airline, for example, the production function often includes aircraft scheduling, operation, and maintenance and is headed by a vice-president for operations. The head of an analogous function in a banking firm may be titled cashier or comptroller. In manufacturing firms the title of the senior production officer ranges from vice-president for manufacturing to plant manager. In each industry there are conventional lines of advancement running from points of entry into a firm to these positions. Whatever the type of business, the fundamental responsibility of the production function is the same: to insure that the desired goods or services are produced or made available on time, at budgeted cost, in the proper quantities, and within the desired span of quality characteristics.

#### PERSONNEL AND INDUSTRIAL RELATIONS

Personnel administration as a distinct professional field and organizational entity is now well accepted in business, as is industrial relations. In nearly every firm of substantial size are found staff specialists in these areas. There are attractive employment opportunities for both young men and young women in these fields.

The specialization of personnel management and industrial relations is concerned with the responsibilities and activities of both the director of the personnel function and the director of the industrial relations function within commercial, industrial, and governmental institutions. Students are introduced to the specialized routines and procedures of these fields as well as to the many legislative enactments which affect a management's relations with its employees and with organized labor.

The specialization provides opportunities to relate prior work in psychology, sociology, management operating systems, organization behavior, decision making, organization problems, and other areas to administrative problems in the field of personnel management and industrial relations.

Business Education

The program in business education is divided into two areas of specialization, business-teacher education and secretarial and office administration, each of which leads to the Bachelor of Science degree. The same core program is required for each of these areas. Candidates for business-teacher education choose one of two possible options, skill development or basic business preparation.

Bachelor of Science Degree, EDUCATION DIVISION

General Studies Requirements (See Chapter 3. Waive GSB-3.) . . . .	84
Business Education Core . . . . .	40
GSB 103-8, 201-8, GSD 114a,d . . . . . (25)	
Accounting 230 . . . . .	4
Business Communications 390 . . . . .	4
Economics 200, 201 . . . . .	8
General Business Administration 140, 340, 341, 440 . . . . .	16
Management Operating Systems 380 . . . . .	4
Marketing 370 . . . . .	4
Specialization in Business-Teacher Education . . . . .	68
SKILL DEVELOPMENT	
Business Education 304, 324a, 327, 341, 351, 426, 427 . . . . .	27
Business Education 405 and one of 403, 404, 406, 408 . . . . .	7
Counselor Education 305 . . . . .	4
Educational Administration 355 . . . . .	4
Secondary Education 315, 352b . . . . .	16
Education electives . . . . .	8
Electives . . . . .	2
BASIC BUSINESS PREPARATION	
Accounting 231, 351a . . . . .	8
Business Education 351 . . . . .	4
Economics 300 . . . . .	4
General Business Administration 342 <sup>1</sup> . . . . .	4
Marketing 371 <sup>1</sup> . . . . .	4
Business Education and one of 403, 404, 406, or 408 . . . . .	7
Counselor Education 305 . . . . .	4
Educational Administration 355 . . . . .	4
Secondary Education 315, 352b . . . . .	16
Education electives . . . . .	8
Electives . . . . .	5
Total . . . . .	192

Bachelor of Science, BUSINESS DIVISION

General Studies Requirements . . . . .	84
Business Education Core (See above) . . . . .	40
Specialization in Secretarial and Office Administration . . . . .	68
Accounting 231, 330 . . . . .	8
Business Education 341, 426, 427 . . . . .	12

<sup>1</sup> To prepare for Business Mathematics, the student takes Quantitative Methods 210 and 211 instead of General Business Administration 342 and Marketing 371.

Business Education 304, 324a,b, 327 (or electives in Business Division subjects) .....	15
Finance 320 .....	4
General Business Administration 342, Personnel and Industrial Relations 450 .....	8
Electives .....	21
<i>Total</i> .....	<u>192</u>

**Chemistry**

A primary concentration in chemistry must include at least 38 hours in chemistry courses beyond 111c. It is recommended that 341, 345, 461, and 432a or b be included. Training as a professional chemist as specified by the American Chemical Society requires 341, 345, 411, 432, and 461 (in junior year) plus three advanced courses (one may be mathematics or physics) and German. Pre-medical students who enter medical school after the junior year may transfer approved credits back into chemistry to complete the requirements for a concentration.

*Bachelor of Arts Degree, SCIENCE AND TECHNOLOGY DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.)	84
<i>Requirements for Concentration in Chemistry</i> .....	71
GSD FL .....	(9)
Chemistry 111b,c-10, 235-5 .....	(3) + 12
Chemistry 305-6 or 341-9, 345-4 or 6, 460-5 or 461-12 elective-3 .....	18-30
Chemistry electives .....	15-3
Mathematics 150-8, 252-8 .....	16
Physics 211-12, 212-3 .....	(5) + 10
<i>Secondary Concentration</i> (mathematics-16, physics-10) .....	10-26
<i>Electives</i> (chemistry, mathematics, or physics) .....	27-11
<i>Total</i> .....	<u>192</u>

*Bachelor of Science Degree, EDUCATION DIVISION*

A 36-hour concentration for students who elect two secondary concentrations must include, as a minimum, Chemistry 111-15, 235-5, 305-6, 345-4, and 460-5. Those who elect one secondary concentration must have 48 hours in chemistry, one year of physics with lab, and Mathematics 150-8 (Mathematics 252 is prerequisite to Chemistry 461).

*Secondary Concentration*

A secondary concentration in chemistry requires 111-15 and at least 12 hours in courses chosen from 235, 305-6, 341-9, 345-6, 311, 336.

**Comparative Literature**

*Secondary Concentration*

The secondary concentration in comparative literature is 37 hours, prescribed as follows: 300-12; 310a,b,c; second year of foreign language on the college level; and 4 hours of electives from 310c,d, Philosophy 360 or advanced foreign language study.



Dentistry (Preprofessional)

A pre dental program leading to the Bachelor of Science degree in biology upon completion of the first year of study at an approved dental school is offered. Students in this program are qualified to apply to the dental school currently being developed at Southern Illinois University, Edwardsville, as well as to other dental schools. If a student follows the program and does not choose to leave after three years, he can complete a typical biology concentration during his senior year.

<i>Freshman Courses</i> .....	50
GSA 101-8 .....	8
GSC (5 hours 100-level) .....	5
GSD 101-6, 103-3, 114a,c-9 .....	18
GSE 201-3, 1 hour activity course 100-level .....	4
Chemistry 111-15 .....	15
<i>Sophomore Courses</i> .....	50
GSB 101b or 103a-4, 101c or 103b-4 .....	8
GSC 151-3, 3 hours on 300-level .....	6
GSE (1 hour activity course 100-level) .....	1
Biology 302a,d-10 .....	10
Chemistry 305-6, 345a,b-4 .....	10
Physics 206-15 .....	15
<i>Junior Courses</i> .....	48
GSB 201a or 203a-4, or 201c or 203b-4, 6 hours 300-level ....	14
GSC 252-4, 253-4, 3 hours 300-level .....	11
GSE (1 hour activity course 100-level) .....	1
Biology 301a,b-8, 303a-4, 458-5 .....	17
Chemistry 235-5 .....	5
<i>Transfer from Approved Dental School</i> .....	45
<i>Total</i> .....	193

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 national income, unemployment, inflation, labor unions, monopoly, tariffs, and government spending 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 programs, research, and administrative positions. Economics also provides necessary background understanding and evaluation of state and national policy in many fields, among them being taxation, fiscal and monetary policy, anti-trust activities, and welfare legislation. Students choosing economics as a field of concentration pursue a core program followed by more specialized study in such fields as money and banking, industrial relations, finance, international trade. The sequence of courses, including those in related areas such as business, psychology, mathematics, and government is planned in cooperation with an adviser from the economics faculty.

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

*Bachelor of Science Degree, BUSINESS DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.) . . . .	84
<i>Requirements for Concentration in Economics</i> . . . . .	69
GSB 311-3 . . . . .	(3)
GSD 114a, 114d . . . . .	(9)
Accounting 230, 231, 330 . . . . .	12
Economics 200, 201, 300 . . . . .	12
Economics 440, 441 . . . . .	8
Economics electives . . . . .	17
Quantitative Methods <sup>1</sup> 210, 211, 310 . . . . .	12
Courses in finance, marketing, or management systems . . . . .	8
<i>Secondary Concentration</i> . . . . .	24
Students are asked to choose a secondary concentration in an area related to their professional or career objectives. Areas which have prior approval are government, mathematics, and sociology. Other areas may be approved at the discretion of the faculty chairman.	
<i>Electives</i> . . . . .	15
<i>Total</i> . . . . .	192

*Bachelor of Arts Degree, SOCIAL SCIENCES*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.) . . . .	84
<i>Requirements for Concentration in Economics</i> . . . . .	54
GSB 311-3 . . . . .	3
GSD 114a-5, 114d-4, FL . . . . .	(9) + 9
Economics 200, 201, 300 . . . . .	12
Economics 440, 441, 450, and electives . . . . .	30
<i>Secondary Concentration</i> . . . . .	24
Students are asked to choose a secondary concentration in an area related to their professional or career objectives. Areas which have prior approval are government, mathematics, and sociology. Other areas may be approved at the discretion of the faculty chairman.	
<i>Electives</i> . . . . .	30
<i>Total</i> . . . . .	192

*Bachelor of Science Degree, EDUCATION DIVISION*

For this degree the following courses constitute a 48-hour concentration in economics: GSB 103b, 311, GSD 114d, Economics 200, 201, 300, 440, 441, plus 17 hours of electives in economics to meet the minimum of 48 hours. The electives will be chosen in consultation with an economics faculty adviser.

<sup>1</sup> Requirement in quantitative methods may be met by Mathematics 150-8, 252-8, 480-10, and 483-4; in this case, these courses in mathematics will constitute a secondary concentration.

The following courses constitute a 36-hour concentration in economics: GSB 103b, 311, GSD 114d, Economics 200, 201, 300, 440, 441, plus 5 hours of electives in economics to meet the minimum of 36 hours.

Secondary Concentration

Candidates for the Bachelor of Science degree, Education Division, may choose a secondary concentration in economics. Requirements are GSB 103b, 311, GSD 114d, Economics 200, 201, 300, 440, 441, for a total of 31 hours.

Elementary Education

Following are the requirements for the Bachelor of Science degree with concentration in elementary education and meeting the minimum requirements for a Standard Elementary School Certificate on either the early childhood level or the elementary level.

Bachelor of Science Degree, EDUCATION DIVISION

A student in this course of study must (1) satisfy the general requirements of the University and of the Education Division, (2) complete all hours specified below in the requirements for concentration, and (3) meet all requirements for student teaching and should study the section in this catalog which lists such requirements.

General Studies Requirements (See Chapter 3. Waive GSC-3.)	84
Requirements for Concentration in Elementary Education	70
GSB 201c-4, 203b-4, 300a-3, or 203a-4, 331-3	14
Area of interest <sup>1</sup>	12
Professional Courses (44 hours)	
Counselor Education 305	4
Educational Administration 355	4
Elementary Education 314-4, 337-4, 351-8 to 16, 415-4	20-28
Instructional Materials 417	4
Electives: Recommended—Counselor Education 422-4; Elementary Education 203-3, 413-4, 437-4, 442-4; Psychology 301-4	12-4
Electives	38
Total	192

Early Childhood Education

General Studies Requirements (See Chapter 3. Waive GSC-3.)	84
Requirements for Concentration in Early Childhood Education	70
GSB 201c-4, 203b-4, 300a-3 or 203a-4, 331-3	14
Area of interest <sup>1</sup>	12
Professional Courses (44 hours)	
Counselor Education 305	4
Educational Administration 355	4
Elementary Education 315-4, 316-4, 337-4, 351-8 to 16, 415-4	20-28
Instructional Materials 417	4

<sup>1</sup> A student shall select an area in which he obtains at least 12 hours in addition to the above requirements. These areas are fine arts; health, recreation, and physical education; instructional materials; language arts; mathematics; science; social science.



Recommended electives: Counselor Education 422-4, Elementary Education 203-3, 413-4, 437-4, 442-4, Psychology 301-4, Special Education 428-4 .....		12-0
<i>Electives</i> .....		38
<i>Total</i> .....		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 necessary 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.

*Bachelor of Science Degree, SCIENCE AND TECHNOLOGY DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.) ....	84
<i>Requirements for Concentration in Engineering</i> .....	110
Chemistry 111b-5 .....	(3) + 2
Engineering 200-6, 201-2, 260-8, 300-3, 443-6 .....	25
Mathematics 150-8, 225-4, 252-8, 305-8, 351-4 .....	(9) + 23
Physics 211-12, 212-3, 300-5 .....	(5) + 15
Technical Elective .....	4
One of the options below: .....	41
ELECTRONIC ENGINEERING	
Engineering 200-3, 201-1, 310-6, 311-3, 312-1, 405-5, 410-8, 411-2 .....	29
Physics 305-8 .....	8
Technical elective .....	4
ENGINEERING PHYSICS	
Engineering 311-6, 312-2, 405-5, 410-4, 411-1, 420-6, 472-3 .....	27
Mathematics 483-6 .....	6
Physics 305-8 .....	8
ENGINEERING MATHEMATICS	
Mathematics 321-4, 455-9, 472-9, 480-9 .....	31
Technical electives .....	10
<i>Total</i> .....	194

*Secondary Concentration*

A secondary concentration in engineering should include 200a,b-6, 201a, b-2, 260-8, 311a-3, 312a-1, plus 7 technical elective hours approved by the Faculty of Engineering.

English

*Bachelor of Arts Degree, HUMANITIES DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSC-3.) ..	84
<i>Requirements for Concentration in English</i> .....	53

GSD FL .....	(9)
English 300, 302-12, 309-8, 365, 499-2 .....	30
English electives numbered above 299 (485, 486, 487 do not count.) .....	14
Foreign language courses to complete two years college level work in a language .....	9
Secondary Concentration .....	24-27
Electives .....	31-28
Total .....	192

*Bachelor of Science Degree, EDUCATION DIVISION*

For this degree, the requirements for concentration in English are 48 hours consisting of all the courses required for the Bachelor of Arts degree except a foreign language, totaling 44 hours, and English 485. The grade of C or above is required in all English courses and General Studies Areas C and D.

*Secondary Concentration*

A 24-hour secondary concentration in English consists of 300, 302-12, 309-8.

**Foreign Languages**

*Bachelor of Arts Degree, HUMANITIES DIVISION*

General Studies Requirements (See Chapter 3. Waive GSC-3.) ..	84
Requirements for Concentration in Foreign Languages .....	48
A minimum of 42 hours beyond the 100-level courses, including the seminar in the field of concentration (French, Spanish, or German). .....	42
English and history (one course in each area above 299 related to the concentration) .....	6
Secondary Concentration .....	24-27
Electives .....	36-33
Total .....	192

*Bachelor of Science Degree, EDUCATION DIVISION*

For this degree, the requirements for concentration in Foreign Languages are 38 hours (exclusive of General Studies courses and elementary education concentration courses) in a language, plus one English and one history course numbered above 299.

*Secondary Concentration*

A secondary concentration consists of 24 hours (exclusive of General Studies) in a language.

**Geography**

In the field of geography, the student may work toward either a Bachelor of Science degree or a Bachelor of Arts degree depending upon his objective:

- 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 systems.

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 hold their hours of geography to the minimum number required and use their elective hours to take work in other areas. Students interested in physical geography should consider work in geology, botany, zoology, plant industries, forestry, and physics. Students interested in economic geography can profit from work in economics, agricultural industries, marketing, and transportation. Students specializing in cultural geography will find courses in sociology, anthropology, community development, history, and government particularly useful. Students interested in the geography of a particular area of the world are encouraged to take courses on the area in other disciplines.

Quantitative methods have become an essential tool used by geographers. Thus, those with a concentration in geography are strongly urged to take work in statistics. GSD 114d provides an introduction, while students interested in more complete preparation may take Mathematics 410a,b, and c.

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

*Bachelor of Arts Degree, SOCIAL SCIENCES DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.) . . . .	84
<i>Requirements for Concentration in Geography</i> . . . . .	30
GSD FL . . . . .	(9)
GSA 110a,b, 330, GSB 203b . . . . .	(15)
One of the following specializations: . . . . .	30
Cultural geography, economic geography, earth science: 304, 306, 308, 310, and electives.	
Planning: 304, 306, 308, 310a, 404c, 470a, 471, and electives.	
Cartography: 304, 306, 308, 310, 416a,b, 417, and electives.	
<i>Secondary Concentration</i> . . . . .	27
Secondary concentration must be mathematics if the specialization is cartography.	
<i>Electives</i> . . . . .	51
<i>Total</i> . . . . .	192

The Bachelor of Arts degree cartography specialty may be earned by a work-study plan which permits students to work part time at the St. Louis Aeronautical Chart and Information Center. The General Studies Advisement Office or the geography staff has complete information on this plan. GSA 110a,b, 330, and GSB 203b are required in the above specializations; one additional General Studies course in geography may be counted.



*Bachelor of Science Degree, EDUCATION DIVISION*

In addition to the General Studies requirements and the Education Division requirements, a geography specialization must include the following courses: GSA 110a,b, 330, GSB 302b, Geography 304, 306, 308, 310a, and additional courses to complete 45 or 36 hours in geography (depending on whether the student has one or two secondary concentrations).

*Secondary Concentration*

A secondary concentration in geography consists of 27 hours and must include 304, 306, and 308. Fifteen hours may be counted from the following: GSA 110a,b, 330, 331, GSB 203b, and 354.

**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 the public service.

*Bachelor of Arts Degree, SOCIAL SCIENCES DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.) . . . .	84
<i>Requirements for Concentration in Government</i> . . . . .	45
GSD FL . . . . .	(9)
A minimum of 45 hours, including 200 and GSB 203a, and at least 3 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.	
<i>Secondary Concentration</i> . . . . .	27
<i>Electives</i> . . . . .	36
<i>Total</i> . . . . .	192

*Bachelor of Science Degree, EDUCATION DIVISION*

For this degree, the requirements for concentration in government total 45 or 36 hours in government, including 200 and GSB 203a, 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.

*Secondary Concentration*

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

**Health, Recreation, and Physical Education**

Programs leading to teacher certification are available in physical education and in health education. Such programs are designed to prepare students for teaching at the elementary and/or the secondary level.

Students who desire to gain a primary or secondary concentration in physical education should take a minimum of two activity courses (GSE first-level) each quarter during the freshman and sophomore years. Physical Education 025 should be completed during the freshman year. Students must possess the equivalent of intermediate swimming proficiency.

The following are programs for specialization in teaching physical education at the secondary level.

Secondary Level

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.) . . . .	84
<i>Requirements for Concentration in Physical Education</i> . . . . .	48

One of the specializations below:

MEN	
Required activity courses: GSE 104f or 104u, 117f, 118r,s —1 per course . . . . .	5
Elective activity courses: GSE 104 (select 2), 116 (select 1), 117 (select 1), 118 (select 3), electives (select 4)— 1 per course . . . . .	11
Required theory courses: Health Education 334s-4 or Physical Education 376-3, Physical Education 025-0, 303-5, 350-4 or 384-2 and 387-2, 370-4, 382-4 . . . . .	20-21
Elective theory courses . . . . .	12-11
WOMEN	
Required activity courses: GSE 112 or 114o, 114c, 114f or g, 114j,n, 117b,e, 118h,i,s,w—1 per course . . . . .	11
Elective activity courses: GSE 112 or 114o, 116b,d, 117a, c,f, 118a,b,d,e,m,r—1 per course . . . . .	5
Required theory courses: Health Education 334s-4 or Physical Education 376-3, Physical Education 025-0, 303-5, 350-4 or 384-2 and 387-2, 370-4, 382-4 . . . . .	20-21
Elective theory courses . . . . .	12-11
<i>Professional Education Requirements</i> . . . . .	32
<i>Secondary Concentration Requirements</i> . . . . .	28
<i>Total</i> . . . . .	192

Secondary Concentration

A secondary concentration in physical education (men) for teaching at the secondary level consists of 30 hours, including 5 hours of GSE required activity courses (see above under primary concentration for men); 11 hours of GSE elective activity courses (see above under primary concentration for men); 11 hours of required theory courses composed of Physical Education 025-0, 341-3, 350-4 or 384-2 and 387-2, and 382-4; and 3 hours of elective theory courses.

A secondary concentration in physical education (women) for teaching at the secondary level consists of 30 hours, including 10 hours of GSE required 1-hour activity courses composed of 112 or 114o, 114c,j, 114f or g or n, 117b,e, and 118h,i,s,w; 4 hours of GSE elective 1-hour activity courses composed of 112 or 114o, 114f or g or n, 116b,d, 117a,c,f, and 118a,b,d,e,m,r; 14-15 hours of required theory courses composed of Health Education 334s or Physical Education 376-3, Physical Education 025-0, 341-3, 350-4 or 384-2 and 387-2, and 382-4; and 1 to 2 hours of GSE or physical education electives.

Elementary Level

A program for specialization in teaching physical education at the elementary level is available. This program leads to the standard special certificate (K through 14), but emphasis is placed upon activities suitable for the elementary school program in physical education. In addition to course work taken at the University, the student is provided with opportunities for observation and practical experience in selected elementary schools, prior to the student teaching experience.

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.) . . . .	84
<i>Requirements for Concentration in Physical Education</i> . . . . .	48
Required activity courses: GSE 102 or 112, 104f or 104g or 114f or 114g, 117a,b, 118i,r,s,w—1 per course . . . . .	9
Required theory courses: Health Education 334s-4, Physical Education 303-5, 305-3, 341-3, 344-3, 383-2, 384-2, 385-2, 387-2, 388-2, 389-4, 390-3 . . . . .	35
Elective GSE or physical education courses . . . . .	4
<i>Professional Education Requirements</i> . . . . .	32
<i>Secondary Concentration Requirements</i> . . . . .	28
<i>Total</i> . . . . .	192

Secondary Concentration

A secondary concentration in physical education for teaching at the elementary level consists of 30 hours, including 9 hours of GSE required activity courses (see above under primary concentration); 3 hours of GSE elective activity courses; 14 hours of required theory courses composed of Health Education 334s-4, Physical Education 341-3, 350-4, and 354-3; and 4 hours composed of any two of the following 2-hour elective theory courses—Physical Education 383, 384, 385, 387, and 388—or 389-4.

A secondary concentration in health education is available for those who wish to receive certification on either the elementary or secondary school level. It consists of 30 hours and includes GSE 201-3; Health Education 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, or 432.

History

Students who intend to study for either the Bachelor of Arts or the Bachelor of Science degree with a 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 plan to do graduate work.

Bachelor of Arts Degree, SOCIAL SCIENCES DIVISION

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.) . . . .	84
<i>Requirements for Concentration in History</i> . . . . .	37
GSB 100-8, 300-9 . . . . .	(17)
History 100-3, 102-4, 452-3 . . . . .	10
History electives at the junior-senior level (Anthropology 304 may be counted) . . . . .	18



Two years of college level foreign language, or its equivalent (first year in GSD or second year intermediate) .....	9
<i>Secondary Concentration</i> .....	27
<i>Electives</i> .....	44
<i>Total</i> .....	192

*Bachelor of Science Degree, EDUCATION DIVISION*

For this degree, the requirements in history are 48 hours or 36 hours depending on whether the student has one secondary concentration or two. Requirements for the concentrations are GSB 101-8, GSB 300-9, and History 100 or 102; in addition, students in the 48-hour concentration are required to take History 452. The remainder of the courses for the two concentrations listed above are electives taken at the junior-senior level.

*Secondary Concentration*

Twenty-seven hours are required for a secondary concentration in history and must include GSB 101-8, GSB 300-9, and either History 100 or 102. Anthropology 304 may be counted in any history concentration.

**Instructional Materials**

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

The Education Division 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 Materials 308-4, 403-4, 406-4, and 407-4. The required courses for audio-visual people are Instructional Materials 417-4 and 445-5. Additional courses to fulfill the requirement of 28 hours are planned in conference with the instructional materials adviser.

**Journalism**

*Secondary Concentration*

A secondary concentration in journalism consists of 24 hours, including 103-3, 201-3, 202-3, 340-3, and English 300-4 and 392-3. See also Professional Writing.

**Mass Communications**

Mass Communications involves the study of television-radio, journalism, and film. At the present time, a student may concentrate in television-radio. A full spectrum of courses is available to the television-radio student, including a series of seminars in the senior year. Also, each student must pass a comprehensive examination in the winter quarter of his senior year.

A student of broadcasting takes courses dealing with history and commercial aspects of broadcasting, production techniques, and reflection or evaluation aspects of the industry.

*Bachelor of Arts Degree, FINE ARTS DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSC-3) . . . .	84
<i>Requirements for Concentration in Mass Communications</i> . . . . .	74
Television-Radio 100-4, 200-4, 201-8, 202-4, 300-5, 301-5, 400-4, 401-4, 402-4 or 403-4 . . . . .	42
Speech 224-4, 301-4 . . . . .	8
Television-Radio Electives (three of the following 4-hour courses: 302, 303, 404, 405, 406, 407) . . . . .	12
Fine Arts Division Electives (courses from each of the follow- ing areas: art, music, speech) . . . . .	12
<i>Secondary Concentration</i> . . . . .	24
<i>Electives</i> . . . . .	10
<i>Total</i> . . . . .	192

Students seeking a Bachelor of Arts degree with a concentration 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 on to graduate study in broadcasting.

*Bachelor of Science Degree, FINE ARTS DIVISION*

The Bachelor of Science degree 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 on a full-time employment basis upon graduation.

**Mathematics**

Students interested in a concentration in mathematics may earn either the Bachelor of Arts or the Bachelor of Science degree, depending upon their objectives. Prospective teachers may be certified to teach with either degree provided certification requirements are satisfied. Anyone considering a concentration in mathematics is urged to consult with an adviser in the mathematics faculty.

*Bachelor of Arts Degree, SCIENCE AND TECHNOLOGY DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.) . . .	84
<i>Requirements for Concentration in Mathematics</i> . . . . .	53
GSD FL (French, German, or Russian recommended) . . . . (9)	
Chemistry 111a or b-5 (can satisfy GSA 101c-3) . . . . (3) + 2	
Mathematics core courses—150-8, 252-8, 321-4, 351-4 . . . .	24
Mathematics 420-6 or 421-6 . . . . .	6
Mathematics 452-9 or 483-9 . . . . .	9
Mathematics electives (recommended: 305a, 415, 425, 430, 433, 455, 460, 475, or alternates above) . . . . .	9
Physics 211a-4 and 211b or c-4 . . . . . (5) + 3	
<i>Secondary Concentration or Approved Supporting Courses</i> . . . . .	27
<i>Electives</i> . . . . .	28
<i>Total</i> . . . . .	192

*Bachelor of Science Degree, SCIENCE AND TECHNOLOGY DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.) . . .	84
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<i>Requirements for Concentration in Mathematics</i> .....	53
Mathematics Core Courses 150–8, 252–8, 321–4, 351–4 ..	(24)
Specialization in one of the following:	
APPLIED MATHEMATICS	
Mathematics 225–4, 305a–4 .....	8
Mathematics 455–9, or 475–9, or 483–9 .....	9
Mathematics Electives (Recommended: 305b, 421, 472, or alternates above) .....	7
COMPUTER SCIENCE	
Mathematics 225–4, 305a–4, 472–9 .....	17
Mathematics 455a–3 or 475a–3 .....	3
Mathematics electives (recommended 305b, 421, 455b,c, 475b,c, 483a or alternate above) .....	4
Chemistry 111a or b–5 (can satisfy GSA 101c–3) ....	(3) + 2
Physics 211a–4 and 211b or c–4 .....	(5) + 3
<i>Secondary Concentration or Approved Supporting Courses</i> .....	27
<i>Electives</i> .....	28
<i>Total</i> .....	192

*Bachelor of Science Degree, EDUCATION DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA–3.) ...	84
<i>Requirements for Concentration in Mathematics</i> .....	53
Chemistry 111a or b–5 (can satisfy GSA 101c–3) ....	(3) + 2
Mathematics core courses: 150–8, 252–8, 321–4, 351–4 ....	24
Mathematics 311–4 and 420–6 .....	10
Mathematics 415–4, 430–4, 460–4 (any two) .....	8
Mathematics electives (recommended: 305a, 425, 433, 452, 483 or alternates above) .....	6
Physics 211a–4 and 211b or c–4 .....	(5) + 3
<i>Secondary Concentration</i> .....	27
<i>Professional Education Requirements</i> (See Secondary Educa- tion P. 58) .....	32
<i>Total</i> .....	196

*Secondary Concentration*

A secondary concentration in mathematics consists of 27 hours and includes courses through 150b and at least 12 hours selected from courses above 200. Mathematics 420 is recommended for prospective teachers. (The requirement for teacher certification in mathematics is 30 hours.)

**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, bas-  
soon; composers Gunther Schuller and Halsey Stevens; Daniel Pinkham, composer-choral conductor; The St. Louis Symphony; Roger Wagner, Director of the Roger Wagner Chorale; Paul Steinitz, Director of the London Bach Chorale.



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 Faculty of Music is a member. The Bachelor of Music degree with specialization in performance, 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 (excepting those 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 Faculty of Music must be attended. Deficiency in recital attendance for any academic year results in a grade of incomplete in applied music.

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.

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.

Bachelor of Arts Degree, FINE ARTS DIVISION

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.

General Studies Requirements (See Chapter 3. Waive GSC-3.) . . .	84
Requirements for Concentration in Music . . . . .	57
GSC 156, GSD FL . . . . .	(14)
Music 105-12, 205-9, 357-9, and electives . . . . .	39
Music private applied (2 hours per quarter) . . . . .	12
Music major ensemble . . . . .	6
Secondary Concentration . . . . .	24
Electives . . . . .	27
Total . . . . .	192

Bachelor of Music Degree, FINE ARTS DIVISION  
Music Performance

General Studies Requirements (See Chapter 3. Waive GSC-3.) . . .	84
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<i>Requirements for Concentration in Music</i> .....	111-123 <sup>1</sup>
Foreign Language .....	(9) + 12 <sup>1</sup>
Music 105-12, 205-9, 309a, 312a, 318a, 326a, 442a .....	36
Music 357-9 .....	9
Music, private applied (major instrument) .....	48
Music, major ensemble (1 hour per quarter) .....	12
Music, class piano, or secondary instrument/voice .....	6
<i>Total</i> .....	195-207 <sup>1</sup>

### *Music Education*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSC-3.) ...	84
<i>Requirements for Concentration in Music</i> .....	79-94
Music 105-12, 205-9, 309a-3, 318a,b-6, 326a-3 .....	33
Music 357-9 .....	9
Music, private applied (major instrument) .....	24
Music, major ensemble (1 hour per quarter) .....	12
Piano proficiency or class .....	0-6 <sup>2</sup>
Voice proficiency or class .....	0-3 <sup>2</sup>
Music: class strings, woodwinds, brass—2 hours in each area .....	0-6 <sup>2</sup>

One year of French or German is recommended for the student with a choral emphasis in music education.

<i>Professional Education Requirements</i> .....	32
GSB 331-3 .....	3
Educational Administration 355 .....	4
Music 301-9 .....	9
Counselor Education 305 .....	4
Elementary Education 351e and Secondary Education 352d .....	12
<i>Total</i> .....	195-210

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

### *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, GSC 156, Music 357c (357a or b will substitute). Total: 32 hours.

### **Nursing**

Learning experiences in nursing are approached from the problem solving point of view. Comprehensive health plans and care emerge from applications of knowledge and skill gained from the natural, biological, and social sciences and communications courses. The student develops proficiency in the nurse's role as a teacher, working with patients, families,

<sup>1</sup> 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.

<sup>2</sup> Study on a secondary instrument or/and voice is possible if requirements for class instruction are met by proficiency.

health teams, and other individuals and groups interested in nursing. The student is introduced to the health team concept, first as a member, later as a leader in the nurse team, and then as a participant in the inter-professional health planning for care and rehabilitation of individuals in society.

<i>Bachelor of Science Degree</i> , DEPARTMENT OF NURSING	
<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.)	84
Substitute Chemistry 110-4 for GSA 101c-3.	
<i>Requirements for Concentration in Nursing</i> .....	109-112
Biology 310-2, 311-5 .....	7
Chemistry 110-4, 240-4 .....	(4) + 4
Nursing 210-4, 300-4, 301a-8, 301b-8, 325-8, 355-4, 363-22, 370-4, 375-8, 381-3, 382-8, 385-1 to 4 .....	82-85
Philosophy 302-4 .....	4
Psychology 301-4, 465-4 .....	8
Sociology 340-4 .....	4
<i>Total</i> .....	193-196

All students who have been accepted in the Department of Nursing must have advisement from the nurse faculty members and must make arrangements with the Department of Nursing three quarters in advance of the time they wish to take each clinical course in nursing.

Philosophy

Students seeking a Bachelor of Arts degree with a concentration in philosophy enroll in the program below.

<i>Bachelor of Arts Degree</i> , HUMANITIES DIVISION	
<i>General Studies Requirements</i> (See Chapter 3. Waive GSC-3.) ..	84
<i>Requirements for Concentration in Philosophy</i> .....	51
Foreign Languages (equivalent of two years) .....	(9) + 9
Philosophy 385a,c-8, 385b or d or e-4, 490-4 or 495-4, GSA 363a-3, GSC 375a-3 .....	22
Philosophy electives. GSA 363b-3 and GSC 375b-3 may be included .....	20
<i>Secondary Concentration</i> .....	24-27
<i>Electives</i> .....	33-30
<i>Total</i> .....	192

Secondary Concentration

A secondary concentration consists of 24 hours in philosophy courses. Toward this 24, 6 hours from GSA 363a-3 and GSC 375a-3 may be counted.

Physical Science

The Faculty of Physics in cooperation with the secondary education faculty has developed a broad teaching field program in 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 that the student will obtain an appreciation for the important role played by the physical sciences in the development of our Western culture.

*Bachelor of Science Degree, EDUCATION DIVISION*

<i>General Studies Requirements.</i> (See Chapter 3. Waive GSA-3.) ...	84
<i>Requirements for Concentration in Physical Science</i> .....	67
GSA 110 .....	(8)
GSA 101a-5, 356-3, 363a-3 .....	11
Chemistry 111-15, 235-5 .....	20
Physics 206-15 .....	15
Science and Technology 402-4, 403-6, 475-3 .....	13
Mathematics 150-8 .....	8
<i>Professional Education Courses</i> (Teachers Certification Program; see pages 67-68. ....	32
<i>Electives</i> .....	10
<i>Total</i> .....	193

**Physics**

The Faculty of Physics provides two 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 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.

*Bachelor of Arts Degree, SCIENCE AND TECHNOLOGY DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.) ...	84
<i>Requirements for Concentration in Physics</i> .....	74
Foreign Languages (equivalent of one year) .....	(9)
Chemistry 111a,b .....	10
Mathematics 150-8, 252-8 .....	16
Physics 211-12, 212-3, 300a-4, 300b-1, 301-8, 305-8 .....	36
Physics electives numbered 299 or above, including 4 hours of laboratory, to complete 48 hours .....	12
<i>Secondary Concentration</i> .....	11-27
<i>Electives</i> .....	23-7
<i>Total</i> .....	192

*Bachelor of Science Degree, SCIENCE AND TECHNOLOGY DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSA-3.) ...	84
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<i>Requirements for Concentration in Physics</i> .....	85
Chemistry 111a,b .....	10
Mathematics 150-8, 252-8, 305-8 .....	24
Physics 211-12, 212-3, 300a-4, 300b-1, 301-8, 305-8, 415a,b-8, plus 3 additional hours of upper level labora- tory work and Engineering 200a-3, 201a-1 .....	51
<i>Secondary Concentration</i> .....	3-23
<i>Electives</i> .....	20-0
<i>Total</i> .....	192

*Secondary Concentration*

A secondary concentration in physics includes Physics 211-12, 212-3, 300a-4, 300b-1, and electives numbered 200 or above to total 27 hours.

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

**Professional Writing**

*Bachelor of Arts Degree*, HUMANITIES DIVISION

<i>General Studies Requirements</i> (See Chapter 3. Waive GSC-3.) ....	84
<i>Requirements for Concentration in Professional Writing</i> .....	85
English 300-4, 390-3, 392-3, 492-4, and 7 approved hours ...	21
GSC 375-6, Philosophy 342-4, 360-4, 484-4 .....	8
Foreign Language (Intermediate) .....	9
Journalism 101-3, 102-3, 103-3, 201-3, 202-3, 391-3 .....	18
Approved electives in economics, English, government, history, journalism, sociology, and speech .....	29
<i>Secondary Concentration</i> .....	0
<i>Electives</i> .....	23
<i>Total</i> .....	192

**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*, EDUCATION DIVISION

For this degree, a concentration requires a minimum of 44 hours in psychology. The primary aim is to provide a broad general education rather than specialized professional training in psychology; a maximum of three courses in any one specialized area of psychology may be included in the 44-hour concentration. Students should consult with the designated psychology adviser in planning their courses of study and especially in selecting electives.

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.) . . . .	84
<i>Requirements for Concentration in Psychology</i> . . . . .	40
GSB 201c (counts toward minimum of 44 hours in psychology) (4)	
GSD FL . . . . .	(9)
Psychology 211a,b, 311, 312 or 313, and 409 (must be taken in order listed) . . . . .	20
Psychology 301, 303, 305, 307, 320 (any two) . . . . .	8
Two 400-level psychology courses (Adviser must approve courses before student enrolls therein.) . . . . .	8
Psychology elective . . . . .	4
<i>Secondary Concentration</i> . . . . .	27
<i>Electives</i> (If graduate study is planned, student should include Psychology 314 in his program.) . . . . .	41
<i>Total</i> . . . . .	192

### *Bachelor of Science Degree, EDUCATION DIVISION*

For this degree, a concentration in psychology requires a minimum of 48 hours in psychology. This course of study is designed for the student who intends to teach, pursue graduate studies in counselor education, school psychology, or in psychology with an educational orientation. Student teaching is required for this degree. A strong second teaching field should be planned in consultation with the secondary education adviser.

<i>General Studies Requirements</i> (See Chapter 3. Waive GSB-3.) . . . .	84
<i>Requirements for Concentration in Psychology</i> . . . . .	48
GSB 201c (counts toward minimum of 48 hours in psy- chology) . . . . .	4
Psychology 211a,b, 311, 312 or 313, 409 (in sequence) . . . .	20
Psychology 301, 303, 305, 307, 320 (any three) . . . . .	12
Psychology 407, 421, 431, 440, 461, 465 (any three) . . . . .	12
<i>Professional Courses</i> . . . . .	32
Counselor Education 305 . . . . .	4
Educational Administration 355 . . . . .	4
Secondary Education 315 . . . . .	4
Secondary Education 352d . . . . .	12-16
Education electives to complete 32 hours . . . . .	8-4
<i>Secondary Concentration</i> (should be planned as a strong sec- ond teaching field) . . . . .	27
<i>Electives</i> . . . . .	1
<i>Total</i> . . . . .	192

### *Secondary Concentration*

A secondary concentration in psychology consists of a minimum of 27 hours. Students intending to pursue an occupation related to psychology (e.g., counseling, personnel work, or teaching psychology) include in their program GSB 201c, Psychology 211a,b, and 311 plus psychology electives to meet minimum hour requirements. Students with a general interest in psychology but not planning related academic or vocational pursuits should include in their program GSB 201c and Psychology 211a plus psychology electives to meet minimum requirements.

Students who have completed GSD 114d or Sociology 308 should not include Psychology 211b in their program.



Public Administration and Planning

Public Administration and Planning is an interdisciplinary concentration which focuses around the problems of public administration in today’s society and emphasizes the basic skills and general educational background needed in preparation for a career in public administration and urban and/or regional planning. Numerous opportunities for graduate training exist in all these fields for which this course of study offers adequate preparation. This concentration offers an excellent medium within the liberal arts tradition to get an organized view and understanding of some of the major problems confronting contemporary society.

The combination of hours selected depends on the interest and to some degree, the previous training of the student. In some cases selected courses in disciplines other than those suggested may be substituted for the hours recommended. Students should consult with the designated adviser in planning their courses of study.

Bachelor of Arts Degree, SOCIAL SCIENCES DIVISION

General Studies Requirements (See Chapter 3. Waive GSB–3.) . . . .	84
Requirements for Concentration in Public Administration and Planning . . . . .	73
At least 17 hours in government or at least 18 hours in geography are required. If geography (government) is chosen as the area for the minimum course hour requirement, at least 38 hours will be required in government (geography). 470 may be taken for either government or geography credit but not both . . . 55 or 56	
Geography 304–4, 306–4, 310–6, 472–4, and/or 470–14 . . .	18 or 32
Government 360–4, 361–3, 465–3, 473–3, GSB 318–6, and/or Government 470–14 . . . . .	19 or 33
Economics 330–4, 431–3 . . . . .	7
Electives . . . . .	35
Total . . . . .	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 should apply to the Education Division for acceptance to a teacher education program no later than the sixth quarter.

A student must pass an examination on the national and state constitution’s principles as required by Illinois law or complete either GSB 300a or GSB 203a.

No general requirement in foreign language applies to the Bachelor of Science degree in the Education Division.

Bachelor of Science Degree, EDUCATION DIVISION

General Studies Requirements (See Chapter 3.) . . . . .	84
GSB 201c–4, 203a–4 or 300a–3, or 331–3 . . . . . (10–11)	
Professional Courses . . . . .	32

A. Educational Foundations .....	4-8	
Educational Administration 355-4. Elective: 431-4		
B. Psychological Background .....	4-8	
Counselor Education 305-4. Electives: 422-4, Psychology 303-4.		
C. Curriculum and Instruction .....	4-8	
Secondary Education 315-4. (Prerequisites: Counselor Education 305-4, Educational Administration 355-4. Electives: Instructional Materials 417-4, Secondary Education 407-4, 440-4, 487-4, 488-4.		
D. Student Teaching .....	12-16	
Secondary Education 352d-8 to 16. (Prerequisite: 315-4.) Elective: 352e-4 to 8 second area of concentration.		
<i>Teaching Fields (Areas of Concentration)</i> Certain General Studies courses may be applied .....		75-90
<i>Electives</i> .....		1-0
<i>Total</i> .....		192-207

Teaching Fields

The first teaching field shall be at least 48 hours, with a second teaching field of sufficient hours to meet the minimum preparation for teaching in the various fields and subjects (the first teaching field and the second teaching field being in different areas), or the student may carry a 36-hour teaching field with two approved second teaching fields. It is the policy of the Education Division that the courses and prerequisites within the first teaching field area be approved by the adviser in the teaching field. Additional elective hours in the first teaching field and the second teaching field are encouraged, with the following subject fields:

A student in the Education Division who is preparing to teach in junior high or high school may select first teaching fields from the following:

- |                    |                    |
|--------------------|--------------------|
| Biological Science | Mathematics        |
| Chemistry          | Physical Education |
| English            | Physics            |
| Foreign Languages  | Psychology         |
| Geography          | Sociology          |
| Government         | Speech Education   |
| History            |                    |

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

- |                            |                                   |
|----------------------------|-----------------------------------|
| Biology                    | Instructional Materials           |
| Business Teacher Education | (library science or audio-visual) |
| (one area only)            | Mathematics                       |
| Chemistry                  | Physical Education                |
| English                    | Physics                           |
| Foreign Languages          | Psychology                        |
| Geography                  | Sociology                         |
| Government                 | Speech                            |
| Health Education           | Theater                           |

Broad teaching fields with the specified number of hours may be selected from the following:

Art Education	67
Business Teacher Education	73-77
General Science and Mathematics (junior high school)	84 <sup>1</sup>
Language Arts (junior high school)	75 <sup>2</sup>
Music Education	85-90
Physical Education and Health	78
Physical Science Education	67
Social Studies (junior high school)	75 <sup>3</sup>
Social Studies (senior high school)	90 <sup>4</sup>

Sociology

Bachelor of Arts Degree, SOCIAL SCIENCES DIVISION

General Studies Requirements (See Chapter 3. Waive GSB-3.)	84
Requirements for Concentration in Sociology	53
GSD FL	(9)
Anthropology, psychology (one course in each)	8
Sociology 301, 308 (or GSD 114d or Mathematics 410a), 312, 321, 405, 451	23
Sociology electives to complete 45 hours	22
A background course in physical anthropology is also recommended.	
Secondary Concentration	27
Electives	28
Total	192

Social Welfare

General Studies Requirements (See Chapter 3. Waive GSB-3.)	84
Requirements for Concentration in Sociology	62
GSD FL	(9)
Anthropology, economics, psychology (one course in each)	12
Government (two courses in the area of American national, state, and local government)	8
Sociology 301, 302, 308 (or GSD 114d or Mathematics 410a), 321, 340, 375, 481, 482	31
Sociology electives	11
Secondary Concentration	27
Electives	19
Total	192

Bachelor of Science Degree, EDUCATION DIVISION

For this degree, the requirements for concentration in sociology include 301, 302, 321, 333, 340, 374, and sociology electives to complete 48 or 36

<sup>1</sup> 57 hours in general science: Chemistry 111-15, 341-4; GSA 201-8, 356-3; Physics 211-15, plus 6 hours related in each earth science and health science from General Studies; and 27 hours in mathematics: GSD 114-9, Mathematics 150-8, 300-4, 320-3, plus one other mathematics course above 299.

<sup>2</sup> GSD 101a,b, 103; GSC 151, 252, 253 254; English 302b,c, 309a,b, 335, 420b, 300, 390, 400, 403, 405b; Speech 224; Theater 410.

<sup>3</sup> 27 hours in history, 24 in government or geography, and 12 hours in each of two of the following: anthropology, economics, geography or government, sociology.

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



hours depending on whether the student has one or two secondary concentrations. One (but not two) secondary concentration should be in another social science.

### *Secondary Concentration*

A secondary concentration of 24 hours may include GSB 359-6.

### **Special Education**

The Education Division offers undergraduate work leading to the Bachelor of Science in Education degree in special education. The student should consult with a faculty adviser upon declaration of a concentration in special education. Completion of the degree requirements qualifies one for certification as a teacher of the mentally handicapped, or for approval as a teacher of the emotionally disturbed or of the gifted.

#### *Bachelor of Science in Education Degree, EDUCATION DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSC-3.) . . . .	84
<i>Requirements for Concentration in Special Education</i> . . . . .	32
One of the following specializations:	
EDUCABLE MENTALLY HANDICAPPED	
Special Education 410b-4, 413b-4, 414-4, 420-4, 428-4, 481b-4 . . . . .	24
Elementary Education 351e (8 hours of teaching of educable mentally handicapped children) . . . . .	8
EMOTIONALLY DISTURBED	
Special Education 410a, 413a, 414, 420a, 428, 481a . . . . .	24
Elementary Education 351e (8 hours of student teaching of emotionally disturbed children) . . . . .	8
GIFTED	
Special Education 410c, 413c, 414, 420c, 481c . . . . .	24
Elementary Education 351e (8 hours of student teaching of gifted children) . . . . .	8
<i>Professional Courses</i> . . . . .	39
GSB 331 . . . . .	3
Counselor Education 305-4, 412-4, 422-4 . . . . .	12
Educational Administration 355 . . . . .	4
Elementary Education 314-4, 337-4, 351d-8 . . . . .	16
Instructional Materials 417 . . . . .	4
<i>Electives</i> . . . . .	37
<i>Total</i> . . . . .	192

These programs fulfill all the requirements for an elementary teaching certificate in Illinois plus a certificate to teach educable mentally handicapped children, emotionally disturbed children, or gifted children.

### *Secondary Concentration*

A secondary concentration in special education consists of at least 27 hours which must include Special Education 414; any one combination as follows—410a and 420a, 410b and 420b, or 410c and 420c; and other courses as approved by the undergraduate adviser in special education.

Speech

All students with either a primary or a secondary concentration in speech or theater must participate in one or more of the performance activities: debate, forensics, theater production, oral reading, television-radio.

The degree and extent of the participation are determined through consultation with the student's adviser. Upon declaration of a concentration in speech the student should consult with a faculty adviser to plan his program.

Students with primary concentrations in speech and theater in their senior year present to an examining committee of speech and theater faculty a special senior project consisting of an oral presentation that exemplifies effective speaking and reveals the student's grasp of speech subject matter on a topic that embraces a relatively broad area of speech. Early in the senior year the student with the consent of his adviser determines the area and extent of the topic selected. The committee certifies the project as acceptable only if it meets minimal standards of effective and meaningful communication.

*Bachelor of Arts or Bachelor of Science Degree, FINE ARTS DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSC-3.) . . . .	84
<i>Requirements for Concentration in Speech</i> . . . . .	48
GSC 157, GSD 103, FL . . . . .	(17)
Speech 202, 205, 224, 301 . . . . .	14
Speech Pathology and Audiology 200 or Speech 104 . . . . .	4
Electives in at least three of the following areas: television-radio, speech, speech pathology and audiology, and theater . . . . .	30
<i>Secondary Concentration</i> . . . . .	24
<i>Electives</i> . . . . .	36
<i>Total</i> . . . . .	192

Students seeking certification for teaching with the Bachelor of Arts degree must take the program outlined above, including Speech 406, Theater 100, 200, 300, and 400-6 to 8 hours each, and meet the other minimum standards for certification listed under Secondary Education in this chapter. The requirements for the Bachelor of Science degree are the same except that the foreign language is not required.

*Bachelor of Science Degree, EDUCATION DIVISION*

Students seeking the Bachelor of Science degree with a concentration in speech education must take the program outlined above, including Speech 406, Theater 100, 200, 300, and 400-6 to 8 hours each, and meet the other minimum standards for certification listed under Secondary Education in this chapter.

*Secondary Concentration*

A 30-hour secondary concentration in speech must be planned in consultation with the chairman of the Speech and Theater faculty. Students electing speech as a second teaching subject must include Speech 406 in their course work.

### Speech Pathology and Audiology

*Bachelor of Arts or Bachelor of Science Degree, FINE ARTS DIVISION*

<i>General Studies Requirements</i> (See Chapter 3. Waive GSC-3.) . . . .	84
<i>Requirements for Concentration in Speech Pathology and Audiology</i>	91
GSB 201c, 331 . . . . .	(7)
GSD 103, FL <sup>1</sup> . . . . .	(12)
Counselor Education 305, 422 . . . . .	8
Elementary Education 314, 337, 351d-8 . . . . .	16
English 391 (or proficiency) . . . . .	3
Psychology 301, 305 . . . . .	8
Special Education 414 . . . . .	4
Speech 104 . . . . .	4
Speech Pathology and Audiology 200, 203, 212, 318, 319, 405-8, 406, 412, 414, 415, 419 . . . . .	48
<i>Electives</i> . . . . .	17
<i>Total</i> . . . . .	192

### Student Teaching

Supervised student teaching is conducted in cooperating public schools near the Edwardsville Campus. A minimum of 8 hours is permitted for experienced teachers holding a provisional certificate in the summer quarter only. Twelve to 16 hours in full-day student teaching are required for graduation.

Application for student teaching should be completed at least two quarters prior to enrollment in the program. The necessary forms are available at the Office of Student Teaching.

The maximum academic load is 16 hours during the quarter of student teaching; the student is responsible for adjusting his class schedule and outside work load so that maximum attention can be given to his field experience.

### Prerequisites

The student teacher should meet the following requirements prior to enrollment in student teaching:

1. A pre-student teaching September experience of two weeks observation at the end of the sophomore or junior year is required of all teacher education students. Fall quarter student teachers may fulfill this requirement by beginning student teaching when the cooperating school begins its school year. Applications for a September experience, available in the Office of Student Teaching, must be submitted during the preceding spring quarter.

2. At least 144 hours with a 3.2 average.

3. Satisfactory completion of GSD 103 or an equivalent public speaking course.

4. Approval of an adviser in the major teaching field and the adviser in professional education is necessary prior to student teaching.

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<sup>1</sup> A foreign language is not required for the Bachelor of Science degree.



- 5. The state of Illinois requires that all students doing student teaching take a physical examination. Forms for this examination can be obtained from University Health Service and should be returned to the same office at least two months prior to student teaching.
- 6. The professional education requirements of this institution, including areas of concentration and education courses, must be met by students seeking certification but not a degree.
- 7. One quarter of residence at the Edwardsville Campus and completion of the minimum hours in each of the areas specified below.

SECONDARY

- a. At least 32 hours in first area of concentration or 48 hours in broad teaching fields.
- b. At least 16 hours including Counselor Education 305, Educational Administration 355, Secondary Education 315, and one elective in professional education courses prior to enrollment in student teaching.

ELEMENTARY

- a. At least 24 hours including Counselor Education 305, Educational Administration 355, Elementary Education 314, 337, 415, Instructional Materials 417.
- b. Students doing their student teaching in grades one through three are encouraged to enroll in the fall quarter.

KINDERGARTEN-PRIMARY

- a. All elementary requirements including 8 hours of elementary student teaching.
- b. Three terms of Music 010e or pass proficiency.
- c. Elementary Education 316.
- d. Additional 8 hours of student teaching at the kindergarten level.

SPECIAL

- a. Elementary requirements.
- b. Additional courses: Special Education 410, 413.
- c. Eight hours of student teaching in elementary education.

Theater

*Bachelor of Arts or Bachelor of Science Degree*, FINE ARTS DIVISION

<i>General Studies Requirements</i> (See Chapter 3. Waive GSC-3.)	84
<i>Requirements for Concentration in Theater</i>	89
GSC 354-9	9
GSD 103-3, FL <sup>1</sup>	(12)
Speech 104-4, 224-4	8
Theater 100, 200, 300, 400 (a program arranged with the Director of Theater, prior to advisement, with studios in acting/directing, design/technical theater, costuming/makeup, management/publicity, dance/stage movement)	72
<i>Electives</i>	19
<i>Total</i>	192

<sup>1</sup> A foreign language is not required for the Bachelor of Science degree.

*Secondary Concentration*

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

**ASSOCIATE DEGREES**

**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 specialize in Child Care Services should consult with the Division of Technical and Adult Education.

*Associate in Arts Degree, DIVISION OF TECHNICAL AND ADULT EDUCATION*

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

**Accounting**

The Associate in Business degree with a specialization in accounting offers a practical and an up-to-date background for a student who wishes to prepare for a position as bookkeeper, payroll clerk, junior accountant, or assistant to a senior accountant or to an auditor. It also offers a base upon which to build a more sophisticated business education in preparation for senior positions.

*Associate in Business Degree, DIVISION OF TECHNICAL AND ADULT EDUCATION*

<i>General Studies Requirements</i> .....	30
<i>General Business</i> .....	32
<i>Accounting</i> .....	20
<i>Option A or B</i> .....	16
Option A: Quantitative Analysis and Systems .....	16
Option B: General Accounting .....	16
<i>Total</i> .....	98

**Industrial Management**

The Associate in Business degree with a specialization in industrial management is designed for adults who have had some experience in work

situations. It prepares its participants for positions such as unit supervisor, assistant superintendent, section head, and branch manager of small organizations. It also builds a base upon which to form a more sophisticated business education in preparation for senior positions.

*Associate in Business Degree*, DIVISION OF TECHNICAL AND ADULT EDUCATION

<i>General Studies Requirements</i> .....	30
<i>General Business</i> .....	48
<i>Option A or B</i> .....	20
Option A: Production .....	20
Option B: Personnel .....	20
<i>Total</i> .....	<u>98</u>

**Secretarial Studies**

The Associate in Business degree with a specialization in secretarial studies is planned for students who wish to prepare for positions as professional secretaries in business, industrial, and governmental offices. It includes a combination of general education and skill-building courses which are necessary to provide a high degree of occupational competence.

*Associate in Business Degree*, DIVISION OF TECHNICAL AND ADULT EDUCATION

<i>General Studies Requirements</i> .....	25
<i>Business Education Core</i> .....	24
<i>Business Education</i> .....	48
<i>Total</i> .....	<u>97</u>





# 6 / Degrees

SOUTHERN ILLINOIS UNIVERSITY at Edwardsville grants the following undergraduate degrees:

Bachelor of Arts  
Bachelor of Science  
Bachelor of Music

Bachelor of Music Education  
Associate in Arts  
Associate in Business

## Graduation

Every candidate for a degree must file written application with the Registrar no later than the first week of his last quarter in attendance before the desired graduation date. Therefore, a person desiring to graduate in the June Commencement should make application for graduation during the first week of the spring quarter. The application forms are available in the Registrar's Office.

At the time of application the student must pay his graduation fee and order his cap and gown through the University Bookstore and register with University Placement Services. A student must have a 3.00 grade-point average before his application for a degree may be accepted.

In addition to the satisfying of all necessary academic requirements each candidate for a degree must make certain that he has no outstanding financial obligation with the University. Otherwise, his graduation clearance will be held up.

Students must attend Commencement exercises to receive their diplomas, unless in advance they obtain permission to be graduated *in absentia*.

## Bachelor's Degrees

Every bachelor's degree candidate is expected to meet the University's general requirements and to follow the recommendations of his academic unit.

Each candidate for the degree must complete a minimum of 192 hours of credit in approved courses. At least 64 must be in third-level (i.e., 300- or 400-level) college courses. Each student must have a *C* average, and grades not lower than *C* in subjects aggregating at least three-fourths of the work. A *C* average is required in the area of concentration. These averages are required for credit made at this University as well as for the total record. To receive a bachelor's degree from Southern Illinois University a student must present either a total of three years' work (144 hours) earned at Southern Illinois University or 48 senior college hours earned at the University, 16 of which may be earned in extension.

A student who receives his first bachelor's degree from Southern Illinois University and who desires a second bachelor's degree must complete a minimum of 45 hours in addition to those required for the first degree and must fulfill the requirements for the second degree. Of these 45 hours,

a minimum of 15 must be taken in residence at the University, and a maximum of 15 may be acquired in extension and/or correspondence courses. At least 30 hours must be in senior college courses. If a student received his first bachelor's degree from another university, a minimum of 48 hours are required to fulfill the residence requirement for the second bachelor's degree, two-thirds of which must be in senior college courses.

The State of Illinois requires 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 which are maintained in whole or in part by public funds, and that no student shall receive a certificate of graduation without passing a satisfactory examination upon such subjects. Government 231, 300, History 330, and GSB 203a and 300a offer such instruction.

Students preparing to teach must satisfy the certification requirements of the state in which they plan to teach. Certification information may be obtained from the Registrar's Office. Most students who plan to teach in the public schools register in the Education Division.

### **Associate Degrees**

Each candidate for an associate degree must complete a minimum of 96 hours of credit in approved courses. Each student must maintain a C average. The degree-granting unit for the associate degree is the Division of Technical and Adult Education.

The Associate in Business degree is designed to give the student the skills he needs to perform a specific job or type of job. It offers specializations in accounting, industrial management, and secretarial studies. Courses for each of these specializations are available both during the day or evening. Each specialization may be completed in two years by the full-time student or in four years by the part-time evening student. This program is intended for high school graduates who wish to prepare for a first time full-time job and for adults with some working experience who desire to qualify themselves for advancement in a chosen field or for transfer to a different specialization.

Enrollment is limited to those whose purpose is to acquire the skills necessary for an initial job in the chosen field. This program should not be confused with the first two years of any of the four-year programs offered by other academic units of the University.

The only program in the Associate in Arts degree offered at this time is child care services.

The associate degree programs are listed in detail at the end of Chapters 5 and 8, following the information on bachelor's degree programs.

### **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 need



to 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 division 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.

Students working toward the Bachelor of Science degree in agriculture may attend the Edwardsville Campus their freshman year and transfer to the Carbondale Campus for the completion of the degree. In preparing for one of the agriculture professions, the student should follow closely the appropriate course of study as suggested in the Carbondale Campus Undergraduate Catalog.

Students working toward a Bachelor of Science degree in home economics may attend the Edwardsville Campus their freshman and sophomore years and transfer to the Carbondale Campus for the completion of the degree. In preparing for this degree, the student should follow closely the appropriate course of study in the Carbondale Campus Undergraduate Catalog.

### **Advanced Degrees**

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



## 7 / Student and Area Services

SOUTHERN ILLINOIS UNIVERSITY at Edwardsville recognizes the importance of providing students every opportunity to benefit in the fullest manner from their college experiences. A primary goal is to assist students in their participating in the activities of the region served—including international areas. At the same time the University hopes to assist residents of the community, region, and state to understand better the purposes of the University and the contributions of young men and women.

### **Student Services**

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 the personnel in units which are concerned with students.

Those functions of Student and Area Services relating directly to students include the student services administered by the Dean of Students (e.g., student housing, counseling, testing, and student activities), the University Placement Services, the University Health Service, the Student Work and Financial Assistance Program, the International Services Division, the University News Services, the University Broadcasting Services, the University Alumni Services, and the Regional and Urban Development Studies and Services.

#### *Office of the Dean of Students*

The Dean of Students on the campus coordinates the student services offered by the units within the Student Affairs Division. The deans and their staffs work closely with other University offices, with students, and with faculty in planning and implementing an integrated program of activities and services. The Office of the Dean of Students provides information about the University and its services, and lends assistance to students who request it.

#### *Counseling and Testing*

The Counseling and Testing Center is staffed with professional counselors who are qualified to discuss freely any problem or plan—academic, personal, or vocational—that may concern the student. Counseling is designed to aid the student in arriving at a realistic solution to his problem by providing a permissive setting in which he may freely verbalize his thoughts and feelings and, in turn, gain insights for greater understanding. The counselor may use tests as an aid in helping the student evaluate his strengths and limitations. These may include measures of interest, aptitude, personality, and achievement.



Most of the students who seek help from the Counseling and Testing Center refer themselves. However, referrals are received from the faculty and from agencies throughout the University. Students may make appointments by telephone. Services are free.

The American College Testing Program is administered on the Edwardsville Campus. In addition to the extensive individual testing conducted in conjunction with counseling, the Counseling and Testing Center administers testing programs for selection, placement, and research purposes.

An on-going program of research is carried out by the staff of the Counseling and Testing Center in student attitudes, aptitude, achievement, and background; the college environment; and other areas related to the total educational process. Staff members serve as consultants to other faculty members in educational and institutional research.

### *Student Housing*

Because of the relationship between the student's living environment and his progress towards attainment of his educational goals, Southern Illinois University seeks continually to influence both the availability and quality of off-campus housing.

#### BASIC STUDENT HOUSING POLICY

Because of concern for and interest in the housing of students, the Board of Trustees of Southern Illinois University established, in 1963, basic policy on student housing. At its meeting in April, 1965, the Board of Trustees amended its 1963 policy and passed a resolution which established the current basic policy on student housing as follows.

Single undergraduate students not residing with their parents or guardians will be permitted to reside only in those accommodations which have been and which continue to be classified by the Administration as Accepted Living Centers. Any single undergraduate student who resides in accommodations not designated as an Accepted Living Center shall be subject to disciplinary action. The Administration vigorously encourages that all accommodations used by graduate students and married undergraduates meet the same minimal standards.

The qualifications necessary for a living unit to be classified as an Accepted Living Center encompass due consideration for safety, sanitation, health and recreation, supervision, and the creation of an environment conducive to good study conditions. In addition, the living unit must be limited to students of Southern Illinois University and available to all students of the University regardless of race, color, religion, or national origin.

The Administration reviews annually the Housing Policies and Standards and makes appropriate recommendations to the Board of Trustees for upgrading living conditions for students.

#### UNIVERSITY HOUSING

The Edwardsville Campus is designed for commuters, and approximately 85-90 percent of the students reside at home while attending the University. At the present time, construction of 248 housing units on campus is underway. Information concerning application and qualifications to live in university housing may be obtained from the Housing Office, Southern Illinois University, Edwardsville, Illinois 62025.

#### OFF-CAMPUS HOUSING

Owners of off-campus housing facilities use the University's contract form for student rental housing. Each student contract has to be signed by the owner or his legal representative, by the student renter, and by an appropriate staff member of the Office of the Dean of Students.

Staff members of the Office of the Coordinator of University Housing are available to advise students who seek off-campus accommodations. Experience has indicated that attempting to obtain off-campus facilities by mail is generally unsatisfactory. Therefore, prospective students are urged to visit the campus and personally seek desirable living accommodations.

Detailed information concerning housing may be found in "Student Housing Policies and Standards," which may be obtained at the Office of the Dean of Students.

#### *Student Activities*

The staff members of the Student Activities Office are available to all campus groups and individuals in planning, conducting, and evaluating activities and programs.

Besides honorary organizations which stimulate and recognize academic achievements, other groups and organizations exist to meet the educational, religious, social, recreational, political, and other special interests of the student.

Through the use of the Student Activities funds, certain all-campus groups are able to initiate and plan a wide variety of programs for the entire campus community.

Through the establishment and recognition of such organizations and programs at Southern Illinois University, Edwardsville, students are able to become involved with the academic community. Participation in any group or organization is open to all students.

#### *Student Guidebook*

Specific information and current policies concerning housing, motor vehicle regulation, student activities, student code, and general matters are found in the *Student Guidebook*, which is distributed to new students upon admission to the University. All students should be cognizant of University requirements and regulations and may obtain copies of the *Student Guidebook* from Central Publications or from the Office of the Dean of Students.

#### *Office of Student Work and Financial Assistance*

Southern Illinois University, Edwardsville, has an excellent program whereby a student may combine student work with financial assistance to defray a large part of his educational expenses. Student job diversity extends from unskilled entry jobs to those jobs requiring college training. Employment opportunities for students exist in every unit of the University.

The Student Work Program provides part-time employment and work experience which relates, if possible, to the student's academic programs. The kind of training and length of the program are determined by the employing unit in cooperation with the Office of Student Work and Financial Assistance.



Undergraduates employed on campus are paid from \$1.30 to \$2.00 per hour, based upon off-campus experience and the number of years of satisfactory service to the University. Graduate students receive \$1.50 to \$3.00 per hour.

Undergraduates must be enrolled in at least 12 hours to qualify for part-time student work on campus during any quarter except the summer quarter, when students may work and be enrolled in a reduced number of class hours.

In addition to student work, scholarships, grants, loans, and other aids are available to assist academically capable, financially needy students. As a part of the award program, the Board of Trustees has established tuition awards known as Southern Illinois University Scholarship and Activity Awards. To apply for awards, entering freshmen must have ranked in the upper half of their graduating class and have achieved a minimum comprehensive high school average of *C*; enrolled students must have a minimum average of *C* for all college work. For scholarships available to upperclassmen, a minimum average of *C* is required for all college work. For some scholarships, higher averages are required both for eligibility and maintenance.

The limitations of such forms of assistance make it inadvisable for an undergraduate to expect to meet all University expenses from such sources. The University may assist in making up the difference between college costs and the student's resources through scholarships, awards, and loans.

Students desiring to apply for financial assistance must be officially admitted to the University and should request an application for financial assistance from the Student Work and Financial Assistance Office. In general, students should apply for assistance between January 1 and March 15 prior to the September when assistance is needed.

### *Health Service*

Health Service provides medical services at all three major instructional centers of the University. Its purpose is to render service 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.

A physical examination, preferably performed by the family physician, is required of all students before attending classes on a full-time basis. A simplified form is furnished the student for this purpose; it should be mailed or brought to the Health Service on completion. From this record, decisions may be made relative to special considerations for physical disabilities, need for individualized physical education courses, and treatment of illnesses while the student is enrolled.

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.

### *Placement Services*

The University Placement Services are provided for the benefit of students, graduates, and others who have been attending the University, and who desire to find employment. It also serves employers by helping them locate personnel. Services are free to candidates seeking positions, as well as to employers.

Each student is requested to register with Placement Services dur-



ing the fall quarter of his senior year. Credentials are sent to prospective employers at the request of either the candidate or the employer.

As a means of helping students and graduates obtain permanent employment, a library of employer information is maintained. Company representatives visit the campuses throughout the year, and interviews are scheduled for students who have registered with Placement Services.

### *International Services Division*

The Office of International Services Division attends to the special needs of the student from abroad. Staff members with special qualifications have primary responsibility for assisting the student in matters of adjustment to the University and with matters of immigration, passport problems, contacts with sponsors (foundations, agencies, governments), and financial and personal problems. A special effort is made to integrate the students from abroad into the University and area life and, reciprocally, to help them become a living resource for American students to expand their horizons and interests.

### *Bursar*

The Bursar's Office accepts payment of tuition, fees, and room charges. It also distributes checks for student employment. Limited check cashing services are provided to students. Students are encouraged to establish checking accounts in local banks of the area to obtain the full services of a regular checking account.

### *Identification Cards and Certificates 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, Edwardsville.

A certificate of registration, issued each quarter, certifies payment of the student activity fee. 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.

### **Residence Regulations**

Regulations defining the residence of students for purposes of registration in Southern Illinois University, Edwardsville, are as follows:

1. Evidence showing the residence of every applicant for admission to the University must be submitted to the Registrar at the time of application for admission, and resident or nonresident fees shall be assessed on the basis of evidence appearing in the Registrar's records.

2. In all cases where the records indicate that the student's home is outside the state of Illinois, the nonresident fee shall be assessed. A stu-

dent who takes exception to the ruling may file a claim for a refund, but this must be submitted to the Registrar within 10 days of the opening date of the quarter for which the charge was made.

3. In the case of a student who is a minor, the residence of the parent, or if the student has no parent, the guardian of this person, shall govern unless there is proven to have been complete emancipation of the minor from his parents or guardian and he has established residence in the state of Illinois.

4. Any student, adult or minor, whose parents have established a bona fide residence in the state of Illinois will be regarded as a resident for registration purposes; except that an adult student who has established a residence on his own account outside of the state must conform to the terms set forth in regulation 6 to be classified as a resident.

5. A wife is classified as a resident for registration purposes if her husband is a bona fide resident of the state of Illinois preceding and at the time of her registration.

6. An adult student, whose parents are deceased or whose parents reside outside the state, to be considered a resident of Illinois for purposes of registration must be a bona fide resident of the state for three months preceding the beginning of any quarter for which he registers at the University and must present evidence that he is self-sustaining and not under parental control.

7. An adult alien who holds valid immigration papers and is in the United States under an immigrant-type visa may qualify as a resident of the state for purposes of registration in the University if he has lived within the state for at least a period of twelve months next preceding the beginning of any quarter for which he registers at the University, subject to the provisions of rules 4 and 6.

8. Several factors will be considered in the determination of each individual case. Among the factors to be considered will be (a) location of draft board registration, (b) voting address, if any, (c) the degree of self-support of the student, (d) location of summer or vacation employment.

9. All cases of appeal shall first be referred to the Legal Counsel of the University. An appeal from the Legal Counsel shall be in accordance with University statutes.

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Note: In the above regulations an adult student is considered to be a male at least 21 years of age or a female at least 18 years of age.

# 8 / Course Descriptions

HERE ARE LISTED all of the courses offered by the Edwardsville Campus for credit toward a bachelor's, master's, doctor'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.

## Subject-Matter Areas

General Studies Area A	Geography
General Studies Area B	Government
General Studies Area C	Health Education
General Studies Area D	History
General Studies Area E	Honors Hours
Accounting	Humanities
Aerospace Studies	Instructional Materials
American Studies	Journalism
Anthropology	Management Operating Systems
Art	Marketing
Biology	Mathematics
Business Communications	Music
Business Education	Nursing
Chemistry	Personnel and Industrial Relations
Comparative Literature	Philosophy
Counselor Education	Physical Education
Economics	Physics
Educational Administration	Production
Elementary Education	Psychology
Engineering	Quantitative Methods
English	Rehabilitation
Experiment in Higher Education	Science and Technology
Finance	Secondary Education
Foreign Languages	Social Welfare
General Foreign Language	Sociology
French	Special Education
German	Speech
Italian	Speech Pathology and Audiology
Russian	Television-Radio
Spanish	Theater
Romance Philology	Child Care Services <sup>1</sup>
General Business Administration	

## 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

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<sup>1</sup> Courses count only toward the Associate in Arts degree.



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 GSC 370-9 (3,3,3). 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.

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 Central Publications, Southern Illinois University, Edwardsville, Illinois 62025. When requesting a schedule, please specify *campus* (Carbondale or Edwardsville) and *quarter* (fall, winter, spring, or summer).

### **Man's Physical Environment and Biological Inheritance (GSA)**

**101-8 (5,3) Introduction to Physical Science.** (a) A study of the fundamentals of physics covering aspects of mechanics, electricity and magnetism, optics and atomic physics. (c) A study of chemical principles and the atomic structure of matter. Must be taken in a,c sequence. Prerequisite: satisfactory score on placement test or Mathematics 101.

**110-8 (4,4) The Earth and Its Environment.** A study of the earth, its major domains and its space environment; student investigation of earth substances, processes and utilization of energy. An investigative approach for study of the observational and measurement techniques of the earth scientist. Lecture, laboratory, and individual study. Must be taken in a,b sequence. Prerequisite: one year of high school chemistry.

**201-8 (4,4) Man's Biological Inheritance.** Basic biological concepts are explored at levels of integration ranging from the molecular to the ecosystem. Topics include structure and function of cells and organisms, genetics, continuity of life, problems of populations, environmental control, evolutionary development, interrelationships between plants and animals. Must be taken in a,b sequence. Prerequisite: high school or college chemistry.

**312-3 Conservation of Natural Resources.** A study of man's use and misuse of natural environment.

**314-3 Man's Genetic Heritage.** Principles of heredity as related to man, with emphasis on the effects of environment on his biological inheritance.

**322-3 Introduction to Rocks and Minerals.** Specifically designed to acquaint the nonprofessional with the origin, distribution, character, and value of the common materials and rocks in the earth's crust. Prerequisite: 110.

**328-3 Human Reproduction and Development.** Descriptive aspects of human reproduction and development; developmental anomalies; fertility; principles and practices of population control. Three lectures per week. Prerequisite: GSA 201a,b.

**330-3 Weather.** A study of weather elements basic to understanding the various atmospheric happenings, with application to agriculture, industry, recreational resources, etc. May take only 330 or 331 for General Studies credit.

**331-3 Climate.** Description and interpretation of climatic regions and their influence on human activity. May take only 330 or 331 for General Studies credit.

**350-3 Atomic Energy.** A study of the energy needs, resources, and the promise of atomic power. Fission and fusion reactions are considered and used to describe the operation of nuclear reactors and the problems of controlled fusion. The impact of atomic energy in research and technology.

**352-3 Radiation and Life.** A brief survey of the types, sources, and uses of radiation; of the effects of radiation on biological systems including man; and of the impact of the use of radioisotopes on society. Prerequisite: 201b.

**356-3 Astronomy.** The solar system, nebulae, clusters, galaxies, theories of stellar evolution, and cosmology. Evening observations in addition to lecture.

**361-3 Physics of Music and Acoustics.** Nature, propagation, sources, and receptors of sound; acoustic phenomena; physics of musical instruments; mathematics of music; ears and hearing; physiology and psychology; transmission, storage, and reproduction.

**363-6 (3,3) Philosophy of Science.** (a) The logic of scientific explanation illustrated by analysis of physical concepts and theories. (b) The logic of explanation in the biological and behavioral sciences and their implications for the individual and society. Should be taken in a,b sequence.

**365-3 Human Origins.** A consideration of the fossil record and basic principles of human evolution. Prerequisite: 201a,b.

### Man's Social Inheritance and Social Responsibilities (GSB)

**101-8 (4,4) Survey of Western Tradition.** (b) Political, economic and cultural history of Europe from the Early Middle Ages to the end of the Napoleonic Age. (c) History of Europe from Congress of Vienna to the present.

**103-8 (4,4) Sociology-Economics.** An introduction to the great economists and sociologists and especially to those writers who are regarded as both. (a) A historical development of sociological ideas and introduction to such concepts as social structure, role behavior, and social institutions. (b) A historical development of economic ideas and an introduction to economic concepts, institutions, and problems. Should be taken in a,b sequence.

**201-8 (4,4) The Individual and His Cultural Environment.** A study of human behavior in the light of cultural and psychological processes. (a) Anthropology: An examination of the biological and cultural origins of mankind; cultural diversity and human behavior; characteristic features of tribal societies, including economy, social organization, language, art, religion, and political organization; place of non-industrialized societies in the modern world. (c) Psychology: Surveys modern psychological approaches to individual behavior; includes basic developmental processes such as learning and motivation plus a study of personality and related adjustment problems. Prerequisite: 101 or 103.

**203-8 (4,4) American Politics in the World Environment.** (a) The theory, organization, and operation of American government. (b) Analysis and interpretation of human geographic patterns; world population, settlement, economic activities. Meets State Constitution requirements.

**300-9 (3,3,3) History of the United States.** A general survey of the political, social, and economic development of the United States. (a) 1492 to 1815, (b) 1815 to 1900, (c) 1900 to the present.

**311-3 Economic Development of the United States.** Emphasizes the underlying trends and forces of change that have led to our present economic structure, level of performance, and world position. Prerequisite: 101c or 103b.

**312-3 Comparative Economic Systems.** A comparative study of the goals, structure, and operation of the major economic systems, such as capitalism, socialism, and fascism. Emphasis upon basic systems of organization and control, and upon mixed economies.

**318-6 (3,3) American State and Local Government.** (a) State. An examination of the role of the states in the federal system and a survey of the governmental processes within the fifty states. (b) Local. A survey of the structure, functions, and problems of the counties, municipalities, towns, townships, and special districts in the United States. Prerequisite: 203a.

**331-3 The American Educational Systems.** A critical and problematic study of education as a major social enterprise of a free society in its context of international involvements. The formative influences upon the American educational systems, its basic characteristics, difficulties and prospects are explored through the disciplines comprising the intellectual-cultural foundations of education. Designed for all students irrespective of major discipline or professional pursuit.

**341-3 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.



- 351-6 (3,3) Geographic and Cultural Background of Developing Africa.** (a) The relation of geography to the culture of Africa, with emphasis on the place cultural and geographic factors have in the developing nations of Africa. (b) An introduction to the many diverse cultures of Africa from the Egyptian civilization to the Bushman hunters. May be taken separately.
- 354-3 Industrial Economic Geography.** Geographic resource relationship to the economic life of our nation, distribution of resources, industrial production, and the transportation of industrial products.
- 366-3 Growth of Culture.** An examination of the process of culture change and culture growth from the time of the first primates called "man" to the beginnings of civilization.
- 369-3 The Contemporary Far East.** A study of relations between wartime and peacetime economics with specific references to government controls, impact of military expenditures in "hot" and "cold" wars, and the reallocation of resources.
- 380-6 (3,3) East Europe: Cultural Heritage and Present Institutions.** (a) Cultural Heritage, (b) Present Institutions. An introduction to the European area east of the iron curtain with attention evenly divided among Russia, the Balkans, and Northern East Europe.
- 382-6 (3,3) History of Great Britain Since 1782.** The evolution of industrial democracy in Great Britain from the beginning of the Industrial Revolution.
- 388-3 Communism.** A critical examination of various modern theories of communism, with special emphasis on Karl Marx. Prerequisite: Completion of GSB second-level requirements.
- 392-3 Introduction to Latin American Government Politics.** A general introduction to Latin American government on the institutionalized political expression of Latin American civilization and culture. Does not require a reading knowledge of Spanish or Portuguese.

### Man's Insights and Appreciations (GSC)

- 151-3 Introduction to Poetry.** Introduction to the enjoyment of poetry. Practice in techniques of critical reading and writing. Prerequisite: GSD 101a,b.
- 155-5 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.
- 156-5 Introduction to Music History-Literature.** An introduction to the elements of music, and to the important composers, periods, styles, and forms of music.
- 157-5 The Dramatic Media: Theater, Cinema, and Television.** A study of dramatic media, theater, television, and film with emphasis on the roles and techniques of artists and craftsmen involved. Required theater attendance and television and film viewing. Appropriate research activity.
- 158-5 The Fine Arts.** An introduction to the principal branches of fine arts: visual art, music, and literature. The relationships that bind them together. Due attention is given to the distinguishing attributes of each.
- 252-4 Logic.** Study and practice in the analysis of verbal traps, relations between statements, deductive arguments, and inductive inferences.
- 253-4 Literary Masterpieces of Antiquity.** Reading and discussion of selected literary texts from Classical and Hebraic Antiquity.
- 254-4 Philosophical Masterpieces.** Reading and discussion of selected philosophic masterpieces of western civilization.
- 313-3 Folklore.** The types of folklore, with extensive readings in American and European folklore: practice in collecting and classifying, and in the use of Thompson's index, etc.
- 333-3 The Bible as Literature.** The Bible in English translation considered as literature.
- 335-3 Studies in Short Fiction.** The development of the short story as an artistic expression, its techniques, and its versatility, from the early 19th century to the present.
- 337-3 The English Language Heritage.** A survey of the resources of the English language with emphasis upon the processes of change in vocabulary, meaning, and linguistic pattern.
- 339-3 Classical Mythology and Its Influence.** The major myths: their nature, origin, interpretations, influence, relevance, and use in the modern world.



**340-3 Modern Art A: The Art of the 19th Century.** The principal movements of the 19th century: neo-classicism, romanticism, realism, impressionism, and post-impressionism. The styles of David, Ingres, Delacroix, Corot, Courbet, Manet, Degas, Monet, Renoir, Seurat, Van Gogh, and Gauguin are emphasized.

**341-3 Modern Art B: Art of the Early 20th Century 1890-1925.** A study of modern art as manifest in Fauvism, cubism, and expressionism. Emphasis on the artistic development of Cezanne, Matisse, Rouault, Picasso, Braque, Gris, Leger, Kirchner, and Kandinsky.

**342-3 Modern Art C: Art of the Mid 20th Century 1920-1945.** Abstraction, later German expressionism, the school of Paris, and surrealism. Special attention to the work of de Chirico, Klee, Miro, Beckman, Chagall, Kokoshka, Soutine, and late Matisse, Picasso, Braque, and Leger.

**345-6 (3,3) Masterpieces of World Literature.** A study of the representative works of the varying cultures and eras: (b) medieval, renaissance and 18th century, (c) romantic, Victorian, and modern periods.

**354-9 (3,3,3) History of the Theater.** Drama, performance, architecture, design, and cultural environment of: (a) Primitive, Greek, Roman, Hindu, and medieval; (b) the Renaissance, the 17th and 18th centuries in Europe, Japan, and China; (c) the modern theater in Europe, the United States, Africa, and Latin America. May elect any one or more quarters in any sequence.

**357-3 History of Music Literature.** Development of choral and instrumental music from the Renaissance to the present.

**360-6 (3,3) Arts and Ideals in Famous Cities.** A presentation of the chief art styles and aesthetic ideals of Western culture as they flowered in seven famous cities. A close study of selected masterworks of architecture, fine art, music, literature, and philosophy of art as expressions of men who shaped the physical faces and cultural lives of their cities. (a) 5th century B.C. Athens, 13th century Chartres, late 15th century Florence, and early 16th century Rome. (b) 18th century London, 19th century Paris, 20th century New York.

**363-6 (3,3) Philosophies of Science.** (a) The logic of scientific explanation illustrated by analysis of physical concepts and theories. (b) The logic of explanation in the biological and behavioral sciences and their implications for the individual and society. Should be taken in a,b sequence.

**370-9 (3,3,3) American Art.** 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. May be taken in any sequence.

**375-6 (3,3) Ethics.** (a) An investigation of the basic problems related to deciding how men ought to act. (b) An investigation of modern discussions of individual and social morality. Must be taken in a,b sequence.

**390-3 Existentialism.** A critical examination of existentialism as a contemporary perspective on life and reality. Prerequisite: 254 or Philosophy 200.

**391-3 Pragmatism.** A critical examination of pragmatism as a contemporary perspective on life, reality, and American culture. Prerequisite: 254 or Philosophy 200.

### Organization and Communication of Ideas (GSD)

**100-1 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.

**101-6 (3,3) English Composition.** Basic rhetorical principles in expository writing. Must be taken in a,b sequence.

**103-3 Oral Communication of Ideas.** The basic principles and techniques of oral communication as applied to everyday speech activities.

**112-9 (4,5) Introduction to Mathematics.** A study of logical rules of deduction: the real number system, and mathematical structures. Prerequisite: one year of high school algebra and satisfactory score on A.C.T. An alternative course for 114-9. Must be taken in a,b sequence.

**114-9 (5,4) College Algebra, and Trigonometry.** A logical study of the algebraic properties of number systems, polynomials, equations, functions, matrices, exponential and logarithmic functions, trigonometric function. (a) principally algebra. (c) principally trigonometry. An alternative course for 112-9. Must be taken in a,c sequence. Prerequisite: one and one-half years high school algebra and one year high school geometry, or equivalent.

**114d-4 Statistics.** Descriptive statistics, probability distributions, sampling, statistical inference, regression and correlation. An alternative course for 114c. Prerequisite: 114a.

**123-9 (3,3,3) Elementary French.** Open to students who have had no previous work in French. Must be taken in a,b,c sequence.

**126-9 (3,3,3) Elementary German.** Open to students who have had no previous work in German. Must be taken in a,b,c sequence.

**136-9 (3,3,3) Elementary Russian.** No previous knowledge of Russian required. Must be taken in a,b,c sequence.

**140-9 (3,3,3) Elementary Spanish.** Open to students who have had no previous work in Spanish. Must be taken in a,b,c sequence.

**144-9 (3,3,3) Elementary Italian.** Open to students who have had no previous work in Italian. Must be taken in a,b,c sequence.

### Health and Physical Development (GSE)

Courses numbered 101-104 are for men; 111-114 are for women; 115-118 are for both men and women.

**101d-1 Life Saving (Men).**

**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.

**111d-1 Life Saving (Women).**

**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.

**117-(1 per activity) Dance.** (a) Square, (b) Folk, (c) Social, (d) Beginning Contemporary, (e) Intermediate Contemporary, (f) Basic Rhythms.

**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.

**201-3 Healthful Living.** Personal and community health. Presents scientific health information as a basis for developing wholesome health attitudes and practices.

### 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 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.**

**330-4 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: 231.



**331-4 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: 231.

**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: 231.

**351a-4 Accounting Theory and Problems I.** Comprehensive study of the asset accounts, their valuation, presentation, and preservation. Prerequisite: 231.

**351b-4 Accounting Theory and Problems II.** Comprehensive study of the equity accounts, their valuation, presentation, etc. Prerequisite: 351a.

**442-4 Advanced Cost Accounting.** Comprehensive study of budgeting concepts, 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.**

**530-4 Conceptual Framework of Accounting.**

**533-4 Managerial Accounting.**

**538-4 Seminar in Accounting.**

### Aerospace Studies

**300-0 Corps Training.**

**301-3, 302-3, 303-3 Professional Officer Course.** A study of the nature of war, the growth and development of aerospace power, the United States Air Force, astronautics and space operations, and the future development of aerospace power. Involves specific exercise of written and spoken communication skills. Requires three hours lecture-seminar; in some cases a one-hour leadership laboratory is also required. Prerequisite: satisfactory completion of the GMC or six-week field training course.

**340-0 Corps Training.**

**350-2 Flight Regulation and Navigation.** A study of flight regulations, weather, and navigation. 4 hours lecture, demonstration-performance. Prerequisite: enrollment in AFROTC Flight Instruction Program or consent of PAS.

**351-3, 352-3, 353-3 Professional Officer Course.** A study of professionalism, leadership, and management. Includes professional responsibilities, the military justice system, leadership theory, functions and practices, management principles and functions, problem solving, and management tools, practices, and controls. Three hours lecture-seminar; in some cases one hour leadership laboratory. Prerequisites: 301, 302, and 303, or consent of PAS.

### American Studies

**398-4 Seminar in American Studies.** A study of American culture with a view towards crossing the boundaries of traditional disciplines. Prerequisite: senior standing.

### Anthropology

**GSB 201a-4 The Individual and His Cultural Environment.**

**304-4 The Origins of Civilization.** The conditions that produced the early high culture of both Old and New Worlds. A study of the complex environmental and cultural factors that led to the rise and fall of early civilizations.

**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.



**GSB 351b-3 Cultural Background of Developing Africa.**

**GSA 365-3 Human Origins.**

**GSB 366-3 The Growth of Culture.**

**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.

**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 Social Anthropology.** A comparative approach to the organizational features of human groups. Functional aspects and distributions of kinship, political, religious, and economic systems.

**408-4 History of Anthropological Thought.** The growth of anthropology to about 1860, followed by a more intensive survey of the concepts and ideas of anthropology during the past hundred years.

**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.

**416-4 Culture Change.** Examination of long and short range culture change, acculturation process and innovation, theory and method in study of culture change.

**430-4 Archaeology of North America.** An introduction to the methods of archaeology and a survey of prehistoric Indian cultures north of Mexico, with particular emphasis upon the cultures of the Mississippi Valley.

**483-3 to 18 Individual Study in Anthropology.** Guided research upon anthropological problems. Should consult chairman before enrolling.

**507-9 (3,3,3) Pro-seminar in Social Anthropology.**

**508-8 (4,4) Pro-seminar in Cultural Anthropology.**

## Art

Art Education Courses: 300, 365, 408, 466, 560, 566.

Art History Courses: 225, 345, 346, 347, 349, 369, 483, 571.

Studio Courses: 100, 202, 305, 310, 312, 325, 358, 393, 401, 405, 406, 410, 416, 420, 426, 441, 501, 502, 511, 520.

**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 (5,5,5) Basic Studio.** A studio course in visual fundamentals emphasizing the ways in which art may be structured. Studio experience in two- and three-dimensional materials. Must be taken in a,b,c sequence.

**202-15 (5,5,5) Intermediate Studio.** An extension of Basic Studio experiences through intensified study of such specific studio disciplines as drawing, painting, sculpture, ceramics, and printmaking. Prerequisite: 100-15.

**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.

**300-12 (4,4,4) Art Education.** Theory and practice of art activities in the elementary schools. Designed for elementary education students.

**305-12 (4,4,4) Advanced Ceramics.** Intensive study of ceramics as an art form. Prerequisite: 202-15.

**310-12 (4,4,4) Painting.** Intensive study of painting as a medium of expression. Individual rather than group problems are engaged. Prerequisite: 202-15.

**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.

**312b-4 Advertising and Graphic Design II.** Introduction to the problems of the advertising designer, with special emphasis on typography. Includes type-setting, 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.

**325-12 (4,4,4) Studio.** No more than 4 hours per quarter. Prerequisites: 8 hours in medium of choice (except where such courses do not exist) and consent of instructor.

**345-3 Art of the Nineteenth Century.** The meaning and varieties of art from the time of the French Revolution until late Impressionist art of the 19th century. Relations to the social environment are interpreted.

**347-9 (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.

**349-9 (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. Recommended preparation, but not prerequisite: 225.

**358-12 (4,4,4) Prints.** Introduction to printmaking as a medium. Studio projects in intaglio, relief, and planographic processes. Prerequisite: 202-15.

**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.

**369-3 Primitive Art.** A study of the arts of "primitive" peoples of Africa, the Pacific, and the Americas. Characteristic works are interpreted in context with the general conditions of primitive society. The significant influences of primitive art on modern painting and sculpture.

**393-12 (4,4,4) Sculpture.** Problems in modeling, carving, casting, and construction. Prerequisite: 202-15.

**401-2 to 12 Research in Painting.** Prerequisite: 310-12.

**405-2 to 12 Studio in Sculpture.** Prerequisite: 393-12.

**406-2 to 12 Studio in Painting.** Prerequisite: 310-12.

**408-4 Art Education for Elementary Teachers II.**

**410-2 to 12 Research in Prints.** Prerequisite: 358-12.

**416-2 to 12 Studio in Prints.** Prerequisite: 358-12.

**420-2 to 12 Research in Pottery.** Prerequisite: 305-12.

**426-2 to 12 Studio in Pottery.** Prerequisite: 305-12.

**441-2 to 6 Studio in Drawing.**

**460-2 to 12 Research in Art Education.**

**466-2 to 12 Studio in Art Education.**

**483-3 to 12 Research in Art History.**

**501-2 to 12 Seminar in Painting.**

**502-2 to 12 Seminar in Sculpture.**

**511-2 to 12 Seminar in Prints.**

**520-2 to 12 Seminar in Pottery.**

**560-2 to 12 Seminar in Art Education.**

**566-2 to 12 Research in Art Education.**

**571-2 to 5 Readings in Art History.**

**599-5 to 9 Thesis.**

## Biology

**301-12 (4,4,4) Concepts at the Cellular Level.** (a,b) Cell Structure and Function. Structure, organization, and function of cells, organelles, and macromolecules. Three lecture and three laboratory hours per week. (c) Developmental Biology. Morphogenesis, differentiation, growth, and regeneration in plants and



animals. Three lecture and three laboratory hours per week. Must be taken in a,b,c sequence. Prerequisites: GSA 201a,b and Chemistry 305b or 341c.

**302 (5,5,5,5) Concepts at the Organism Level.** The form, function, classification, and phylogeny of organisms. (a) Animal life. Sponges through mammals. Two lecture and six laboratory hours per week. (b) The lower organisms. Viruses, bacteria, algae, molds, and protozoa. Three lecture and four laboratory hours per week. (c) Plant life. Bryophytes through flowering plants. Three lecture and four laboratory hours per week. Prerequisite for a,b,c: GSA 201a,b. (d) Physiology. Function and regulation in plants and animals. Four lecture and three laboratory hours per week. Prerequisites for d: 302a,c and Chemistry 111a,b.

**303-11 (4,3,4) Concepts at the Population Level.** (a) Genetics. Mechanism of inheritance, gene action, and the origin of genetic diversity. Three lecture and two laboratory hours per week. (b) Evolution. Evolutionary change including population genetics, ecological factors, selection, and speciation. Three lecture hours per week. (c) Ecology. Life and the environment; energy relationships and succession. Three lecture and four laboratory hours per week. Saturday field trips required. Must be taken in a,b,c sequence. Prerequisite: GSA 201a,b.

**310a-4 Human Anatomy and Physiology.** A survey of the structure and function of the principle systems of the human body. Four lecture hours per week. No credit toward a secondary concentration in biology. Prerequisite: GSA 201a.

**310b-2 Human Anatomy and Physiology.** To be taken concurrently with 310a. Four laboratory hours per week. No credit toward a secondary concentration in biology. Prerequisite: concurrent enrollment in 310a.

**311-5 Applied Bacteriology.** A treatment of cytology, theories and techniques of staining, physiology and classification of microorganisms and their medical relationships. Three lecture and four laboratory hours per week. No credit toward a secondary concentration in biology. Prerequisite: GSA 201a,b.

**GSA 314-3 Man's Genetic Heritage.**

**390-0 to 1 (0,0,1) Undergraduate Biology Seminar.** Presentations by faculty, visiting investigators, and students. Students give one seminar per year. May be repeated. Prerequisite: junior or senior standing.

**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, GSD 114d.

**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. Prerequisites: 301c and organic chemistry or concurrent registration. Limited to ten students.

**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 are stressed. Three lectures and one laboratory per week. Saturday field trips required. Prerequisite: 303c.

**423-4 Principles of Parasitism.** Principles dealing with parasitic relationships. Includes 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 and two laboratories per week. Prerequisite: 302a,b,c.

**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.

**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.

**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, and organic chemistry or concurrent registration.



**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. Prerequisites: 302c, Chemistry 111a,b,c.

**455-4 Plant Anatomy.** Developmental and comparative studies of seed plants including structure of vegetative and reproductive parts and embryology. Three lectures and one laboratory per week. Prerequisite: 302c.

**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.

**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.

**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.

**488-4 Mammalogy.** Taxonomy, natural history, and evolution of mammals. Two lectures and two laboratories per week. Prerequisite: 302a.

**493-2 to 8 Research in Biology.** Research on biological problems. No credit toward a secondary concentration in biology. Prerequisites: senior standing and consent of faculty.

**497-2 to 8 Biology Field Studies.** A trip of four to eight weeks to acquaint students with animals or plants in various environments and/or with methods of field study, collection, and preservation. Arrangements made in advance of term; travel costs borne by the student. No credit toward a secondary concentration in biology. Prerequisite: consent of faculty.

**501-2 Research Orientation.**

**504-9 (3,3,3) Instructional Innovation in Secondary School Biology.**

**506-4 Cellular Regulation.**

**511-4 Population Genetics.**

**512-4 Cytogenetics.**

**521-4 Limnology.**

**524-3 Biogeography.**

**545-3 Physiology of Sense Organs.**

**547-3 Mineral Nutrition of Plants.**

**553-4 Morphology of the Spermatophytes.**

**580-4 Advanced Invertebrates.**

**581-4 Helminthology.**

**590-3 (1,1,1) Graduate Biology Seminar.**

**591-1 to 4 Readings in Biology.**

**593-1 to 4 Special Problems in Biology.**

**599-2 to 9 Research and Thesis.**

### Business Communications

**390-4 Business Communications.** Designed to improve understanding of the vital role of effective communication in business and to develop skill in business writing with emphasis on the preparation of reports. Provides an opportunity to learn effective use of a business library; to collect and interpret data; to present information in a logically organized and acceptable form. Prerequisites: GSD 101b, concurrent registration in General Business Administration 340.

### 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.

**241-2 Duplicating.**

**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.

**403-3 Teaching Typewriting.** Instructional procedures, skill-building principles and techniques, selection and preparation of instructional materials, standards of achievement, and evaluation of pupil performance. Prerequisite: 304.

**404-3 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. Prerequisite: 324a.

**405-4 Teaching General Basic Business Subjects.** Instructional procedures, analysis and selection of materials, preparation of teaching units, evaluation of pupil performance.

**406-4 Teaching Office Practice.** Instructional procedures, skill-building, evaluation of teaching materials, and pupil performance for office practice and office machines. Prerequisite: 341 or equivalent.

**408-3 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.

**414-6 (3,3) Organization and Administration of Cooperative Vocational Business 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.

**417-4 Application of Data Processing in Business Education.** Acquaints business teachers with data processing applications in high school business classes. Emphasis on vocabulary development, unit record equipment, concepts of programming, and fundamentals of computer applications applicable to high school students. Approximately one-third of course is spent in machine operation. Prerequisite: Management Operating Systems 280.

**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 Records Administration.** The development of records management from its inception, and the recognition of the need for paper work management. Stress on the use of information management techniques in support of organization management, control, and evaluation. Each phase of the life of records from creation to disposal or permanent retention. Potentials of data processing, microphotography, new developments in information handling equipment.

**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.

**500-4 Principles and Problems of Business Education.**

**502-4 Introduction to Research in Business Education.**

**503-4 Tests and Measurements in Business Education.**

**505-2 to 16 Workshop in Business Education.**

**507-4 Teaching Data Processing.**

**508-4 Administration and Supervision in Business Education.**

**509-4 Improvement of Instruction in General (Basic) Business Subjects.**

**510-4 Improvements of Instruction in Secretarial Subjects.**

**530-4 Research Seminar in Business Education.**

**590-2 to 5 Readings in Business Education.**

**591-2 to 5 Individual Research in Business Education.**

**599-1 to 9 Thesis.**

## Chemistry

**110-4 General and Inorganic Chemistry.** A brief introduction to the structure of the atom and chemical bonding; acids, bases, salts, and pH; and a study of the properties and reactions of some of the more common elements. Three lecture and three laboratory hours per week. Not applicable to a concentration or to a secondary concentration in chemistry.

**111-15 (5,5,5) Chemical Principles and Inorganic Chemistry.** (a) Nature of matter, gas laws, periodic classification, laws of combination, chemical calculations. Students with an excellent record in high school chemistry may be able to start with (b). Three lecture, one quiz, and three laboratory hours per week. Prerequisites: high school algebra and geometry or equivalent; (b) solutions, kinetics, equilibrium, electrochemistry, and chemistry of the elements. Three lecture, one quiz, and three laboratory hours per week. Prerequisite: 111a or strong background in high school chemistry; (c) continuation of chemistry of the elements, ionic equilibria, and qualitative analysis. Three lecture and six laboratory hours per week. Prerequisite: 111b.

**235-5 General Quantitative Analysis.** Introduction to theories and methods of volumetric and gravimetric techniques. Three lecture and six laboratory hours per week. Prerequisite: 111c.

**240-4 Organic Chemistry.** A survey course not open to those concentrating in chemistry. An introduction to aliphatic and aromatic compounds with emphasis on those of biological importance. Three lecture and three laboratory hours per week. Prerequisite: 110 or 111b.



**250-4 Biochemistry and Nutrition.** An introduction to biochemistry, metabolism, and nutrition. Four lecture hours per week. Not applicable to a concentration or to a secondary concentration in chemistry. Prerequisite: 240.

**305-6 (3,3) Organic Chemistry, Preprofessional.** For secondary concentration in chemistry and preprofessional students. Three lecture hours per week. Prerequisite: 111c.

**311-3 Inorganic Chemistry.** Introduction to theories of bonding and structure, symmetry, complexions, and less familiar elements. Three lectures per week. Prerequisite: 111c.

**336-4 Analytical Chemistry.** Continuation of volumetric and gravimetric theories and methods with an introduction to instrumental methods. Two lecture and six laboratory hours per week. Prerequisite: 235.

**341-9 (3,3,3) Organic Chemistry.** Three lecture hours per week. Must be taken in a,b,c sequence. Prerequisite: 111c.

**345-6 (2,2,2) Organic Chemistry Laboratory.** Must be taken in a,b,c sequence. Prerequisite: 305a or concurrent enrollment in 341a.

**375-0 to 3 Chemistry Seminar.** One lecture per week. Prerequisite: senior standing.

**411-4 Intermediate Inorganic Chemistry.** Modern inorganic chemistry including atomic structure, chemical bonds, complexes, and chelate structures; with emphasis on physical chemical principles. Four lecture hours per week. Prerequisite: 460 or 461b. May be taken concurrently.

**412-3 Inorganic Preparation.** A study of several important types of inorganic syntheses. One lecture and six laboratory hours per week. Prerequisites: 235 and 305b or 341c.

**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: 461b. May be taken concurrently.

**433-3 Intermediate Quantitative Analysis.** A study of the analysis of complex materials, with emphasis on separations, functional group analysis, and instrumental applications. Two lecture and three laboratory hours per week. Prerequisites: 432a or b, 461c.

**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.

**446-4 Qualitative Organic Analysis.** A systematic study of the separation and identification of organic compounds by a procedure based on solubility and classification reagents. Two lecture and six laboratory hours per week. Prerequisite: 305b or 341c.

**447-3 Quantitative Organic Chemistry.** The determination of functional groups and elements commonly found in organic compounds by selected methods of analysis; illustration of general methods of procedure in the field of quantitative organic chemistry. One lecture, six laboratory hours per week.

**451-6 (3,3) Biochemistry.** (a) Carbohydrates, lipids, amino acids and proteins, nucleic acids and nucleo-proteins, enzymes. (b) Vitamins and coenzymes, metabolism of carbohydrates, lipids, amino acids and proteins, energy metabolism, hormones. Must be taken in a,b sequence. Prerequisite: 235, 305b or 341c.

**455-2 (1,1) Experimental Methods in Biochemistry.** (a) Some modern separation techniques. (b) Biochemical preparations, syntheses, and methods of identification. Prerequisite: concurrent enrollment in 451a.

**460-5 Theoretical Chemistry.** Traditional aspects of physical chemistry without the requirement of calculus. Four lecture and three laboratory hours per week. Prerequisites: 235, 305b or 341c, and one year of physics or consent of instructor.

**461-12 (4,4,4) Physical Chemistry.** (a) Gases, liquids, solids, solutions, and homogeneous and heterogeneous equilibria. Three lecture and three laboratory hours per week. (b) Chemical kinetics, electrical conductance, electromotive force, and electrolytic equilibrium. Three lecture and three laboratory hours per week. (c) Chemical Thermodynamics, the quantum theory, nuclear structure, photochemistry, atomic and molecular structure. Three lecture and three laboratory hours per week. Must be taken in a,b,c sequence. Prerequisites: 235 (concurrent), 341c, 12 hours of physics, and one year of calculus.

**464-3 Intermediate Physical Chemistry.** Intermediate between the first year of undergraduate physical chemistry and advanced physical chemistry. Three lecture hours per week. Prerequisite: 461c.

**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: 235, 305b or 341c, reading knowledge of German or consent of instructor.

**496-2 to 6 Chemical Problems.** Investigation of relatively simple problems under the direction of a staff member. Prerequisites: senior standing, concentration in chemistry with 4.0 average, and consent of chairman.

**511-9 (3,3,3) Advanced Inorganic Chemistry.**

**517-3 Laboratory Techniques in Inorganic Chemistry.**

**519-2 to 30 (2 to 6 per quarter) Advanced Topics in Inorganic Chemistry.**

**531-3 Theory of Quantitative Analysis.**

**539-2 to 30 (2 to 6 per quarter) Advanced Topics in Analytical Chemistry.**

**541-3 Advanced Organic Chemistry.**

**547-3 to 6 Advanced Laboratory Preparations in Organic Chemistry.**

**549-2 to 30 (2 to 6 per quarter) Advanced Topics in Organic Chemistry.**

**561-3 Chemical Thermodynamics.**

**562-3 Atomic and Molecular Structure.**

**569-2 to 30 (2 to 6 per quarter) Advanced Topics in Physical Chemistry.**

**575-1 to 3 Graduate Seminar.**

**597-3 to 15 Research and Thesis.**

### Comparative Literature

**410-20 (4,4,4,4,4) Comparative Literature: Genres.** (a) lyric and epic poetry. (b) drama. (c) prose. (d) tragedy. (e) novel.

**499-4 Traditional Themes of World Literature.** Prerequisites: any course in comparative literature and a course in English, foreign, or comparative literature.

### 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: GSB 201c.

**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.

**420-4 Educational Statistics.** The statistics needed by teachers for classroom use, the reading of educational literature, and informal educational research. Includes methods of organizing and presenting data, describing group performance, describing individual performance, model distributions, measure of relationship, measures of reliability, and tests of significance. Prerequisite: 305.

**422-4 Educational Measurements I.** Study of the philosophy and techniques of measurements. Special attention to the construction and use of teacher-made tests. Prerequisite: 305.

**426-4 Individual Inventory.** Principles and procedures for studying individual pupils and their problems for guidance purposes. Emphasis on interview, observation, ratings, case study, cumulative record, etc.

**483-6 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.**

**501-2 to 8 Special Research Problems.**

**510-4 College Student Personnel Services.**

**511-4 Educational Implications of Learning Theories.**

**515-4 Psychological Aspects of Education.**



- 520-8 Educational Statistics and Experimental Design.
- 522-4 Educational Measurement II.
- 525-4 School Behavior Problems and Their Prevention.
- 526-4 Techniques of Individual Guidance.
- 528-4 Advanced Guidance of the Individual.
- 535-4 Introduction to Individual Measurement.
- 536a-4 Appraisal of Intelligence: Child.
- 536b-4 Appraisal of Intelligence: Child and Adult.
- 536c-4 Appraisal of Intelligence.
- 537-4 Counseling Theory and Practice I.
- 538-4 Counseling Theory and Practice II.
- 541-4 Occupational Information and Guidance.
- 542-4 Basic Principles of Guidance.
- 543-4 Guidance Through Groups.
- 545a-2 to 4 Seminar: Problems in Guidance.
- 545b-2 to 4 Seminar: Learning and Communication.
- 545f-2 to 4 Seminar: Pupil Adjustment.
- 545j-2 to 4 Seminar: Organization and Administration.
- 562a-4 Child Development in Education.
- 562b-4 Adolescent Development in Education.
- 575c-1 to 2 Practicum in Guidance.
- 576-4 to 8 Practicum in School Personnel Work.

### 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.
- GSB 311-3 Economic Development of the United States.
- GSB 312-3 Comparative Economic Systems.
- 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.
- 411-4 Collective Bargaining and Dispute Settlement.
- 416-4 Money and Banking II. Evolution of money systems, theories of effect of money supply on national income, debt, asset-holdings, etc.; relationships of money supply to specific industries and key economic variables and considerations. Prerequisite: 300.
- 418-4 Economic History of Europe.
- 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. Intensive treatment of the principles of international economics with special emphasis on the classical and modern theories of international trade. Income effects and balance of payment theory. Prerequisites: 200, 201.
- 430-4 Regional Economy. Regional economic development, including theoretical and practical problems in designing and implementing development programs.



- 431-3 Public Finance II. State and Local.** Prerequisite: 330.
- 432-3 Fiscal Policy of the United States.** Countercyclical, secular, and emergency use of government expenditures, debt, and taxes.
- 436-3 Government and Labor.** A study of labor relations and legislation considering both constitutional and economic aspects. Prerequisite: 310 or consent of instructor.
- 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.
- 450-6 (3,3) History of Economic Thought.** The development of economic thought; (a) ancients to 1850; (b) 1850 to present. Must be taken in a,b sequence. 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.
- 470-3 Business Cycles.** Major business fluctuations in the United States, prices, employment, production, credit, inflation, and deflation, and government action during the cycles. Prerequisite: 300 or 441.
- 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.
- 501-1 to 5 Economic Readings.**
- 504-4 Economic Analysis.**
- 505-4 Theory of the Firm.**
- 512-4 Labor Economics.**
- 516-4 Econometrics II.**
- 517-4 Monetary Theory and Policy.**
- 519-4 Economic Growth.**
- 520-4 Economic Development Theory and Policy.**
- 530-4 International Economics and Finance.**
- 533-4 Public Finance Theory and Practice.**
- 541-4 National Income Theory.**
- 542-4 Price Theory.**
- 543-4 Seminar in Economic Policy.**
- 561-4 Advanced Topics in Economic History.**
- 566-4 Mathematical Economics II.**
- 582-4 Economic Behavior.**
- 599-1 to 9 Thesis.**

## Educational Administration

- GSB 331-3 The American Educational Systems.**
- 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.
- 420-4 Legal Basis of American Education.** Particular emphasis is placed on common law principles.
- 431-4 History of Education in the United States.** A historical study of the problems of American education relevant to contemporary education.
- 432-4 Public Opinion: Propaganda and Education.** Analysis and classification of propaganda. Designed to show how public opinion is formed by a use of current materials from the different channels of communication. Differences between propaganda and indoctrination.
- 434-4 Administrator's Workshop.** A special program for the consideration of administrative problems pertinent to superintendents, high school principals, and elementary school principals.

**456-4 School Supervision.** The function of the principal or supervisor in the improvement of instruction. Some activities, methods, and devices for improving the effectiveness of teaching.

**480-4 Backgrounds of Urban Education.** (Same as Elementary Education 480 and Secondary Education 480.) A study of social, economic, and demographic factors as they impinge upon programs in urban schools, particularly those in the inner city. Prerequisite: consent of instructor.

**490-4 to 12 International Field Study in Comparative Education.** International field study of selected aspects of national systems of education examined in their social matrix. By means of direct observation, conferences, lectures, and seminars, the advanced education student is helped to gain a mature perspective on American education through comparison and contrast with educational systems of other societies to critically evaluate American educational patterns in light of observed alternatives, and to develop fresh curricular approaches in the area of international understandings through an examination of other cultural patterns. With the permission of the instructor this course may be repeated with credit.

**500-4 Research Methods.**

**501-4 Seminar in Educational Administration.**

**502-4 Seminar in Comparative Education.**

**503-0 to 4 Seminar in Philosophy of Education.**

**504-4 Seminar in History of European Education.**

**506-4 Seminar: Curriculum in Relation to American Culture.**

**511-12 (4,4,4) Internship Practicum.**

**520-4 Illinois School Law.**

**524-4 School Administration.**

**525-4 Personnel Administration.**

**533-4 School Buildings.**

**534a-4 School Finance.**

**534b-4 School Business Administration.**

**551-4 Community Junior College Curriculum.**

**553-2 to 12 Practicum in Urban Education.**

**554-4 Contrasting Philosophies of Education.**

**556-4 Seminar in Educational Supervision.**

**560-4 Curriculum.**

**563-4 Workshop in School Public Relations.**

**565-4 The Community Junior College.**

**575a-k-2 to 4 each Individual Research.**

**596-5 to 9 Independent Investigation.**

**597-1 to 3, 598-1 to 3, 599-1 to 3 Thesis.**

## Elementary Education

**203-3 Understanding the Elementary School Child.** Concepts needed to understand the child in the elementary school situation. Two hours lecture and two hours observation. Prerequisite: GSB 201c.

**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. Prerequisites: Counselor Education 305, Educational Administration 355.

**316-4 Kindergarten-Primary Methods and Curriculum.** 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. Prerequisites: Counselor Education 305, Educational Administration 355.

**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. Prerequisites: 314, Counselor Education 305, Educational Administration 355.

**350d-8 to 12 Kindergarten-Primary Student Teaching.** Prerequisites: Counselor Education 305, Educational Administration 355, approval of elementary education adviser.

**350e-4 to 8 Advanced Kindergarten-Primary Student Teaching.** Prerequisite: 350d.

**351a, 351b, 351c-4 to 16 Elementary Student Teaching.**



**351d-8 to 16 Elementary Student Teaching.** Prerequisites: 314, Counselor Education 305, Educational Administration 355, other courses listed in each area of concentration, and approval of elementary education adviser.

**351e-4 to 8 Advanced Elementary Student Teaching.** Prerequisite: 351d.

**413-4 Children's Literature.** Emphasizes types of literature, analysis of literary qualities, and selection and presentation of literature for children. Not for students who have had English 213. Prerequisite: Counselor Education 305.

**415-2 to 4 Improvement of Instruction in Arithmetic 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. Prerequisites: 314, GSD 112.

**433-4 Workshop in Elementary Education.** Meets needs of in-service teachers in such areas as curriculum adjustment, remedial teaching, child development, and early childhood education.

**437-4 Problems in Reading.** Practices and trends in the teaching of reading; materials of instruction in reading, particularly remedial materials; techniques and materials for prevention of reading difficulties; diagnosis and remediation of reading difficulties. Prerequisites: 337, senior standing. Not open to students having had 505.

**442-4 Science for the Elementary Teacher.** Study of content and methods of elementary school science.

**470-3 Workshop in Sex Education for Elementary Teachers.** 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.** (See Educational Administration 480 and Elementary Education 480.)

**505-4 Improvement of Reading Instruction.**

**507-2 to 4 Readings in Reading.**

**509-4 to 8 Practicum in Reading.**

**514-4 Organization and Administration of Reading Programs.**

**515-4 Special Problems in the Teaching of Arithmetic in the Elementary School.**

**518-2 to 4 Supervision of Student Teachers.**

**521-12 (4,4,4) Diagnosis and Correction of Reading Disabilities.**

**541-4 Curriculum Problems in Elementary School Science.**

**542-4 Language Arts in the Elementary School.**

**543-4 Teaching the Social Studies in the Elementary School.**

**557-4 The Elementary Principalship.**

**559-4 Workshop in Instructional Leadership in Elementary Education**

**561-4 The Elementary School Curriculum.**

**567-12 (4,4,4) Teaching Competencies and Their Application.**

**575a-k-2 to 4 each Individual Research.**

**596-5 to 9 Independent Investigation.**

**597-1 to 3, 598-1 to 3, 599-1 to 3 Thesis.**

## Engineering

**101-9 (3,3,3) Engineering Graphics.** (a) Basic principles of graphic communications. Pictorial projection, sections and conventions, dimensioning auxiliary views, freehand lettering, and sketching. (b) Graphical solution of problems involving the understanding of the space relationships of points, lines, and planes; intersections and developments. (c) Auxiliary views, threads and fasteners, dimensioning. Laboratory must be taken in a,b,c sequence.

**200-9 (3,3,3) Circuit Analysis.** Integrated study of circuits AC, DC, and non-sinusoidal; network theorems and introductory transient analysis. Must be taken in a,b,c sequence. Prerequisite: concurrent enrollment in 201.

**201-3 (1,1,1) Circuit Analysis Laboratory.** Laboratory experiments exemplify the material covered in 200. Prerequisite: concurrent enrollment in 200.

**260-8 (4,4) Engineering Mechanics.** Study of forces, moments, equilibrium equations; structural mechanics, friction, centroids, first and second moments of lines, areas, volumes. Kinematics of particles and rigid bodies, moving



coordinate systems. Dynamics of particles and rigid bodies, using Newton's laws, momentum, and energy methods. Vector algebra and calculus used throughout. Prerequisite: Mathematics 252a.

**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 252b, Physics 211b.

**310-6 (3,3) Physical Electronics.** Study of electron emission, electron and ion ballistics, semi-conductor physics, gaseous collision phenomena; the application of the preceding to transistors, vacuum tubes, gas tubes. Prerequisites: 200, Physics 300.

**311-6 (3,3) Engineering Materials.** Selected topics in the atomic and molecular structure, properties, behavior, testing, and selection of materials. (a) Structure and relationship to macroscopic properties of materials. Physical and mechanical properties of solid state. Strength of materials, static and dynamic effects, stress, strain, and elementary theories of elasticity and visco-elasticity. (b) Complex mechanical stresses, fatigue, creep, and limit analysis. Thermal, electrical, magnetic, chemical, and other properties of materials. Prerequisites: 260a, 300, concurrent enrollment in 312.

**312-2 (1,1) Engineering Materials Laboratory.** Student-planned experiments in measuring the physical, mechanical, electrical, magnetic, chemical, and other properties of materials. Prerequisite: 311.

**363-6 (3,3) Surveying.** (a) Use and care of surveying instruments. Fundamental principles of surveying, computations, land surveying. (b) Field astronomy, route surveying, introduction to photogrammetry, hydrographic surveying, and subsurface surveys. Prerequisite: GSD 114c.

**405-5 (4,1) Generalized Radiation.** A unified course in radiation theory, treating electromagnetic and mechanical radiation. Analysis of wave motion, properties of progressive waves, boundary conditions. Examples taken from radiation in fluids and elastic media, and from electromagnetic radiation. Laboratory. Prerequisite: Physics 305a,b.

**410-8 (4,4) Electron Devices.** Study of active networks utilizing transistors and tubes from both analytic and synthetic points of view. Audio, video, operational, power amplifiers; LC, RC, and relaxation oscillators; power supplies; small-signal, large-signal, switching; wave shaping; analog and digital computing circuits. Prerequisites: 200, 201, 310, concurrent enrollment in 411.

**411-2 (1,1) Electron Devices Laboratory.** Experiments to illustrate the analytic material in 410 and to provide experience in synthesizing active circuits. Prerequisites: 200, 201, 310, concurrent enrollment in 410.

**420-6 (3,3) Transport Phenomena.** Principles and mechanism of energy, mass, and momentum transport. (a) Molecular motion, laminar flow of a continuum, and transport in solids. (b) Turbulent flow, inter-phase transport, radiative transfer, and macroscopic balances of mass, energy, and momentum. Scheduled laboratory projects. Prerequisites: 300, 311.

**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.

**443-6 (3,3) Engineering Design.** Principles of engineering design. Individual laboratory projects of a research design or development nature to study systems simulation or instrumentation are selected by the student. Prerequisite: 410.

**460-8 (4,4) Engineering Analysis for Decision Making.** (a) Introduction to fundamental concepts and theorems of engineering analysis with emphasis on the theory of linear, dynamic, and integer programming. Network analysis, inventory theory, simplex and revised simplex method, and dual theorem. (b) Introduction to advanced linear programming, nonlinear, probabilistic, and stochastic programming.

**470-12 (4,4,4) Geodesy.** (a) Geometry of the ellipsoid; geodetic systems; geodetic curves; computations of coordinates, distances, and azimuths. (b) Astrogeodetic methods; potential theory, Laplace and Poisson equations, spherical harmonics; gravity potential. (c) Reductions of gravity; introduction to satellite geodesy; world geodetic systems. Prerequisite for a: Mathematics 252b; for b: Mathematics 305b.

**472-3 Digital Computers in Research.** Basic foundations used in operations research. An intensive study in the use of digital computers as related to topics such as probability and statistics, matrices, game theory, Monte Carlo techniques, distribution and scheduling problems, and simulation. Prerequisite: Mathematics 225.

**523-3 Digital Simulation Techniques.**

**524-6 (3,3) Linear and Non-Linear Programming.**

**525-3 Analog and Digital Methods.**

**526-3 Simulation and Data Processing.**

**531-8 (4,4) Operations Analysis and Synthesis.**

**533-3 Program Evaluation and Review Techniques.**

**560-8 (4,4) Automatic Control Theory.**

**590-2 to 4 Readings in Engineering Mathematics.**

## English

**300-4 Principles of English Grammar.** Required for English students. Others should take 391. Credit not allowed for both courses.

**302-12 (4,4,4) Survey of English Literature.** (a) to 1550, (b) 1550-1750, (c) after 1750. May be taken in any sequence.

**309-8 (4,4) Survey of American Literature.** (a) to 1860, (b) since 1860. May be taken in either sequence.

**GSC 313-3 Folklore.**

**320-4 Early Nineteenth-Century Poetry.**

**GSC 333-3 The Bible as Literature.**

**GSC 335-3 Studies in Short Fiction.**

**GSC 337-3 The English Language Heritage.**

**GSC 339-3 Classical Mythology and Its Influence.**

**365-4 Shakespeare.**

**390-3 Advanced Composition.** Expository writing.

**391-3 Usage in Spoken and Written English.** Usage and structure of English. Prerequisite to student teaching, except in English concentrations, which require 300.

**392-3 Professional Writing I.** Introductory course for undergraduates. Prerequisite to 492, but credit for the course does not constitute automatic admission to 492. 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.

**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: early poems and *Troilus*; (c) Chaucer: *Canterbury Tales*. May be taken separately.

**405-8 (4,4) Descriptive Linguistics.** (a) Phonetics and phonemics, an analysis of language structure from phone to phoneme; (b) morphology and syntax, an analysis of language structure from morpheme to sentence, with emphasis on immediate constituent analysis. May be taken separately. Prerequisite: consent of instructor.

**412-16 (4,4,4,4) English Nondramatic Literature.** (a) 16th century, (b) 17th century, (c) 18th century, (d) 1744-1798. May be taken separately.

**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 non-fictional 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 novelists; 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) 20th century. May be taken separately.
- 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.
- 460-16 (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) modern British drama. May be taken separately.
- 464-4 Modern Continental Drama.** The continental drama of Europe since 1870; representative plays of Scandinavia, Russia, Germany, France, Italy, Spain, and Portugal.
- 468-4 American Drama.** The rise of the theater in America, with readings of plays, chiefly modern. Prerequisite: 309a or 309b.
- 471-8 (4,4) Shakespeare.** (a) The plays before 1600, (b) the plays of 1600 and later. Readings on the life of Shakespeare, the theater, and the acting company. 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.
- 488-9 (3,3,3) Methods of Teaching English as a Foreign Language.** (a) Classroom techniques, (b) laboratory methods, (c) preparation of materials. Restricted to English as a foreign language and must be taken in a,b,c sequence.
- 492-4 Professional Writing II.** Must be taken in a,b sequence. Prerequisite: 392 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.
- 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.
- 500-4 Materials and Methods of Research in English.**
- 501-4 Old English Grammar.**
- 502-4 Beowulf.**
- 504-4 Advanced English Syntax.**
- 505-4 Contrastive Linguistic Structures.**
- 508-4 or 8 Studies in Chaucer.**
- 509-4 or 8 Studies in Middle English Literature.**
- 511-4 or 8 Studies in the Renaissance.**
- 513-4 or 8 Studies in 17th Century Literature.**
- 514-4 or 8 Studies in Restoration and 18th Century Literature.**
- 519-4 or 8 Studies in Contemporary British Literature.**



520-4 or 8 Studies in Romantic Writers.  
521-4 or 8 Studies in Victorian Poetry.  
524-4 or 8 Studies in the Metaphysical Poets.  
531-4 or 8 Studies in American Colonial Period.  
532-4 or 8 Studies in American Transcendentalism.  
534-4 or 8 Studies in Early 19th Century American Writers.  
536-4 or 8 Studies in Later 19th Century American Writers.  
537-4 or 8 Studies in 20th Century American Writers.  
538-4 or 8 Problems in American Literature.  
540-4 Studies in Linguistics. (Historical and Dialectal.)  
543-4 or 8 Studies in Victorian Nonfiction Prose.  
555-4 or 8 Studies in the Victorian Novel.  
560-4 or 8 Studies in Renaissance Drama.  
566-4 or 8 Studies in Shakespeare.  
569-4 Seminar in Special Problems of English as a Foreign Language.  
579-16 (4 or 8, 4 or 8) Studies in Modern Literature.  
580-4 Traditional Themes.  
581-12 (4,4,4) Problems in High School English.  
585-2 to 8 Teaching College Composition.  
587-4 Literature for Young People.  
597-2 to 4 Readings in Linguistics.  
598-1 to 9 Independent Review of English and American Literature.  
599-2 to 9 Thesis.

### Experiment in Higher Education

101a,b,c,d-1 to 15 per quarter, 201a,b,c,d-1 to 15 per quarter University Studies. General education course series for the E.H.E. designed to provide General Studies equivalence credits on the first and second levels. 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 230, 231; 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: 420.  
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 and particular attention is given to commerce and government. Prerequisite: 420.  
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: 420.  
520-4 **Finance.**  
523-4 **Financial Management.**  
528-4 **Seminar in Finance.**

### 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.

### *General Foreign Language*

**399-3 to 9 Readings.** Readings in selected works of representative writers. Offered in French, Spanish, and German. 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.

**435-4 to 8 Workshop in Elementary School Foreign Language Instruction.** Designed to assist elementary school teachers in integrating foreign languages into their teaching program as well as to encourage high school teachers to introduce or supervise foreign languages at the elementary school level. To count as education or foreign languages. Prerequisite: basic language credit.

**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.

### *French*

**123-3 (1,1,1) French Conversation.** Conversation and oral drill taken with GSD 123 by students who wish additional oral training; elected only by students enrolled in GSD 123. May be taken separately.

**130-10 Intensive French.** Intensive training in the four language skills: speaking, aural understanding, reading, and writing. Must be taken in conjunction with 230 to satisfy foreign language requirements. Prerequisite: Open to Dean's College students (or consent of Foreign Language Adviser) with no previous training in French or with not more than two years of high school French or by consent of instructor.

**200-4 French Review.** Review and practice of basic structures to develop oral fluency. Open only to students with two or three years of high school French who need more training preliminary to entering the intermediate (201) college sequence.

**201-9 (3,3,3) Intermediate French.** Composition, oral practice, rapid reading of modern authors with special attention to the role of French culture in world civilization. Must be taken in a,b,c sequence. Prerequisite: GSD 123 or two years of high school French, or equivalent.

**220-6 (2,2,2) Intermediate French Conversation.** Development of oral skill on the intermediate level. Offered for three quarters at 2 hours per quarter; may be taken for credit each time. Prerequisite: 201c or concurrent registration in any quarter for 201.

**230-20 (10,10) Intermediate Intensive French.** Continuation of 130. Vocabulary building, reading of modern French authors, extensive oral discussion, and stress on the role of French culture in modern civilization. Prerequisite: 130 or consent of instructor.

**301-12 (4,4,4) French Literature from the 18th Century of the Contemporary Period.** (a) Montesquieu, Voltaire, Diderot, Rousseau, and others, with reference to the social, political, and philosophic environment of the 18th century. (b) 19th century romanticism, realism, and naturalism. (c) Representative works of the 20th century with special emphasis on the novel and drama. May be taken separately. Prerequisite: 201 and one quarter of 220, or consent.

**311-9 (3,3,3) French Culture and Civilization.** Analysis of significant aspects of French culture designed to improve intercultural understanding and to develop language skills. Oral discussions, readings, written reports, and laboratory practice. Prerequisite: 201 and one quarter of 220, or consent. May be taken separately.

**338-12 (4,4,4) French Literature from the Middle Ages Through the 17th Century.** (a) French literature from *La Chanson De Roland* to Francois 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, Moliere, Pascal and other writers of the 17th century with reference to the political and



social environment of the period. May be taken separately. Prerequisite: 201 and one quarter of 220, or consent.

**351-6 (3,3) Advanced French Conversation and Composition.** (a) Oral work of a practical nature for advanced students. Prerequisite: 201 and one quarter of 220, or consent. (b) Rapid grammar review, daily writing practice, controlled composition. Must be taken in a,b sequence.

**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. Required of all seniors with French concentration.

**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.

**500-2 Seminar in Contemporary French Literature.**

**501-2 to 6 Seminar on a Selected French Author.**

**507-3 A Study of Romanticism.**

**510-4 19th Century Realism.**

**520-4 Graduate Composition and Diction.**

**544-4 French Language and Culture.**

**545-3 Applied Linguistics and Remedial Phonetics.**

**546-3 Professional Preparation.**

### *German*

**126-3 (1,1,1) German Conversation.** Conversation and oral drill taken with GSD 126 by students who wish additional oral training: elected only by students enrolled in GSD 126. May be taken separately.

**201-9 (3,3,3) Intermediate German.** Composition, oral practice, rapid reading of modern authors with special attention to the role of German culture in world civilization. Must be taken in a,b,c sequence. Prerequisite: GSD 126 or two years of high school German, or equivalent.

**220-6 (2,2,2) Intermediate German Conversation.** Development of oral skill on the intermediate level. Offered for three quarters at 2 hours per quarter; may be taken for credit each time. Prerequisite: 201c or concurrent registration in any quarter of 201.

**251-4 Scientific German.** Study of vocabulary and sentence construction as commonly found in German scientific writings. Prerequisite: one year of college German, or equivalent.

**311-9 (3,3,3) German Culture and Civilization.** Analysis of significant aspects of German culture designed to improve intercultural understanding and to develop language skills. Oral discussions, readings, written reports, and laboratory practice. May be taken separately. Prerequisites: 201, one quarter of 220.

**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. Prerequisites: 201, 220-2.

**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. Prerequisites: 201, 220-2.

**351-6 (3,3) Advanced German Conversation and Composition.** (a) Oral work of a practical nature for advanced students. Prerequisites: 201 and one quarter of 220, or consent. (b) Rapid grammar review, daily writing practice, controlled composition. Must be taken in a,b sequence.

**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. Prerequisites: 201, one quarter of 220.

**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.

**500-2 Seminar in Contemporary Literature.**

**501-2 Seminar on a Selected German Author.**

**506-2 Romanticism I.**

**507-2 Romanticism II.**

**509-4 (2,2) Old High German.**

**512-3 19th Century German Novel.**

**513-3 Twentieth Century German Novel.**

### *Italian*

**144-3 (1,1,1) Italian Conversation.** Taken with GSD 144 by students who wish additional oral training; elected only by students enrolled in GSD 144. May be taken separately.

**201-9 (3,3,3) Intermediate Italian.** Development of listening, speaking, reading and writing skills on the intermediate level, with special attention to the role of Italian culture in world civilization. Prerequisite: GSD 144 or two years of high school Italian, or equivalent.

**220-6 (2,2,2) Intermediate Italian Conversation.** Development of oral skill on an intermediate level. Prerequisite: Italian 201c or concurrent registration in any quarter of 201.

### *Russian*

**136-3 (1,1,1) Russian Conversation.** Conversation and oral drill taken with GSD 136 by students who wish additional oral training; elected only by students enrolled in GSD 136. May be taken separately.

**201-9 (3,3,3) Intermediate Russian.** Composition, oral practice, rapid reading of modern authors with special attention to the role of Russian culture in world civilization. Must be taken in a,b,c sequence. Prerequisite: GSD 136 or two years of high school Russian, or equivalent.

**220-6 (2,2,2) Intermediate Russian Conversation.** Development of oral skill on the intermediate level. Offered for three quarters at 2 hours per quarter; may be taken for credit each time. Prerequisite: 201c or concurrent registration in any quarter of 201.

### *Spanish*

**140-3 (1,1,1) Spanish Conversation.** Conversation and oral drill taken with GSD 140 by students who wish additional oral training; elected only by students enrolled in GSD 140. May be taken separately.

**201-9 (3,3,3) Intermediate Spanish.** Composition, oral practice, rapid reading of modern authors with special attention to the role of Spanish culture in world civilization. Must be taken in a,b,c sequence. Prerequisite: GSD 140 or two years of high school Spanish, or equivalent.

**220-6 (2,2,2) Intermediate Spanish Conversation.** Development of oral skill on the intermediate level. Offered for three quarters at 2 hours per quarter; may be taken for credit each time. Prerequisite: 201c or concurrent registration in any quarter of 201.

**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 Zorrilla, and others. May be taken separately. Prerequisites: 201, one quarter of 220.

**304-8 (4,4) Modern Spanish Literature.** (a) Spanish literature of the 19th century as influenced by trends of European thought of the period: Galdos, Brazan, 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. May be taken separately. Prerequisite: 201, one quarter of 220.

**306-4 Latin American Literature.** Representative writers in Latin-American Literature from the Colonial to the Contemporary period with emphasis on the novel, essay, and poetry. Prerequisites: 201, one quarter of 220.

**311-9 (3,3,3) Spanish Culture and Civilization.** Analysis of significant aspects of Spanish culture designed to improve intercultural understanding and to develop language skills. Oral discussions, readings, written reports, and laboratory practice. May be taken separately. Prerequisites: 201, one quarter of 220.

**351-6 (3,3) Advanced Spanish Conversation and Composition.** (a) Oral work of a practical nature for advanced students. Prerequisite: 201 and one quarter of 220, or consent. (b) Rapid grammar review, daily writing practice, controlled composition. Must be taken in a,b sequence.

**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.

**500-2 Seminar in Latin American Fiction.**

**501-2 Seminar on a Selected Spanish Author.**

**505-3 The Picaresque Novel.**

**520-3 Seminar in Syntax.**

**525-3 The Spanish Ballads.**

**535-3 Mexican Essayists of the 19th Century.**

### *Romance Philology*

**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.

### **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 of 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, GSB 201a,c.

**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, communication, 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.

**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.



**441-3 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.

**511-4 Accounting Theory.**

**526-4 Managerial Economics.**

**539-4 Seminar in Finance.**

**540-4 Concepts of Managerial Performance.**

**541-4 Business and Its Legal Environment.**

**542-4 History and Theory of Management.**

**543-4 The Administrator.**

**544-4 The Methodology of Business Research.**

**545-4 The Social Framework of Business.**

**548-4 Seminar in Managerial Performance.**

**549-4 Corporate Policy Formulation and Administration.**

**559-4 Seminar in Marketing.**

**599-2 to 9 Thesis.**

## 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. Prerequisite: GSB 203-4.

**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.

**308-3 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.

**310-6 (3,3) 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.

**GSA 312-3 Conservation of Natural Resources.**

**GSA 330-3 Weather.**

**GSA 331-3 Climate.**

**343-4 Teaching of Geography.** Presentation and evaluation of methods of teaching geography. Emphasis upon geographic literature, illustrative materials, and teaching devices suitable to particular age levels.

**GSB 351a-3 Geographic and Cultural Background of Developing Africa.**

**GSB 354-3 Industrial Economic Geography.**

**402-10 (4,3,3) Advanced Physical Geography I.** Deals with one or more of the following: land forms, climate, soil, and water; depending on, and varying with, interests of the instructors. Thus, a student may register more than one time. Emphasis toward familiarizing the student with techniques of analysis and developing concepts and principles that underlie understanding of the phenomena and their geographic significance. Prerequisite: 302 or GSA 110.

**403-7 (4,3) Advanced Physical Geography II.** Content drawn from same broad range of topics as 402. To be alternated with 402 to enable student to specialize further in physical geography. Prerequisite: 302 or consent.

**404-10 (4,3,3) Advanced Economic Geography I.** Deals with one or more of the following: transportation, manufacturing, agriculture, resources, trade and urban geography; depending on, and varying with, interests of instructors. Thus, a student may register more than one time. Emphasis toward familiarizing the student with techniques of analysis, and at developing concepts and principles that underlie understanding of the phenomena and their geographic significance. Prerequisite: 302 or consent.

**405-7 (4,3) Advanced Economic Geography II.** Content drawn from same broad range of topics as 404. To be alternated with 404 to enable student to specialize further in economic geography. Prerequisite: 302 or consent.



**406-7 (4,3) Advanced Cultural Geography I.** Deals with one or more of the following: population, settlement, ethnic characteristics, political factors; depending on, and varying with, interests of the instructors. Thus, a student may register more than one time. Emphasis toward familiarizing the student with techniques of analysis, and developing concepts and principles that underlie understanding of the phenomena and their geographic significance. Prerequisite: 306.

**407-7 (4,3) Advanced Cultural Geography II.** Content drawn from same broad range of topics as 406. To be alternated with 406 to enable student to specialize further in cultural geography. Prerequisite: 302 or consent.

**410-8 Quantitative Methods in Geography.** Statistical and computer research techniques for geographers.

**416-8 (4,4) Advanced Cartography.** Instruction and practice in the techniques of map-making and problems in map reproduction. Laboratory. Prerequisite: 310.

**417-3 Air Photo Interpretation.** Techniques in the use of air photos as source material for research in the physical and social sciences. Laboratory. Prerequisite: 310a or consent of instructor.

**424-4 Regional Problems in Conservation.** The distribution, use, and inter-relationship of the resources of the U.S. and the conservation techniques applied to them.

**426-12 (4,4,4) Photogrammetry.**

**450-3 to 15 Travel Study Course.** Enrichment through travel, supervised study, and readings on areas visited.

**461-7 (4,3) Advanced Regional Geography: Anglo-America.** Deals geographically with present-day U.S. and Canada. (a) A general survey of the area, open to students without a concentration. (b) Investigates specific topics in depth, for students with a concentration in geography.

**462-7 (4,3) Advanced Regional Geography: Europe.** (See 461.)

**463-7 (4,3) Advanced Regional Geography: Mediterranean Lands and South-western Asia.** (See 461.)

**464-7 (4,3) Advanced Regional Geography: Soviet World.** (See 461.)

**465-7 (4,3) Advanced Regional Geography: Africa.** (See 461.)

**466-7 (4,3) Advanced Regional Geography: Asia.** (See 461.)

**467-7 (4,3) Advanced Regional Geography: Latin America.** (See 461.)

**468-7 (4,3) Advanced Regional Geography: Oceania.** (See 461.)

**470-16 to 20 (4,4,4,4 to 8) Urban Planning.** (a) Planning concepts and methods, (b) planning administration and the planning function in public process, (c) field problems, (e) planning and public administration internship. Parts c and e may be taken concurrently.

**471-8 (4,4) Regional Planning.** Area and regional development, theory, and practices.

**475-4 to 8 Methods of Field Geography.** Application of geographic field techniques.

**490-1 to 2 (8 total) Tutorial in Geography.** Individual and small group conferences with staff members to examine geographic concepts.

**500-4 Geographic Techniques I.**

**501-4 Geographic Techniques II.**

**511-4 Philosophy of Geography.**

**515-4 to 6 Field Course.**

**520-2 to 8 Seminar in Physical Geography.**

**521-2 to 8 Seminar in Economic Geography.**

**522-2 to 12 Seminar in Regional Geography.**

**523-4 Seminar in Cartography.**

**524-2 to 8 Seminar in Cultural Geography.**

**527-2 to 8 Seminar in Urban and Regional Planning.**

**530-2 to 10 Independent Studies in Geography.**

**599-2 to 9 Thesis.**

## 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.

**GSB 318-6 (3,3) American State and Local Government.**

**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: GSB 203a.

**321-1 to 6 Readings in Government.** Prerequisite: consent of instructor.

**330-2 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: GSB 203a.

**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: GSB 203a.

**348-4 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. Prerequisite: GSB 203a.

**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.

**355-16 (4,4,4,4) 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. (d) Near and Middle East. A study of the major nation-states.

**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: GSB 203a.

**385-4 Introduction to Political Theory.** An introduction to the basic concepts and topics of political theory. Prerequisite: 200.

**410-8 Quantitative Methods in Political Science.** Statistical and computer research techniques for political scientists.

**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.

**429-4 Topics in Public Administration.** An intensive study of an administrative problem or process. Primarily for government students with advanced standing. Prerequisite: 320.

**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 com-



munications content and communications media to the political process. Prerequisite: GSB 203a.

**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. Prerequisite: GSB 203a.

**456-4 Topics in Comparative Politics.** A selective and detailed study of a major question of relevance to students of comparative politics. 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.

**473-12 (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. Prerequisite: 370.

**479-4 Topics in International Relations.** A detailed study of a selected topic. Primarily for government students with advanced standing. 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 examination 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.

**486-3 Workshop on Teaching the American Political Heritage.** The major concepts and topics of the American political heritage including myth, symbol, signal, natural rights, limited government, libertarianism, totalitarianism, and socialism; and methodological tools which aid communication of those topics to elementary and secondary students in palatable and comprehensive form.

**487-6 (3,3) American Political Theory.** A chronological examination of leading American political thinkers. The concepts and topics of political thought in the United States are examined in relation to both the political milieu of their given periods as well as the manner in which they contributed to a developing policy. (a) From Puritan thought to Alexis de Tocqueville. (b) From Calhoun to the present. 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. 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 is given to freedom of speech, press, and association, separation of church and state, equal protection of the laws, and the rights of persons accused of crime. Prerequisite: GSB 203a.

**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.

**499-4 Scope and Method of Political Science.** Introduction to major schools of thought and basic research techniques in political science. Prerequisites: 200, 20 upper division hours in government.

**521-1 to 12 Readings in Government.**

**529-2 to 9 Seminar in Public Administration.**

**545-2 to 9 Seminar in American Politics.**

**555-2 to 9 Seminar in Comparative Politics.**

**575-2 to 9 Seminar in International Relations.**

**585-2 to 9 Seminar in Political Theory.**

**590-2 to 9 Seminar in American Public Law.**

### Health Education

**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.**

**460-4 Methods and Materials in Secondary School Health Education.**

**461-4 Workshop in Health Education.**

**470-3 Workshop in Sex Education for Elementary Teachers.**

**471-4 Organization and Administration of School Health.**

**480s-4 Workshop in Safety Education.**

**525s-4 Organization, Administration, and Supervision of Safety Education.**

### History

**100-3 Survey of Ancient Civilization.** Ancient Period to 1000 A.D.

**GSB 101-8 (4,4) Survey of Western Tradition.**

**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.

**GSB 300-9 (3,3,3) History of the United States.**

**304-6 (3,3) History of the Ancient Near East.** (a) Earliest times to 1200 B.C. (b) 1200 B.C. to 330 B.C.

**306-9 (3,3,3) History of Rome.** (a) The Republic. (b) The Western Empire. (c) The Eastern Empire. Prerequisite: 100 or equivalent.

**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.

**312-4 Central Europe in the Nineteenth Century.** An analysis of the rise of nationalism with emphasis on Germany and Italy and of the problems of the Austro-Hungarian monarchy. Prerequisites: GSB 101b,c.

**332-9 (3,3,3) Medieval History.** (a) Early Middle Ages, 500-1000. (b) High Middle Ages, 1000-1300. (c) Late Middle Ages, 1300-1500. Prerequisite: sophomore standing.

**338-6 (3,3) History of Greece.** (a) Hellenic history. (b) 401-133 B.C. Prerequisite: sophomore standing.

**341-9 (3,3,3) History of Religion in Western Civilization.** A study of religious institutions, ideas, and practices in Western civilization and the relationship to society. (a) Ancient period to 12th century. (b) 12th century to present in Europe. (c) United States. May be taken separately or in any sequence. Prerequisite: GSB 101b,c.

**352-9 (3,3,3) 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.

**365-4 History of Chinese Civilization.** A study of the march of Chinese civilization from prehistoric times to the present, stressing social structure, government institutions, and intellectual movements.

**367-6 (3,3) History of the Far East.** (a) Introduction to 1800, (b) 1800-1945. May be taken separately or in either sequence.

**GSB 369-3 The Contemporary Far East.**

**372-9 (3,3,3) History of Russia.** (a) 900-1801—The Early Empire. (b) 1801-1914—The Late Empire. (c) Since 1914—War, Revolution, and Soviet Russia.

**GSB 380-6 (3,3) East Europe.**

**GSB 382-6 (3,3) History of Great Britain Since 1782.**

**401-4 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.

**405-3 The American Civil War.** Emphasis upon the clash of national and sectional interests; economic, political, and military aspects of the conflict. Prerequisite: GSB 300b or consent of instructor.

**410-2 to 5 Special Readings in History.** Supervised reading for students with sufficient background. Registration by special permission only. Offered on demand.

**412-9 (3,3,3) Intellectual History of the U.S.** (a) 17th, 18th centuries, (b) 19th century, (c) 20th century. Prerequisite: GSB 300a,b,c.

**415-12 (4,4,4) Early Modern Europe.** (a) Renaissance. (b) Reformation. (c) Age of Absolution and Enlightenment. Prerequisite: GSB 101b,c.

**417-16 (4,4,4,4) Advanced English History.** (a) The Empire-Commonwealth. (b) Constitutional History. (c) English Culture in the Age of American Colonization. (d) Tudor England.

**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.

**425-6 (3,3) American Colonial History.** Founding of the American colonies and the development of their institutions to 1763.

**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.

**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: GSB 300a.

**430-9 (3,3,3) Late Modern Europe.** (a) Age of Revolution, 1815-1880. (b) 1880-1918. (c) Since 1918. Age of Dictatorships.

**435-12 (3,3,3,3) Advanced American History.** (a) 1865-1896. (b) 1896-1919. (c) 1919-1939. (d) 1939 to present. Prerequisite: GSB 300 a,b,c.

**440-9 (3,3,3) History of American Diplomacy.** (a) To 1913. (b) 1913 to 1945. (c) Recent problems in diplomacy. Prerequisite: GSB 300 a,b,c.

**451-3 Historiography.** Development of history as a written subject, including works and philosophy of the various historians in ancient, medieval, and modern periods.

**452-3 Historical Research and Thesis Writing.** (For students with history concentrations.) The rules of historical research studied and applied to a definite topic.

**454-3 Biography in American History.** Outstanding leaders and their con-



tributions to the history of the United States. Attention to historical writers who specialize in biography. Prerequisite: a course in U.S. history.

**458-8 (4,4) History of Science.** (a) Survey of ancient and medieval science with emphasis on Greek science and scientific developments of the late Middle Ages. (b) Survey of science from 1500 to 1900 with emphasis on "Scientific Revolution." Prerequisites: GSB 101b,c.

**460-9 (3,3,3) Social and Intellectual History of the Middle Ages.** (a) 500-1000. (b) 1000-1250. (c) 1250-1500.

**470-3 Argentina, Brazil, and Chile.** A narrative and comparative study of the independent era of the history of the three leading states of South America.

**471-6 (3,3) History of Mexico.** (a) 19th century. (b) 20th century. Significant political, economic, diplomatic, social, and cultural aspects of Mexican life from independence to modern Mexican life.

**473-6 (3,3) The Caribbean Area.** (a) Island States of the Caribbean. (b) Central American Area.

**474-3 United States-Mexican Relations.**

**500-3 to 9 History Seminar.**

**510-2 to 5 Readings in History.**

**511-3 Studies in the Middle Ages.**

**512-3 Studies in Nineteenth Century Europe.**

**513-4 Problems in Ancient History.**

**514-3 Studies in Asian History.**

**515-3 Current United States History and Problems.**

**519-4 The Age of Jefferson.**

**530-4 City-States of the Italian Renaissance.**

**534-4 Eighteenth-Century England.**

**540-4 American Reform Movements.**

**553-3 New Viewpoints in American History.**

**554-4 Problems in 19th Century America.**

**575-9 (3,3,3) Studies in Latin American History.**

**599-1 to 9 Thesis.**

### Honors Hours

**101, 201, 301, 401-12 (1 to 4) Academic Affairs.** Special and pertinent activity, designed and supervised by carefully selected faculty members, suited to advance the educational development of a Deans 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.** Prerequisite: completion of the second-level General Studies courses and invitation of the Humanities Honors Program Committee. Accepted in lieu of third-level GSC requirement.

### Instructional Materials

**308-4 School Library Technical Processes.** Organization of library materials for effective service. Acquisition, classification, cataloging, preparation, preservation, and circulation. Laboratory assignments.

**400-2 Library Research Methods.** Introduction to the use of library materials in graduate research. Includes a survey of scholarly publishing and the use of reference works in various subjects.

**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 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.

**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. Prerequisite: 308.

**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: 308, 403, 405.

**422-4 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.

**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.

**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.

**510-4 Mass Communications in Education.**

**514-4 Survey of Research and Development in Instructional Materials.**

**530-4 History of Books and Libraries.**

**546-4 Integration of Audio-Visual Materials in the Classroom.**

**547-4 School Film and Filmstrip Production.**

**548-4 Supervision and Administration of an Audio-Visual Program.**

**549-4 Visual Learning.**

**554-4 Administration of an Instructional Materials Center.**

**560-4 Seminar in Instructional Materials.**

## Journalism

**101-3, 102-3 Introduction to Journalism, I, II.** Development of the newspaper and other media in America; role of the press in modern society.

**103-3 News.** Study of the newspaper story with experience in writing and rewriting news; the fundamentals of copyreading.

**201-3, 202-3, 303-3 News Writing and Editing, I, II, III.** How to cover assignments and write news stories; preparation of copy for publication; writing headlines; laboratory exercises.

**330-3 Editorial Writing.** The work and responsibility of the editor and editorial writer with emphasis upon editorial writing and thinking. Editorial problems, methods, policies, and style.

**340-3 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.

**345-3 History of Journalism.** Development of American journalism with emphasis upon the struggle for freedom of the press, leading editors, outstanding newspapers and periodicals.

**370-4 Principles of Advertising.** Advertising fundamentals in relation to mod-

ern business activities; economic and social aspects, research, media, appeals, production, schedules. Prerequisite: GSB 103b.

**391-3 Feature Writing.** How to plan and write newspaper features and special articles.

### Management Operating Systems

**280-4 Introduction to Electronic Data Processing.** (for non-business students.) An introduction to the principles underlying information theory, electronic data processing applications, and management systems. Includes applications in numerous areas to demonstrate systems, concepts, and computer capabilities. Attention given to the growing impact of systems and computers upon business and government and to the characteristics of the computer industry.

**281-4 Principles of Computer Programming.** A comparative study of stored program concepts, binary coding principles, study of machine language and symbolic coding; definition of problem and preparation of flow charts and block diagrams. Work involves practice problems requiring the preparation of flow charts, block diagrams, coding, preparation of source programs, and test running on computer equipment. Prerequisite: consent of instructor.

**380-4 Management Operating 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. The computer is used. Prerequisite: Accounting 231.

**381-4 Management Operating Systems II.** A study of the complexities involved in the simultaneous integration of several sub-systems. Teams of students design company or corporate-wide management operating systems. The computer is used. Prerequisites: Accounting 341, Marketing 452, Production 460, senior standing.

**580-4 Management Systems.**

**583-4 Advanced Management Systems.**

**588-4 Seminar in Management Systems.**

### 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: GSB 103a,b, GSB 201c, Economics 201, and Quantitative Methods 211.

**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.

**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, Quantitative Methods 310.

**470-4 Marketing Research.** A development of the concepts necessary for understanding and performing research in the area of marketing. The basic procedures and theories underlying research are investigated, evaluated and applied to marketing decision making. Market, advertising, and sales research. Prerequisites: 371, Quantitative Methods 211.

**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.

**570-4 Marketing Concepts.**

**573-4 Marketing Policies.**

**578-4 Seminar in Marketing.**

## 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.

**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: GSD 114c.

**225-4 Programming for Digital Computers.** An intensive course. Topics include computer organization and characteristics, machine language coding, flow charts, subroutines, symbolic coding, and compiler systems. Equipment of the University's Data Processing and Computing Center is used for applications. Prerequisite: GSD 114a.

**252-8 (4,4) Calculus and Analytic Geometry.** Continuation of 150. Includes differential and integrated calculus, applications, introduction to solid analytic geometry, infinite series. Must be taken in a,b sequence. Prerequisite: 150b.

**305-8 (4,4) Applied Mathematics for Physical Sciences.** (a) Ordinary differential equations, Laplace transforms, second order linear differential equations with singular points, special functions. (b) Fourier series and boundary value problems, solution of partial differential equations of the first and second order. Must be taken in a,b sequence. Prerequisite: 252b.

**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: GSD 112-9.

**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: 420a, Secondary Education 315.

**321-4 Elementary Matrix Algebra.** Introduction to the algebra of matrices and theory of determinants: inverse of a matrix, rank and equivalence, linear equations, and linear dependence. Prerequisite: 150b.

**335-6 (3,3) Concepts of Geometry.** An elementary introduction to various geometric systems to acquaint the student with the interrelationship between geometries of current interest. Topics include axiom systems, absolute plane geometry, Euclidean geometry, and non-Euclidean geometry. Must be taken in a,b sequence. Prerequisite: 252a or consent of instructor.

**351-4 Multivariable Calculus.** Vector algebra, functions of several variables, the differential and integral calculus. Topics include directional derivatives, maxima and minima, gradient, divergence and curl, line and surface integrals, Green's Theorem, Stoke's Theorem, and integrals independent of path. Prerequisites: 252b, Physics 211a.

**395-2 to 12 Readings in Mathematics.** Supervised reading in selected subjects. Prerequisites: 12 hours of 300- or 400-level mathematics, 4.0 average in mathematics and consent of chairman.

**400-3 History of Mathematics.** An introduction to the development of major mathematical concepts. Particular attention given to the evolution of the abstract concept of space, to the evolution of abstract algebra, to the evolution



of the function concept, and to the changes in the concept of rigor in the development of mathematics from 600 B.C. to the present time. Prerequisite: 420a or consent of instructor.

**410-16 (4,4,4,4) Statistical Analysis.** For students in fields using statistical methods but not required to take 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; (d) sample survey techniques. May not be used to satisfy requirements for a mathematics concentration. Three lectures and two laboratory hours per week. Must be taken in either a,b,c,d or a,b,d,c sequence. Prerequisite: GSD 114a.

**413-4 Solid Analytic Geometry.** An algebraic study of equations of the first and second degree in three variables, with applications to geometry. Systems of planes; equations of lines in symmetric and parametric form. Spheres, cylinders, surfaces of revolution. Matrix algebra; real orthogonal and symmetric matrices. Coordinate transformations; orthogonal similarity. Quadratic forms and quadric surfaces; invariants; principal axes and planes. Prerequisite: 252b or consent of chairman.

**415-4 Non-Euclidean Geometry.** An introduction to hyperbolic and elliptic plane geometry and trigonometry. Emphasis given to the nature and significance of geometry and the historical background of non-Euclidean geometry. Prerequisite: 252a.

**420-6 (3,3) Fundamental Concepts of Algebra.** Introduces abstract algebraic structures including groups, rings, fields, and vector spaces. Must be taken in a,b sequence. Prerequisite: 321.

**421-6 (3,3) Linear Algebra.** The theory of determinants and systems of linear equations; vector spaces, linear independence, bases, dimension; linear transformations, change of base, similarity; quadratic and Hermitian forms, orthogonal and unitary transformations; triangular and diagonal form; eigenvalues and eigenvectors; normal matrices; nilpotent and idempotent matrices, the spectral theorem. Must be taken in a,b sequence. Prerequisite: 321.

**425-3 Theory of Numbers.** Topics in elementary number theory, including properties of integers and prime numbers, divisibility. Diophantine equations, and congruence of numbers. Prerequisite: 252b.

**426-6 (3,3) Mathematical Logic.** (a) Matrix and set theoretic development of the propositional calculus, many-valued logics, modal logics. Completion and consistency proofs for the propositional calculus. (b) A formal development of the predicate calculus and related problems. Must be taken in a,b sequence. Prerequisite: 420a or consent of instructor.

**430-4 Projective Geometry.** Introduction to the fundamental concepts of projective geometry. Topics usually include the study of conics, polar systems of conics, homogeneous coordinates, cross-ratio, harmonic sets, duality, projectivities, and involutions. Prerequisite: 321 or consent of instructor.

**433-3 Theory of Point Sets.** General properties of sets; topology of plane sets; closed sets and open sets in metric spaces, homeomorphisms and continuous mappings, connectedness. Prerequisite: 252b and 6 hours in courses numbered 300 or higher, or consent of instructor.

**440-2 to 4 Modern Algebra for Teachers.** An introduction to algebra as a logical system, including groups, rings, and fields. Prerequisite: consent of instructor.

**442-2 to 4 Survey of Geometry.** A survey of geometry, including projective geometry, topology, etc. Prerequisite: consent of instructor.

**445-2 to 4 Fundamental Concepts of Calculus.** A careful study of the basic concepts of calculus offered as part of the special graduate program for secondary school teachers. Prerequisite: consent of instructor.

**446-2 to 10 Structure of Mathematics.** Designed to assist experienced teachers in extending their understanding of mathematics. (a) Elementary School Mathematics, (b) Junior High School Mathematics. Does not count credit toward a mathematics concentration. Prerequisites: experience in teaching, consent of instructor.

**447-4 The Structure of Secondary School Mathematics.** Designed to assist experienced secondary school teachers in extending their understanding of mathematics. May not be taken for credit after credit has been received for 446 and does not count toward a mathematics concentration. Prerequisites: experience in secondary teaching and consent of instructor.

**452-9 (3,3,3) Advanced Calculus.** Fundamental concepts of analysis: limits, continuity, differentiation, and integration. Major topics include partial differ-

entiation, vector analysis, Riemann-Stieltjes integrals, multiple integrals, infinite series, improper integrals, uniform convergence, Fourier series, and line and surface integrals. Must be taken in a,b,c sequence. Prerequisite: 351.

**455-9 (3,3,3) Advanced Mathematics for the Physical Sciences.** Introduction to various topics such as complex variable theory with applications, operational calculus (Laplace and other transforms), vector field theory, and partial differential equations. May be taken separately or in any sequence. Prerequisite for a: 252b; for b,c: 305a.

**458-6 (3,3) Finite Mathematics.** An introduction to topics in finite mathematics such as logic, sets, probability, linear algebra, and Markov chains. Designed for students preparing for high school teaching and for advanced students in the behavioral sciences. Prerequisite: 252a or consent of instructor.

**460-4 Modern Geometry.** Advanced topics in Euclidean geometry by the synthetic method. Topics include the nine-point circle, Simson line, theorems of Ceva and Menelaus, coaxial circles, harmonic sections, poles and polars, similitude, and inversion. Prerequisite: 20 hours of college mathematics.

**472-9 (3,3,3) Computer Science.** An introduction to computing systems and the mathematics of computation. (a) Computer organization, design, and programming systems. (b) Linear system problems, linear programming and network problems. (c) Digital simulation problems, linear and other probabilistic problems. Prerequisites: 225, 305a, 321.

**475-9 (3,3,3) Numerical Analysis.** Introduction to approximation methods including finite differences and interpolation; numerical differentiation and quadrature; least squares approximation; numerical solution of linear and nonlinear systems; numerical integration of systems of ordinary and partial differential equations. Emphasis upon error analysis throughout. Must be taken in a,b,c sequence. Prerequisites: 305a or 252b, consent of instructor.

**480-10 (4,3,3) Probability.** Introduction to probability theory. Includes the algebra of possibilities; discrete and continuous distributions, limit theorems, generating functions, and some elements of stochastic processes. Must be taken in a,b,c sequence. Prerequisite: 252b.

**483-10 (4,3,3) Introduction to Mathematical Statistics.** A mathematical development of the elements of statistical theory. (a) Probability distributions, generating functions, and limit theorems. (b) Statistical inference, estimation, tests of hypotheses, general linear hypotheses. (c) Design of experiments and special topics—a mathematical model approach. Must be taken in a,b,c sequence. Prerequisite: 252b.

**501-9 (3,3,3) Real Variables.**

**505-9 (3,3,3) Theory of Ordinary Differential Equations.**

**510-4 Foundations of Mathematics.**

**520-9 (3,3,3) Modern Algebra.**

**530-3 to 6 Point Set Topology.**

**536-3 Differential Geometry.**

**540-4 Groups and Linear Transformations.**

**545-4 Intermediate Analysis for High School Teachers.**

**550-1 to 10 Seminar.**

**551-9 (3,3,3) Functional Analysis.**

**555-9 (3,3,3) Complex Variables.**

**575-9 (3,3,3) Advanced Topics in Numerical Analysis.**

**580-9 (3,3,3) Mathematical Methods of Statistics.**

**595-1 to 10 Special Project.**

**599-1 to 9 Thesis.**

## Music

**001-3 (1,1,1,0) Bands.** (a) Symphonic Band, (b) University Band, (c) Stage Band, (d) Instrumental Laboratory. May be taken in any sequence. Any part may be repeated. Prerequisite: a,c by audition; b,d by consent of instructor.

**002-7 (1,1,1,1,1,1) Choral Ensembles.** (a) Collegiate Singers, (b) University Chorus, (c) Male Chorus, (d) Women's Glee Club, (e) Southern Illinois University Community Choral Society, (f) Madrigal Singers, (g) Concert Chorale. May be taken in any sequence. Any part may be repeated for twelve quarters. Prerequisite: auditions for a,f,g.

**003-1 University Symphony Orchestra.**

**010-6 (1,1,1,1,1,1) Class Applied Music.** Offered in all areas of applied music



except organ, harpsichord, and harp. Includes minimum instruction required for passing proficiency examinations in piano and voice. Offer practical training in basic principles of playing instruments of orchestra and band. Introductory techniques and methods for teaching instrumental and choral groups in elementary and secondary schools. May be taken in any sequence.

- a. Strings
- b. Woodwinds
- c. Brass

- d. Percussion
- e. Piano
- f. Voice

**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 010e.

**106, 206-15 (5,5,5) Technics and Literature of Music Practice.** Theoretical and historical study of music of all periods from plainsong and folksong to the present; performance and analysis of music within a historical framework which forms the basis for ear-training, sight-reading, conducting, and composition. Five class periods weekly plus laboratory and drill sessions. Prerequisite: piano proficiency or concurrent enrollment in 010e.

**140, 240, 340, 440, 540-2 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 of instructor.

- 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

**141-0 Recital Class.**

**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 010e.

**205-9 (3,3,3) 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.

**206-15 (5,5,5) Technics and Literature of Music Practice.** (See 106.)

**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.

**309-6 (3,3) Orchestration.** The techniques of writing for orchestral instruments. Must be taken in a,b sequence. Prerequisite: 205c.

**312-6 (3,3) Composition.** (a) Original composition in the smaller forms for piano, voice, string quartet, and other small combinations. (b) Original composition in the larger forms. Must be taken in a,b sequence. Prerequisite: 205c.

**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.

**326-6 (3,3) Analysis.** (a) Analysis of the important musical forms and styles from plain song through the 12-tone technique with emphasis on forms of the 18th and 19th centuries. (b) Analysis of the larger homophonic and contrapuntal forms from the 18th century to the present. Must be taken in a,b sequence. Prerequisite: 205c or 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.**

**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.

**414-2 to 6 Collegium Musicum.** Practicum in the preparation and performance of music from early times to the classical period. Prerequisite: music major and/or consent of the faculty.

**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.)

**442-6 (3,3) Contrapuntal Form.**

**451-3 Teaching General Classroom Music.**

**453-4 to 6 Workshop in Common Learnings in Music.**

**455-2 to 6 Elementary Music Education Workshop.**

**461-6 (3,3) (a) Teaching Techniques and Materials for the Beginning and Intermediate Levels.** Designed to meet the needs of applied students in which the problems of private studio teaching and college-level teaching are discussed. (b) **Teaching Techniques and Materials for the Advanced Student.** Prerequisite: 461a.

**462-2 Teaching Techniques and Materials for the Advanced Student.**

**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.

**501-3 Introduction to Graduate Study in Music.**

**502-9 (3,3,3) History and Analysis of Musical Style.**

**515-3 20th Century Literature.**

**518-3 Pedagogy of Music Literature.**

**519-9 (3,3,3,) Vocal Pedagogy and Literature.**

**520-3 American Music.**

**522-3 Seminar: Music History and Literature.**

**535-3 Contemporary Idioms.**

**540-2 or 4 Private Applied Music.** (See 140.)

**550-8 (4,4) Organization and Administration of the Music Education Program.** (a) elementary, (b) secondary.

**553-6 (3,3) Seminar in Materials and Techniques.** (a) choral. (b) instrumental.

**554-3 Seminar in Instrumental Materials and Techniques.**

**556-3 Advanced Conducting.**

**560-2 to 6 Seminar in Music Education.**

**566-1 Instrumental Ensemble.**

**567-1 Vocal Ensemble.**

**599-3 to 9 Thesis.**

## Nursing

Courses on the 300 level are open only to students concentrating in nursing.

**210-4 Nutrition.** A non-laboratory course treating principles of normal nutrition. Stress on the ability to use diet variations with people of different cultural backgrounds and economic levels.

**280-8 (4,4) Nursing and Community Health.** A course designed to introduce the student to nursing by way of the concept of health starting with the community. Included is an introduction to the fundamentals of nursing using the problem-solving approach and using a variety of community agencies other than the hospital as clinical facilities.

**301-8 Nursing I.** Study of the principles of nursing care of mother and baby throughout the maternity cycle. Supervised experience and clinical conferences correlated with theory.

**302-8 Nursing II.** Study of the principles of nursing care of children during illness. Supervised experience and clinical conferences correlated with theory.

**325-8 Psychiatric Nursing.** Emphasis on the nurse-patient relationship, leading to development of interpersonal skills which result in the nurse's ability to observe and interpret behavior, to communicate with others, and to understand the significance of such abilities in a broad social context. Supervised experiences and clinical conferences correlated with theory.

**355-4 Backgrounds and Trends in Nursing.** A study of nursing at the present time in relation to historical and other influences upon it. The implications for its future developments.

**363-22 (8,6,8) Medical-Surgical Nursing.** (1) Investigations of the scientific basis of health and physical, emotional, mental, and social deviations caused by illness. Learning experiences are based on the scientific knowledge obtained in related and correlated subjects. Emphasis upon the health needs of individuals and society, cooperative endeavors with members of the health team, and the professional nurse's unique contribution in term of preventive, therapeutic, and rehabilitative care. (2) Supervised experience and correlated conferences in the care of individuals with medical and surgical conditions.

**375-8 Nursing V.** Objectives, principles, and practices in public health nursing, application of nursing science and art, and their relationship to family and community living. Supervised experience in a public health agency conducting a generalized program. Includes orientation, demonstrations, and conferences.

**382-6 Nursing VI.** Emphasizes the need for responsible leadership in nursing. Basic principles of administration and supervision as means of developing effective relationships within health and nursing teams and other institutional and community situations.

**385-1 to 4 Independent Study.** Student projects and study carried out under guidance in investigation of a problem in an area of interest.

## Personnel and Industrial Relations

**450-4 Personnel Administration.** The functions of the personnel department in an organization; organization for personnel administration; factors affecting the efficiency of personnel; the managerial responsibility for effective personnel administration; personnel practices including recruitment, selection, employment, orientation, evaluation, transfer, promotion, dismissal, grievances, the personnel-centered approach contrasted to the task-centered approach. Case discussion and reports on selected topics assist in developing the varied responsibilities of the personnel function. Prerequisite: General Business Administration 340.

**451-4 Labor Relations Law and Collective Bargaining.** An analysis of labor relations legislation and the complex interrelations of management, employees, and labor unions, as well as of collective bargaining contracts, their scope, enforceability, and significance to labor relations. Cases and reports are incorporated. Prerequisite: General Business Administration 340.

**452-4 Advanced Problems in Personnel Administration.** Analysis of special problems of personnel administration in periods of rapid technological change. Case problems and reports are used to emphasize such pertinent areas as wage



and salary administration, automation, unemployment, training, productivity, and the administration of technical and scientific personnel. Prerequisite: 450.

**453-4 Advanced Problems in Industrial Relations.** Exploration and development of labor, management, and government relations. A study of conflict and harmony between them as individual units and as a totality. Emphasis is placed on the internal grievance procedure and the roles of the National Labor Relations Board, Federal Mediation and Conciliation Service, arbitrators, and other tripartite bodies in Industrial Relations. Cases and reports are incorporated. Prerequisite: 451.

## 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.

**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.

**342-4 Social and Political Theory.** Philosophical analysis of social values and their expression in governmental organization.

**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, Educational Administration 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.

**GSC 360-6 (3,3) Arts and Ideals in Famous Cities.**

**GSA or GSC 363-6 (3,3) Philosophy of Science.**

**GSC 375-6 (3,3) Ethics.**

**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.

**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 topics 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

**025-0 Orientation.**

**303-5 Kinesiology.** Study of joint and muscle action as a basis for the mechanical analysis of human physical movement in daily life and in physical education activities and sports.



**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.

**312-2 to 6 Playground Leadership.** (Field Experiences).

**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.

**341-3 Principles of Physical Education.** The scientific foundations of physical education based on accepted principles of psychology, physiology, sociology, biology, educational method, philosophy, anatomy, kinesiology, and related areas.

**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.

**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.)

**352-2 History and Physical Education.** A study of the background and development of physical education.

**354-3 Organization and Administration of Physical Education and Athletics.** The organization and conduct of the total program of physical education including interscholastic athletics based upon accepted educational policies and practices. Emphasis on problems of administration.

**355-2 Techniques of Teaching Swimming.** Methods of teaching, analysis of strokes, and the devices for teaching swimming and life saving. Prerequisite: senior lifesaving.

**365-2 to 4 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.

**370-4 Tests and Measurements in Physical Education.** Measurements as an aid in determining student needs, curriculum construction, teaching effectiveness, and the attainment of educational objectives. Includes the selection, administration, and interpretation of tests.

**376-3 Emergency Care and Prevention of Athletic Injuries.** The theoretical and practical methods of preventing and treating athletic injuries. Techniques of taping and bandaging, emergency first aid, massage, use of physical therapy modalities.

**381-4 Theory of Coaching.** Principles underlying participation in competitive interscholastic athletics. Theory of coaching sports, technique, strategy, organization and administration of programs.

**382-4 Methods and Materials in Secondary Schools.** Preparation of teachers and supervisors for group management related to recreational activities. Emphasis on proper class arrangements for maximum teaching effectiveness. Considerable attention to appropriate teaching material.

**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. Prerequisites: GSE 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 Developmental 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: GSE 118s.

**389-4 Affiliation in Physical Education.** Observing and assisting instructor in planning, scheduling, and conducting a physical education program. Students acquire this experience by working in area schools. Prerequisite: consent of instructor.

**390-3 Evaluation Techniques in the Elementary School Physical Education Program.** A study of 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.

**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.

**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.

**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.

**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.

**500-4 Techniques in Research.**

**501-4 Curriculum in Physical Education.**

**502-4 Foundations of Motor Skills.**

**503-4 Seminar in Physical Education.**

**504-4 Problems in Physical Education.**

**509-4 Supervision of Health and Physical Education.**

**525-1 to 6 Readings in Physical Education.**

## 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: GSD 114a.

**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, optics. (c) Electrostatics, electric current theory, magnetism, and electromagnetic waves. Three lecture and two recitation hours per week. Must be taken in a,b,c or a,c,b sequence. Prerequisite: (a) Mathematics 150a or concurrent enrollment; (b,c) 211a, Mathematics 150b or concurrent enrollment.

**212-3 (1,1,1) University Physics Laboratory.** Experiments in mechanics, heat, sound, light, electricity, and magnetism. Meets three 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, or 206, and Mathematics 150b.

**300b-1 University Physics Laboratory IV.** Classic experiments in modern physics; Millikan oil drop,  $e/m$ , Franck-Hertz, Foucault velocity of light and black body radiation along with experiments in nuclear physics. Prerequisite: 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. Prerequisites: 211a, Mathematics 252b.

**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. Prerequisite: 211b.

**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: 211c, Mathematics 351, or concurrent enrollment.

**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. Prerequisite: 211, Mathematics 252b, or concurrent enrollment.

**311-1 Optics Laboratory.** Advanced experiments in geometrical and physical optics. Two laboratory hours per week. Prerequisite: 310 or concurrent enrollment.

**375-0 to 6 Seminar.** Topics selected from a wide range of physical theories and applications (maximum credit per quarter 2 hours). Prerequisite: consent of instructor. Junior or senior standing recommended.

**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.

**415-12 (4,4,4) Modern Physics.** Elements of wave mechanics, atomic and nuclear physics, and special relativity. Must be taken in a,b,c sequence. Prerequisites: 300a, Mathematics 305.

**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. Prerequisite: 300 or consent of instructor.

**420-2 to 5 Special Projects.** Each student is assigned to a definite investigative topic. Adapted to advanced undergraduate students. Prerequisite: 8 hours of physics courses above 300.

**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.

**445-8 (4,4) X-Ray Crystallography.** (a) Symmetry elements, development of space groups, reciprocal space, geometrical theory of diffraction, determination of lattice parameters, Fourier representations of periodic structure. (b) Production of X-rays, kinematical theory of X-ray diffraction, diffraction techniques, factors affecting the intensity of reflections, extinction contrast methods, introduction to the dynamical theory. Must be taken in a,b sequence. Prerequisite: 300.

**450-3 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: 300, 305; 304 or consent of instructor.

**510-9 (3,3,3) Classical Mechanics.**

**530-9 (3,3,3) Electromagnetic Theory.**

**531-9 (3,3,3) Quantum Mechanics.**

**540-3 Nuclear Physics.**

**560-3 Statistical Mechanics.**

**570-3 Solid State Physics.**

**575-1 to 4 Graduate Seminar.**

**580-3 to 6 Selected Topics in Physics.**

**590-1 to 9 Research in Physics (Thesis).**



## Production

**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 procedures 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

**211-8 (4,4) Principles and Methods of Psychology.** An introduction to the experimental methods utilized in the study of behavior. (a) The application of methods to the study of sensation, perception, and learning; (b) The analysis and interpretation of psychological data. Lecture and laboratory. Prerequisite: GSB 201c.

**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: GSB 201c.

**303-4 Adolescent Psychology.** Examines the physical and psychological development of the adolescent, and the relevance of childhood development to adolescent problems. Prerequisite: GSB 201c.

**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: GSB 201c.

**305-4 Introduction to Personality Dynamics.** Exploration of human motivations, personality patterns, and ways of coping with the stresses of modern life. Prerequisite: GSB 201c.

**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: GSB 201c.

**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: 211a,b.

**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: 311.

**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: 311.

**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: 311.

**320-4 Industrial Psychology.** A study of the functions of psychology as a science and as a profession in contemporary business and industry. Prerequisite: GSB 201c.

**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.

**406-4 Learning Processes and Applications.** An examination of processes by which behavior is acquired, changed, or extinguished; an application of learning principles developed in the learning laboratory. Prerequisite: 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: signed consent of psychology adviser.

**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: GSB 201c.

**421-4 Psychological Tests and Measurements.** Principles of psychological measurement, including errors of measurement, techniques for 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. Prerequisites: 211b, consent of instructor.

**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 of instructor.

**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.

**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: 320 or consent of instructor.

**471-4 Work Methods and Measurement.** A study of the analysis and evaluation 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 tech-



niques 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.

**501-12 (4,4,4) Proseminar in General Psychology.**

**512-4 Sensory Processes.**

**514-8 (4,4) Physiological Psychology.**

**520-4 Research Design & Inference I.**

**521-4 Research Design & Inference II.**

**522-4 Research Design & Inference III.**

**530-4 Personality Theory and Dynamics.**

**531-2 to 4 Advanced Psychopathology.**

**537-4 Counseling and Psychotherapy.**

**541a-4 Psychodiagnostics I.**

**541b 2 to 4 Psychodiagnostics I.**

**543-6 (4,2) Psychodiagnostics II.**

**552-4 Experimental Child Psychology.**

**556-2 Psychological Treatment of the Child.**

**561-4 Social Influence Processes.**

**564-4 Communication and Group Behavior.**

**571-4 Industrial Motivation and Morale.**

**590-1 to 16 Readings in Psychology.**

**591-1 to 36 Research in Psychology.**

**593-1 to 18 Practicum in Psychology.**

**598-2 Ethical and Professional Problems in Psychology.**

**599-1 to 9 Thesis.**

### Quantitative Methods

**210-4 Probability in Decision Making.** Introduction to certain modern mathematical concepts and methods applicable to business decisions including probability, probability distributions, and elements of calculus. Prerequisite: GSD 114d.

**211-4 Statistical Analysis for Business Decisions.** A further exploration of statistical concepts as applied to business situations including analysis of variance, multiple regression analysis, and non-parametric statistics, under conditions of uncertainty. Prerequisite: 210.

**310-4 Operations Research for Managers.** An introduction to the body of analytical techniques comprehended by the phrase "operations research" with emphasis upon their application to business situations. Includes an introduction to matrix algebra and its use in linear programming. Prerequisite: 211.

**510-4 Statistical Analysis for Decision-Making.**

**511-4 Quantitative Methods for Decision-Making.**

**513-4 Deterministic Models in Decision-Making.**

**518-4 Seminar in Probabilistic Models.**

### Rehabilitation

**480-2 Introduction to Rehabilitation** A survey of historical and legal developments in rehabilitation agencies, with particular emphasis on current theories and trends.

**511-2 to 4 Vocational Developments and Occupational Choice.**

**519-2 Selection, Placement, and Follow-up.**

**531-2 Vocational Appraisal.**

**541-2 Medical Aspects of Rehabilitation.**



561-2 **Psycho-Social Aspects of Disability.**  
580-1 to 6 **Practicum in Rehabilitation Services.**  
585-4 **Practicum in Rehabilitation Counseling.**  
589-0 to 12 **Internship in Rehabilitation.**

### Science and Technology

**390-1 to 15 Science and Technology Honors.** Honors work in the biological sciences, chemistry, mathematics, or physics. Entrance by invitation of the Science and Technology Honors Program Committee. Prerequisite: junior or senior standing.

**400-3 Concepts of Classical Physics.** Classical physics from a phenomenological point of view and at a level which does not require a previous course in the calculus. Primarily for teachers of the physical sciences; subject matter is related to texts and materials available in the teachers' own schools.

**402-4 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. Includes a qualitative discussion of atomic and nuclear physics. Prerequisite: 400 or Physics 206.

**403-6 (3,3) Experiments and Techniques of Physics.** Students perform experiments and consider equipment for teaching physics at the pre-college level. Lectures on experimental techniques.

**415-1 to 3 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.

### Secondary Education

**315-4 High School Methods.** Study and discussion in various types of procedures used for effective classroom teaching. The problem approach and unit method are stressed. Prerequisites: Counselor Education 305, Educational Administration 355.

**352d-8 to 16 Secondary Student Teaching.**

**352e-4 to 8 Advanced Secondary Student Teaching.** Prerequisite: 352d-8.

**407-4 The Junior High School.** The place of the junior high school in the organizational pattern, with major emphasis upon the areas of organization, administration, and curriculum.

**440-3 to 4 Teaching Reading in High 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: Counselor Education 305.

**480-4 Backgrounds of Urban Education.** (See Educational Administration 480 and Elementary Education 480.)

**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.

**505-4 Improvement of Reading Instruction.**

**507-2 to 4 Readings in Reading.**

**508-4 Seminar: Trends in Selected Areas in Secondary Schools.**

**509-4 to 8 Practicum in Reading.**

**514-4 Organization and Administration of Reading Programs.**

**518-2 to 4 Supervision of Student Teachers.**

**521-12 (4,4,4) Diagnosis and Correction of Reading Disabilities.**

**550-4 Core Curriculum in the Secondary School.**

**562-4 The High School Curriculum.**

**564-4 High School Principalship.**

**567-12 (4,4,4) Teaching Competencies and Their Application.**

**570-4 Extra-Class Activities.**

**575-2 to 4 Individual Research.**

**591-4 Workshop in Current Problems in Secondary Education.**

**596-5 to 9 Independent Investigation.**

**597-1 to 3, 598-1 to 3, 599-1 to 3 Thesis.**

### **Social Welfare**

**380-4 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: GSB 103a.

**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: GSB 103a or 201c.

**389-2 to 5 Readings in Social Welfare.**

**481-4 Processes in Social Work.** 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: consent of instructor.

**482-4 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.

### **Sociology**

Courses in sociology are listed according to numerical order. However, the second digit in the course number indicates its field as follows:

- 00-09 General Sociology
- 10-19 Methodology and Research Techniques
- 20-29 Social Psychology
- 30-39 Social Organization and Structure
- 40-49 Family
- 50-59 Sociology of Knowledge
- 60-69 Social Disorganization and Deviance
- 70-79 Special Fields
- 80-89 Applied Fields

**241-4 Marriage and Parenthood.**

**301-4 Principles of Sociology.** The structure and functions of social relationship systems, both simple and complex. Analysis of processes of social differentiation, integration, and disorganization. Prerequisite: junior standing.

**302-4 Contemporary Social Problems.** Discussion and analysis of selected contemporary social problems with consideration of alternative courses of action. Prerequisite: 301.

**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 GSB 103a.

**308-3 Statistics for Social Science.** Methods and application of statistics in the social sciences. Statistical methods in demography, ecology, testing and guidance, social problems. Examination of empirical studies in these and related areas. Prerequisite: junior standing or consent of instructor.

**312-4 Elements of Sociological Research.** Types of research. Principles and steps in research procedure. Selected techniques. Prerequisite: 308 or GSD 114d.

**320-4 Race and Minority Group Relations.** Racial and cultural contacts and conflicts; causes of prejudice; status and participation of minority groups; national and international aspects of minority problems.

**321-4 Socialization of the Individual.** 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 GSB 103a.

**322-4 Propaganda and Public Opinion.** Techniques and characteristics of propaganda; methods of measuring public opinion. Prerequisite: 301 or GSB 103a.

**332-4 Social Organization.** An examination of the determinants of social or-



ganization; intensive analysis of institutional configurations, social stratification, and systems of social control; review of significant writing. Prerequisite: 301.

**333-4 Community Organization.** Factors involved in community organization; types, aims, and objectives; community diagnosis; individual case study of specific community. Prerequisite: 301 or GSB 103a.

**335-4 Urban Sociology.** The rise, development, structure, culture, planning, and problems in early and modern cities. Prerequisite: 301 or GSB 103a.

**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 GSB 103a.

**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 GSB 103a.

**GSB 341-3 Marriage.**

**351-4 Sociology of Religion.** Function of religious institutions in society and their relationship to other major social institutions; role in social control and group solidarity. Prerequisite: 301 or GSB 103a.

**371-4 Population and Migration.** Characteristics of population, problems of growth, composition, distribution differential fertility, international and internal migration. Prerequisite: 301 or consent of instructor.

**372-4 Criminology.** The nature of crime; criminal statistics; causal factors; theories and procedures in prevention and treatment. Prerequisite: consent of instructor.

**373-4 Juvenile Delinquency.** Nature of juvenile delinquency; factors contributing to delinquent behavior; treatment and prevention.

**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 GSB 103a, or consent of instructor.

**388-3 Workshop in Inter-Group Relations.** Designed to provide theoretical and practical understanding of the cultural, social, and psychological factors associated with inter-group tension. Participants concentrate their efforts on problem-solving activities related to their occupational, professional, or civic interests. Resource and consultative staff from the academic areas of education, psychology, sociology, and social work. Prerequisite: 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 social thought. Reading, reporting, and evaluating content of leading sociological journals. Prerequisite: consent of instructor.

**406-4 Social Change.** 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 or GSB 103a.

**412-4 Sociological Research.** Application of the scientific method to sociological problems. The role of theory. Principles of good research design, measurement, sampling and analysis. Prerequisite: graduate status 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: 321 or 322, or consent of instructor.

**426-4 Social Factors in Behavior and Personality.** How group situations and values affect behavior and shape personality; development of concepts, role-concepts, attitudes, values; theories of motivation; self-concepts; conflicting social values in relation to individual motivation. Prerequisite: 321 or Psychology 305, or consent of instructor.

**427-4 Personality and Social Adjustment.** Basic mechanisms of adjustive behavior; concepts and criteria of personal integration and social adjustment; varieties of adjustive and non-adjustive behavior; theories of personal organization and disorganization; selected problems. Prerequisite: 321 or Psychology 305 or consent of instructor.

**435-4 Social Stratification.** A comparative study of social class systems, with emphasis on the American systems. Relationships of class position to behavior in family, religion, politics, etc. Prerequisite: 301 or GSB 103a.

**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 or GSB 103a.

**450-4 Social Thought I: Before 1800.** The ideological basis of Western society. The classical foundations. Trends of thought from the Renaissance to the Enlightenment. Prerequisite: consent of instructor.

**451-4 Social Thought II: The Sociological Movement.** From romanticism to realism; rise and development of scientific social thought. Prerequisite: 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 or GSB 103a.

**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. Prerequisite: 372 or consent of instructor.

**483-3 Current Problems in Corrections.** An exploration of contemporary problems in the control and treatment of sentenced offenders. Prerequisite: consent of instructor.

**484-4 Survey Course in Marriage Counseling.** Survey and analysis of the field of marriage counseling; assessment of current practices and techniques in terms of contemporary sociological theory. Prerequisites: GSB 341, 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: consent of instructor.

**489a-3 The American Correctional System.** A survey of the correctional field covering probation, institutions, and parole; their historical development, organizational structure, program content, and current problems.

**489b-4 Probation, Classification, and Parole.** An introduction to the structure and function of those elements of the correctional process primarily concerned with the evaluation, treatment, and control of offenders with particular attention to the casework components of the process.

**501-4 Survey of Sociological Theory.**

**504-4 Seminar in American Sociology.**

**506-4 Seminar in Contemporary Sociological Theory.**

**519-4 Methodological Foundations of the Social Sciences.**

**521-4 Seminar in Social Psychology.**

**534-4 Seminar in Intergroup Relations.**

**538-4 Seminar in Industrial Sociology.**

**542-4 Seminar on the Family.**

**596-2 to 12 Readings in Sociology.**

**599-2 to 9 Thesis.**

## Special Education

**351d-8 Elementary Student Teaching.**

**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.** Objectives, curriculum, methods, and materials of instruction for slow learners. Emphasis upon the principles of learning as they can be applied to this group. Observations. Prerequisite: Counselor Education 305 or Psychology 301 or 303.

**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.

**413a-4 Directed Observation of the Emotionally Disturbed.** Taken concurrent-

ly with 410a. Provides student observation and participation in individual work with emotionally disturbed children.

**413b-4 Directed Observation of the Educable Mentally Handicapped.** Taken concurrently with 410b. Provides student observation and participation in individual work with educable mentally handicapped children. Prerequisite: consent of instructor.

**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. Prerequisites: Counselor Education 305, Psychology 301 or 303.

**420a-4 Methods and Materials in the Education of the Emotionally Disturbed.** Offered in conjunction with practice teaching. Methods and materials needed in teaching emotionally disturbed children.

**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.

**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, seniors, and graduate students in education.

**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.

**501-4 Special Research Problem.**

**513-4 Organization, Administration, and Supervision of Special Classes.**

**517-4 The Atypical Child and Social Agencies.**

**518-4 Workshop in Special Education.**

**570-2 Seminar: Vocational Guidance of the Handicapped.**

**571-2 Special Problems of the Handicapped I.**

**572-2 Special Problems of the Handicapped II.**

**577-4 to 12 Practicum in Special Education.**

**580-8 (4,4) Seminar: Education of Exceptional Children.**

**590-12 (4,4,4) Seminar: Mental Retardation.**

## Speech

**104-4 Training the Speaking Voice.** Designed for those students who desire to improve their voice and articulation. Prerequisite: GSD 103.

**202-3 Principles of Discussion.** Principles and methods of group discussion. Current problems used as materials for discussion.

**205-3 Principles of Argumentation and Debate.** Principles of argument, analysis, evidence, reasoning, fallacies, briefing, and delivery.

**224-4 Communicative Reading.** Study of and practice in the analysis of literature and its oral communication to an audience.

**301-4 Persuasion.** Psychological principles involved in influencing individuals and groups.

**303-4 Business and Professional Speaking.** Speaking needs of business and professional people. Technical reports and lighter types of speaking included in the types studied. Primarily for adult and extension classes.

**309-1 Forensic Activities.**

**406-4 Teaching Speech in Secondary Schools.** Philosophy of speech education, and effective teaching of speech through curricular and extra-curricular work. Prerequisite: 16 hours of speech.

**407-8 (4,4) History of American Public Address.** Critical studies of American



speakers; selected speakers and speeches which reflect the dominant social and political ideas in American history. A lecture, reading, and discussion course. May be taken separately.

**408-4 Psychology of Speech.** Nature and development of speech, its basic psychology, and the part speech plays in personality development.

**449-4 General Semantics.** Means of changing implications so that language, in spoken or written form, describes the life facts.

### Speech Pathology and Audiology

**100-0 to 2 Speech Clinic.** Designed for students with speech and hearing deviations who need individual help.

**200-4 Phonetics.** Instruction in the use of phonetic symbols to record the speech sounds of midland American English, with emphasis on ear training, and a description of place and manner of production of these sounds.

**203-4 Introduction to Speech Science.** An introduction to the science of general speech including the history of research in the field and significant experimental trends in the future. Open to all students.

**212-4 Articulatory Problems and Delayed Speech.** Designed to acquaint the student with articulatory speech defects. Diagnostic and therapeutic techniques stressed. Prerequisite: 200 or concurrent registration.

**318-4 Voice and Cleft Palate.** Voice disorders including cleft palate. Prerequisite: 212 or consent of instructor.

**319-4 Stuttering.** Deals with diagnostic and therapeutic techniques for the understanding and treatment of stuttering. Prerequisite: 212 or consent of instructor.

**405-12 (4,4,4) Practicum in Speech and Hearing Therapy.** Clinical and school procedures in speech correction and audiology. One hour of class per week, and two hours of clinical activity or work on clinically related projects for each hour of credit. Prerequisite: junior standing in department. 405a (fall) emphasizes therapeutic procedures. 405b (winter) emphasizes diagnostic techniques. 405c (spring, summer) emphasizes the utilization of forms and the preparation of reports. May be taken in any sequence.

**406-4 Techniques and Interpretation of Hearing Tests.** Principles and techniques of testing the hearing and interpreting those tests in terms of the individual's needs.

**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 or consent of instructor.

**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: 406 or consent of instructor.

**428-4 Speech Correction for the Classroom Teacher.** (See Special Education 428.)

### 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.

**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. Examinations and research papers. Prerequisite: 100.

**201-8 (4,4) Broadcast Writing.** A skills-content course. (a) Radio. (b) Television. Continuity forms, including features, commercials, promotional announcements, etc. The aesthetic considerations of script writing as a part of the cultural pattern of the community. Two lectures per week, extensive writing assignments. Prerequisites: (a) typing skills; (b) 201a, typing skills.

**202-4 Broadcast Performance.** A skills course. Provides extensive studio practice 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. Prerequisite: 201-4 or demonstration of equivalent skills.

**251-3 Survey of Broadcasting.** The history of the American system of broadcasting including the industry network structure, and local station organization and economics. Various systems of foreign broadcasting.

**273-3 Fundamentals of Radio Program Production.** Techniques of producing and directing various types of radio programs with emphasis on the creative use of sound effects and music. Matters of timing, pacing, perspective, and microphone techniques.

**274-5 Basic Television Production.** Use of equipment and basic techniques in production of television programs of all types. Three one-hour lectures, one four-hour laboratory per week.

**300-5 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 within the University in planning and producing programs. Three lecture-critique sessions, four laboratory hours per week. Prerequisite: 201a.

**301-5 Television Production.** A skills-content course. Practice in using television equipment for broadcast purposes. Videotape techniques, the use of film and other visual devices. Planning and production of television programs for WSIE-TV and other broadcast agencies. Use of materials and traditions of other disciplines. Three lecture-critique sessions, four laboratory hours per week. Prerequisite: 201b.

**302-4 Broadcast News.** Intensive study and practice in broadcast journalism. Writing, researching, rewriting, use of audio and video recording, 16 MM film for television, preparation of newscasts for WSIE-FM and WSIE-TV. Style, delivery, format, and related areas. Two one-hour lectures, four hours required laboratory per week. Prerequisite: 201 and/or Journalism 103.

**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.

**358-4 Radio Writing.** Oral forms of writing for radio, including commercials, features, music scripting, women's and children's programs. Prerequisite: 273.

**359-4 Television Writing.** The writing of continuity forms and dramatic and documentary scripts for television with emphasis on development of ideas and plot construction. Prerequisites: 273, 358.

**393-3 Radio, Television, and Society.** The interrelation of radio and television with social habit patterns and with economic and political systems. International broadcasting. Prerequisite: 251.

**400-4 Seminar in Mass Communications: Mixed Media.** 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: senior standing, 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. Prerequisites: senior standing, completion of other broadcast concentration courses.

**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. Prerequisites: 200, consent of instructor.

**405-4 Television Documentary.** The filmed and/or taped documentary as a basic programming concept in American television. The use of tools, editing, sound, sound and videotape recording. Selection of topics, research, planning, budgeting, etc. Group preparation of filmed and/or videotaped projects for television. Prerequisites: 201b, consent of instructor, senior standing in a mass communications sequence.

**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. Prerequisites: 201, 300, 301.

**407-4 International 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.

## Theater

**100-18 (0,2,4, or 6 per quarter) Theater 100.** First year work in theater. Lecture-studio. Main stage major production and/or studio theater minor production activity.

**GSC 157-5 The Dramatic Media: Theater, Cinema, and Television.**

**200-18 (0,2,4, or 6 per quarter) Theater 200.** Second year work in theater. Lecture-studio. Main stage major production and/or studio theater minor production activity. Prerequisite: 100.

**224-4 Communicative Reading.**

**300-18 (0,2,4, or 6 per quarter) Theater 300.** Third year (intermediate level) work in theater. Lecture-seminar-studio. Main stage major production and/or studio theater minor production activity. Prerequisites: 100, 200.

**GSC 354-9 (3,3,3) History of the Theater.**

**400-18 (0,2,4, or 6 per quarter) Theater 400.** Fourth year (advanced level) work in theater. Seminar-studio. Main stage repertory theater assignment. Prerequisites: 100, 200, 300.

**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.

**410-3 Children's Theater.**

## ASSOCIATE DEGREES

### 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 aides 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 natural 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.



# 9 / Faculty

## **Business Division**

### *Accounting*

*Associate Professors* Donald Bedel, Ph.D., C.P.A.; James Eaton, Ph.D.; Irwin Jarett, Ph.D. (*Chairman*); Richard Milles, M.S., C.P.A.; Joseph Small, M.B.A., C.P.A.

*Assistant Professors* Albert Ameiss, Ph.D.; Burton Nissing, M.S., C.P.A.; Norbert Schmidt, M.S.

*Lecturer* Michael Bitsas, B.S.

*Instructor* John Mains, B.S., C.P.A.

### *Business Administration*

*Professors* Walter Blackledge, Ph.D.; Homer Cox, Ed.D.; John Glynn, Ph.D.; Arthur Hoover, Ph.D. (*Chairman*); Kenneth Myers, Ph.D.; Ralston Scott, Ph.D.

*Associate Professors* Kumar Jain, Ph.D.; Don Livingston, Ph.D.; John Meador, Ph.D.; Stanley Sokolik, Ph.D.

*Assistant Professors* Emery Casstevens, B.S.; Billy Hudgens, M.S.

*Instructors* Russell Bauer, M.B.A.; Dale Blount, M.S.; Morris Carr, B.S.; James Miller, M.S.; Milo Pierce, M.A.; Roger Patter, M.B.A.; Luther Statler, M.S.

*Lecturers* Arnold Franke, M.S.; Richard McKinney, M.A.

### *Business Education*

*Professors* Mary Brady, Ed.D. (*Chairman*); Wilmer Maedke, Ph.D.

*Associate Professors* Gene Houser, Ed.D.; Elise Palmer, Ed.D.; Patricia Patsloff, M.S.

*Assistant Professor* Wayne Eirich, Ed.D.

*Instructor* Wayne Giles, M.S.; Max Hansel, M.A.; Mary Vaughn, B.S.

### *Economics*

*Professors* Leo Cohen, Ph.D.; Louis Drake, Ph.D.; Howard Dye, Ph.D. (*Chairman*).

*Associate Professors* Rasool Hashimi, Ph.D.; Michael Keran, Ph.D.; David Luan, Ph.D.; Ann Schwier, Ph.D.

*Assistant Professors* Albert Burger, Ph.D.; An-Yhi Lin, Ph.D.

*Lecturer* Daniel Carbaugh, M.A.

### *Management Science*

*Associate Professors* Robert Hoeke, Ph.D. (*Chairman*); Boulton Miller, Ph.D.

*Assistant Professor* Paul Tarpey, M.S.

*Lecturers* Jeanette Davenport, M.B.A.; John Ingwerson, M.B.A.; Don Rogier, M.S.; Wayne Wheelhouse, M.A.

### *Marketing*

*Professor* James Gwin, Ph.D.

Assistant Professor Warren DeBord, M.B.A.  
Lecturer Daniel Bosse, M.B.A.

### **Education Division** *Counselor Education*

*Professors* Howard V. Davis, Ed.D.; Cameron W. Meredith, Ph.D.; Daniel W. Soper, Ph.D.  
*Associate Professors* Thomas W. Hansmeier, Ed.D.; William Mermis, Ph.D.; John J. McBride, Ed.D. (*Chairman*); Dean E. Rochester, Ed.D.; Raymond Troyer, Ph.D.  
*Assistant Professors* Thomas D. Evans, Ph.D.; Virginia Moore, Ed.D.; James J. Pancrazio, Ed.D.; William R. Whitney, Ph.D.  
*Instructors* William D. Burcky, M.A.; Philip L. Eckert, M.S.; Robert S. Gil-land, M.S.; Robert M. Reed, Jr., M.S.; David R. Van Horn, M.S.

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*Visiting Professor* Helen Ederle, M.A.

### *Educational Administration*

*Professors* George C. Ackerlund, Ph.D.; Robert G. Andree, Ed.D.; H. Bruce Brubaker, Ed.D.; Leonard B. Wheat, Ph.D.; W. Deane Wiley, Ph.D.  
*Associate Professors* Merrill Harmin, Ph.D.; George T. Wilkins, M.A.  
*Assistant Professor* Stefan Krchniak, Ph.D. (*Chairman*).

### *Health, Recreation, and Physical Education*

*Associate Professor* Zadia C. Herrold, P.E.D. (*Chairman*).  
*Assistant Professors* Rosemarie Archangel, Ph.D.; Arthur L. Grist, M.P.H.; Walter C. Klein, H.S.D.; Norman E. Showers, Ed.D.  
*Instructors* Louis A. Bobka, M.S.; William L. Brick, M.S.; Harry J. Gallatin, M.A.; Robert M. Guelker, M.S.; Roy E. Lee, M.A.; George C. Luedke, Jr., M.P.E.; Myrna L. Martin, M.S.; Larry N. Moehn, M.S.; Jack J. Whitted, M.S.  
*Lecturer* Sara Carpenter, B.S.

### *Instructional Materials*

*Associate Professor* Eldon Madison, Ph.D. (*Chairman*).  
*Assistant Professor* Vykuntapathi Thota, Ph.D.  
*Instructors* Robert Gilligan, M.S.; Deanna Holzberlein, M.L.S.

### *Psychology and Psychological Services*

*Professors* Alfred E. Kuenzli, Ed.D.; Lawrence E. Taliana, Ph.D.  
*Associate Professors* Erwin H. Brinkman, Ph.D. (*Chairman*); Robert O. Engbretson, Ph.D.; Eva D. Ferguson, Ph.D.; Virginia N. Harris, Ph.D.; John N. McCall, Ph.D.; Frank B. McMahon, Ph.D.; J. Robert Russo, Ed.D.; Kathryn K. Skinner, Ph.D.; Fay H. Starr, Ph.D.; Richard P. Walsh, Ph.D.  
*Assistant Professors* David L. Clodfelder, Ph.D.; Robert Daugherty, Ph.D.; Bernard J. Hartman, Ph.D.; Robert McLaughlin, Ph.D.  
*Instructor* Daniel W. Behring, M.A.

### *Special Education and Rehabilitation*

*Professor* Mark M. Tucker, Ed.D.  
*Associate Professors* Orval G. Johnson, Ph.D. (*Chairman*); Charles V. Matthews, M.A.  
*Assistant Professors* Samuel Bernstein, M.Ed.; V. Faye Shaffer, Ed.D.  
*Instructors* Hurlie M. Coose, M.Ed.; Wayne Reinking, M.S.; Saville Sax, M.S.; Brockman Schumacher, M.A.; Lynn Zenk, M.S.

### *Teacher Education and Curriculum*

*Professors* David E. Bear, Ed.D.; Ralph W. Ruffner, Ed.D.; Herbert F. A.



Smith, Ph.D.; H. Dene Southwood, Ed.D.; Francis T. Villemain, Ed.D. (*Chairman*); G. K. Dale Wantling, Ph.D.  
*Associate Professors* Gordon C. Bliss, Ed.D.; Henry T. Boss, Ed.D.; Regan Carpenter, Ed.D.; George H. Goodwin, Ed.D.; S. Joseph Gore, Ph.D.; Olin L. Hileman, Ed.D.; Ruth W. Richardson, Ed.D.; John Schnabel, Ed.D.; Myllan Smyers, Ed.D.; Leslie J. Wehling, Ed.D.  
*Assistant Professors* Warren L. Brown, Ed.D.; James M. Comer, Ed.D.; A. Dudley Curry, Ph.D.; Donald Darnell, Ed.D.; Austin Helsel, Ed.D.; Arthur E. Jordan, Ed.D.; Donald C. Madson, Ed.D.; Milo Pierce, Ph.D.; Roy S. Steinbrook, Ed.D.; Richard Swerdlin, Ed.D.  
*Instructors* Theodore Aranda, M.A.; Robert M. Bruker, M.Ed.; Betty Jo Kuenzli, M.S.; Dartha F. Starr, M.S.; M. Harvey Taylor, M.A.  
*Lecturer* David C. Hofmann, M.Ed.

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*Visiting Professor* Charles A. Lee, Ed.D.

## Fine Arts Division

### *Art and Design*

*Professor* Harry H. Hilberry, Ph.D. (*Chairman*).  
*Associate Professors* Evelyn T. Buddemeyer, B.S.; William F. Freund, M.S.; David C. Huntley, M.A.; Leon Jacobson, Ph.D.; Catherine E. Milovich, M.A.; John A. Richardson, Ed.D.  
*Assistant Professors* Nancy B. Altvater, Ed.D.; John Cannon, M.F.A.; Don F. Davis, M.A.; Lawrence Marcell, M.A.; Helen M. Smith, M.S.; Michael J. Smith, M.A.; Gene Trotter, B.S.  
*Instructor* John D. Randall, B.S.

### *Mass Communications*

*Professor* John R. Rider, Ph.D. (*Chairman*).  
*Assistant Professor* Edmund Hasse, M.A.  
*Instructors* Fred Criminger, M.S.; John Moormann, M.S.

### *Music*

*Professors* Lloyd G. Blakely, Mus.A.D. (*Chairman*); Warren Joseph, Ph.D.; John D. Kendall, M.A.; Dale K. Moore, M.M.; Ruth Slenczynska; Edwin B. Warren, Ph.D.  
*Associate Professors* Assen Kresteff, Ph.D.; Dorothy E. Tulloss, Mus.A.D.; Leonard Van Camp, Mus.A.D.  
*Assistant Professors* Clinton D. Fjerstad, N.M.; George K. Mellott, Ph.D.; Herbert Oberlag, M.M.; Richard K. Perry, M.Mus.; Renato Premezzi, M.S.; Robert Schieber, M.M.E.; William Tarwater, Ph.D.

### *Speech and Theater*

*Professors* Andrew J. Kochman, Ph.D.; Keith R. St. Onge, Ph.D.; Hollis L. White, Ph.D. (*Chairman*).  
*Associate Professors* Robert B. Hawkins, Ph.D.; Lynn F. Kluth, Ph.D.; James L. Robinson, M.A.; Richard L. Stope, Ph.D.; William W. Vilhauer, Ph.D.  
*Assistant Professors* Stephen M. Archer, Ph.D.; Leslie B. Branham, Jr., M.F.A.; Alcine J. Wiltz, M.F.A.  
*Instructors* Jerome Birdman, M.A.; Dan R. Salden, M.A.  
*Lecturers* Ann L. Carey, M.S.; Harold H. Haines, M.A.; Emmett L. O'Leary, M.A.

## Humanities Division

### *English*

*Research Professor* John F. McDermott, M.A.  
*Professors* James C. Austin, Ph.D.; James M. Brown, Ph.D.; Robert W. Duncan, Ph.D.; Ellen Frogner, Ph.D.; William T. Going, Ed.D.; Nicholas Joost,

Ph.D.; Marion A. Taylor, Ph.D.; W. Bryce VanSyoc, Ph.D.; Gordon R. Wood, Ph.D.  
*Associate Professors* John I. Ades, Ph.D. (*Chairman*); Dale S. Bailey, Ph.D.; Gertrude Drake, Ph.D.; Edwin Graham, Ph.D.; Stella Revard, Ph.D.; William Slattery, Ph.D.; Jules Zanger, Ph.D.  
*Assistant Professors* Herman Dreifke, M.A.; Daniel F. Havens, Ph.D.; Betty Hoyenga, M.A.; Robert G. Stanley, M.S.; Gladys Steinman, M.A.  
*Instructors* David Butler, M.A.; Janet D. Collins, B.A.; Elizabeth Crook, A.M.; David S. Ireland, M.A.; Barbara Lawrence, B.A.; John P. McCluskey, M.A.; William C. Meyer, M.A.; Garry Murphy, Ph.D.; Jane Pennell, M.A.; Major D. Ragain, M.A.; Barbara Schmidt, A.M.; Betty L. Spitzmiller, M.A.; Norman J. Stafford, M.A.; Raymond K. Suess, M.A.; Alvin Sullivan, M.A.; Eugene Violette, A.B.; Robert J. Ziegler, M.A.

### *Foreign Languages*

*Professors* Paul Guenther, Ph.D.; A. G. Pellegrino, Ph.D. (*Chairman*); Raymond Spahn, Ph.D.  
*Associate Professor* Helen Goode, Ph.D.  
*Assistant Professors* Betty Osiek, Ph.D.; Dan Romani, M.A.; Josef Ryberg, Ph.D.  
*Instructors* James Callanan, B.S.; Martha Heard, M.A.; Sonja Lind, M.A.; Rose Marino, Ph.D.; Alfred Pasqualucci, M.A.  
*Lecturer* Gertrude Marti, M.A.

### *Philosophy*

*Professors* George Linden, Ph.D. (*Chairman*); Gerald Runkle, Ph.D.  
*Associate Professors* William Emblom, Ph.D.; Ronald Glossop, Ph.D.; Norman Livergood, Ph.D.  
*Assistant Professors* John Barker, Ph.D.; John Broyer, Ph.D.; Charles Corr, Ph.D.; Robert Murdoch, M.A.; David Seligman, Ph.D.  
*Instructors* Melvin Brandon, M.A.; Carol Helfrich, M.A.; Carol Keene, M.A.; David Morgan, M.A.  
*Lecturer* Fritz Marti, Ph.D.

## **Science and Technology Division**

### *Biological Sciences*

*Associate Professors* Ralph W. Axtell, Ph.D.; Harold E. Broadbooks, Ph.D.; Marion L. Kumler, Ph.D.; Donal G. Myer, Ph.D.; Jamie E. Thomerson, Ph.D.; Gertraude Wittig, Dr. Rer. Nat.  
*Assistant Professors* Justin Frost, Ph.D.; Richard C. Keating, Ph.D.; Michael R. Levy, Ph.D.; Nancy R. Parker, Ph.D.; Richard B. Parker, Ph.D. (*Chairman*); Kermit O. Ratzlaff, Ph.D.

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*Visiting Professor* Peter V. Savostin, Ph.D.

### *Chemistry*

*Associate Professors* Marinus P. Bardolph, Ph.D.; F. Henry Firsching, Ph.D.; William J. Hufker, Ph.D.; Emil F. Jason, Ph.D.; Irwin H. Parrill, Ph.D.; William J. Probst, Ph.D.; David G. Rands, Ph.D.; J. Edmund White, Ph.D. (*Chairman*).  
*Assistant Professors* Ralph L. Bain, Ph.D.; Henry D. Drew, Ph.D.; Dorothy Gore, Ph.D.; Antony C. Wilbraham, Ph.D.  
*Lecturer* Robert C. Stallard, M.S.

### *Engineering*

*Professors* Julius D. Brown, D.Sc. (*Chairman*); Kermit G. Clemans, Ph.D.; Leonard C. Jones, Ph.D.  
*Associate Professors* George R. Arnold, D.Sc.; Myron C. Bishop, M.A.; Arthur O. Garder, Ph.D.; Orville Goering, Ph.D.; William E. Hord, Ph.D.; Robert



B. Rutledge III, Ph.D.  
Lecturer Clifford H. Fore, B.Ed.

### *Mathematical Studies*

*Professors* Kermit G. Clemans, Ph.D.; Andrew O. Lindstrum, Ph.D.; Robert N. Pendergrass, Ph.D. (*Chairman*); Eric A. Sturley, Ed.D.  
*Associate Professors* William C. Bennewitz, Ph.D.; Arthur O. Garder, Ph.D.; Orville Goering, Ph.D.; Clellie C. Oursler, Ph.D.; Robert B. Rutledge III, Ph.D.  
*Assistant Professors* Florence A. Fanning, M.A.; Ray C. Gwillim, M.S.; Jimmie Ray Hattemer, Ph.D.; Lyman S. Holden, Ph.D.; Irving J. Kessler, Ph.D.; Paul H. Phillips, Ph.D.; George V. Poynor, Ph.D.; G. Gregory Stephens, Ph.D.  
*Instructor* Nadine L. Verderber, M.A.

### *Physics*

*Professors* Mohammed Abdul Hakeem, Ph.D.; Laurence R. McAneny, Ph.D.; William C. Shaw, Ph.D.  
*Associate Professors* Richard R. Boedeker, Ph.D.; Charles Rockman, Ph.D.; Lionel K. Walford, Ph.D.  
*Assistant Professor* Steven G. Sanders, Ph.D. (*Chairman*).  
*Instructors* David R. Slotboom, M.S.; Frederick Zurheide, M.S.

## **Social Sciences Division**

### *Behavioral Sciences*

*Professors* Paul J. Campisi, Ph.D. (*Chairman*); Hyman H. Frankel, Ph.D.; Donald L. Taylor, Ph.D.; Fred W. Voget, Ph.D.  
*Associate Professors* Robert R. Blain, Ph.D.; Robert B. Campbell, Ph.D.; Ernest L. Schusky, Ph.D.; J. Bruce Thomas, Ph.D.  
*Assistant Professors* Donald M. Henderson, Ph.D.; James M. Henslin, Ph.D.; Robert A. Laud Humphreys, Ph.D.  
*Instructors* Jane A. Altes, M.A.; Sidney G. Denny, M.A.; Charles Grubb, M.A.; Boone Hammond, M.A.; James R. Hayes, B.S.; Helen F. Teer, M.S.W.  
*Lecturer* Robert H. Lauer, B.D.

### *Earth Sciences*

*Professors* James E. Collier, Ph.D.; Melvin E. Kazeck, Ph.D. (*Chairman*).  
*Associate Professors* William B. Baker, Ph.D.; Alfred Kahn, M.S.; Harry B. Kircher, Ph.D.; Carl S. Lossau, Ph.D.  
*Assistant Professors* Dorothy J. Gore, Ph.D.; Richard E. Guffy, M.S.; Norman Johnsen, M.A.; Robert L. Koepke, Ph.D.; Robert E. Mendelson, M.U.P.  
*Instructors* James G. Bridwell, M.A.; Donald W. Clements, M.A.; Loran D. Marlow, M.S.; Dennis E. Moellman, M.S.; Noble R. Thompson, M.S.; Ronald E. Yarbrough, M.S.

### *Government and Public Affairs*

*Professors* Kurt Glaser, Ph.D.; William Goodman, Ph.D.; Daniel S. McHargue, Ph.D.; John S. Rendleman, LL.B.  
*Associate Professors* John W. Ellsworth, Ph.D. (*Chairman*); James R. Kerr, Ph.D.; S. D. Lovell, Ph.D.; George R. Mace, Ph.D.; Arthur A. Stahnke, Ph.D.  
*Assistant Professor* Georg Maier, Ph.D.  
*Instructor* William R. Feeney, M.A.; Mary E. Lee, A.B.

### *Historical Studies*

*Professors* Earl S. Beard, Ph.D.; Patrick W. Riddleberger, Ph.D.; Herbert H. Rosenthal, Ph.D.  
*Associate Professors* Michael C. Astour, Ph.D.; Robert F. Erickson, Ph.D.

(*Chairman*); John G. Gallaher, Ph.D.; Stanley B. Kimball, Ph.D.; Allan J. McCurry, Ph.D.  
*Assistant Professors* Nedra R. Branz, M.A.; James M. Haas, Ph.D.; Linda M. McKee, Ph.D.; Richard L. Millett, Ph.D.; Samuel C. Pearson, Ph.D.; Wayne D. Santoni, Ph.D.; Ronald A. Steckling, Ph.D.; Stuart L. Weiss, Ph.D.  
*Instructors* Warren L. Barnhart, M.A.; Boyd H. Bauer, M.A.; William L. Farrar, M.A.; John J. Martin, A.M.; Dorris W. Wilton, M.A.; Richard J. Wurtz, M.A.

### Department of Nursing

*Professors* Lucille McClelland, R.N., Ph.D.; Harriet O. Reeves, R.N., Ed.D.  
*Associate Professors* Mable Grumley Burton, R.N., M.P.H.; Maxine Chambers, R.N., M.P.H.; Lydia Ricci, R.N., M.Ed.; Mary P. Steck, R.N., Ed.D.  
*Assistant Professors* Barbara J. Jenkins, R.N., M.S.; Delores Smiley, R.N., M.S.; Bernice Zich, R.N., M.Ed.  
*Instructor* Lucy Geraldine Carmody, R.N., M.S.  
*Lecturer* Sarah Krukoski, R.N., M.N.

### Air Force ROTC

*Assistant Professors* Major Murray J. Hancock, Jr.; Captain Edward G. Blahous.



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