WICHITA STATE UNIVERSITY
1972-73 CATALOG
Inquiries should be directed to:
Office of Admissions and Records
Wichita State University
Wichita, Kansas 67208

This catalog is for information only and does not constitute a contract. This catalog becomes effective August 1, 1972.
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## GENERAL INFORMATION

### Academic Calendar for 1972-1973

#### Fall Semester 1972

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<tr>
<td>August 22-26, Tuesday-Saturday</td>
<td>Fall semester registration</td>
</tr>
<tr>
<td>August 28, Monday</td>
<td>Classes begin</td>
</tr>
<tr>
<td>September 4, Monday</td>
<td>Labor Day, holiday</td>
</tr>
<tr>
<td>October 6, Friday</td>
<td>Final date for declaring Cr/NoCr</td>
</tr>
<tr>
<td>October 7, Saturday</td>
<td>Final date for removing incompletes</td>
</tr>
<tr>
<td>October 20, Friday</td>
<td>Midterm reports</td>
</tr>
<tr>
<td>November 3, Friday</td>
<td>Advising for preregistration for spring semester</td>
</tr>
<tr>
<td>November 6, Monday</td>
<td>Preregistration for spring semester</td>
</tr>
<tr>
<td>November 9, Thursday</td>
<td>Preregistration closes</td>
</tr>
<tr>
<td>November 21, Tuesday</td>
<td>Thanksgiving recess</td>
</tr>
<tr>
<td>November 22-25, Wednesday-Saturday</td>
<td>Classes close</td>
</tr>
<tr>
<td>December 11, Monday</td>
<td>First semester final examinations</td>
</tr>
<tr>
<td>December 12-18, Tuesday-Monday</td>
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#### Spring Semester 1973

<table>
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<tr>
<td>January 9-13, Tuesday-Saturday</td>
<td>Spring semester registration</td>
</tr>
<tr>
<td>January 15, Monday</td>
<td>Classes begin</td>
</tr>
<tr>
<td>February 23, Friday</td>
<td>Final date for declaring Cr/NoCr</td>
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<tr>
<td>February 24, Saturday</td>
<td>Final date for removing incompletes</td>
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<tr>
<td>March 9, Friday</td>
<td>Midterm reports</td>
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<tr>
<td>March 17, Saturday</td>
<td>Spring recess begins at close of classes</td>
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<tr>
<td>March 26, Monday</td>
<td>Classes resume</td>
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<tr>
<td>March 30, Friday</td>
<td>Final date for nonpenalty grades</td>
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<tr>
<td>April 2, Monday</td>
<td>Advising for preregistration for fall semester</td>
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<tr>
<td>April 5, Thursday</td>
<td>Preregistration for fall semester</td>
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<tr>
<td>April 17, Tuesday</td>
<td>Preregistration closes</td>
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<tr>
<td>April 20-23, Friday-Monday</td>
<td>Easter recess</td>
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<tr>
<td>April 24, Tuesday</td>
<td>Classes resume</td>
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<td>May 3, Thursday</td>
<td>Classes close</td>
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<tr>
<td>May 4-10, Friday-Thursday</td>
<td>Second semester final examinations</td>
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<td>May 13, Sunday</td>
<td>Commencement</td>
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#### Summer Session 1973

<table>
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<th>Date</th>
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<tr>
<td>June 7-9, Thursday-Saturday</td>
<td>Summer Session registration</td>
</tr>
<tr>
<td>June 11, Monday</td>
<td>Summer Session classes begin</td>
</tr>
<tr>
<td>July 4, Wednesday</td>
<td>Holiday (Fourth of July)</td>
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<tr>
<td>August 3, Friday</td>
<td>Summer Session closes</td>
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Administrative Officers

Clark D. Ahlberg ......................................................... President of the University
John B. Breazeale ......................................................... Vice President for Academic Affairs
and Dean of Faculties
James J. Rhatigan ......................................................... Vice President for Student Affairs
and Dean of Students
Martin H. Bush ......................................................... Assistant Vice President for Academic
Resource Development
H. R. Reidenbaugh ......................................................... Executive Vice President of the Board of
Trustees and Executive Secretary to the Endowment Association
Roger D. Lowe ......................................................... Assistant to the President for Finance
and Business Manager
Appointment pending ......................................................... Dean of the Graduate School
Lawrence E. McKibbin ......................................................... Dean of the College
of Business Administration
Leonard M. Chaffee ......................................................... Dean of the College of Education
Charles V. Jakowatz ......................................................... Dean of the College of Engineering
Charles L. Spohn ......................................................... Dean of the College of Fine Arts
D. Cramer Reed ......................................................... Dean of the College of Health
Related Professions
Paul J. Magelli ......................................................... Dean of the Fairmount College
of Liberal Arts and Sciences
Walter S. Friesen ......................................................... Dean of University College
Gordon Terwilliger ......................................................... Director of Summer Session
C. Russell Wentworth ......................................................... Dean of Admissions and Records
Laura M. Cross ......................................................... Associate Dean of Admissions and Records
Jasper G. Schad ......................................................... Director of Libraries
Helen Crockett ......................................................... Director of Continuing Education
Max A. Schaible ......................................................... Director of Information and Public Events
George M. Platt ......................................................... Director of Planning
Frederick Sudermann ......................................................... Director of Research and
Sponsored Programs
Armin Brandhorst ......................................................... Director of Physical Plant
Cecil Coleman ......................................................... Director of Athletics
Ethel Jane King ......................................................... Executive Director of the Alumni Association

The Kansas Board of Regents

Paul R. Wunsch, Chairman ......................................................... Kingman
James J. Basham, M.D. ......................................................... Fort Scott
Henry A. Bubb ......................................................... Topeka
Carl L. Courter ......................................................... Wichita
William F. Danenbarger ......................................................... Concordia
T. J. Griffith ......................................................... Manhattan
Robert W. Helman ......................................................... Goodland
Elmer C. Jackson, Jr. ......................................................... Kansas City
Jess Stewart ......................................................... Wamego
Max Bickford, Executive Officer ......................................................... Topeka
Individuality and self-expression are prized by both faculty and students at Wichita State.
Profile of Wichita State University

Description

Wichita State University, an urban university located in Kansas' largest metropolitan area, provides educational opportunity for students of varying ages, races and nationalities.

More than 13,000 students are enrolled in both daytime and evening courses offered by the various colleges and schools of the University. Better than 1,700 of the student body are enrolled on the G. I. Bill, and the University has the largest minority race enrollment of any college or university in a 14-state region.

Students at Wichita State University can choose from more than 100 areas of academic concentration within the University's eight schools and colleges. These academic units are University College, Fairmount College of Liberal Arts and Sciences, College of Business Administration, College of Education, College of Engineering, College of Health Related Professions, College of Fine Arts and the Graduate School.

In addition, the University offers an eight-week Summer Session with an enrollment larger than any other college or university in Kansas.

The academic programs at Wichita State University culminate in bachelor's, master's, specialist's and, in some cases, doctoral degrees. The University is cooperating with the University of Kansas in offering doctorates in aeronautical engineering and chemistry and offers its own doctoral degree in logopedics. More than 1,900 students are enrolled in the University's graduate programs.

The four basic objectives of Wichita State University are: to provide general education; to provide advanced and special education; to provide continuing educational opportunities for adults, and to provide graduate studies and stimulate research.

The objectives are met through the full employment of the University's varied resources. General education is provided through the core curriculum of the University and is fostered by enrolling all entering freshman students in a "general" college known as University College. Advanced and special education are provided through the various major studies in liberal arts and sciences and in the degree programs of the professional colleges or schools.

The Division of Continuing Education provides ongoing educational opportunities for adults through special seminars, workshops, classes and related University programs and activities.

Graduate studies and research, the fourth objective, are accomplished through a variety of graduate programs authorized by the State Board of Regents and through the ongoing programs of University research and sponsored research. Implicit in all objectives of the University is student welfare and continuing public service.
History

Wichita State University began as Fairmount College, founded by the Congregational Church, in 1895. In 1926, Wichita citizens voted to make Fairmount College the Municipal University of Wichita. On July 1, 1964, the University was officially added to the state system of higher education, as an associate of the University of Kansas, through an act of the 1963 session of the state legislature.

Although no longer an associate of the University of Kansas, Wichita State University is proud of its cooperative doctoral programs offered in conjunction with the University of Kansas.

Wichita State has grown from 12 students to more than 13,000 students and from 5 instructors to more than 700 faculty members since its beginning. Since 1964, the University has nearly doubled its enrollment and has more than doubled its budget.

Governance of the University has evolved with its changes in legal status as an institution. Originally led by the Congregational Church, the University was under the direction of a Board of Trustees from 1926 to 1964 as the Municipal University of Wichita. In its present status, Wichita State University is one of six state institutions of higher education governed by the Kansas State Board of Regents.

Accreditation and Associations

Programs at Wichita State University are accredited by the following professional organizations: North Central Association of Colleges and Secondary Schools, the National Council for the Accreditation of Teacher Education, the National Association of Schools of Music, the Engineers' Council for Professional Development (Aeronautical, Electrical and Mechanical), the American Chemical Society Committee for the Professional Training of Chemists, the American Association of Colleges and Schools of Business, the American Medical Association Board of Schools, and the Council on Dental Education.

Women graduates of the University with bachelor's degrees or higher are eligible for membership in the American Association of University Women.

Human Relations

Wichita State University, in pursuit of its educational goals, welcomes students of all races, nations, and creeds. It is guided by the principle that equal opportunity and access to facilities, pro-
grams, and services shall be available to all. The University accepts, as a primary responsibility, the implementation of this principle in its own affairs and in its relations with the broader community of which it is a part.

**Admission Information**

All students entering Wichita State University for the first time must submit an application for admission to the Office of Admissions, 140 Jardine Hall. Accompanying the application must be transcripts of all high school and college work. Failure to report all schools attended may result in dismissal.

Transcripts received in the Office of Admissions will not be returned to the applicant.

New students may begin their college study during the Summer Session, the fall semester or the spring semester. Both application and transcripts of previous work must be received on or before August 1 for fall registration and January 1 for spring registration. Applications and transcripts from high school students will be accepted any time after completion of the junior year and are expected early in the senior year. Prospective students are encouraged to visit the campus for the purpose of discussing their educational plans with an admissions counselor and other University staff members.

The admission of a student is independent of race, nationality, or creed.

**Freshman Students**

Any graduate of an accredited Kansas high school who has not previously attended a college will be admitted on application to the University. A prospective freshman still in high school should submit an application with a sixth semester transcript attached and make arrangements with his high school counselor to take the American College Test (ACT). A Kansas high school graduate should file an application and transcript showing date of graduation and submit scores from the ACT.

An out-of-state student who will graduate or who has graduated from a high school or preparatory school should follow the same procedures outlined above. A non-Kansas resident will be eligible for admission if he ranks in the upper one-half of his high school graduating class. Exceptions may be made under special circumstances when valid reasons prevail. Priority of admission among out-of-state students will be given to sons and daughters of alumni of this University.
An applicant without a secondary school diploma who wishes to be considered for admission to freshman standing should present his case to the Office of Admissions.

Special Student Status

Admission of special students is restricted to persons over 21 years of age who are not candidates for degrees. Upon completion of 60 semester hours with a 2.00 average, a special student may petition for admission to regular standing. Any other special petitioner should present his case through the Office of Admissions to the Committee on Admissions.

All entering freshmen are enrolled in University College and must have submitted transcripts, scores from the American College Testing program, and a health certificate as a condition of their enrollment in University College. The dean of University College will send all freshmen complete information about orientation and enrollment.

Transfer Students

A student who has been enrolled in other colleges or universities may be admitted to undergraduate study if he is eligible to return to the college or university last attended and meets the required scholastic standards of Wichita State University.

Students who transfer with fewer than 24 credits will be enrolled in University College (for further details, see Catalog discussion of University College).

A transfer student with 24 or more hours of acceptable college credit is not required to complete the American College Test.

A transfer student with 24 or more acceptable hours, and not on probation, is eligible to apply for admission to a baccalaureate degree college if he meets specific requirements.

Students wishing to transfer to Wichita State University should submit an application and official transcripts from high school and all colleges attended. The transcript from the last college attended should show that the student is eligible to return. Students transferring from a junior college must complete two years of additional college work to qualify for graduation in a four-year curriculum. In no case will work done in a junior college be credited as work in the junior or senior years in the University.

The distribution of transfer courses which are to fulfill either a major or minor requirement must be approved by the head of the department concerned. Regardless of the credit granted to
transfer students, the requirement of additional work is at the discretion of the department chairman or chairmen.

International Students

The University welcomes students from abroad. There are, however, no scholarships or grants available to the newly entering undergraduate international student, so it is imperative that he have sufficient funds to cover his expenses while in this country.

International students who qualify for admission to Graduate School may apply to their department head or the dean of their college for information on graduate fellowships and assistantships.

The admission requirements for international students are as follows:

1. Graduation from an accredited high school or college.
3. Notarized statement of financial responsibility in an amount of $3,250 or more to cover expenses for 12 months.
4. Enrollment in at least 12 hours at the undergraduate level or in at least nine hours at the graduate level.

For further information, write to the International Program director.

Graduate School

Wichita State University offers graduate work in the following departments: accounting, administration, aeronautical engineering, anthropology, art, biology, chemistry, economics, electrical engineering, English, geology, history, logopedics, mathematics, mechanical engineering, music, philosophy, physical education, physics, political science, psychology, sociology, Spanish and teacher education.

For admission to full graduate standing an applicant must have a minimum 2.50 grade average in all work undertaken during the junior and senior years, and a four-year minimum average of 2.50 in his major and minor work.

Application for admission to graduate standing must be filed with the Graduate School three weeks in advance of the registration day, and must be accompanied by two complete and official transcripts of all college work.

Students have no official status in the Graduate School until their applications and transcripts are on file and the transcripts have been evaluated by the Graduate School.

An application for admission to candidacy for a higher degree
should be filed in the Graduate School upon completion of 15 graduate hours, but in no event later than the semester prior to the semester in which the student intends to graduate.

Specific requirements vary from department to department and are listed in the *Graduate Bulletin*. This bulletin should be consulted for information about the requirements in a particular program.

## Residence Defined

The residence of students entering Wichita State University is determined by acts of the legislature (KSA 76-729, 76-730) which read as follows:

“Persons enrolling in universities and colleges under the state Board of Regents who, if adults, have not been, or if minors, whose parents have not been residents of the state of Kansas for six months prior to enrollment for any term or session in a college or university are nonresidents for fee purposes. Notwithstanding the foregoing provisions of this section, the state Board of Regents may adopt rules and regulations authorizing the following to pay an amount equal to resident fees: (1) Employees of the university or college and their dependents, (2) persons in the military and their dependents, (3) other classes of persons having special domestic relation circumstances, and (4) persons who have lost their resident status within six months of their enrollment.

“The state Board of Regents shall adopt rules and regulations prescribing criteria or guidelines for determination of residence of students, so long as such criteria or guidelines are not in conflict with the provisions of this act. The state Board of Regents shall adopt rules and regulations prescribing guidelines for the membership composition and procedure of a residence committee for each college and university under its control.”

The responsibility of registering under proper residence is placed on the student. If there is any possible question of residence under the rules of the college, it is the duty of the student when registering and paying fees to raise the question with the Office of Admissions and Records. If the student disagrees with the residency determination, he shall within 30 days from the date of opening of such semester or term give notice in writing to the Office of Admissions and Records of appeal to the committee of said decision. If notice of said appeal is not given in writing within 30 days, the determination of the Office of Admissions and Records shall be binding upon said student.

**Reporting Change of Address:** Each student is required to report his correct address at the time of registration each semester.
This must be the student’s actual place of residence and will be the one to which all University correspondence will be sent. If any change in residence is made during the semester, the new address must be reported within three days to the Enrollment Office.

**Academic Information**

**Registration**

Specific information regarding registration is set forth in the *Schedule of Courses* published each semester and Summer Session. Registration will not be permitted after the second week of classes. Falsification of information or withholding of information pertinent to records of the University is grounds for dismissal from the University.

**Student Responsibility**

1. The student shall consult his adviser on all matters pertaining to his academic career, including any change in his program.
2. The student shall observe all regulations of his college, and shall select courses according to the requirements of his college.
3. The student shall attend all meetings of each class for which he is enrolled. The instructor will announce at the beginning of the semester whether he considers attendance in computing final grades.
4. The student shall fulfill all requirements for graduation.
5. The student shall be personally responsible for the fulfillment of all University requirements and the observation of all University regulations.
6. *Summons by advisers and other officers:* Students are expected to answer promptly, written notices of advisers, faculty, deans, student health and other University officers.

**Credit by Examination**

University credit may be obtained by examination. A student desiring University credit by examination should file a petition with the Committee on Admissions, Advanced Standing, and Exceptional Programs. If the request for an examination is approved by the committee, the student will pay the Business Office a $5 fee. Upon presentation of the receipt from the Business Office, the assigned
instructor will give the examination. Credit will be granted only if a grade of C or better is attained and approval is given by the committee. D and F grades will be recorded on the student’s transcript.

Advanced Placement Credit

The designation "advanced placement"—programs, or credit, refers specifically to the courses offered in many high schools, constructed and coordinated under the supervision of the College Entrance Examination Board; examinations furnished by the CEEB are taken by the student and later sent to the Educational Testing Service for grading, and subsequently sent by ETS to the college or university of the student’s choice. Tests are assigned grades from a low of (1) to a high of (5).

At Wichita State University, advanced placement credit may be granted in the areas of biology, chemistry, English, French, German, history, Latin, mathematics, physics and Spanish. The corresponding University department, however, reserves the right to determine the eligibility of the student for advanced placement credit. Such credit may be regarded as comparable to other transfer credit, in that no fee is charged, nor is the student reexamined over such credit or content.

The University admissions office will advise students of credit granted as a result of advanced placement exams soon after the exam results are received from ETS.

Advanced placement credit may be established on the strength of successful scores earned on the College Board’s College-Level Examination Program (CLEP). Students who pass the CLEP examinations with 65th percentile scores or better will be given three hours of credit in the respective core curriculum area for which the test is presented.

Graduate Credit for Seniors

A senior at Wichita State University who has an overall grade point index of 3.00 or above in the major field and in upper division courses, and who is within 10 hours of completing the bachelor's degree, may take work for graduate credit. However, this work must be beyond the requirements for his undergraduate degree, which must be completed within the semester in which the graduate courses are taken; and, the student must have been admitted to the Graduate School. Application for the “Senior Rule” must be made to the Graduate School and approved by the Graduate School, the student’s undergraduate dean, and his major adviser, before the course(s) may be taken for graduate credit.
Classification of Students

Students are to be classified according to the following table:

- **FRESHMEN**: Under 24 semester hours and 48 credit points.
- **SOPHOMORES**: 24 semester hours and 48 credit points.
- **JUNIORS**: 50 semester hours and 120 credit points.
- **SENIORS**: 90 semester hours and 200 credit points.

Meaning of Course Numbers

Courses numbered 99 or below are not acceptable for credit in a baccalaureate college.

Courses numbered 100 to 199 are primarily for freshmen, but students from other classes may be admitted for lower division credit.

Courses numbered 200 to 299 are primarily for sophomores, but juniors and seniors may be admitted for lower division credit. Freshmen may be admitted if they are qualified and are not expressly excluded.

Courses numbered 300 to 399 are primarily for juniors. Seniors will be admitted. Freshmen and sophomores are excluded except as noted.

Courses numbered 400 to 499 are primarily for seniors. Juniors may be admitted if they meet the prerequisites and are not specifically excluded. Freshmen and sophomores are excluded except as noted.

Courses numbered 500 to 699 are for graduate students only, and no student may be admitted to these courses unless he has been admitted to the Graduate School. See Graduate Credit for Seniors for special conditions under which seniors may be admitted to graduate courses.

Students with completed prerequisites in industrial education, language, engineering, logopedics, mathematics, natural sciences, aerospace students, and military science courses may be admitted to upper division courses in sequence for upper division credit. With these exceptions lower division courses must be taken exclusively until the student has completed 50 hours and 120 credit points, when he may elect upper division courses.

University College students are not eligible for enrollment in upper division courses unless admitted through the exception noted above, or by virtue of a 3.25, or higher, grade average.

Key to Course Symbols

When two course numbers are joined by a hyphen (-), the first semester is prerequisite to the second; when the numbers have an
ampersand (&) between them, the two semesters may be taken in either order. Unless specifically noted otherwise, the first course listed is offered in the fall semester, the second in the spring.

The number of hours of credit for each course is indicated in parentheses following the course title. The number of class meetings per week is normally the same as the number of credit hours. Two hours of laboratory work are usually required for one hour credit. In courses involving other than lecture periods, the following symbols are used: R, lecture; L, laboratory; C, conference; D, demonstration.

### Grading System

Grades are A, B, C, D, I, F, WF, Wd, Au, Cr and NCR.

- **A**—Indicates distinguished achievement.
- **B**—Indicates superior achievement.
- **C**—Indicates average achievement.
- **D**—Indicates below average.
- **F**—Indicates failure.
- **WF**—Indicates withdrawal from a course in which the student was doing failing work. Counts as F.
- **Wd**—Indicates withdrawal from a course in which the student was doing passing work.
- **Au**—Indicates audit.
- **Cr**—Indicates credit.
- **NCR**—No credit received.

The grade incomplete (I) is used when a student may have further time, at the discretion of the instructor, to complete the required work. This work must be completed by the end of the sixth week of classes of the semester in which the student reenrolls. If the work is not completed in this period, the incomplete grade becomes an F. If a student reenrolls in a course in which he has received an incomplete grade, the incomplete will become either an F or a Wd at the discretion of the instructor or dean.

No student may enroll in any course more than three times. Each time a student's academic record shows any grade, including Wd or WF, for a given course, this constitutes an enrollment in that course. Exceptions may be made, in writing, by the chairman of the student's major department. No course in which a grade of "C" or better has been earned may be repeated for credit.

An auditor may register in a class but will receive no credit. He may do all of the required work, a portion thereof, or no work at all. For the record, attendance and failure to do the required work will be reported to the respective deans. Fees for audit are identical.
with those set for the credit course. Auditing a course later to be pursued for credit is not approved.

The change from audit to credit in the course, or the reverse, is effected through the regular change of course cards with the attendant signatures required. No student may make the change from credit to audit unless he is earning a passing grade at the time of the change. After the tenth week of the semester, the student may not change from credit to audit.

The grade Cr is given for completion in courses for which no letter grade is given.

Credit Points and Credit Point Index

For each hour of work which the student takes, credit points are given according to the grade attained as follows: A, 4 points; B, 3 points; C, 2 points; D, 1 point; I, Wd, and Au, F and WF, no points. The "credit point index" for any term is calculated by dividing the number of credit points earned by the number of credit hours attempted and for which a grade (including F and WF) was received. The "cumulative credit point index" is calculated by dividing the total number of credit points earned by the total number of credit hours attempted and for which a grade (including F and WF) has been received. Exception: When a course is repeated for credit, the last enrollment and grade will be used in computing the cumulative grade point index.

Credit/No Credit Courses

A student may take credit/no credit courses up to a maximum of 24 hours. Courses taken for credit/no credit must be outside the student's major, except as allowed by individual departments. A student may choose whether to take a course as a credit/no credit by indicating his choice through his dean's office by the end of the sixth week of the semester during the academic year and the end of the third week of the semester during the Summer Session. Otherwise the course will be treated as a regular graded course. Once a student has decided to take the course as graded or as credit/no credit, he may not change his enrollment from "graded" to "credit/no credit," or vice versa. A grade below a C will be recorded as NCR (no credit received) on the student's transcript. Repeat courses taken initially for a letter grade may not subsequently be taken for Cr/NCR, but a course initially taken for Cr/NCR may be repeated for Cr/NCR if the student has received an NCR grade. Credit/no credit courses shall not count on a
student's GPA. However, upon fulfilling the requirements for graduation, the student's overall GPA shall be applied to his credit/no credit hours. A student may take no more than two courses of credit/no credit per semester. Credit/no credit courses will apply only to undergraduate students.

All courses numbered below 100 and all personal development courses are automatically Cr/NCR. These Cr/NCR courses are not counted in the 24 hours of Cr/NCR maximum permitted.

Limitations on Student Load

Except in the College of Engineering, the maximum semester schedule for freshmen is 16 hours, for sophomores 17 hours, and for upperclassmen 18 hours, to each of which may be added one hour of military or aerospace studies or physical education. Half the hours of a course audited count toward the maximum. To register in upper division courses, except by special permission, a student must have completed 50 semester hours and attained 120 credit points.

A student whose average for the last 30 hours of work or whose overall average for more than 30 semester hours is 2.60 or above may apply to his dean for permission to take one hour in excess of the maximum load in any session; if the average is 3.00 he may apply for permission to carry two hours in excess. A student with a cumulative credit point index of 3.25 or above may carry more than two excess hours during a semester or summer term without petition. Students in the College of Engineering must apply for permission to take hours in excess of those prescribed in the engineering curricula. In order to be eligible to apply for excess hours at least a portion of the students' prior work must have been taken in Wichita State University.

Examinations

No reexamination shall be given. The grade received on a regular quiz or examination shall be final.

Special examinations, when requested, will be given only with the dean's consent.

A student who misses an assigned examination should arrange with his instructor to take a make-up examination. The dean of the college will serve as arbitrator only when he deems it necessary.

Exemptions for Superior Achievement

A student who has completed a minimum of 12 hours at Wichita State University and has a cumulative credit point index of at
least 3.25 and a credit point index of at least 3.00 the previous semester may be granted the following privileges:

1. Exemptions from regulations governing the maximum number of hours a student can take during a semester or summer term.
2. Exemption from college regulations, if any, governing the maximum number of hours a student can take during a semester in one department.
3. Permission to enroll in 300 and 400 courses prior to having established 50 semester hours and 120 credit points.
4. Permission to have course prerequisites waived with the consent of the instructor of the course and the head of the department in which the course is taken.

University Honors Program

The University Honors Program consists of designated sections, specially designed courses and related activities established to help outstanding students find challenging and enriched learning situations. It is one of several avenues leading toward a fuller intellectual life for those who might benefit from smaller classes, seminar situations and independent study.

General policies for the program are established by the Honors Committee and are administered by an honors coordinator who is administratively accountable to the vice president for academic affairs.

A student may enter the program at any stage in his career that he and the honors coordinator believe he may profit from such work. Prospective students or students already enrolled in the University should contact the coordinator for information on taking part in the program. Any student who has completed 30 semester hours at Wichita State University with a grade point average of 3.25 may enroll in any honors course or section for which he is otherwise eligible.

Students are expected to perform at a "B" level, equivalent to a 3.00 grade point average; but no student will be dropped from the program until his performance falls below expectation for at least two consecutive semesters, and then only after an opportunity for consultation and appeals from any such decision.

Independent Study Leading to a Degree With Departmental Honors

Outstanding students may enroll in their junior and senior years in independent study, which may lead to a degree with departmental honors if the work is satisfactorily completed. Any student
who has junior standing and a cumulative grade point index of at least 3.00 is eligible to undertake a project in his major area of study. A student desiring to undertake independent study should consult with the honors coordinator and obtain approval of the instructor under whom the work will be performed, his departmental chairman and the dean of his college. The application must be filed with the honors coordinator and be approved by the Honors Committee not later than the registration time for the student's last semester in the University, or the semester for which he desires credit for the work, whichever comes earlier.

An independent study project should consist of original research or of creative work of an outstanding order. In order to graduate with departmental honors the student should complete his project and write up the results according to specifications established by the honors coordinator. He must then stand examination on his project and such aspects of his major field of study as appear relevant. The honors coordinator, in consultation with the student's instructor, will appoint a three member faculty committee to conduct the examination and determine the student's eligibility for graduation with departmental honors. Should the student not secure such a degree either because of failure to complete his project or failure in the examination, he will receive academic credit toward the regular degree for the credit hours completed, with the grade determined by the instructor under whom the work was performed. In no case may any student receive more than six hours of credit for such independent study.

Academic Recognition

Dean's Honor Rolls

The Dean's Honor Roll shall be composed of those students enrolled in 12 or more hours of work which may include up to six hours of credit/no credit work and who achieve a grade point index of 3.25 or higher on such work. No student receiving no credit on a credit/no credit enrollment may be included on the Dean's Honor Roll in that semester.

Graduation With Excellence

Degrees are conferred with distinction upon students who have shown exceptional scholarship. Students attaining a scholarship index of 3.90 receive the *summa cum laude*, those with an index of 3.55 receive the *magna cum laude*, and those with an index of 3.25 receive the *cum laude* award. Those performing independent study
and meeting the appropriate requirements will graduate with departmental honors.

Withdrawal

Voluntary Withdrawal

Voluntary withdrawal on the part of the student from a course or courses in which he is enrolled must follow official procedure:

Procedure

1. Consult adviser, obtain drop slip(s) at this time, and have adviser sign in appropriate place.
2. Take drop slip(s) to instructor(s) for grade and signature.
3. Take drop slip(s) and certificate of registration to dean's office for final signature.
4. Take completed drop slip(s) and certificate of registration to the Enrollment Office.
5. Refund, if any, will be made according to the schedule published in the Schedule of Courses.
6. Complete withdrawal from the University must be made in writing to the dean’s office.

Grade

1. A drop slip marked “Wd” indicates that withdrawal from the course has occurred, but no grade has been earned.
2. A drop slip marked “WF” indicates that withdrawal from the course has occurred, that a grade of “WF” will appear on the student’s permanent record, and that this grade will count as an “F” when the student’s grade point average is calculated.
3. During the first 10 weeks of the semester (or the corresponding period of a Summer Session), a student may withdraw by official procedure from a course with either “Wd” or “WF” depending on his status in the course at the time of withdrawal, as judged by his instructor.
4. After the tenth week of the semester (or the corresponding period of a Summer Session), a student who withdraws from a course shall receive the grade of “WF” unless he makes complete withdrawal from the University, in which case his grades shall be determined by his instructors according to his status in the courses at the time of withdrawal.
Administrative Withdrawal

Administrative withdrawal may be initiated by the student’s dean’s office in the following instances:
- Class attendance so irregular that in the instructor’s opinion full benefit cannot be derived from the course;
- Consecutive absence for two weeks or more;
- Failure to withdraw from one or more classes by the official procedure given above;
- Failure to make complete withdrawal from the University by the official procedure given above;
- Failure to be accepted by a baccalaureate college before the completion of 72 credit hours;
- Behavior prejudicial to the University.

Procedure
(1) The student will be notified by the dean’s office before final action is taken, and will be given a chance to explain his position.
(2) In the case of official notices from the dean’s office which are ignored, or returned because the address given by the student at the time of enrollment is incorrect, administrative withdrawal will take place.

Grade
A grade of “WF” will be officially recorded on the student’s permanent record for a course or courses from which he is officially withdrawn; this grade will count as an “F” when the student’s grade point average is calculated.

Probation and Dismissal Standards
Regulations governing probation and dismissal standards are established by the various colleges of the University and are to be found in the introductory statement for each college.

The Court of Student Academic Appeals
The University faculty has established a procedure to adjudicate disputes arising out of the classroom. The jurisdiction of the court includes appeals from students who feel they have been treated unfairly either as to the course grade they receive, or in countering charges of plagiarism, cheating, etc., that an instructor may levy. The court is regarded as an agency to resolve differences that cannot be settled within the framework of the student-faculty classroom relationship.

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Any student may use the appeal procedure. Forms are available in the Office of the Vice President for Student Affairs. The general procedure will be explained to students when they pick up the form.

The court is an important safeguard for students.

Requirements for Graduation

A total of at least 124 hours of credit, acceptable toward the degree for which the student is working, is required. This means hours of credit earned and does not include courses with grades of F, Wd, WF, Au, NCR, or I.

In addition, a student must have a credit point index of 2.00 or over at the time of graduation. This rule applies to students whose first day of admission to any institution of collegiate rank was on or after September 1958.

For the purpose of graduation, a grade point average of 2.00 or better must be earned on all work taken at this University which could be applied to the degree sought.

A credit point index of 2.00 or better must be achieved in the student's major.

No student shall be allowed credit toward graduation for D grade work in excess of one-quarter of total hours.

A minimum of 40 hours must be taken in courses numbered 300 and 400 after a total of at least 50 hours and 120 credit points has been attained.

At least 30 hours must be taken at Wichita State University and 24 of the last 30 hours or 50 of the last 60 hours must be taken in residence.

Not more than six hours of the last 30 nor 10 hours of the total number of hours required for graduation may be nonresident work, such as extension or correspondence courses, provided the dean of college consents.

Prescribed Fields of Study (Core Curriculum)

(I) Mathematics and Natural Sciences: 9 hours. Courses must be taken in at least two of the four subdivisions; a minimum of four hours must be a laboratory science.

(a) Mathematics: Any mathematics course taken for degree credit.


(c) Biology: 100 (4), 111 (4), 112 (4). Biological Science: 102 (5).

(d) Engineering: 127 (3), 199 (3), 300 (3).
(II) Communications: 8 hours. Six hours must be in English composition or grammar * and two in Speech 111.
   (a) English: 111 * (3); and one of the following courses: 211 (3), 225 † (3), 311 (3), 312 (3), 313 (3), 314 (3).
   (b) Speech: 111 (2), additional courses: 212 (2), 228 (3).

(III) Humanities: 12-15 hours. ‡ Courses must be taken in at least three of the six subdivisions.
   (a) Art: All art history courses except 407g and 463.
   Music: 113 (2), 114 (2), 161 (2), 315 (2), 316 (2), 331 (3), 332 (3), 493 (2); ensembles and applied music where background justifies. Speech: 143 (3).
   (b) History: 101 (4), 102 (4), 103 (4), 109 (4), 131 (4), 132 (4), and all other history courses except 300 and 498.
   (c) Literature (English or foreign): English 103 (3), 104 (3), 201 (3), 223 (3), 224 (3), 240 (3), 252 (3), 280 (3), 309 (3), 343 (3), plus all literature courses as alternates; French, German or Spanish literature courses.
   (d) Philosophy and Religion: Philosophy, all courses; religion, all courses.
   (e) American Studies: All courses except 498 and 499.
   (f) Humanities: 102 (4).

(IV) Social Sciences: 9-12 hours. ‡ Courses must be taken in at least three of the five subdivisions.
   (a) Anthropology: All courses.
   (b) Economics: BA 211 (3), BA 212 (3), Econ. 211 (3), Econ. 212 (3), Econ. 221 (3), Econ. 222 (3), any upper division course.
   (c) Political Science: All 100 and 200-level courses, except 150 and 200.
   (d) Psychology: 111 (3), all other psychology courses.
   (e) Sociology: 111 (3). All other sociology courses may be counted after the student has completed Sociology 111.

(V) Electives: 4 hours. Four hours of electives in courses offered by any department except the student's major department. (Exception: Music majors may take marching band, and physical education majors may take physical education in the 101-108 series under this section.) These electives may include courses in aerospace studies, military science, physical education and marching band.

* Students exceptionally qualified in English as selected by the English department may be exempted from the composition requirement or may be invited to enroll in English 211 rather than 111. These students, upon completion of English 211 or upon recommendation of the department, will have satisfied their English Communications requirements: Otherwise they must complete the requirements with one of the additional English courses listed above under "Communications."
† For English majors and minors.
‡ Selection from III and IV must total 24 hours with a minimum of 12 in group III and a minimum of nine in group IV.
Additional Requirements

The credits of transfer students will be evaluated on the basis of the nature of the course at the institution from which the transfer is made.

The student must meet the specific graduation requirements of the college from which he expects to graduate.

The specific requirements for major and minor fields of study must be met.

A student whose college program has not been interrupted by more than two consecutive calendar years may graduate under the requirements in effect at the University on the date he first entered any college or university or the requirements of any subsequent Catalog, provided however, that in no case will a student be allowed to graduate under the requirements of a Catalog in effect earlier than two years preceding his matriculation at this University. If his college program has been interrupted by more than two consecutive years a student will be subject to the Catalog requirements in effect when he enters, or if he elects, the requirements of a later Catalog.

The student's financial obligations to the University must be paid in full before a diploma or transcript of record will be issued.

A Second Bachelor's Degree

To be eligible for a second bachelor's degree a student must complete 30 hours in residence in the school from which a second degree is sought in addition to the work required for the first bachelor's degree.

Financial Information

Fees

The current fees, listed below, are subject to change by action of the Board of Regents and/or the legislature.

General Academic Fees

| Resident (Graduate and Undergraduate) | $12.00 per cr. hour |
| Nonresident (Graduate and Undergraduate) | $31.65 per cr. hour |

Campus Privilege Fees

The campus privilege fee is required of every student enrolled for work on or off the Wichita State University campus at the rate of $3.65 per credit or clock hour during the regular semesters and
Summer Session, in accordance with University policy. The fee will be distributed to pay revenue bonds for parking, Campus Activities Center, stadium addition, Life Sciences Building, the new power plant, library, and for Student Health Services, athletic admissions, forensic, Student Government Association, University Forum Board, student publications, concerts, drama, opera productions, etc.

**Campus Activity Center Operations Fee**

Each student will be charged a Campus Activity Center operations fee, each semester and Summer Session, as follows:

- **1 through 8 hours** ........................................... $2.25
- **9 through 17 hours** .................................... $2.50
- **18 hours and above** ........................................... $2.75

**Library Revenue Bond Fee**

A library revenue bond fee of $2.50 per student per semester and Summer Session, is charged to support the library revenue bond issue.

**Audit Courses**

The charge per semester hour for courses audited is the same as for courses taken for credit. The charge for noncredit courses, unless otherwise specified, is the same as for credit courses.

**Extension Courses**

A. Graduate credit ........................................... $18.00 per hour
B. Undergraduate credit ................................. 14.00 per hour
C. No credit ........................................... 14.00 per hour
D. Noncredit courses .................................... based on actual operating costs

**Workshop Fees**

- **One hour** ........................................... $26.50
- **Two hours** ........................................... 47.00
- **Three hours** ........................................... 68.50
- **Four hours** ........................................... 90.00

**Contracts and Compensatory Charges**

This schedule does not limit the charges which may be collected under arrangements with other governmental or private agencies, except that such arrangements may not provide for lesser charges. Compensatory or other charges to more nearly cover actual costs of instruction are specifically authorized.
**Departmental Fees**

1. **Music**—During the academic school year, undergraduates enrolled in six or more hours will be charged no fees for the following ensembles: Music 111-511A, 111-512A, 111-512B, 111-512F, 111-512M, and 112-512H. No fees will be charged graduate students enrolled in the above courses. Summer Session: No fees for these ensembles will be charged to undergraduate or graduate students enrolled for two or more credit hours in courses other than the above.

2. **Aerospace Studies Fee**—$3.50 per semester.

3. **Military Science Fee**—$3.50 per semester.

4. **Music—Instrument Rental**: Instrument rental fee of $4.50 per semester or Summer Session is charged each student requesting the use of a musical instrument owned by Wichita State University.

5. **Laboratory Fees**: The following fees will be assessed to recover cost of supplies and breakage. Additional fees will be assessed where breakage is excessive.

<table>
<thead>
<tr>
<th>Laboratory</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Chemistry laboratories</td>
<td>$10</td>
</tr>
<tr>
<td>Biology laboratories</td>
<td>10</td>
</tr>
<tr>
<td>Geology laboratories</td>
<td>10</td>
</tr>
<tr>
<td>Ceramics—181, 281, 381, 481, 511, 577 and 578</td>
<td>10</td>
</tr>
<tr>
<td>Sculpture—185, 285, 385, 485, 509, 577 and 578</td>
<td>10</td>
</tr>
</tbody>
</table>

**Miscellaneous Fees**

- **Late registration fees:**
  - 1 through 3 hours $5.00
  - 4 through 6 hours $10.00
  - 7 or more hours $15.00
- **Advanced standing examination fee** $5.00
- **Identification card fee—permanent card** $1.00
- **Orientation, new University student fee** $7.00
- **Transcript per copy charge after first copy** $1.00
- **College of Health Related Professions equivalency examination fee** $7.00
- **Teacher placement fee** $2.00
- **Residual testing fee** $5.00
- **ACT fee** $7.00
- **CLEP fee** $15.00

**Drop and Add Fee**

A. **Drops.** Preregistered students may drop courses during registration without charge. After registration and before the end of the second week of classes (first week in Summer Session) students will receive a full refund of general academic and special fees minus a $15 transaction fee for each course dropped. There will be no refund on partial withdrawal after the second week of classes (first week in Summer Session).
B. Adds. During the first week of classes students may add courses to their schedule with the signature of the dean of the college in which the student is enrolled. During the second week of classes an add card must carry the signature of the instructor and the dean. Students who wish to add courses after the second week of classes must have approval by the University's Exceptions Committee.

C. Drops and Adds. When an approved change of schedule involves a drop and add, the fees already paid for the course dropped will apply to the fees for the course being added. A $15 service charge will be assessed for each drop/add transaction.

D. All changes in enrollment become effective on the day the add and/or drop card is received in the Enrollment Office.

SPECIAL NOTE: In cases where the schedule change is required because of University regulations, clerical errors, misadvising, or change made in the schedule by the University, the dean of the student’s college may waive the $15 transaction fee.

Unpaid Fees

Records of students who leave the University with uncleared obligations may be impounded in the Records Office, and no transcript of record will be issued unless the account is cleared. A student will not be permitted to enroll unless all fees are paid.

Assessment and Collection

The University controller is responsible for assessment and collection of student fees. A committee consisting of the assistant to the president for finance and business manager, the director of Summer Session and a faculty member from the College of Business Administration constitutes the Board of Appeals for students who believe their fees have been incorrectly assessed. The decision of this committee is final.

Period of Payment

All semester fees including the laboratory fees are due and payable in full at the time of enrollment. Students whose fees are not paid in full will not be permitted to attend class. (Fees of students sponsored by recognized foundations or loan funds are presumed to be paid on presentation to the controller of written recognition of responsibility for such fees.)

Refund Policy

The following refund policy shall apply to the general academic, campus privilege, and private lessons fees, except $15 of non-
returnable fees (students carrying seven hours or less, nonreturnable fee is $5), upon application, for a student who withdraws:

1. Within 13 days after the first day of classes ................ 100%
2. After the thirteenth day after the first day of classes and during the first one-third of the semester or Summer Session ........... 50%
3. After the first one-third of the semester or Summer Session ...... None

Housing Expenses

Contract costs—University-owned residence halls. Room and board—$950 per year or $475 per semester. Installment payments may be arranged.

All housing contracts, whether for University-owned or privately owned housing, are made on a nine-month basis, unless specific arrangements are made to the contrary.

For information concerning housing regulations and types of housing available to students, see the Student Services section of the Catalog.

Financial Aids

Assistantships and Student Employment

Undergraduate Employment

Students may earn a portion of their educational expenses through part-time employment during the school year either through the regular student employment program or the college work-study program.

Application for regular employment may be made to the particular department or to the placement office for aid in finding employment. Application for work-study employment is made in the Office of Student Financial Aid.

Eligibility for regular or work-study employment:

(1) Accepted for enrollment or enrolled as a full-time student (12 undergraduate hours or nine graduate hours).

(2) Need—Students with a demonstrated financial need receive priority in placement. (If justified in terms of need, work-study participants may be considered for additional financial aid in the form of scholarships, opportunity grants, and loans.)

Selection of students to be employed will be made by the Office of Student Financial Aid, 101 Morrison Hall.

Employment authorizations are subject to the approval of the financial aids office and the Committee on Scholarships and Student Aid.

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Departmental Assistants

Academic assistantships are open to upper division students who have been recommended by their respective departments. Departments may select sophomores with outstanding ability. These assistants grade papers, assist in laboratories, and assume the duties of clerical or technical assistants.

Clerical and Technical Assistants

Clerical assistants must be recommended by the department concerned. Technical assistants must have the committee's permission, be recommended by the department head, have upper division standing, and have an overall and major department grade of 2.25.

Library Assistants

Library work is available to both men and women students. Interested students should apply to the librarian or to the Career Planning and Placement Center.

Custodial and Food Service Workers

Work is available for a limited number of students in these areas. Interested students should apply to the Office of Buildings and Grounds or to the Office of Director of Food Service.

Work-Study Program

This program provides a limited number of part-time work assignments for students who are in need of earnings from such employment so as to pursue their courses of study.

Conditions of eligibility include that a student must:

(1) If currently enrolled, be in good standing and in full-time undergraduate or graduate attendance. (Preregistered freshmen and transfer students are also eligible.)

(2) Be capable of maintaining satisfactory standing while employed.

(3) Be a national of the United States or intend to become a permanent resident.

Those students from low-income families will be provided preference in placement, but all students of determined need will be considered for employment.

Employment will be limited to an average of 15 hours per week in which classes are in session, or for not more than 40 hours in any other week.

Selection of students to be employed will be made by the Office of Student Financial Aid, 101 Morrison Hall.
Graduate Assistantships

Graduate assistantship grants are made in several departments upon recommendation of the department concerned and the dean of the Graduate School. These assistantships carry a stipend of up to $2,400. Application should be made to the dean of the Graduate School.

Federal Aid Programs

Educational Opportunity Grants

These grants are made from federal funds allocated to Wichita State University under Title IV of the Higher Education Act of 1965. Grants will range from $200 to $1,000 per year.

Students who submit financial aid applications as of January 1 will be considered for these grants if they qualify under the requirements of the United States Office of Education for the program. Eligibility will be assessed by consideration of the resources at the students' command as well as assets of his parents.

Approval for these grants will be based upon the student's financial need and capability of maintaining good standing. Full-time student status must be maintained.

A "financial aid package" consisting of aid from various qualifying sources is approved for each recipient. The Educational Opportunity Grant portion does not have to be repaid; however, all loans received as a part of the "package" must be repaid. Other matching funds Wichita State University is required to use in approving such a "package" includes student employment, scholarships, and other qualified sources.

Information may be obtained from the Office of Student Financial Aid, 101 Morrison Hall.

Law Enforcement Education Program

Wichita State University entered this program at its inception (1968) and made its first commitments for the spring semester 1969. The funds are provided by the federal government through the Law Enforcement Assistance Administration, United States Department of Justice.

Students who are serving in the law enforcement field may be awarded grants for general academic and special fees, books and supplies. They may also be eligible for consideration for loans.

Those students who are preparing for careers in law enforcement and are in full-time attendance in approved fields may also be considered for a law enforcement student loan.

Provision is made for cancellation of loans at the rate of 25 percent for each year of full-time employment in a public state,
local or federal law enforcement agency. The notes are three percent interest bearing over a maximum of 10 years repayment. Deferral of principal and interest is provided for a maximum of three years for military service in the armed forces of the United States.

National Defense Student Loan Fund

This fund established under Title II of Public Law 85-864 provides for major long-term loans for WSU students of all class levels. Loans are granted on a competitive basis since funds available do not meet the demand. Undergraduates may borrow up to $1,000 each year and not more than $5,000 during their entire undergraduate program. Graduates may borrow up to $2,500 each year. Total loans made to any student may not exceed $10,000.

These loans are made for educational expenses. Interest on these loans do not commence until nine months after leaving attendance. Interest of three percent per year is charged.

The principal payment plus interest thereon is repayable at the rate of 10 percent annually over a period of 10 years following graduation or leaving school. Monthly, bimonthly, or quarterly payments may be required.

Any borrower who serves as a full-time teacher in a public elementary or secondary school, in a private nonprofit elementary or secondary school, or in an institution of higher education may have his loan cancelled at the rate of 10 percent for each year of approved teaching service up to a maximum of 50 percent of his total loan. Certain teaching positions qualify for a 15 percent cancellation rate and a maximum of 100 percent designated by the commissioner of education.

If a borrower becomes a member of the armed forces of U.S., the total amount loaned after April 13, 1970, plus interest can be reduced at the rate of 12½ percent for each year of consecutive military service up to a maximum of 50 percent of the loan.

Applications are available at the Office of Student Financial Aid, 101 Morrison Hall. Interested applicants should observe deadlines of filing:

For fall semester—January 1.
For spring semester—November 1.
For Summer Session—April 1.

Nursing Scholarships

These funds established under Title VII and Title VIII of Public Health Service Act as amended provide for major long-term loans and scholarships for WSU students of junior and senior standing who have been accepted into the College of Health Related Professions School of Nursing.
Eligible students may apply for nursing scholarships. Scholarships range up to $1,500 for an academic year. Eligibility will be assessed by consideration of the financial resources at the student's command as well as assets of his parents. Approval for these scholarships will be based upon the student's financial need and scholastic ability. Full-time student status must be maintained.

Applications are available at the Office of Student Financial Aid, 101 Morrison Hall. Interested applicants should observe deadlines of filing:

For fall semester—January 1.
For spring semester—November 1.
For Summer Session—April 1.

Nursing Loans
These funds established under Title VII and Title VIII of Public Health Service Act as amended provides for major long-term loans and scholarships for WSU students of junior and senior standing who have been accepted into the College of Health Related Professions School of Nursing.

Eligible students may apply to borrow up to $1,500 each academic year and not more than $6,000 in the aggregate for any student. Loans are made for educational expenses. Interest of three percent per year does not commence until nine months after leaving attendance. The principal payment plus interest thereon is repayable at the rate of 10 percent annually over a period of 10 years following graduation or leaving school. Monthly, bimonthly, or quarterly payment may be required. For any borrower who serves as a professional nurse (including teaching in any of the fields of nurse training and service as an administrator, supervisor, or consultant in any of the fields of nursing) in any public or nonprofit private institution or agency, up to 50 percent of his loan, plus accrued interest, may be canceled at the rate of 10 percent of the amount of such loan plus interest thereon, that was unpaid on the first day of such service for each complete year the borrower engages in such employment.

For any borrower who serves as a professional nurse in a public or nonprofit hospital in any area determined to have a substantial shortage of such nurses at such hospitals, up to 100 percent of his loan, plus accrued interest, may be canceled at the rate of 15 percent of the amount, plus interest thereon, that was unpaid on the first day of such employment for each complete year he engages therein, beginning on or after September 1, 1968.

Federal Guaranteed Loans
This program became effective in September 1967 and is administered through regional offices of the Office of Education.
Through this program the maximum undergraduate loan is $1,500 per academic year, not to exceed an aggregate total of $5,000. The maximum graduate loan is $1,500 per academic year, with the total aggregate of undergraduate and graduate not to exceed $7,500. A student with an adjusted family income of less than $15,000 a year pays no interest while in an eligible school. The federal government pays the lender the interest during this period. The student begins repayment to the lender when he graduates or withdraws from school.

An educational certificate is required from the Office of Student Financial Aid, 101 Morrison Hall. Applications are available there. Students must then apply to their hometown lending institutions (banks, savings and loan associations, credit unions, etc.).

University Aid Programs

Under the provisions of the 1963 Kansas Senate bill No. 152, a Board of Trustees was appointed by the governor. This Board of Trustees administers the endowment property formerly owned by the University of Wichita in support of the educational undertakings of Wichita State University. It receives and administers gifts, bequests and trusts and manages endowed property and funds as prescribed by the donors and approved by the state Board of Regents. Scholarship funds and awards now under the jurisdiction of the Board of Trustees and administered by them in cooperation with the state Board of Regents are listed below.

Awards

University Citizenship Awards

The Wichita Branch of the American Association of University Women established in 1927 an annual gift of $25 to the girl of the junior class who attained the highest efficiency in University citizenship.

American Civilization Research Award

An award of $50 from a fund established by a private donor will be made annually to a student in American civilization classes whose research project is judged by a selected committee to be the most outstanding submitted during the academic year.

Cosmopolitan Achievement Award in Accounting

Established in 1953. An award of $50 is made annually to an upper division student with a declared major in accounting upon the recommendation of the Department of Accounting.
Thurlow Lieurance Memorial Fund
This award was established in 1964, is given to a senior in the Division of Music in the College of Fine Arts in recognition of scholarship, service to the University and community, and outstanding achievement in the development of his talent.

Frank A. Neff Memorial Award
Established in 1961, in memory of Dean Frank A. Neff, this award is made to the outstanding junior in the College of Business Administration.

Larry Ricks Geology Award Fund
Established in 1957, in memory of Larry Ricks. The interest from the investment is used as a cash gift or award made at the end of each academic year to an undergraduate student in geology who shows great promise and excellence in scholarship.

H. W. Sullivan Award
Established in 1966 in memory of H. W. Sullivan. This award is given annually to the graduating senior who has achieved the highest cumulative grade point index for work completed toward an engineering degree. The award consists of income from the H. W. Sullivan funds.

William H. Swett Prize for Efficiency
William H. Swett, by the terms of his will, established a prize consisting of the income from $5,000. “The yearly income therefrom shall be given at the end of each school year to the graduating student who shall have attained the highest average in his studies and school work during his or her last year in college.” The fund became available in 1924.

Scholarships
The following scholarship funds are available to students of Wichita State University. All inquiries regarding student aid and all applications for undergraduate scholarships must be addressed to the Office of Student Financial Aid. Applications for graduate fellowships must be made to the dean of the Graduate School.

WSU Recognition Scholarship
An honorary award given to a selected group of students with outstanding high school records. Certain special privileges are extended with this scholarship.
The Wichita Chapter of the National Association of Accountants Accounting Awards

These awards, established in 1962 by the Wichita Chapter of the National Association of Accountants, will be presented annually in the amount of $50 to two or more full-time male students who are juniors majoring in accounting. Criteria for selection consist of high academic achievement and qualities of leadership and character. Announcement of award winners will be made at the October meeting of the association.

Administrative Management Society

Established in 1958 by the Wichita Chapter of the National Office Management Association. This is an annual scholarship in the amount of $350 for a junior in business administration majoring in management. The basis for selection of the recipient will be scholastic achievement and financial need. The final date for application is January 1.

Advertising Club of Wichita Scholarship

Established in 1962 by the Advertising Club of Wichita, the scholarship is an annual award of $300 or $150 per semester to an advertising major or minor of junior or senior status. Criteria are need, scholastic record, and active participation record in outside advertising activities.

Local Lodge 733 Clark Lindstrom Memorial Scholarship

Four scholarships were established in 1962 by Aeronautical Local 733 of the International Association of Machinists. They will be granted to members of Local 733 or their children in the amount of $200 for the year. The primary criterion for selection will be academic achievement. Each year one grant will be made to a freshman, a sophomore, a junior, and a senior. Final date for application is January 1.

Air Force ROTC Scholarships

Awarded to cadets in the AFROTC four-year program on a best qualified, competitive basis. Recipients have all general academic and nonrecoverable fees, texts and lab expenses paid, plus $100 per month in cash. For further information contact the Department of Aerospace Studies.

Alpha Tau Sigma Delta Gamma Elizabeth Spicer and Eva C. Hangen Memorial Scholarship Fund

Established by the alumni of Alpha Tau Sigma sorority. Interest on the fund to be used to award a scholarship to a deserving member of the Delta Gamma sorority.
The Wichita State University Alumni Scholarships

Established in 1950 by the Wichita State University Alumni Association, these scholarships are open to incoming freshmen and to undergraduate students. They are awarded on the basis of scholarship and need, and provide from $100 to $300 a year. The final date for application is January 1.

Armed Forces Communications and Electronics Association Scholarship Award

The AFCEA Scholarship in the amount of $500 is awarded annually to a sophomore ROTC student majoring in electronics, communications engineering or technical photography. The award is made on the basis of merit and need. Applications should be submitted to the professor of military science by April 15.

Army ROTC Scholarship

Established in 1964 by Department of the Army, these scholarships provide for payment of all general academic and nonrecoverable fees and books plus $100 per month during the school year. The four-year scholarship is awarded to qualified high school seniors or other students entering a four-year university for the first time. Awards are made on a best qualified, competitive basis.

Three-, two- and one-year scholarships are available to qualified freshmen, sophomore and junior cadets respectively.

Further information may be obtained from the professor of military science.

John David Austin Memorial Scholarship

Established in 1970 in memory of Jack Austin, the award will go to a junior or senior male student in the College of Business Administration.

Olive Baker-Nease Scholarship

Established in 1954 by Stephen G. Nease as a memorial to his wife. The annual income from the estate is available for the scholarship stipend. Selection of scholarship winners is based upon need, academic achievement, and personality development. Final date for application is January 1.

Beech Aircraft Corporation Scholarships

Beech Aircraft Corporation, through the Beech Aircraft Foundation, has established two yearly scholarships for entering freshmen who are sons or daughters of Beech Aircraft Corporation employees. The grants are for $500 each and are renewable for the second, or sophomore, year. Studies to be supported include the fields of
aeronautical, industrial, and electrical engineering; business administration, including accounting, marketing, production, industrial relations, computer application; political science; education, and the sciences. Students must maintain a grade of "C" or better and write a brief report at the end of the school year for Beech Aircraft Foundation. The final date for application is January 1.

**The Olive Ann Beech Civil Aviation Private Pilot's License Award**

The Olive Ann Beech Civil Aviation Private Pilot's License Award is presented each year to one member of the Olive Ann Beech Angel Flight and one member of the Walter H. Beech Arnold Air Society. The award provides for complete flying instruction culminating in a private pilot's license for both recipients. Applicants must be a junior or senior member of Angel Flight or Arnold Air Society. Applications for these awards should be submitted no later than September 1 of each year to the Department of Aerospace Studies, WSU Armory.

**Olive Ann Beech Music Scholarship Fund**

Student applicants must be recommended by the Division of Music Scholarship Committee to the Wichita State University Scholarship Committee for scholarship grants. Applicants must be music majors with 3.00 overall grade point average. Grants are not limited to any specific amount.

**Walter H. Beech Squadron Scholarship**

Established in 1952 by Mrs. Olive Ann Beech and daughters. This scholarship carries a stipend of $600 ($300 per year for two years). Recipient must be a junior or senior and an active member of the Arnold Air Society. The final date for application is January 1.

**The Walter H. Beech Scholarships in Aeronautical Engineering and Aerospace Studies**

This scholarship is awarded in two parts. The freshman scholarship will be granted to five freshmen for one year in the amount of $250 each on the basis of their high school records and entrance examinations. The upperclass scholarship is awarded at the end of the freshman year to one of the five freshman scholars who attained the best academic record. This award shall be a three-year grant in the amount of $600 annually. A 3.00 grade average must be maintained to retain the scholarship. Final date for application is January 1.

**Biological Science Scholarship**

The Sedgwick County Medical Society has established a trust fund to provide scholarships for students preparing for careers in medi-
cine or research relating to medicine. One scholarship in the amount of $250 will be granted each year to an incoming freshman. The grant may be renewed each year for three years if the recipient maintains a 3.00 grade average and remains in the biological science field. Final date for application is January 1.

The Boeing Company Scholarships
The Boeing Company contributes annually for scholarship purposes. The scholarship awards substantially cover general academic and nonrecoverable fees. The awards are renewable for four years.

Boeing scholarship applicants must be entering freshman students who enroll in courses leading to a degree in one of the following fields of study: Engineering, mathematics, physics or business administration. In selecting the winners of the scholarships the committee will consider the applicant's scholastic record, his interest in and personal qualifications for his chosen field of study, character and leadership qualities, and need for financial assistance in carrying on his educational program. Application must be made through the Office of Student Financial Aid no later than January 1.

Luella Bosworth Scholarship Fund
Established in honor of the class of 1902, income from this fund shall be used for scholarship awards to students majoring in English. Classification as a senior and the highest overall grade average will be considered by the Department of English and College of Liberal Arts and Sciences in recommending students for this award. Applications are made through the Department of English to the Office of Student Financial Aid prior to the close of each spring semester.

Merrill Bosworth Music Scholarship
This scholarship, established in 1964, is administered by the Division of Music, and is awarded to a music major whose chief performing medium is flute. Final date for application is January 1.

Steven W. Burnam Memorial Scholarship
Established in 1968, this award is made to a mechanical engineering student. The award may be renewed as long as scholarship requirements are met.

Marjorie Calkins Piano Scholarship
The Marjorie Calkins Piano Scholarships were created in 1968 through a bequest by Russell Calkins and his son Russell W. Calkins, III. Designed specifically for piano majors, this fund provides $300 to be awarded annually to a qualified applicant upon recommenda-
tion of the Division of Music. Applicants should contact the dean of the College of Fine Arts, Wichita State University, Wichita, Kansas, on or before January 1 of each year.

**Wichita Chapter of Certified Public Accountants Scholarship**

Established in 1957 by the Wichita Chapter of the Kansas Society of Certified Public Accountants, these scholarships are awarded annually to full-time students who have signified their intention of taking a curricular emphasis in accounting and have at least a 3.00 overall grade point index. Other factors considered in granting the scholarships are financial need and accounting potential. The awards may consist of one $300 scholarship, two $150 scholarships, or three $100 scholarships, but, the total must not exceed $300.

**The Ann V. Christian Scholarship**

Established in 1964 by R. V. Christian and family. Income from the fund shall be used for scholarships to entering freshmen majoring in chemistry. Final date for application is January 1.

**City of Wichita Scholarships**

The City Commissioners annually award a sum of money from the one and one-half mill levy for scholarship purposes. The University makes a number of grants covering part or all of the fees to students with outstanding academic records. The grants are for one year and are renewable to students maintaining a B or better average. The stipulations of the scholarships are: Applicant must have a good scholarship record from high school and recommendations. Some grants are based on scholarship alone, others on scholarship and need for financial aid. Final date for applications is January 1.

**Flora Colby Clough Scholarship**

Established in 1918, the interest on $500 to be awarded to a young woman in the Fairmount College of Liberal Arts and Sciences, preferably one specializing in English, awarded upon nomination by the English department.

**National Cystic Fibrosis Research Foundation, Scholarship**

An annual scholarship of $300 to a student or students enrolled in the program leading toward the Certificate of Applied Science in inhalation therapy.

**Jenkin H. Davies Music Scholarship**

Established in 1964, this scholarship is awarded annually by the Division of Music to music majors. Final date of application is January 1.

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Delta Delta Delta Scholarships
These are annual scholarships of at least $100 per year given to a junior or senior girl at the time it is awarded. The basis upon which selection is made is scholastic achievement and financial need. Applications may be obtained in the financial aids office at the beginning of second semester.

Elmer Fox & Company Student Scholarships
Established in 1971 by WSU alumni employed by Elmer Fox & Company and the Elmer Fox and Company Foundation, these two $1,200 two-year scholarships are awarded to junior accounting majors in the College of Business Administration. Selection is made by the Department of Accounting and is based on academic achievement, financial need, and aptitude for success in public accounting.

Grand Army of the Republic Living Memorial Scholarship
For a lineal descendant of a Union Veteran of the Civil War. See Logopedics Scholarships.

Grand Chapter of the Kansas Order of Eastern Star Scholarship
A scholarship of $300 is awarded to an eligible junior for use in his senior year. The applicant must be a Mason or member of the Order of the Eastern Star or a child of such members. Applications may be obtained in the financial aids office. The award will be made in August.

Dr. John L. Evans Scholarship
Established in 1959, this award is available to those whom the authorities of the University may deem worthy, whose ability merits the award, and who need financial help to pursue the premedical course at the University. The final date for application is January 1.

Fletcher-McKinley Scholarship Fund
The Fletcher-McKinley Scholarship Fund has been established in honor of Dr. Worth A. Fletcher, professor of chemistry, and in memory of Dr. Lloyd McKinley, who also served as professor of chemistry at Wichita State University.
Contributions to this fund are made through the WSU Alumni Association. The amount of the scholarship will be determined each year by the amount of income from the fund.

Foreign Student Scholarship
Wichita State University accepts the recommendation of the Institute of International Education, 800 Second Avenue, New York 17 N. Y. Direct all queries to this address.
The Glen Gardner Memorial Prize

The Glen Gardner Memorial Prize shall be awarded annually at Commencement to a Wichita State University junior student, of a minority group, in recognition of outstanding University and community citizenship, without emphasis on academic attainment. The initial scholarship award shall be at least $300. At the appropriate time prior to Commencement, the academic vice president and the dean of students of Wichita State University shall submit a list of candidates for the prize to the University Board of Trustees. The Board of Trustees, assisted by Mrs. Glen Gardner, shall then select the recipient.

Sam R. Gardner Memorial Golf Scholarship

This endowed scholarship, established in 1968 by the parents, Mr. and Mrs. Sam M. Gardner, and friends of Sam R. Gardner, is to be awarded to an upperclass student with a grade point average of 2.75 or better. The award will be income from the sum of more than $5,000. A selection will be made upon the recommendation of the coach of intercollegiate golf.

Garvey Geology Scholarship Fund

Scholarships are awarded annually to two or three students majoring in petroleum geology in the amounts from $200 to $500, depending on the financial need. The basis for selection of the recipients of these awards are academic achievements, interest and promise in the field of petroleum geology, and financial need. The final date for application is January 1.

Jacob M. and Molly Glickman Scholarship

This endowed scholarship was established by Milton and William B. Glickman in honor of their parents, Jacob M. and Molly Glickman, in 1970. The fund will provide a $500 yearly scholarship. The scholarship is restricted to Wichita residents and will be awarded on the basis of academic achievement.

The Harry Gore Scholarship Fund

Established in 1952, the fund provides that one-half of the income shall be used to make scholarship grants. Each scholarship grant is for $6,000 ($1,500 annually for four years), and is made to an entering freshman student. In determining the recipient of a Gore Scholarship the committee considers the student's scholastic record in high school, his ability and participation in general school activities, and his character, industry, and ambition. The final date for application is January 1.
The Haskins & Sells Foundation Award for Excellence in Accounting

Established in 1966 by Haskins & Sells, an international CPA firm, the award of $500 is made annually to a student who is majoring in accounting and has completed, during the preceding year, the curriculum in accounting normally scheduled for the junior year, and who has enrolled for his senior year at the University. The award winner will be selected by a committee of faculty members to be appointed by the dean of the College of Business Administration. The selection will be from the five students attaining the highest grade point average in accounting. The recipient of the award will be known as the Haskins & Sells Scholar.

Jim Hershberger Track and Field Scholarship

The Jim Hershberger Annual Track and Field Scholarship was established in 1969. This scholarship, in the amount of $1,500, shall be awarded to a student-athlete in track and field upon recommendation by the University track and field coach, Mr. Jim Hershberger, and the University financial aids representative.

Arthur J. Hoare Scholarship in Mathematics

Established in 1957, this fund provides that income shall be used for annual scholarships to students majoring in mathematics. Students are recommended by the mathematics department to the Office of Student Financial Aid for these scholarships. The awards shall not exceed full annual fees and costs of books. Applications are made through the Department of Mathematics prior to the close of each spring semester.

Earl R. Hutton Scholarship

Established in 1968 in honor of Mr. Earl R. Hutton. Annual award of $1,000, providing a renewable four-year scholarship for entering students in aeronautical engineering. The scholarship will be awarded on the basis of potential academic achievement in aeronautical engineering.

The Independent Insurance Agents of Wichita, Inc.

Established in 1956. Annual scholarship awarded to a junior or senior who is enrolled in the College of Business Administration or in the College of Liberal Arts and Sciences with a major in economics. Carries a stipend of $375. The final date for application is January 1.

The John C. and Maude A. James Scholarship

Established in 1963 by Maude A. James in honor of her husband, John C. James, the fund provides an income of $500 a year to be
awarded to an outstanding senior student in the College of Engineering. Recommendations are made by a committee from the College of Engineering to the Office of Student Financial Aid.

**Kansas Chapter, National Electrical Contractors Association, Inc. Scholarship**

A scholarship of $250 will be awarded each year to a freshman and a sophomore majoring in electrical engineering. Selections will be based upon academic achievement, financial need, and character. Final date for application is January 1.

**Kappa Delta Pi, Wichita Alumni Chapter Scholarship**

Established in 1957, by the Wichita Alumni Chapter of Kappa Delta Pi. Provides an annual stipend of $100 awarded to an active member of the campus chapter of Kappa Delta Pi based on academic achievement, promise as a teacher and need. Final date for application is January 1.

**Kansas Federation of Women's Club Scholarship**

An award of $200 a year will be given to an upperclass woman studying to be a teacher in either elementary or secondary levels. Final date for application is January 1.

**Kappa Pi Art Scholarships**

Established in 1969, two scholarships are available to outstanding undergraduates currently enrolled on the basis of their art ability, and faculty recommendations, on a semester basis in the amount of $100 and $50. Scholarship money is made available by the student art fairs sponsored by the Alpha Omega Chapter of Kappa Pi, a national honorary art fraternity and Wichita State University. Application dates will be announced each fall and spring.

**The John Fitzgerald Kennedy Memorial Scholarship**

This fund, established in 1964 as a memorial to President John F. Kennedy, was initiated by Temple Emanu-El of Wichita and joined in by the Wichita Catholic Diocese, the Wichita Council of Churches, other organizations, and numerous individuals. This scholarship is to be awarded to academically promising Negro students from Wichita high schools who do not qualify for other scholarships on the basis of superior academic record in high school and who could otherwise not afford a university education. The final date for application is January 1.

**KFH Scholarship in Radio**

A grant of $300 is awarded annually. The basis upon which the selection of the scholarship winner will be made is academic
achievement, need, potentiality for a career in radio, character and leadership. The final date for application is January 1.

**Kirkpatrick and Sprecker Scholarship**

Established in 1971 by the accounting firm of Kirkpatrick and Sprecker, these three $100 three-year awards are made to sophomores majoring in accounting in the College of Business Administration. Selection is by the Department of Accounting, based on academic achievement, financial need, and potential for success in accounting.

**Logopedics Scholarships**

The Logopedics Scholarship Fund provides for a limited number of scholarships ranging from $50 to $200 a semester for students planning to major in Logopedics. These scholarships are provided by the Women's Advisory Council of the Institute of Logopedics, Lambda Tau Delta, Sigma Alpha, Chi Sigma, and other interested groups. Applicants are recommended by the Department of Logopedics to the University Scholarship Committee. Further information may be secured by writing to the Scholarship Committee, Institute of Logopedics, Wichita, Kansas. Final dates for application for the fall semester is January 1 and November 1 for the spring semester.

**Vincent T. Lombardi Scholarship**

The award, established in 1971, will be given to a member of the varsity football team who is in his junior year. The student must have a grade point average of 2.00 or better and must demonstrate qualities of leadership, character, personal discipline, pride and dedication.

**The Anita Lusk Scholarship**

This endowment fund was established by Anita Lusk. The income from this fund is to be used for scholarships to business students, especially to students recommended by the business department of Wichita High School West, Wichita, Kansas.

**Leonora N. McGregor Scholarship Fund**

Established in 1964. Income from this fund shall be used for scholarships for students of Wichita State University. Final date for applications is January 1.

**The Men of Webster Scholarship**

Established in 1967 by the men of Webster Fraternity, founded in 1895 by Nathaniel Morrison, then president of Fairmount College,
which became a local chapter of Delta Upsilon fraternity in 1959. Income from the funds of The Men of Webster Building Association, accumulated through the efforts of its 1,133 members, will be used to provide one or more scholarships for male students. Financial need is a primary factor of selection along with other usual criteria. Final date for application is January 1.

**The Pearl J. Milburn Memorial Scholarship**

Established in 1956, the fund provides a four-year scholarship carrying a stipend of $2,000 ($500 annually for four years) awarded to an entering freshman who has graduated from a Wichita public high school with B average or better, a record of high school activities, and need for financial assistance. Recipient must maintain a better than average scholastic record in the University and take two years of English and two years of American history during his college course. Usually awarded once every four years. Final date for application is January 1.

**Mortar Board Alumni Scholarship**

Established in 1945, a grant of $100 will be awarded to the sophomore girl having the highest scholastic average at the end of her freshman year.

**Wichita State University Music Scholarships**

Each year a limited number of scholarships are granted to music students planning to major in this field. Evidence of financial need, musical aptitude and overall high school grade average of B or higher constitutes the basis for recommendation for music scholarship grants to the University Scholarship Committee. Interested students should contact the dean of the College of Fine Arts, Wichita State University, Wichita, Kansas, for application blanks and detailed information.

**National Society of Bookkeepers Scholarship**

Established in 1964 by the Wichita Chapter of the National Society of Bookkeepers, this scholarship pays the general academic fees of the recipient in Accounting 114. Criteria are financial need, aptitude for bookkeeping, and scholarship. Applicants are chosen by the Department of Accounting, with final selection being made by the education committee of the National Bookkeepers' Society.

**Dr. Henry Onsgard Scholarship**

Established in 1958 by former students and friends of Dr. Onsgard. The interest from the investment will be used as a stipend for one or more scholarships awarded annually to an upper-division student.
majoring in history. Basis for selection will be academic achievement, activities record, personal achievement, and financial need. Final date for application is January 1.

**The Daniel S. Pajes Prize in Art History**
Established in 1971 in memory of Daniel S. Pajes, a sum of $100 to be awarded annually to a junior student majoring in art history.

**Payne Memorial Business Education Scholarship**
Established in 1959 in honor of Mr. and Mrs. C. B. Payne. The scholarship is available to business education students. The basis for selection of the winner will be academic achievement and financial need. The stipend is $120. The final date for application is January 1.

**The Personnel Management Association of Wichita Scholarship**
This scholarship is available to a full-time student who has attained junior status and has a proven interest in personnel administration, labor relations, or industrial relations. The award is for $150 a semester for four semesters. Academic record must be commensurate with current scholarship requirements. Recipient will receive an honorary membership in the PMAW and must make at least one report to the PMAW each semester. Application blanks and further information are available in the financial aids office.

**Petroleum Accounting Conference Scholarship**
Established in 1971 by the Petroleum Accounting Conference of Wichita, this scholarship is a $250 award made annually to a junior or senior accounting major in the College of Business Administration. Selection is on the basis of academic achievement, financial need, and evidence suggesting outstanding potential in the field of accounting.

**Pi Mu Epsilon Mathematics Scholarship**
Established in 1950 by the University of Wichita (Kansas Gamma) chapter of Pi Mu Epsilon, honorary mathematics fraternity, consists of the interest on a scholarship fund. It is awarded to an upper-division student with a declared major in mathematics upon the recommendation of the Department of Mathematics. The award will be made upon the recipient's enrolling as a mathematics major in the following semester.

**Adrian E. Pouliot Scholarship**
Established in 1971, the scholarship is presented to a student enrolled in the Division of Music.
The Theodore Presser Foundation Music Scholarship

The Presser Foundation offers scholarships to one or more music majors. The awards are granted each spring by the committee on scholarships and student aid upon the recommendation of the music division faculty. The award is granted to a student in need of financial aid and preference is given to those who expect to become music teachers.

Charles E. Rickman Memorial Scholarship

The scholarship will be presented to a high school student going into Fairmont College of Liberal Arts and Sciences. Preference for the award will be given to a student who demonstrates financial need and has earned a grade point average of 3.50 or better in high school.

Ritchie Construction Company, Inc. Scholarships

The Ritchie Construction Company, Inc., will annually award two scholarships, one to a minority student and one to a son or daughter of an employee. Both carry stipends of up to $450 for the year. Basis for selection will be scholarship, need and character. Final date for application is January 1.

James Robertson Scholarship in Instrumental Conducting

The scholarship, honoring James Robertson, long-time conductor of the Wichita Symphony and the University Symphony, will be awarded annually to a junior, senior or graduate student at WSU who is pursuing an interest or career in symphonic conducting.

The Minisa Chapter (NSAI) Secretarial Scholarship

Established in 1958 by the Minisa Chapter of NSAI. An annual award of $300 is granted to a girl who has graduated from a high school in Sedgwick County and who has indicated an intention to enroll in the College of Business Administration with an emphasis in secretarial training. Selection of the winner will be made on character, need for financial assistance, personality, and scholastic record in high school. Final date for application is January 1.

The Savings and Loan League of Wichita Scholarship

The Savings and Loan League of Wichita established this scholarship in the amount of $500 in 1967. The recipient of this scholarship shall be a graduate of a Sedgwick County high school, a business administration major in his junior or senior year, either male or female, with proven academic ability. Final date for application is January 1.
Social Work Scholarship Fund

A fund established in 1969 by the Wichita Chapter of National Association of Social Workers and the South Central Association of Social Services. Awards from this fund will be made upon recommendation of a subcommittee on grants and aids of the professional advisory committee on social work education. Applicants must be enrolled in a field experience course, be a social work major and be approved by a faculty teaching the social work sequence.

The Sorosis Alumnae Award

The interest earned by the Sorosis Alumnae Fund shall be awarded annually to a member of Delta Delta Delta sorority who has completed at least five semesters of work, with an overall average of 3.00, and who has contributed in some outstanding manner to Wichita State University and the Delta Delta Delta sorority.

F. C. Sauer Zoology Scholarship

Established in 1937 by Mary E. Sauer, the interest on $1,000 to be awarded annually to a deserving student of high scholastic standing above the freshman year, preferably a zoology student, upon the recommendation of the biology department.

Wichita Community Theatre Scholarship

Established in 1962, a $250 scholarship will be awarded annually to a high school graduate of the Wichita area. High scholastic standing and a desire to major in speech are requisites for application. Final date for application is January 1.

Dr. Walter A. Ver Wiebe Scholarship in Geology

Established in 1954 by former students and friends of professor Walter A. Ver Wiebe. This scholarship bears the stipend of from $1,600 to $2,000 for four years and is awarded annually (for from $400 to $500 per year), and may be renewed provided the student is academically qualified. The applicant must be a graduate from high school (or the equivalent) with a high scholastic record, sound character, leadership qualities, and have a primary interest in geology. The applicant must have recommendations and be available for interview. Recommendations are submitted to the University Scholarship Committee. The final date for application is January 1.

David Bard Wainwright Memorial Scholarship Fund

Established in 1968 by Mrs. Sharon Wainwright as a memorial to her husband, 1st Lt. David Bard Wainwright, graduate of WSU College of Education and distinguished military graduate of Army
ROTC, who was killed in action in the Republic of Vietnam. Income from the fund will be used for a scholarship award to the outstanding ROTC cadet in sophomore ROTC who has not accepted a two-year Army ROTC Scholarship. Cadet selected must maintain a minimum grade point average of 2.50, with a minimum of 3.00 in military science; he must have made contributions to Army ROTC activities during his freshman and sophomore years to include participation in Pershing Rifles and acquisition of honors for meritorious service. He must possess outstanding personality characteristics.

**Wall Memorial Scholarship**

This scholarship, given in memory of Lillie Striegel Wall and Henry V. Wall, is awarded to a foreign language major preparing to teach. It is awarded either during the student teaching semester or for summer study in Mexico or Europe. The stipend of $200 will be awarded upon basis of need, promise as a teacher, and academic achievement. GPA of 3.00 or better. Final date for application is January 1.

**Wichita State University Alumni of Arthur Andersen & Co. Scholarship Fund**

Established 1965. Each year alumni of Wichita State University who are employees of Arthur Andersen & Co., an international CPA firm, contribute varying amounts which are matched by the firm to the Wichita State University Alumni of Arthur Andersen & Co. Scholarship Fund. The purpose of this scholarship fund is to stimulate higher academic achievement on the part of students majoring in accounting. The awards are to be made by a faculty committee organized for such purpose. The committee is to have freedom in selecting the number and amounts of awards to be given. The recipients of the awards are to be known as Arthur Andersen Scholars.

**The Grace Wilkie Scholarship**

The scholarship is the interest from an invested principal for which women students are eligible; however, preference is given to Grace Wilkie Hall residents.

**Women's Aeronautical Association of Kansas Aeronautical Engineering Scholarship**

The scholarship is to be awarded to a junior or senior student enrolled in aeronautical engineering and carries a stipend of $400 annually. A grade average of 2.50 or better is required. The final date for application is January 1.
Women's Symphony Society Scholarship

Established by the Women's Symphony Society, the scholarship is open to music majors with a stipend of from $100 to $200 per year. Applications may be obtained through the Division of Music.

Ira Dean Worden Scholarship

The Ira Dean Worden Scholarship is given to a student in the College of Business Administration.

WSU Memorial Funds Scholarships

Twenty named scholarships, honoring the students and University personnel who died in an airplane crash in Colorado on October 2, 1970, are provided through the WSU Memorial Funds. The scholarships, made possible by generous donations from citizens of Wichita, the state, and the nation, will perpetuate the names of those who died.

Scholarships Honoring Students—The following 15 scholarships honor the 14 student football players and the student equipment manager who died in the crash. First consideration for the scholarships is given to students coming from the high school of the player in whose name the scholarship was established. Each year each scholarship will provide one full-fee scholarship for a Kansas resident or a half-fee scholarship for an out-of-state student in the name of one of the 15 students who died.

Marvin G. Brown Memorial Scholarship
Donald G. Christian Memorial Scholarship
John W. Duren Memorial Scholarship
Martin E. Harrison Memorial Scholarship
Ronald G. Johnson Memorial Scholarship
Randall B. Kiesau Memorial Scholarship
Malory W. Kimmel Memorial Scholarship
Carl R. Krueger Memorial Scholarship
Stephan A. Moore Memorial Scholarship
Thomas B. Owen, Jr., Memorial Scholarship
Eugene Robinson Memorial Scholarship
Thomas T. Shedden Memorial Scholarship
Richard N. Stines Memorial Scholarship
John R. Taylor Memorial Scholarship
Jack R. Vetter Memorial Scholarship

Scholarships Honoring University Personnel—Five scholarships, honoring University staff members and their wives who died in the crash, also have been established from the WSU Memorial Funds, together with funds donated to WSU specifically in memory of these individuals. The purposes and award criteria for each of the scholarships are as follows:
Carl Fahrbach Memorial Graduate Assistantship

See Graduate Assistantships, Fellowships and Scholarships section of this Catalog.

Floyd W. Farmer Memorial Scholarship

Awards from the Floyd Farmer Memorical Scholarship funds will be made to graduates of Wichita high schools who have demonstrated exceptional ability in track and field competition. The awards also will be based on high school grade point average, college potential as indicated by aptitude tests, and leadership qualities. The awards are for one year and are renewable upon recommendation by an advisory committee. The scholarship is a memorial to Floyd Farmer, who was a track enthusiast and administrative assistant to the director of athletics at WSU.

Albert C. and Marion Katzenmeyer Memorial Scholarship

Awarded to the WSU junior who has demonstrated exceptional leadership and performance in intercollegiate athletics; consideration is given to academic achievement and financial need for special preference to a married athlete. The scholarship is for one year and is renewable upon recommendation by an advisory committee. The scholarship is a memorial to Bert Katzenmeyer, director of athletics at WSU, and his wife Marion.

Thomas A. Reeves Memorial Scholarship

Awarded to a student who has demonstrated an aptitude and a desire to pursue a career as an athletic trainer; consideration is given to students currently enrolled. The award is for one year and is renewable upon recommendation of an advisory committee. The scholarship is a memorial to Thomas A. Reeves, head trainer for athletics.

Ben and Helen Wilson Memorial Scholarship

Awarded to the WSU athlete who, in his junior year, has demonstrated exceptional leadership and performance in intercollegiate football; academic achievement and financial need are considered. The scholarship is a memorial to Ben Wilson, head football coach, and his wife Helen.

YWCA Mansfield Memorial Fund Scholarships

The Wichita YWCA, by the terms of the will of Mrs. Bessie Frances Davis Mansfield, will have scholarship funds available to “students either male or female enrolled at an institution of higher learning above the high school and pursuing a program of study leading to an undergraduate or graduate degree.” There will be three full-
time student scholarships not to exceed $1,000 each annually; and $1,000 which can be divided among part-time students. Preferences in selection are: (1) Relatives as specified in the will, (2) financial needs of the applicant, and (3) employees or active volunteers of YWCA. Application deadline will be June 15 and announcement of recipients will be June 30 so recipients may make complete fall plans contingent on the award. Applications should be obtained from and returned to: Mansfield Scholarship, Young Women's Christian Association, 350 N. Market, Wichita, Ks. 67202.

GRADUATE ASSISTANTSHIPS, FELLOWSHIPS AND SCHOLARSHIPS

James Chubb Memorial Fellowship
Established in 1971, the fellowship will be awarded to a graduate student in the Department of Economics. Preference will be given to members of the Chubb family.

Carl Fahrbach Memorial Graduate Assistantship
Awarded to a full-time graduate student in the Department of Student Personnel and Guidance in WSU's College of Education. The scholarship is awarded for one academic year and is renewable upon recommendation of an advisory committee. The scholarship is a memorial to Dr. Carl G. Fahrbach, dean of admissions and records.

James H. Hibbard Memorial Scholarship
Established in 1952 by the Wichita Foundation of Medical Research, the scholarship provides awards to graduate students in chemistry who are interested in the study of medicine or in research in some phase of medicine.

Kiwanis Scholarship in Public Administration
Established in 1964 a $1,500 scholarship is being provided by the Downtown Kiwanis Club for graduate study leading to a master's degree in public administration. Final date for application is January 15.

Loans
The special funds described below provide the Combined Student Loan Fund for students with satisfactory scholarship records. Total loans made to one student may not exceed $300 and satisfactory endorsers are required for all loans. All loans made to students bear interest at the rate of one percent per month on the unpaid balance. The time and manner of repayment is to be agreed upon by the student and the University at the time the loan is made.

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Application for these loans is made in the Office of Student Financial Aid. No loans will be made to students with 24 or less credit hours.

**Barclay Student Loan Fund**
Established in 1931, $100 given by Mr. and Mrs. W. Houston Barclay.

**Dr. L. A. Donnell Loan Fund**
Established in 1959 in memory of Dr. L. A. Donnell. The fund will be incorporated into the Combined Student Loan Fund with money being loaned to deserving and needy students who have satisfactory scholarship records.

**Edwards Loan Fund**
Established in 1910 by R. E. Edwards of Kinsley, available for aiding deserving students to secure an education in Fairmount College, now incorporated in Wichita State University. The article of gift specifies that recipients shall be encouraged to work and to add to the amount such sums as they can, in order that others may receive similar aid in obtaining an education.

**Goldsmith Student Loan Fund**
Established in 1943 by a gift of $2,140 by Dr. and Mrs. W. M. Goldsmith, available to juniors and seniors who have completed one year of residence work at the University. The rules governing the fund provide that at least 50 percent of the fund shall be reserved for nonresident students.

**Interracial Good Will Fund**
Established in 1926 for the benefit of Negro students enrolled in the University, to be administered jointly by the University and a Commission of Interracial Good Will.

**Laura Piper Hoop Memorial Fund**
Established in 1924 by a gift of $400 made by Major Oscar W. Hoop of the Fairmount class of 1920, in memory of his mother, Laura Piper Hoop. This is to be used as a perpetual loan fund to help worthy students and to be administered according to the discretion of the president of the University.

**Fred C. Speh Student Loan Fund**
Established in 1931 by Frederic C. Speh in memory of his son, Fred C. Speh, available to juniors and seniors and administered by the president of the University together with a committee.
maximum amount any one student may borrow is $200. Repayment time is governed by the student’s financial circumstances and require life insurance in an amount equal to the sum borrowed.

**Student Council Loan Fund**

Established in 1932 by the Student Council, a sum of $150 as a loan fund for needy students, preferably needing financial aid to defray graduation expenses.

**Dr. T. Walker Weaver Memorial Loan Fund**

Established in 1962 by gifts from friends in the memory of Dr. T. Walker Weaver, former University of Wichita Board of Regents member. This fund is to be used for loans to worthy and needy students.

**Women’s Aeronautical Association Loan Fund**

Established in 1940 by the Women’s Aeronautical Association of Wichita, a sum of $100 to be loaned to worthy students in the aeronautical curricula.

**Women’s Bible Class, First Presbyterian Church, Loan Fund**

Established to provide assistance to worthy students.

**LOAN FUNDS FOR SPECIAL PURPOSES**

**Alumni Loan Fund**

Wichita State University Alumni Association Loan Fund, established in 1956 by the Alumni Association of the University. All money given by the Alumni Association for this fund is put in the regular loan fund and administered by the Committee on Scholarships and Student Aid.

**Boeing Emergency Loan Fund**

Established by The Boeing Company. This fund was made available to Wichita State University to make short duration emergency loans to students having financial need who are citizens of the United States, and are making satisfactory academic progress. Any major field of study leading to a bachelor’s degree will qualify; some preference is given to engineering and science students.

**Christian Conference Loan Fund**

Established in 1923 by a friend of Fairmount College, a fund of $300 to enable students more easily to attend YMCA, YWCA, and other Christian conferences. Loans may not exceed $75 each and must be repaid within three months after the date of leaving college, interest at four percent, payable annually.
C. U. W. Scholarship and Loan Fund

Established in 1952 by the Council of University Women and consists of $50 to be used only for loans to women and is available to new students on the campus.

Delta Epsilon Loan Fund

Established in 1956 by the Epsilon Chapter of Delta Epsilon, science fraternity, to be used for making loans to majors in the following departments: Chemistry, engineering, logopedics, geology, mathematics, physics, psychology, and zoology.

Kansas Engineering Society Loan Fund

Established in 1956 by the Kansas Engineering Society, a fund of $400 to be loaned to worthy students enrolled in accredited engineering curricula. Loans bear service charge but bear interest only after recipient has left the University.

Garvey Loan Fund

Established in 1958 by James S. Garvey, a fund to be loaned to worthy students who meet character, citizenship, and need qualifications.

Lucy Munro Barker Loan Fund

Established in 1968 in honor of Lucy Munro Barker by Aline Rhodes for students majoring in art at Wichita State University.

Wichita Community Theatre, Inc., Loan Fund

Established in 1968, this loan is to be used for National Defense Student Loan matching funds.

Alpha Phi Omega Loan Fund

Established in 1968 by the Beta Alpha Chapter of Alpha Phi Omega, a national service fraternity. The fund is to be used for matching federal funds for the National Defense Student Loan program at Wichita State University.

Gamma Psi—Alpha Chi Omega Loan Fund

Established in 1969 by Gamma Psi of Alpha Chi Omega. This fund is used for National Defense Student Loan matching funds.

Inter Fraternity Council

Established in 1965 by the Inter Fraternity Council. The fund is used for National Defense Student Loan matching funds.
John Liggett Loan Fund
Established in 1964 by John Liggett. This fund is used for National Defense Student Loan matching funds.

Pete Lightner Memorial Loan Fund
Established in 1962, in memory of Pete Lightner. This fund is to be used for loans to worthy and needy music students or athletes.

Eugene McFarland Loan Fund
Established in 1956 in memory of Dr. McFarland to be used for loans to students majoring in art.

The Robert H. McIsaac Memorial Loan Fund
Robert H. McIsaac Memorial Loan Fund established in 1969 in memory of Robert H. McIsaac, with the fund to be used as matching funds for the National Defense Student Loan Fund. Mr. McIsaac served for many years in the area of pupil and personnel guidance with the Wichita public schools. His efforts helped to build a comprehensive guidance program at the junior high and high school levels in the Wichita Public School System.

Reno B. Myers Memorial Loan Fund for Music Students
Established in 1962 by gifts from friends in the memory of Reno B. Myers. This fund is to be used for loans to worthy and needy students in music.

The Edda H. Lockhead Loan Fund
Established in 1966, through the estate of Mrs. Edda H. Lockhead. The loans in any given year shall not exceed five in number and shall be made to students of junior or senior standing in the Fairmount College of Liberal Arts and Sciences. The loan to any one student cannot exceed the sum of $250 per year.

Douglas Stucky Memorial Loan Fund
Established in 1964 in memory of Douglas Stucky. This fund is used for National Defense Student Loan matching funds.

Newton Teachers Association Loan Fund
Established in 1966 for matching funds for National Defense Student Loans at Wichita State University.

Minnie Ferguson Owens Loan Fund
Established in 1940 by Dorothy Owens Meyers, a fund of $200 for payment of fees, available to senior students of voice.
Charles E. Parr Loan Fund
Established in 1959 through the estate of Charles E. Parr, a fund to be loaned to worthy students desiring a higher education.

Rollins Memorial Fund
Established in 1927 in honor of Walter Huntington Rollins, third president of Fairmount College, by his classmates of Dartmouth College, Class of 1894, and certain Wichita friends, the sum of $1,000 in perpetual trust, the income from which is to form an accumulative revolving fund to be loaned from year to year to a worthy student or students in the Fairmount College of Liberal Arts and Sciences.

Paul Ross Student Loan Fund
This fund provides for short-term loans to students interested in health related programs.

Kansas Sales Executive Club Loan Fund
Established in 1957, $1,000 available for loans to juniors and seniors with a major in marketing and who have an interest in selling.

Senior Class of 1961 Loan Fund
Established by the Class of 1961. The funds provided will be loaned to worthy and deserving graduating seniors. Repayment may be made after graduation.

George W. Shepherd Memorial Loan Fund
Established in 1962, the funds are to be loaned with no interest charge to students seeking careers as police officers.

United Student Aid Funds Loans
Many banks participate in this program which was designed to make available long-term loans to students.

Applicants contact the bank of their choice (one in the hometown or where residence has been established), complete the necessary application forms, submit the forms to the Office of Student Financial Aid for completion of the education certificate, return the application to their bank.

Eligibility policies require that a student be enrolled full-time and capable of maintaining satisfactory standing.
Preference is given to those of sophomore or higher standing; however, a limited number of entering freshmen loans may be available. $1,000 per year to a maximum of $3,000 on undergraduate work is available. Graduate students may borrow up to $1,500 per
year. A sum, not to exceed $7,500, may be borrowed including undergraduate and graduate study.

Notes bear seven percent simple interest from the date of the loan until paid in full.

George D. Wilner Loan Fund
Established in honor of George D. Wilner, professor emeritus of speech and dramatic art, the fund is used for National Defense Student Loan matching funds.

Wichita State University Men's Faculty Club
Established in 1965 by the Men’s Faculty Club of the University, the fund is used for National Defense Student Loan matching funds.

Alice Campbell Wrigley Memorial Loan Fund
Available to students with high academic achievement, interest, and promise in the field of theater who have financial need.

FOUNDATIONS FOR RELIGIOUS EDUCATION

The Ransom Foundation
Established by Katherine S. Ransom as a memorial for her husband by a gift of $75,000. It is administered as a trust fund under the name of "The Ransom Fund for Religious Education."

The Butler Foundation
Established by Emily Butler, it is a trust fund of $10,000 to be used for the purpose of assisting in the financing of the "Department of Religious Education of the University of Wichita."

At the specific request of the trustees of Fairmount College a small portion of the income of the Joint Ransom-Butler Foundation is now set aside annually for use in defraying the cost of outstanding lectures in religion, science and literature.

The Louisa J. Byington Foundation
Established in 1930 and consists of the sum of $1,000 to be used in the Department of Religious Education.

Student Services
The Division of Student Services assumes the major responsibility for the University's student personnel programs. The division cooperates and works with all offices, divisions, and departments of the University to help students put their talents to the best possible use.

Students who need or desire assistance connected with any phase
of University life are encouraged to contact the Division of Student Services. The division serves as a focal point for the interest and concern of students about matters related to the University, its people, and programs.

**Vice President for Student Affairs**

The vice president for student affairs and dean of students is responsible for the coordination and supervision of student services. He is directly responsible to the president of the University, and his purpose is to encourage communication between the division, the students, faculty, and the department heads of the University concerning student life, problems, and activities.

**Offices of the Associate Deans**

The offices of the associate deans of student services are responsible for the residence halls, work with off-campus housing problems, serve fraternities and sororities, help social organizations, counsel students with problems or concerns, and encourage scholastic achievement.

**Orientation**

**Advance Registration Period**

Special orientation programs are presented through small group interaction and discussions, led by trained student leaders, for new fall semester students to become acquainted with the University, college life, University faculty, and other new students. Personal goals, objectives and expectations are discussed during these summer programs.

**Shocker Week**

Prior to the first day of classes, numerous educational and social activities are presented to better acquaint new students with the campus. Library and campus tours are arranged; an activities open house is presented, involving many organizations which new students may find interesting; special programs for residence hall students are planned; educational and entertaining films are shown, and the annual Shocker Week Dance provides an early opportunity to meet fellow students.

**Counseling**

Professional counseling is available on a voluntary basis for students seeking such services. Areas specifically served include:
(1) Emotional and adjustment difficulties.
(2) Vocational and professional planning.
(3) Marital counseling.
(4) Educational counseling as related to 1, 2 and 3 above.

Testing Center

Each student working toward a degree must take the American College Test. Information regarding this test and interpretation of scores is available upon request. Special tests measuring interests, abilities, and personality are available in connection with the services of the Counseling Center. Information regarding national testing programs (Graduate Record Examination, etc.) is also available at the center.

Advisement

Each student is assigned to a faculty member whose responsibility it is to advise him in academic matters. In the event that either the student or the faculty member feels that the student is in need of more professional services, a referral to the Counseling Center may be made.

International Program

Students from other lands are particularly welcome at Wichita State University. In addition to the services provided to all students through the Division of Student Services, international students will find the International Program Office especially helpful. The office, located in 112 Campus Activities Center, assists international students in adjusting to their new surroundings.

The University's International Club, composed of both international and American students, also helps students from other countries through a full program of cultural and social activities. Membership in the club, which meets twice a month, is open to all students.

For University admission requirements for international students, see the Admission section of this Catalog.

Career Planning and Placement Center

The Career Planning and Placement Center, located in 011 Morrison Hall, provides career planning and employment placement services to assist undergraduate students, graduating seniors, graduate students, and alumni.
Placement services cover all types of employment (with the exception of teaching positions) including part-time school jobs and summer employment as well as permanent career positions for graduates and alumni.

The Career Planning and Placement Center receives direct employment listings daily from employers in the Wichita area, the state, and the nation. Also, many company and government agency recruiters from all over the United States visit the Career Planning and Placement Center each year.

Considerable emphasis is also placed on career guidance and counseling with the main objective toward assisting the student to:

- Study himself
- Explore occupational areas
- Choose an occupational area
- Make a decision either to embark on graduate or professional school study or to select an entry position
- Plan a job search campaign, prepare for job interviews, and choose an entry position

Occupational and career information, employer directories, information on employment trends and opportunities, recruiting literature, and annual salary survey reports are all available in the Career Planning and Placement Center. A special graduate school opportunities section has been added to assist students in planning for advanced study.

Teacher Placement Bureau

Assistance is given to students and alumni desiring teaching positions. The service is available only to students who have completed 15 semester hours at Wichita State University and who have an over-all C average. The registration fee of $2 is to be paid to the University cashier. Application forms may be obtained from the Teacher Placement Bureau.

Veterans Affairs and Selective Service

There are certain problems of special concern to veterans and to those students who must maintain continuing relations with local draft boards. Students who have problems or questions pertaining to veterans' benefits or selective service should contact the director of Admissions and Records.

Housing

The Wichita State University housing policy for 1972-73 classifies the various housing units for students as follows:
1. University-approved housing, (a) University-owned residence halls—Grace Wilkie, Brennan No. 1, No. 2, and No. 3—required for freshmen to extent of capacity.  
       (b) Privately owned residence hall—Fairmount Towers.  
       (c) Fraternities.  
2. University-registered housing. Apartments, single rooms, houses, etc., which are nondiscriminatory on the basis of race, creed, or color.  

The policy further states: 1. All single freshmen under 21 years of age enrolled in nine or more credit hours who are not living with relative or guardian are required to live in University-approved housing, with priority given to University-owned housing.  
3. All other students can select their own accommodations; however, University-approved housing is highly recommended. Listings of registered housing facilities are available in the Housing Office.  
4. Special exceptions to these regulations will be reviewed by the Housing Office.  

Admission to the University does not mean automatic room reservation, but each student admitted will receive a card from the Admissions Office to be filled in and returned to the Housing Office. Upon receipt of this card, proper information will be sent by the Housing Office. However, for prior or additional information at any time, please write to the Director of Housing, 101 Morrison Hall, Wichita State University, Wichita, Kansas.  

The University reserves the right to make policy adjustments where the situation demands and to change the residence of any student or to deny or cancel residence accommodations of any student in cases where such action is deemed desirable.  

Student Health and Hospitalization  
Wichita State University maintains the Student Health Service staffed by professional nurses and community physicians. The health service endeavors to provide guidance and education in health matters, to promote good health, to prevent disease, and to care for ill and injured students.  

All new and transfer students, or students registering anew after an interruption of their program, working toward a degree and enrolled for nine or more credit hours, are required to submit to the Student Health Service a “medical history and physical examination form” signed by a licensed physician (M. D.). The appropriate form will be mailed to all new applicants for admission to the University, or may be obtained from the Student Health Service. The nurse may be seen at the Student Health Service for first aid, illness, or counseling regarding personal health problems. Services of the staff physicians are available by appointment during the
scheduled clinic hours as posted in the Student Health Service Office. Polio, tetanus, flu, and other immunizations are offered to those desiring them. Summaries of medical health records are prepared for students upon request.

The Wichita State University student body has chosen to participate in the Blue Cross-Blue Shield group plan for accident and sickness coverage. Opportunities to participate in the program are offered at the beginning of each regular semester. Information is available at the Student Health Service.

Special Programs

Center for Business and Economic Research

The Center for Business and Economic Research is committed to economic research, the collection of economic data, and the dissemination of economic data to business, industry, and individuals interested in the state’s economic standing. Among the publications produced by the center are: Kansas Economic Indicators, Wichita Directory of Minority Businesses, and Business Conditions Report. The center is a service of the College of Business Administration.

Center for Educational Development

The Center for Educational Development in the College of Health Related Professions is designed to provide continuing and adult educational opportunities for all members of the health related professions throughout the state. Through workshops and seminars, the center’s goal is to find effective methods of helping health professionals, including those in dental medicine, keep abreast of the latest information in their fields. The center works in cooperation with the Kansas Physical Therapy Association; the Kansas City, Missouri, League of Nursing; the state dental association, and similar organizations in neighboring states, as well as other professional health related associations and organizations.

Center for Human Appraisal and Communication Research

The objectives and philosophy of the Center for Human Appraisal and Communication Research include the extension of research attitudes and interests in the behavioral sciences and the application
of that knowledge to governmental agencies and the business community. Projects undertaken by the center include management surveys, assessment programs, supervisory selection, promotions, morale research, sales training, and other general research on people systems. The center is a service of the College of Business Administration.

Center for Management Development

The College of Business Administration's Center for Management Development is designed to provide continuing business education, professional development, specialized information, and direct assistance in management development for the state's businesses, industries, and governmental and social agencies. The center conducts ongoing educational programs, such as workshops, institutes, and seminars, which will help organizational managers to upgrade and improve their professional management skills.

Center for Urban Studies

The Center for Urban Studies is an interdisciplinary organization which was established to give special attention to the problems of metropolitanism and to carry on both independent and contract research. The staff works with the faculty and graduate students in making studies of economic, sociological and cultural problems as well as governmental problems. A central library of specialized materials on urban and regional problems is being established at the center, and the staff is available to assist in conducting seminars, workshops and conferences for officials and interested citizens.

The role of the Center for Urban Studies is to stimulate University faculty members, graduate students, and other informed and interested citizens to investigate, analyze, and report upon metropolitan problems; to develop explanatory hypotheses, alternative solutions, and the probable consequences of such proposals; to provide seminars and conferences for the study of problems, and to provide information on the areas that have been considered.

Project TOGETHER

Project TOGETHER is a program which gives comprehensive, intensive, flexible tutorial help, personal counseling, career guidance, and assistance in the development of study skills for low income and/or minority students.
Research and Sponsored Programs

The Division of Research and Sponsored Programs is responsible for acquiring, reviewing, maintaining, and disseminating information pertaining to programs administered by federal, state, and local governmental agencies, private foundations, and businesses and industries in which the University is eligible to participate. Among its other duties, the division coordinates the preparation of applications for outside support for general institutional-level programs, and it assists faculty members and qualified students in the development of proposals for research and training grants or contracts.

Summer Session

The University maintains its Summer Session as an extension of the regular scholastic year. All work is offered by regularly qualified instructors, and the standards of achievement are identical with those required in the academic year. Credits earned in the Summer Session are accepted by all colleges accredited by or belonging to the associations which accredit the University or in which it has membership.

All the colleges and divisions of the University function during the Summer Session. Credit toward both undergraduate and graduate degrees may be earned during the summer. A variety of short term workshops and special institutes is also a feature of the Summer Session.

Summer Session Bulletin

The Summer Session Bulletin lists dates of enrollment, housing information, fees, and the availability of cultural and recreational opportunities. This bulletin will be mailed to those requesting it.

For the bulletin or information not covered by it, please write to the Director of the Summer Session, Wichita State University, Wichita, Kansas 67208.

Admission Requirements and Enrollment

The rules governing admission to the Summer Session are the same as those for the regular session.

The student may enroll in as many credit hours as the number of weeks for which he is enrolled. Dates for registration are published in the Summer Session Bulletin.

Fees

For information regarding fees, see the financial section of the Catalog.
Summer Program in Puebla, Mexico

Established in the summer of 1966, the summer program in Puebla, Mexico, offers students and teachers of Spanish an academic program designed to broaden and deepen their comprehension of the language, customs, history, and culture of Mexico. Since all classes are taught in Spanish, only students who have had a minimum of two years of college Spanish or the equivalent are eligible to attend. Six hours of undergraduate or graduate credit are available to those who complete the six-week course.

To give students two distinct types of living experiences, embracing both the Mexican's family life and the community activities which surround him, students attending the Puebla program for the first time live in a private home for three weeks and in the Hotel Colonial for three weeks. Native Mexicans serve as escorts and as conversation leaders. During their stay in Puebla, students have a four-day break from classwork for travel.

For more information concerning the summer program in Puebla, consult the Summer Session Bulletin or contact the WSU Department of Romance Languages, 200 Jardine Hall.

Special Facilities

The educational facilities located on the University's 290-acre campus in northeast Wichita offer contemporary surroundings for students. Equipped for year-round use and comfort, Wichita State University's instructional facilities are in use for educational purposes more hours per day than at any other Kansas college or university. Among the campus facilities is the Corbin Education Center, one of the last architectural structures designed by the late Frank Lloyd Wright. The center houses the College of Education. To be completed in the near future are a new five-story, 120,000 square-foot Life Sciences Building and the new McKnight Art Building, a 49,000 square-foot addition to present art facilities.

Special facilities available to students including the following:

The Campus Activities Center

The Campus Activities Center is designed to provide recreational areas, lounging and reading rooms and opportunities for student groups to meet and carry on their programs. Dining facilities are available to the students, faculty, and their friends. The bookstore sells texts and supplies which meet the students day-to-day campus needs. The program of activities is planned by the CAC Program Board, a representative body of students, faculty, and alumni.
A share of the campus privilege fee and revenues from food service, recreation and bookstore pay for the building, all operating costs, and the activities program. No tax money was used in the construction of the building; neither is tax money used to maintain and operate the center and its programs.

The Campus Activities Center is the community center of the University, for all the members of the University family—students, faculty, administration, alumni and guests.

Harvey D. Grace Memorial Chapel

Grace Memorial Chapel, located in the heart of the campus on Yale Boulevard, was built in 1963 and dedicated for use by all creeds and races. The chapel is available to all students for group or individual worship and meditation. Many student weddings are held in the chapel.

Digital Computing Center

The Digital Computing Center offers students the opportunity to use the latest methods in accomplishing their educational goals. Student and faculty research, utilizing the center's IBM System/360 Model 44 computer, is supported and assisted by the Digital Computing Center's extensive and well-trained staff.

Institute of Logopedics

The Institute of Logopedics is a private, nonprofit residential and outpatient facility located on 40 acres near the University campus. The institute is the largest residential facility in the world specializing in habilitation and/or rehabilitation of adults and children with speech and language disorders. The institute is University-related through its affiliation with the College of Education's Department of Logopedics. The University department provides academic preparation for WSU students who wish to be qualified to work with communicatively handicapped children and adults. Observation and practicum opportunities are provided at the institute as part of the professional preparation of students in speech pathology and audiology.

Graduate programs in logopedics offered through the University's Graduate School culminate in either a master's or doctoral degree. The PhD in logopedics is awarded by Wichita State University and is the only such degree offered in Kansas.
University Libraries

The University Libraries, housed primarily in Ablah Library, provide resources and services to support course offerings and to foster independent study and research. Because the University recognizes the importance of the ability to use library resources effectively, services and materials are planned and arranged to encourage students to locate and use information effectively. The library has an open stack arrangement that provides easy access to nearly all of the material in the collection and encourages browsing and study in all fields of interest. Reference service is provided to assist students and faculty locating information and to offer instruction in the use of the library collections.

A comprehensive collection of nearly a million items has been selected to satisfy the expanding needs of the student body and faculty. In addition to books and periodicals, material such as microforms, corporate reports, college catalogs, pamphlets, pictures and art reproductions, films, records, tapes, and slides, also is available. In addition, the library is a depository for selected official publications of the United States and the State of Kansas.

A number of special collections are maintained in the University Libraries. These include local and regional history and papers of William Lloyd Garrison. In addition, the library maintains a resource center for materials in the field of administration of justice.

Facilities for the use of material include individual study carrels, group study rooms, microform reading equipment, listening facilities, photocopying services, and typewriters.

The Audiovisual Center is located in the lower level of Ablah Library. The center provides information on problems dealing with communication, the selection, production, and use of audiovisual material, and equipment.

Olive W. Garvey Laboratory for Advanced Research

The Garvey Laboratory for Advanced Research, located at 3241 Victor Place, is a 9,000 square-foot research facility acquired by the Wichita State University Endowment Association in 1969. The laboratory houses selected research programs in geology, biology, chemistry, and psychology. The laboratory also houses the Kansas Regional Medical Program’s continuing education projects in cardiac care and cancer care.
KMUW-FM Radio Station

KMUW-FM radio broadcasts at 89.1 megacycles on the FM radio dial. The 10,000-watt station is one of more than 90 public radio stations that make up the Corporation for Public Broadcasting network. In addition to full-time staff, students are employed in major positions and are involved in the total operation of the radio station. Programming for the station includes live coverage of virtually all major speeches and special events held at the University.

Reading and Writing Improvement Laboratories

The University provides special aid to students who wish to improve skills in reading and study habits. Courses aimed primarily at reading and writing improvement are available. In connection with this service, a battery of tests is administered, and through individual conferences an attempt is made to identify particular weaknesses and to suggest ways to overcome them. A further description of the courses can be found in the listings of the University College.

Sports and Recreation

Sports and recreation facilities available to University students include a regulation 18-hole golf course; a year-round swimming pool; the 10,200-seat Henry Levitt Arena, used for intercollegiate basketball games and major entertainment events, and Cessna Stadium, a 31,500-seat stadium used for football games and track meets. The stadium is complete with artificial turf and running track, one of the first sports facilities in the nation to have both.

Walter H. Beech and Supersonic Wind Tunnels

Two University wind tunnels are available for faculty and student use. A supersonic wind tunnel, capable of producing wind velocities from two-to-four times the speed of sound, was donated to the University in 1963 by The Boeing Company. The Walter H. Beech Wind Tunnel, donated to the University by the Beech Aircraft Corporation, is a 200 mph closed return tunnel with a 7 x 10-foot test section for studies in aerodynamics.

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Student Activities and Organizations

Student organizations may be granted the privilege of (1) the use of names in which the name of the University is embodied or suggested, and (2) the use of the University rooms or grounds for meetings and of bulletin boards for announcements, only if they have filed their registration forms furnishing the Student Government Association with lists of officers and other executive members, statements of purposes, and copies of constitution and bylaws.

Student Government

Wichita State University believes that one of its primary tasks is educating for the responsibilities of citizenship in our democratic society. With this in mind, it places an ever increasing emphasis on the role that the Student Government Association plays on the campus.

The SGA, under its present constitution, is divided into three organs of student government. The Cabinet, Senate, and Courts carry out the executive, legislative, and judicial functions respectively.

In addition to sponsoring such student activities as Homecoming, Hippodrome, and Parents Day, the Senate, which is completely student elected, charters and registers all other student organizations subordinate to it. It appoints students to University committees and advises the University administration on the student views about policy.

Fraternities and Sororities

Seven national sororities are recognized by Panhellenic Council at the University: Alpha Chi Omega, Alpha Kappa Alpha, Alpha Phi, Delta Delta Delta, Delta Gamma, Gamma Phi Beta, and Sigma Gamma Rho. Delta Sigma Theta has been recognized by the Student Government Association and is in the process of seeking recognition by the Panhellenic Council. Eight national fraternities are recognized by the Interfraternity Council: Alpha Phi Alpha, Beta Theta Pi, Delta Upsilon, Kappa Sigma, Phi Delta Theta, Sigma Alpha Epsilon, Alpha Kappa Lambda, and Sigma Phi Epsilon. In addition, two other national fraternities have been recognized by the Student Government Association: Kappa Alpha Psi and Omega Psi Phi.
Independent Students Association

An Independent Students Association exists on the campus to promote friendship among the student body, as well as to further the educational and social interests of its members.

Religious Activities

The University welcomes the participation of a number of campus religious groups offering a variety of activities to students. Their programs are developed through campus organizations and/or centers and directors. These programs include informal discussion groups, counseling, worship, service projects, and attendance at off-campus conferences. The value of these resources is recognized within the University community. The WSU registration packet includes an optional religious preference card which is made available to campus religious advisers.

Organizations

**Honorary and Professional**

- Alpha Kappa Delta . . . sociology
- Alpha Kappa Psi . . . business fraternity
- Beta Gamma Sigma . . . business administration
- Delta Sigma Rho—Tau Kappa Alpha . . . forensics
- Eta Kappa Nu . . . electrical engineering
- Honors Society . . . honor students
- Kappa Delta Pi . . . education
- Kappa Kappa Psi . . . band (men)
- Kappa Mu Psi . . . broadcasting
- Kappa Pi . . . art
- Lambda Alpha . . . anthropology
- Mortar Board . . . senior women
- Mu Phi Epsilon . . . music (women)
- Omicron Delta Kappa . . . junior and senior men
- Phi Alpha Theta . . . history
- Phi Delta Kappa . . . education
- Phi Eta Sigma . . . freshman men
- Phi Kappa Phi . . . University-wide scholastic
- Phi Mu Alpha-Sinfonia . . . music (men)
- Phi Sigma Tau . . . philosophy
- Pi Delta Phi . . . French
- Pi Epsilon Delta . . . drama (National Collegiate Players)
Pi Sigma Alpha . . . political science
Pi Tau Sigma . . . mechanical engineering
Psi Chi . . . psychology
Senior Honor Men
Sigma Alpha Eta . . . logopedics and speech therapy
Sigma Alpha Iota . . . music (women)
Sigma Delta Pi . . . Spanish
Sigma Gamma Epsilon . . . geology
Sigma Gamma Tau . . . aeronautical engineering
Sigma Pi Sigma . . . physics
Spurs . . . sophomore women
Tau Beta Pi . . . engineering
Tau Beta Sigma . . . band (women)

**Departmental**

Accounting Club
American Institute of Aeronautics and Astronautics
American Institute for Mining, Metallurgical and Petroleum Engineers
American Society of Mechanical Engineers
Anchorettes
Angel Flight
Anthropology Club
Army Blues
Arnold Air Society
Art Council
Art Education
Biology Club
Chemistry Club
CHRP—health related professions organization
Circolo Italiano
Dialectica
Geology
Industrial Education Club
Institute of Electronics and Electrical Engineers
Le Cercle Francais
Liberal Arts Council
Media Women
Music Educators National Conference
Pershing Rifles
Physical Education Majors
Political Science Club
Prelaw Club
Psychology Club
Rifle Club

Wichita State University 75
Scabbard and Blade
Sigma Delta Chi
Spanish Club
Student Advertising Club
Student Branch of the Association for Childhood Education
Student Education Association
Student A. F. T.
Student Physics Society

**Special Interests**

All-Tribal Indian Student Association
Alphabettes
Alpha Phi Omega
Amateur Radio Club
Ananda Marga Yoga Society
Arab Club
Association for Environmental Improvements
Black Student Union
Campus Advance
Campus Crusade for Christ
Campus Girl Scouts
Chess Club
Christian Science Organization
Committee for Student Rights
Ear
Flying Club
International Club
Little Sisters of Minerva
MECHA—Movimiento Estudiantil Chicano de Aztlan
Orchesis
Peace Action Coalition
Peace Coordination Committee
Shoutin' Shockers
Sisters of Golden Heart
Sky Diving Club
Stereo Club
Student Book Exchange
Student International Meditation Society
Student Volunteer Tutorial
University Activities Council
University Debate Society
Veterans on Campus
The Way
Women's Liberation
Women's Physical Education Club
Young Americans for Freedom
Young Democrats
Young Life
Young People's Socialist League
Young Republicans
Zero Population Growth

Living Groups
Brennan Hall III
Brennan Residence Hall Association
Harvard Club
Yale Club

Governing
Associated Women Students
Board of Student Publications
Campus Activities Center Program Board
Engineering Council
Interfraternity Council
Inter-Residence Council
Panhellenic Council
Student Government Association
University Forum Board
The Morrison Hall clock tower is one of Wichita State's most easily identified symbols.
University College is the first academic home of all new freshmen working toward a degree at Wichita State University. New transfers from other colleges who have not completed 24 semester hours with at least a 1.70 grade point average, or who have not declared an academic major, also are admitted into University College. Special students and guest students who are not pursuing a degree at Wichita State University are enrolled in the Division of Continuing Education.

University College exists to help new students make a successful transition to University study. The staff of counselors and special instructors provide academic orientation, individual and group assistance in personal planning, continued academic advising, and special instruction in reading and writing development.

Students remove high school deficiencies, fulfill prerequisites, and choose a major while in University College. Students also complete many of their core curriculum (general educational) requirements and, in some cases, begin their major studies. Although University College interprets the core curriculum and assists students in their selection of courses, all classroom instruction is provided by the faculty from the various departments in the six undergraduate degree-granting colleges of the University.

High School Preparation

Students are advised to prepare for college by selecting their high school courses carefully. The preferred minimal high school preparation includes four units of English, two units of one foreign language, two units of history and social science, one-and-one-half unit of algebra, one unit of geometry, and two units of natural sciences, exclusive of general science. Engineering students should take college algebra and trigonometry, if possible.

Admission

University admission requirements are set forth elsewhere in the Catalog. No student admitted to University College may be scheduled for orientation and enrollment until he has on record at the University all his transcripts, his ACT scores, and a completed health certificate. Transfer students admitted on probation or undecided about an academic major are enrolled in University College and are subject to the same procedures as new freshmen.
ORIENTATION, PERSONAL PLANNING AND REGISTRATION ACTIVITIES

The most important function of University College is academic advising. Faculty from the six undergraduate degree colleges and successful students from the various academic departments in the University join the professional counselors and staff of University College and the Division of Student Services in providing orientation, personal planning, testing, academic advising, and registration services to students in University College.

All new University College students are required to remit a non-refundable orientation fee and to attend an intensive orientation and personal planning session before enrolling for courses. Orientation programs are developed and implemented by University College and Student Services. Information about orientation programs and enrollment is sent by the dean of University College to new students shortly after they have been officially admitted.

The most comprehensive and personalized program is July orientation and registration for new students entering in the fall semester. All new University College students are expected to participate in the July program.

New students entering University College for the spring semester beginning in January, participate in a one-day program of orientation, personal planning, and registration the week before classes start.

New students entering University College for the Summer Session enroll without a formal orientation program and participate in the scheduled July orientation and registration for fall.

PERSONAL DEVELOPMENT AND ACADEMIC ADVISING

All students have the benefit of academic advising throughout their stay in University College. Students who have declared an academic major field of study are in most cases assigned to faculty advisers from the department of their choice. Students who are undecided are assigned to University College counselors or randomly to faculty advisers from the various academic departments.

Two one-hour credit courses—P. D. 100 Freshman Seminar and P. D. 102 Occupation Seminar—have been established to help students develop their personal plans thoughtfully and systematically over a semester time period.

The freshman seminar is designed for the new student and led by a team of faculty and student assistants.

The occupation seminar was created to help students who, after several semesters in college, have not been able to decide on an occupational goal or educational major. (See course descriptions under Special University College Courses at the end of this section.)
Students enrolled in the freshman or occupation seminars are assigned advisers from the faculty and student leaders who direct the seminars.

**STUDENT RESPONSIBILITY**

As part of his adjustment to the University's academic environment, the new student is expected to know the academic rules and regulations of the University as contained in this *Catalog* and the *Schedule of Courses*.

At the end of the first eight weeks in each semester, reports of unsatisfactory grades are mailed to the student. It is the student's responsibility to determine the meaning of his unsatisfactory grades, to seek advice, and to plan steps to improve his performance. University College advisers and counselors expect to help students analyze their difficulties and make adjustments.

Students are expected to maintain a C average in all work for which they are registered for credit during any semester. Failure to maintain this standard implies the advisability of limiting the student's program.

In the event of complete withdrawal, students must complete all the steps of the withdrawal procedure listed in the general regulations section of the *Catalog*.

**PREPARATION FOR DEGREE-GRANTING COLLEGES**

When the student has completed 24 hours of credit and has achieved the designated minimum grade point average, he is eligible to transfer from University College to one of the undergraduate degree-granting colleges. (College of Education and College of Health Related Professions require a minimum of 2.00; the other four colleges, a minimum of 1.70. After completion of 64 hours, all undergraduate colleges require a 2.00 average.)

The student should transfer from University College to the degree-granting college as soon as he has decided on a major course of study and has met the requirements. In any event, *he must qualify to make a transfer by the time he has accumulated 72 hours of credit, or be withdrawn from the University*.

The student who has accumulated 50 semester hours and still has not declared an academic major may be required to take P. D. 102, Occupation Seminar, to assist him in his planning. The student who has accumulated 50 semester hours and has *not yet* achieved the required grades must plan his program carefully with a counselor to repeat courses failed earlier so that the necessary grade points can be acquired before the 72-hour rule forces him to be withdrawn from the University.

In addition to the general requirements stated here, some of the degree-granting colleges have specific requirements to be met as
conditions to acceptance. The student must acquaint himself with these requirements and build his schedule of courses accordingly.

**Procedure for Transferring to a Degree College**

To transfer from the University College to a degree-granting college the student consults with his faculty adviser and/or a University College counselor regarding his curriculum choice and academic eligibility. Then he signs a form requesting the dean to transfer his records to the dean of the college he has selected.

If the student has accumulated the credit hours and grade points required to transfer, he may request a transfer at any time in the semester.

If the student decides on a curriculum during the semester in which he will complete 24 hours, he should request that his records be evaluated and that a transfer be made. The transfer will, in such cases, be made after the grades for that semester are recorded and the dean of the degree college has officially accepted the student into the degree program.

**Note:** The student initiates his own transfer. No one else can take this action for him.

**ACADEMIC PROBATION AND DISMISSAL STANDARDS**

1. Graduation requires a C (2.00) average on all course work for credit; therefore, the University College probation level is 2.00 and the student will be placed on academic probation whenever his cumulative grade point average falls below 2.00. The dismissal level is 1.50 for students with 24 or fewer credit hours; it is 1.70 for students with 25 to 71 credit hours; and it becomes 2.00 for students with 72 hours or more. (Student must be eligible to transfer to a degree-granting college when he has accumulated 72 hours or he will be dismissed from the University.)

2. A student will be continued on probation while his cumulative grade point index falls below 2.00 and is higher than the dismissal level. Moreover, a student will be continued on probation if his semester grade point index is at least a 2.00 even though his cumulative grade point index has not been raised above the dismissal level.

3. A student is not dismissed unless he entered the semester on probation. Moreover, a student will not be dismissed before he has completed 12 semester hours of credit work at Wichita State University unless other standards are specified as a condition of admission. (Credit work excludes I, Wd, Au, CR/NCR.)

4. A transfer student admitted on probation must complete at least 12 semester hours of credit work and achieve a 2.00 grade point index on work at Wichita State University before probation is removed.
5. Policy in the degree-granting colleges states that a student on probation is limited to a maximum load of 12 hours per semester. Exceptions must be made by the dean.

6. Policy in the degree-granting colleges states that no student is allowed credit toward graduation for D grade work in excess of one fourth of the total hours. Also, a student may not transfer higher grades from another institution to make up for less than a 2.00 cumulative grade point index at Wichita State University.

READMISSION AFTER ACADEMIC DISMISSAL

A student who has been academically dismissed in accordance with academic policy may seek readmission to the University by appealing in writing for an exception to the regulations. University College requires all petitioners to appear in person for a series of counseling interviews and to prepare a detailed program of studies for the approval of the dean before the written petition is forwarded to the University Committee on Admission, Advanced Standing and Exceptions. Because such planning requires careful attention, the student must initiate his admission process at least 10 days before the first day of enrollment. Interviews are not conducted during any of the scheduled enrollment periods.

The case for readmission must be developed by the student—usually around an explanation of circumstances contributing to the failure and a presentation of evidence that success is likely.

TWO-YEAR CERTIFICATE PROGRAM IN ADMINISTRATION OF JUSTICE

In cooperation with the Department of Administration of Justice in Fairmount College of Liberal Arts and Sciences, University College awards an Associate of Applied Science Certificate in administration of justice.

The objectives of the two-year certificate program are to serve all students interested in the field of administration of justice who are admissible to the University, and to assist them in their pre-service and in-service training requirements.

The requirements for the certificate include the following:

A. Completion of at least 64 credit hours with at least a C (2.00) grade point average overall for all courses taken;
B. Completion of at least 18 credit hours of courses in the Department of Administration of Justice with a grade of C or better in every administration of justice course;
C. Completion of at least 24 credit hours of work outside the Department of Administration of Justice.

The preferred courses outside the required 18 credit hours in administration of justice are the University's core curriculum courses which will best qualify the student to pursue a baccalaureate program in administration of justice.
Students are advised by faculty in the Department of Administration of Justice, and a coordinator of services is appointed from among the counselors of University College.

Certification requires the candidate to file an application for certification with the chairman of the Department of Administration of Justice. The chairman will review the candidate's transcripts and recommend certification to the dean of University College who signs and awards the certificate. Applications for certification must be filed with the department chairman two months before the date of graduation and awarding ceremonies (no later than the first of April).

GENERAL AND PREPROFESSIONAL PROGRAMS

Minimum requirements for the bachelor's degree are 124 semester hours with a 2.00 grade point average. To graduate in four years, a student should take 15 to 16 hours each semester. In most cases, a typical semester load of 15 hours is equivalent to 15 class meetings per week, except that laboratory hours are usually double the regular class hours.

If the student is undecided as to his area of emphasis, he may enroll in any of the courses selected from the 45 hours of required courses listed elsewhere under the "University Requirements for Graduation," or other courses approved by the adviser and dean. If, however, the student is firm in his conviction as to a major, or field of professional interest, the student's adviser will suggest courses from both areas, i.e., those from the "University Requirements" mentioned above, as well as introductory courses, in areas of major or professional goals.

The core curriculum studies offered in University College are applicable to most of the preprofessional programs which may be pursued at Wichita State University.

Prelaw

The prelaw student is advised to obtain a general education concentrating on studies which emphasize verbal comprehension and expression, creative thinking, and critical understanding of human institutions and values with which the law deals. The prelegal adviser will provide information relative to requirements for entrance to law school.

Health Related Programs

The dean of the College of Health Related Professions and his staff provide counseling in career planning for all health related professions including medicine, veterinary medicine, dentistry, optometry, pharmacology, osteopathy, physical therapy, occupational therapy, radiologic technology, mortuary science, etc.
Students interested in these health professions will enroll through the University College for their first 24 semester hours and then transfer to either the College of Health Related Professions or the College of Liberal Arts and Sciences for the degree program of studies.

**HEALTH PROFESSIONS 101.** *Introduction to Health Professions* is a one-hour credit course which should be taken by new students who are interested, but uncertain in their choice of a health related profession. (Examples: Nursing, medical technology, inhalation therapy, physical therapy, etc.) Enrollment in this course is also highly recommended for students who are firm in their decision to enter a specific health related profession. (See College of Health Related Professions for course description.)

**DIPLOMA NURSING**

Students seeking to prepare themselves for admission to a diploma-granting hospital school of nursing enroll in University College for specific courses selected to meet the common admission requirements of the three affiliated hospitals: St. Francis Hospital, St. Joseph Hospital and Rehabilitation Center, and Wesley Medical Center. It is the student's responsibility to apply to the nursing school of his choice and to determine the specific requirements of that school. The suggested curriculum, below, has been developed through consultation with the three hospital schools of nursing and the College of Health Related Professions. The suggested program, followed by two years of clinical experience and study in the hospital, qualifies the student for a diploma and prepares him for the State Registered Nurse Examination.

The student should plan at least one summer and two full semesters of study; an additional semester may be required for students who have high school deficiencies. Biology 100 or 112 is a prerequisite to Biology 223. Biology 223 should *precede* Biology 120. Successful work in high school algebra is a necessary preparation for Chemistry 103.

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<th>Summer Hrs.</th>
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<tbody>
<tr>
<td>Chemistry 103, General Chemistry ........................................... 5</td>
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<tr>
<th>First Semester</th>
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<tr>
<td>* H. P. 101 Introduction to Health Professions ...................... 1</td>
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<tr>
<td>Biology 100 or 112 .................................................. 4</td>
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<tr>
<td>Psychology 111, General Psychology .................................. 3</td>
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<tr>
<td>English 111, College English ........................................ 3</td>
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<td>Sociology 211 or Anthropology 202 .................................. 3</td>
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<th>Second Semester</th>
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<td>Biology 223, Human Biology ........................................ 5</td>
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<tr>
<td>Biology 120, Introduction to Microbiology ......................... 4</td>
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<tr>
<td>Psychology 260, Child Psychology .................................. 3</td>
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<tr>
<td>Speech 111, Extemporaneous Speech ................................ 2</td>
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| Total .................................................. 33 |

* Not required.
DIVISION OF CONTINUING EDUCATION

The Division of Continuing Education, an administrative unit of University College, was established to meet the educational needs of those citizens in our community who are not regularly enrolled students in another college of the University, through academic work of a cultural, vocational or semiprofessional nature.

The functions of this program, which is directed to the adults of our community, are:

1. To provide continuing education in a variety of fields for those who wish to study for their own personal enrichment.
2. To cooperate with business and industry in providing for groups of employees specialized courses, with or without credit.
3. To sponsor lectures, conferences and institutes for the benefit of students and the general public.
4. To afford, through cooperation with degree-granting colleges, courses during evening hours leading to a degree in one of the colleges of the University.
5. To maintain administrative facilities for students who have matriculated for special programs or for an unspecified degree, and who are not enrolled in another college of the University.

Note: Veterans expecting to secure GI Bill benefits for education should note that the Division of Continuing Education does not offer a degree and, therefore, cannot extend GI benefits except under most unusual circumstances. To secure such benefits the student must be enrolled in University College or in one of the six degree-granting colleges.

Transferring Credit from Continuing Education

Students who accumulate credits in the Division of Continuing Education and who subsequently wish to work toward a degree, must transfer to the University College or to one of the degree-granting colleges. In making that transfer the student must meet all of the requirements for registering in that college.

Students transferring to the University College must file high school transcripts, college transcripts and scores of the American College Test.

Residence and Extension Credit

All credit courses offered by Wichita State University within the City of Wichita carry residence credit; credit courses offered at locations outside the city may carry extension credit. Correspondence work is offered by Wichita State University through the University of Kansas.

Standards and Requirements

Students who do not meet the requirements for admission to credit courses may be admitted to such courses as audit students. Such
persons are enrolled as special students, pay the same fees and receive the same lecture and classroom privileges as credit students. They are not required to take announced examinations.

**Bulletin**

Prior to each semester a bulletin is prepared by the Division of Continuing Education announcing registration dates, courses offered, schedule of classes, and other pertinent information. The bulletin is available upon request.

**SPECIAL UNIVERSITY COLLEGE COURSES**

**HUMANITIES**

299. International Seminar. (4). An interdisciplinary travel seminar: a study of European culture which includes observations of art and architecture in principal European cities, lectures and discussions of European political, social and economic problems given by foreign nationals; and conducted visits to various historic places of interest. Seminar under direction of a member of the faculty.

**PERSONAL DEVELOPMENT**

100. Freshman Seminar. (1). A study of the University as a resource for personal development, and the development of an individual master plan for study and self-development in the University.

102. Occupation Seminar. (1). A study of occupations and curriculums; development of a personal profile from test results and past experiences; selection of a major curriculum, and development of a master plan to be followed.

**SELF IMPROVEMENT COURSES**

The following courses are not applicable to a degree in the baccalaureate colleges.

Engl. 70. English for Foreign Students. (3). 2R; 1 C. Designed to determine the students’ facility with the English language. All foreign students are required to enroll and participate until approval of the instructor is obtained.

Math. 52. Algebra. (5). The topics from high school algebra essential to the study of university level mathematics. May be used, in meeting department prerequisites, in place of one and one-half units of high school algebra. Prerequisite: None.

Math. 60. Plane Geometry. (2). For students without high school credit in plane geometry. May be used in meeting department prerequisites, in place of one unit of high school geometry. Prerequisite: One unit of high school algebra or Mathematics 52, or concurrent enrollment in Mathematics 52.

Personal Development 60. Reading Improvement Techniques. (2). 2R; 1L. Designed for those students who seek to improve reading skills. Reading and study habits are diagnosed and results are used to design a program of self-improvement in these and other skills for each student.

Personal Development 80. Writing Improvement Techniques. (2). 2R. Designed for those students who are interested in developing writing skills directly related to use in academic courses. Emphasis will be placed on individualized and basic skill development.
The student at Wichita State may choose from among more than 100 fields of study in 49 departments.
Regardless of the area of his ultimate specialization, man is, before all else, a member of civilization. Ours is a complex civilization, one which requires an ever-increasing degree of sophisticated understanding. To study the liberal arts and sciences means, in essence, to study the range and scope of man's knowledge about himself and about his universe.

Consequently, the College of Liberal Arts and Sciences has a number of functions, purposes, and responsibilities. Above all, it must provide a broad educational basis for all students, regardless of their specific major, their educational goal, or their college. We ask each student to strive for a well-balanced and integrated study of the basic areas of human knowledge and creativity.

Within the college a student's education is developed according to his particular interest in one of the four main types of study: Preparation for professional and technical studies, education in a specified discipline, cross-cultural education, and preparation for teaching. The concept as outlined above underlies most of the requirements and curricula of the college and hopefully encourages students to explore a variety of possibilities. The college expects all students to become literate in at least one foreign language, as well as proficient in English and to give attention to the natural sciences and social sciences and to humanities, regardless of their professional interests. Faculty and students are constantly at work to maintain flexibility in the face of pressures to conform, to develop leadership in defining issues, and to discover, if possible, better answers to continuing problems. The College of Liberal Arts and Sciences hopes to accomplish these aims while maintaining academic freedom and the right of dispassionate inquiry into all areas of human knowledge. In this manner, we hope that students will learn to make vigorous responses to all manner of contemporary, social, and academic problems which do not always lend themselves to traditional solutions.

Liberal arts, then, in addition to preparation for teaching, Graduate School, and professional endeavors, is also the college within the University for students who do not specifically aim at a career objective but seek to find themselves in the thrill of the discovery of new and challenging ideas and ways of making their life experiences meaningful.
REQUIREMENTS

ADMISSION

A student may be admitted to Fairmount College of Liberal Arts and Sciences if he has successfully completed 24 semester hours and is not on probation as defined by this college.

PROBATION AND DISMISSAL STANDARDS

It is expected that students will make satisfactory progress in their studies. A student who fails to do so may be placed on probation at any time and ultimately dismissed from the University.

Students who have earned up to 63 hours will be required to earn a grade point average (GPA) of at least 1.70 each semester. Students who have completed more than 63 hours will be required to earn an average of at least 2.00 each semester. Students who do not achieve the required GPA will be placed on probation and must make at least 2.00 each semester while on probation.

A student with 63 hours or less not on probation who fails to earn a grade point average of at least 1.70 in any semester will be placed on probation for the following semester. At the end of the semester in which the student has been placed on probation, and was required to earn at least a 2.00 GPA, his transcript will be reviewed. Students who failed to earn the required average will be dismissed. Students who live up to the probation requirements will be continued on this status as long as they earn at least a 2.00 average and until their accumulative grade point average has reached the minimum level commensurate to their hours of college credit earned.

A student with more than 63 hours not on probation who fails to earn a GPA of 2.00 in a semester will be placed on probation for the following semester. At the end of the semester in which the student has been on probation, he will be continued on probation if his grade point average for the semester is at least 2.00 and until he reaches a cumulative GPA of 2.00. If he fails to earn at least a 2.00 for any semester on probation, he will be dismissed for poor scholarship.

*NOTE: No student on probation who enrolls in fewer than seven hours shall be placed on academic dismissal for the failure to raise the cumulative grade point index to the required level; however, if such a student has earned seven or more hours in two or more terms, he must achieve a grade point average for the semesters of 2.00 as listed above to be continued on probation.

A student who has been dismissed for poor scholarship may enroll only with special permission of the Committee on Admissions, Advanced Standing, and Exceptional Programs.

TRANSFER OF CREDIT WITHIN THE UNIVERSITY

Hours completed in colleges other than Fairmount College or University College shall be transferred for credit under the following general rules:

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(1) Credit shall transfer when, in the judgment of the academic official charged with reviewing the transcript of a student, the work offered constitutes progress toward his new degree goal in Fairmount College. Not more than 21 hours shall be transferred, except in cases involving state certification requirements.

(2) In the courses listed below the following limitations shall be in effect:

(3) Credit in courses in industrial education, library science, and elementary education (except for children's literature) will not be transferred.

Only one credit hour in one semester and not more than eight hours maximum credit shall transfer for chorus, band, or other ensembles.

Applied music shall transfer not to exceed eight hours.

Applied art shall transfer not to exceed eight hours.

DEGREE REQUIREMENTS

The Bachelor of Arts and Bachelor of Science degrees are conferred in this college. Each degree requires a minimum of 124 credit hours and a grade point index of 2.00. The general requirements for graduation are listed "Requirements for Graduation" earlier in the Catalog. The following are the requirements for a degree from Fairmount College:

**English:** The student must complete English 111, and 211 or 225, with a grade of C or better, and at least three semester hours of American or English literature. (Note: Such a course may be chosen in such a way as to satisfy core curriculum requirements simultaneously.)

**History—Political Science:** The student must demonstrate a proficiency in the field of American political system and institutions by (a) passing an examination offered once each semester, at an announced time, by the departments of history and political science, or (b) passing one of the following courses: History 131 or 132, or Political Science 121 or 211. (Note: These courses also satisfy core curriculum requirements.)

**Mathematics:** The student must complete satisfactorily five or six semester hours of mathematics courses numbered 100 or above. (Note: All such mathematics courses will satisfy core curriculum requirements.)

**Foreign Languages:** In fulfilling his degree requirements in foreign languages, the student may choose either (1) or (2) below:

(1) a. If a candidate for the BA degree, he must complete satisfactorily five semester hours beyond the level of 112. While high school credit may apply to this requirement, the student must take at least one college course, regardless of the number of high
school credits presented, or demonstrate equivalent proficiency through examination.

b. If a candidate for the BS degree, he must complete satisfactorily three semester hours beyond the level of 112. While high school credit may apply to this requirement, the student must take at least one college course, regardless of the number of high school credits presented, or demonstrate equivalent proficiency through examination.

(2) He may complete satisfactorily the 111-112 sequence, or the equivalent, in a second language, if he also can present at least two high school units or two college semesters of another language. Regardless of the number of high school credits presented, at least one course must be taken in college.

NOTE: One year of high school work will be considered as the equivalent of one college semester. With the permission of the appropriate department a student with high school credit in foreign language may enroll for college credit at a level one semester below that for which his high school credit makes him eligible. Under certain conditions, a student may petition to enroll for credit in the first course of that language. Such permission is granted on an individual basis to students whose language experience has been interrupted or for whom special circumstances prevail. Without this permission no credit will be given for work done at a level which duplicates high school foreign language study.

Natural Science: A student presenting fewer than two units of high school laboratory science (exclusive of general science) must complete satisfactorily 14 semester hours, four of which must be in a laboratory science. A student presenting two units of high school laboratory science (exclusive of general science) must complete satisfactorily a minimum of nine semester hours, four of which must be in a laboratory science. Except for students majoring in the natural sciences, four semester hours must be taken in each of the physical and biological science divisions as listed in the University core curriculum. Courses elected by the student may satisfy core curriculum requirements.

NOTE: It is recommended that the following course work be completed by the time the student achieves 50 hours and 120 credit points or within the next semester thereafter:

Six semester hours of English composition
Five or six hours of mathematics, depending on the sequence the student chooses
10 hours of foreign language or the equivalent
Four or five hours of a laboratory science course.

It is not expected that students working toward a Bachelor of Science degree will be able to fulfill the foreign language requirement within this time limit.
MAJOR AND MINOR OFFERINGS
The College of Liberal Arts and Sciences offers majors in the following fields: administration of justice, American studies, anthropology, art, art history, biology, chemistry, classical languages, economics, English, French, geology, German, history, journalism, linguistics, logopedics, mathematics, minority studies, music, philosophy, physics, political science, psychology, religion, social work, sociology, Spanish, and speech.

Candidates for the Bachelor of Arts degree shall elect: (1) A major in one field of study of not less than 24 hours or more than 41 hours, or a combined major consisting of 24 hours from one field of study and 12 hours from an allied field of study (such combined major must be arranged with approval of the departments involved by the beginning of the junior year), or a major from a professional field, including art, economics, logopedics, and music; (2) at least 12 hours of upper division work in the major field; (3) work in such additional fields of study outside the major field of study as the faculty of the major field of study may deem appropriate. Any hours in one field of study above 41 must be counted as in excess of the 124 hours required for graduation.

Students who major in art, logopedics, and music must establish two minors in the College of Liberal Arts and Sciences. Minors are offered in all fields of study listed above and in geography, and police science. Minors acceptable from outside Fairmount College are engineering and accounting, and such education courses as are necessary for certification.

Candidates for the Bachelor of Science degree should consult with their major adviser relative to requirements. The Bachelor of Science degree is available in the following fields of study: administration of justice, biology, chemistry, geology, mathematics, and physics and normally requires 43 hours for the major. However, any hours in one field of study above 43 must be counted as in excess of the 124 hours required for graduation.

SPECIAL PROGRAMS OF STUDY
The Fairmount College of Liberal Arts and Sciences provides courses which are basic for certain professional fields and for subsequent professional studies. The liberal arts studies are recognized as vital in establishing the background resources for such areas. Although there are many similarities in the broad pattern of pre-professional education, there are marked differences in specific requirements.

ART HISTORY
The program in art history is designed to prepare students for the whole range of activities related to the art of the past: criti-
cism, connoisseurship, college and secondary level teaching, and conservation.

**Major:** A major in art history leading to a Bachelor of Arts degree in the College of Liberal Arts and Sciences, requires a minimum of 30 hours of art history and must include Art 101, 102, and 463. In addition the course Introduction to Methods and Media of Painting (Art 229) must be taken.

Because of the international nature of the study, the student must become proficient in reading one of the following languages: French, Italian or German. (A minimum of 13 hours in one language is required.)

**Minor:** Students will complete 15 hours in art history. Art 101 and 102 are required. (Courses are listed under Art in College of Fine Arts.)

**MUSIC**

See Music in College of Fine Arts section for requirements and curriculum.

**FIELD MAJOR**

This major is designed to provide a field of study wherein three or more fields of study are correlated to secure a broader appreciation of the cultural and dynamic factors of human conduct. The selection of the courses is made with the counsel of the adviser and the approval of the dean of the college. Such a major cuts across departmental lines and is determined by the field of specific interest but must be an acceptable combination. Normally the allocation of the 36 hours required for the major is 18 hours in the major department and not less than nine in each of two allied departments.

**LATIN AMERICAN STUDIES**

The Latin American Studies program consists of courses from several departments and allows the major to pursue a broadly-based program of study which will lead to a better understanding of both historic and contemporary Latin America. The major in Latin American Studies offers two alternatives with emphasis on either Spanish language or the social sciences. (See description below.) A minor is also offered.

**Spanish Language Emphasis. Major:** A major in Latin American Studies with an emphasis in Spanish consists of at least 32 hours and must include Anthropology 308, Economics 370 or 471, History 225, 226 and 328, Geography 364, Political Science 423, Spanish 340, 426, and any other 300-400 level course in Latin American literature. Other courses must be elected from the following: Anthropology 346, History 325, 326, 327, 329, and Political Science 420. Approved
special projects courses related to Latin America taken in the
departments listed above may also count toward the major in Latin
American Studies. Proficiency in reading Portuguese is required.

**Social Science Emphasis. Major:** A major in Latin American
Studies with an emphasis in social science consists of at least 30
hours and includes 21 hours of required courses (Anthropology 308,
Economics 471, History 225, 226, 328, Geography 364 and Political
Science 423). An additional nine hours must be selected from the
following: Anthropology 346, History 325, 326, 327, 329, Economics
370 or 470, Political Science 420, and Spanish 342. Approved spe-
cial projects courses related to Latin America taken in the depart-
ments listed above may also count toward the major in Latin Ameri-
can Studies. Majors must take at least 13 hours of Spanish or
demonstrate equivalent competence in reading and conversation.

**Minor:** A minor in Latin American Studies consists of the follow-
ing: Anthropology 308, Economics 471, Geography 364, History
226, and Political Science 423. In addition, Spanish must be chosen
to meet the Liberal Arts language requirement.

**FIELD TRIPS**

Student attendance on field trips is mandatory in those courses for
which trips are (1) listed in the *Catalog* description of the course
or (2) are identified by the instructor as essential for earning credit
in the course. Absences from such trips are permitted only when
prior approval is granted by the instructor. Credit may be withheld
for the course until the field trips have been completed by the
student.

Inasmuch as field trips constitute an extension of classroom or
laboratory instruction into areas removed from the campus, student
behavior and conduct on field trips must accord with the appropri-
ate patterns of conduct established for students in classrooms and
laboratories on the University campus.

**SPECIAL PROGRAMS OF PREPROFESSIONAL NATURE**

The advisers in the various preprofessional fields and closely related
departments will provide specific information relative to courses
and requirements.

**PRELAW**

In a statement of policy by the Association of American Law
Schools, emphasis is placed upon undergraduate studies which
provide “comprehension and expression in words; critical under-

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* One three-hour prerequisite: Either Anthropology 124 or 202.
† One three-hour prerequisite: Econ. 222. Econ. 221 as a prerequisite for Econ. 222
may be waived for students choosing the Latin American minor, but who are not majoring
in economics.

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standing of the human institutions and values with which the law deals, and creative power in thinking," to be achieved through disciplined study in the fields of the student's choice.

Degree requirements for a Bachelor of Arts degree will provide a general education and concentration in a field of major study. The prelegal adviser will provide information relative to requirements for entrance to law school.

**PREMEDICAL, PREDENTAL, PREVETERINARY, PREPHARMACY, PREOPTOMETRY**

Schools of medicine emphasize for admission a broad education as well as prescribed studies in the sciences. The prospective physician should also possess those qualities of character which make for effective citizenship and professional competence. Preparation for the study of medicine should include, therefore, courses of study which develop disciplined thinking, intelligent appreciation of values, and sympathetic understanding of man and society. Since vital aspects of the study of medicine are associated with scientific knowledge and techniques, courses in biology, chemistry, physics, and allied fields are required. Students may choose to major in these fields but other majors may be selected in preparation for the study of medicine.

The dean of the College of Health Related Professions and his staff provide general counseling and assistance in career planning. All premedical and predental students entering this University are required to maintain a transcript in the office of the dean of CHRP. An interview with the dean of the college also is required each semester. The counselor for premedical studies will provide information relative to the Medical College Admission Test recommended by the Association of American Medical Colleges. CHRP maintains a file of medical school catalogs and other pertinent information for the student to plan for admission to medical school. Students are urged to consult with the premedical counselor at the earliest possible time in regard to the opportunities and requirements in this professional field.

While the four-year degree program is definitely preferable, it is possible in some medical schools to gain admission on the basis of a three-year program of studies. Students of Wichita State University who have taken 94 hours of preparation, the last 30 of which must have been taken at Wichita State University, have complied with the prescribed fields of study requirements, have 188 credit points with no more than 20 hours of D grade work, have passed the first year of medical or dental school (for 30 hours) and are eligible for admission the second year may be granted the degree of Bachelor of Arts by Wichita State University if application be made by the candidate for such a degree. Students with a major in
biology are required to complete with the 94 hours either the zoology or microbiology option listed under the biology department. 

Schools of dentistry require prescribed preparation in the sciences as well as general education. Although the entrance requirements are generally of the same character, the student should give careful attention to the pattern in the school of his choice. Emphasis upon the sciences, generally with a major in biology, is recommended. The counselor for predental studies will provide a specific program of course work for either the three-year or four-year program.

The preparation for the study of veterinary medicine generally includes the essential pattern of basic education and emphasis upon science with special reference to biology. The counselor for pre-veterinary medicine studies will provide a specific program of course work.

Schedules may be arranged to meet entrance requirements of the various schools of optometry, osteopathy, pharmacy, mortuary science, and related professional fields.

PRETHEOLOGICAL

Students interested in pursuing graduate theological work should arrange their programs of preparation in consultation with the chairman of the Department of Religion. Specific requirements set forth by the individual seminaries can thus be satisfied.

PUBLIC SERVICE

There is a growing demand for college graduates in the field of public service. The foreign service of the United States offers an attractive field to a limited number of young men and women who desire a career abroad. The federal government and an increasing number of cities and states are using the principles of the merit system for their employees. Related fields open to properly trained college graduates are found in municipal research bureaus and legislative reference bureaus. Preparation for such service is not confined to any one department. Students interested in public service as a career should consult with their advisers or the heads of their departments as to the courses which will best prepare them. Students interested in public administration should also consult the civil service bulletins.

SOCIAL WORK

A major and minor are provided in the sociology department of the Fairmount College of Liberal Arts and Sciences for training in various areas of social work. Courses are designed for four types of students: (1) All students as preparation for intelligent and responsible community participation; (2) the student who, upon graduation, may accept a position not now requiring professional
graduate training; (3) the student who plans to go on to a graduate school of social work; (4) the student who is preparing to enter another of the helping professions. See social work later in this section of the Catalog for curriculum requirement. The University is a member of the Council on Social Work Education.

TEACHING

Students in the College of Liberal Arts and Sciences may qualify for secondary teaching certificates in Kansas and in several other states. Those who plan to qualify for the standard secondary teaching certificate must complete the program as outlined in the College of Education section.

LIBERAL ARTS AND SCIENCES CURRICULUM

COURSES IN THE HONORS PROGRAM

The following courses are designed for use by the honors program for honors students. The precise content of any such course for a given semester must be approved for each offering by the Honors Committee. Any such course may be taken no more than twice by any one student for academic credit toward a degree. The A designation indicates the course may apply as credit for Group I core curriculum requirements; B indicates the course may apply as credit for Group II core curriculum requirements; C indicates the course may apply as credit for Group III core curriculum requirements; D indicates the course may apply as credit for Group IV core curriculum requirements. The general course titles are worded according to these core curriculum group titles.

Honors 100A. Special Studies in Mathematics and Natural Science. (1-4).
Honors 100B. Special Studies in Communications. (1-4).
Honors 100C. Special Studies in Humanities. (1-4).
Honors 100D. Special Studies in Social Sciences. (1-4).
Honors 200A. Proseminar in Mathematics and Natural Sciences. (1-4).
Honors 200B. Proseminar in Communications. (1-4).
Honors 200C. Proseminar in Humanities. (1-4).
Honors 200D. Proseminar in Social Sciences. (1-4).
Honors 300A. Colloquium in Mathematics and Natural Science. (1-4).
Honors 300B. Colloquium in Communications. (1-4).
Honors 300C. Colloquium in Humanities. (1-4).
Honors 300D. Colloquium in Social Sciences. (1-4).
Honors 400. Honors Seminar. (1-4).
Honors 410. Independent Study. (1-4).
SPECIAL INTERDEPARTMENTAL COURSES

Humanities 299. International Seminar (1). An interdisciplinary travel seminar: A study of European culture which includes observations of art and architecture in principal European cities, lectures and discussions of European political, social and economic problems given by foreign nationals; and conducted visits to various historical places of interest. Seminar under direction of a member of the faculty.

ADMINISTRATION OF JUSTICE

The program in administration of justice provides a broad, multi-disciplinary background for preservice and in-service students seeking course work to increase their ability as practitioners in the American justice system. The program provides for specialization in a field of the student’s particular interest, i. e., law enforcement, courts, or corrections.

MAJOR: The major in administration of justice consists of at least 30 hours, including Administration of Justice 100 or 101, 201, 310 or 312, 321, and 403, and 15 hours in one of the following areas of specialization:

I. General Administration of Justice (15 hours)
   An overview of administration of justice allowing exposure to a variety of specializations.
   15 elective hours in administration of justice course work (nine of which must be upper division), of which a minimum of 12 hours must be distributed among at least three of the four specialty areas listed below. (A course although listed in two areas fulfills the distribution requirement for only one area.)

II. Agency Administration (15 hours)
   Management of law enforcement and corrections agencies’ line and staff services.
   AJ 301, 433, 436, 439, and three elective hours in administration of justice course work.

III. Corrections Services (15 hours)
   Rehabilitative casework and court-directed supervision of convicted offenders in both correctional institutions and the community.
   AJ 360, 406, 453, 456, and three elective hours of administration of justice course work.

IV. Investigation (15 hours)
   Scientific and traditional criminal investigation services provided by law enforcement agencies.
   AJ 243, 244, 443, 446, and three elective hours in administration of justice course work.

V. Prevention Programs Development (15 hours)
   Development of community-based law enforcement and corrections; crime and delinquency prevention programs.
   AJ 360, 406 or 433, 436, 460, and three elective hours in administration of justice course work.

In addition to the aforementioned departmental requirements, students majoring in administration of justice will be directed to select a minimum of 24 hours of supportive course work in one or more of the following departments: sociology, social work, psy-
chology, political science, anthropology, chemistry, biology, geology, and physics. With his adviser's assistance and approval, the student will select courses from these departments which best relate to his particular administration of justice specialty area. (Note: These courses may be chosen in such a way as to satisfy certain sections of the University core curriculum requirements simultaneously.)

Minor: The minor consists of at least 18 hours of administration of justice including AJ 100 or AJ 101, and two upper division courses.

Certificate: An Associate of Applied Science certificate in administration of justice will be awarded by University College on completion of a 64-hour, two-year program. (See University College section.)

Prerequisites: AJ 100 or AJ 101 or departmental consent is a prerequisite for all other administration of justice courses, plus additional requirements when noted.

Lower Division Courses

100. Introduction to the Administration of Justice. (3). An introduction to the philosophy and history of law enforcement, identifying multiple facets of the administration of justice system, including the police, the courts, correctional agencies, and the offender. The administration of justice role as it relates to the individual and to society. Through visitation and contact with administration of justice agencies, the student is acquainted with the responsibilities and problems of his personal development for an administration of justice career.

101. Law Enforcement Operations and Procedures. (3). An introduction to law enforcement operations and procedures including police organization and administration. Emphasizes the police role in society and operational procedures including deployment of personnel, arrest procedures, crime scene techniques, and other basic police tactics. (Required for in-service students only.)

103. Law Enforcement in the Community. (3). Rights and duties of citizens. Constitutional provisions affecting law enforcement officers, emphasizing due process, search and seizure, and informant identity. Interview and interrogation techniques and procedures used in all phases of contacts within the community structure.

106. Traffic, Transportation, and Highway Safety. (3). Enforcement problems created by modern transportation in society. Traffic control, engineering, education, enforcement procedures, as well as accident investigation, are included. Use of traffic records and statistics for selective enforcement.


221. Criminal Law. (3). History, scope and nature of law; parties to crime; classification of offenses; act and intent; capacity to commit crime and defenses. Elements of major criminal statutes. An overview of criminal processes and rules of evidence.

244. Criminalistics and Scientific Crime Detection. (3). Scientific aids available to law enforcement officers, including forensic chemistry, physics, and microanalysis. Investigative procedures from crime scene, through laboratory analysis, to court presentation. Prerequisite: AJ 243 or consent of department.

245. Investigative Photography. (3). Photography as applied in law enforcement. This includes field experience and the use of specialized equipment. Diagramming the crime scene. Prerequisite: AJ 243 or consent of department.

Upper Division Courses

301. Agency Administration II. (3). An intensive examination of a variety of emerging administrative and management innovative concepts. The processes related to the determination and implementation of management philosophy for the administration of justice agency and its individual practitioners will be explored. Prerequisite: AJ 201 or consent of department.

310. EDP in Administration of Justice. (3). A survey of use and potential of electronic data processing in police, courts, and correctional agencies. The ethical and legal problems confronting society and the agencies of the justice system occasioned by the use of computers as information gathering and storage instruments will be examined, as well as the advantages of using EDP in basic and applied research in the administration of justice.

312. Research Methods. (3). An introduction to statistical methods, including experimental design, the analysis of statistical processes, and related procedures; and the general methodology of research as it pertains to the administration of justice.

321. Law and the Administration of Justice Process. (3). Examination of recent judicial interpretations affecting legal process, rules of evidence, substantive law, and administrative law. In-depth study of statutory provisions with emphasis on the conflict of laws and legal trends affecting administration of justice personnel.

360. Community Prevention Programs. (3). An analysis of the typologies, philosophies, and operations of existing and projected community-based crime prevention programs. Emphasis will also be placed on a variety of governmental and nongovernmental community support and action programs, which, although not traditionally identified as such, appreciably contribute to the administration of justice process. Program categories to be analyzed include: citizen involvement (volunteer practitioners and civilian advisory groups), educational, religious, and family, welfare, and youth services.

403. Senior Seminar. (3). An intensive study of the theory and operation of the total criminal justice system. Required of all administration of justice majors. Prerequisite: Senior standing and consent of department.

406. Conflict Resolution in the Administration of Justice. (3). An analysis of community and individual reaction to agency policy and services. Emphasis will be placed on the agency’s role as mediator between offenders and victims of crime and between other groups and individuals in conflict.

421. Independent Study. (1-3). Study in a specialized area of the administration of justice system with emphasis on the student’s research project. Pre-service students may be assigned intern positions in one or more of the operational agencies. Prerequisite: 15 hours in the administration of justice core and department consent. May be repeated for credit not to exceed a total of six hours.

433. Planning in the Administration of Justice. (3). Analysis of planning techniques related to the procedures, personnel, physical and specialized equip-
ment, budget, and extra-agency activities. Prerequisite: AJ 201, or consent of department.

436. Public and Community Relations. (3). Analysis of techniques utilized by administration of justice agencies in both public and community relations programs which are designed to optimize the agency's communication capability. Special emphasis will be placed on the unique characteristics of both public and community relations.

439. Techniques of Agency Staff Supervision. (3). Analysis of the personnel supervision, training, and evaluation techniques utilized by administration of justice agencies, with emphasis on techniques which will optimize the agency-practitioner work relationship. Prerequisite: AJ 201.

443. Forensic Science. (3). Analysis of the medical role of prevention, detection, and treatment as related to the administration of justice. Emphasis will be placed on medical specialty areas, such as pathology and psychiatry, which have significant effect on segments of the administration of justice process.

446. Seminar on Investigation Theory and Practice. (3). Analysis and discussion of investigative theory and practice with special emphasis on technological innovation and current judicial perspective. Prerequisites: AJ 243 and 244.

453. Field Corrections Techniques. (3). An analysis of the techniques of probation, parole, after-care supervision, and related services. Special emphasis will be placed on field corrections techniques as they relate to other segments of the administration of justice system.

456. Institutional Corrections Techniques. (3). An analysis of the techniques of institutional correctional practice, including diagnostic centers, halfway houses, and other related treatment models. Special emphasis will be placed on institutional corrections techniques as they relate to other segments of the administration of justice system.

460. Techniques of Prevention Program Development. (3). An analysis of the techniques utilized to organize and develop traditional and projected crime prevention and related governmental and nongovernmental sponsored programs. Special emphasis will be placed on the techniques of identifying existing community service resources and subsequently increasing their level of involvement in the administration of justice process. Prerequisite: AJ 360, or consent of department.

AMERICAN STUDIES

The program in American Studies provides a broad cultural background and, proportionately, a specialization in a field of the student's particular interest.

MAJOR: 37 hours minimum, consisting of American Studies 301 (2-4), nine hours from American Studies 311, 312, 321, 322, 411, 412, and American Studies 498 (3-6) and 499 (3-6) (required); 18 hours to be chosen from at least three of the following groups:

- English: 252, 262, 302, 303, 440
- History: 131, 132, 331, 333, 334, 437, 438, 441, 444, 445
- Political Science: 121, 211, 315, 316
- Anthropology: 309, 310, 336, 337, 490, 498
- Philosophy: 356
- Economics: 307
- Speech: 432
- Geography: 302.
MINOR: A minor in the College of Liberal Arts and Sciences consists of 15 hours, including American Studies 301 (2-4) plus at least six other upper division hours.

301. Introduction to American Studies. (2). An examination of the American background from an interdisciplinary perspective. The intent is to show how the humanities and social sciences can be linked in the study of America. Prerequisite: Consent of department. May be repeated for a total of four hours credit.

311. The Colonial Period. (3). Those ideas and ideals, originally fostered by the English colonists, which were to become the foundation of the new democracy.

312. The 20th Century. (3). The many contributing factors shaping the 20th century American civilization.

321. The Midlands and the High Plains. (3). The background, the factors in the settlement of this vast area, and the results of this settlement.

322. The American Southwest. (3). The background of the settlement of the American Southwest, the impact of the commingling of three different cultures, and the evolving of a fourth culture.


412. The Growth of Nationalism. (3). American Civilization during the period of its awakening to its place as a nation and the problems encountered.

498. Introduction to Research. (3). Bibliography, methodology, and the philosophy of research. Prerequisite: Department consent. May be repeated for a total of six hours credit.

499. Seminar in American Studies. (3). Seminar and individual conferences organized around a problem or problems presented by a representative figure, theme, or period, i.e., the Industrial Revolution, Reconstruction, Westward Migration, Mark Twain and the Mississippi. Prerequisite: Department consent. May be repeated for a total of six hours credit.

ANTHROPOLOGY

Major: A major in anthropology consists of at least 30 hours, including Anthropology 124 or 202, 201, 447, an area course and one course in Archaeology (308, 336, or 337). Certain courses in related departments not to exceed six hours, when they meet the particular needs of the student and are approved by his adviser, may be counted on the major.

Minor: The minor consists of 15 hours of anthropology selected in consultation with the student's major adviser.

Lower Division Courses

124. General Anthropology. (3). An introduction to the fields of physical anthropology, archaeology and linguistics, analysis of the concepts of society and culture with special emphasis on nonliterate peoples of the world.


FAIRMOUNT COLLEGE 103
201. Paleoanthropology. (3). The study of man's biological and cultural development from early Paleolithic times through the rises of Bronze Age civilizations.

202. Cultural Anthropology. (3). The meaning of culture, its significance for human beings, its diverse forms among peoples of the world, past and present.


Upper Division Courses

301. Approach to Archaeology. (3). An introduction to the problems of studying past cultures. Special attention is focused on methodology and techniques available to archaeologists and the theoretical rationale leading to sound interpretations of the structure of extinct cultures. Prerequisite: Anthro. 124 or 201 or equivalent.


308. High Cultures of Central and South America. (3). A cultural survey of the Aztec, Maya and Inca Indian civilization. Prerequisite: Anthro. 124 or 202.

311. The Indians of North America. (3). A survey of tribal societies and native confederations north of Mexico, from the protohistoric through the historic period. Prerequisite: Anthro. 124 or 201 or equivalent.

312. Peoples of Asia. (3). Study of tribal cultures and civilizations of Asia in terms of major culture areas, racial varieties and linguistic patterns. Prerequisite: Anthro. 124, 201 or 202.

318. Culture and Personality. (3). The relationship of individual personality, both normal and abnormal, to group membership and cultural configuration. Prerequisite: Anthro. 124 or 202, or department consent.

319. Applied Anthropology. (3). The application of anthropological knowledge in the solution of social problems in industry, public health and public administration. Prerequisite: Anthro. 124 or 202.

322. Primitive Esthetics. (3). A survey of the arts of preliterate peoples with special attention to their function in the cultural setting. Prerequisite: Anthro. 124 or 202.

323. Primitive Folklores. (3). Survey of the oral literature of Africa, the Americas, and the Pacific. The role of myths, tales, riddles and proverbs in reflecting a people's value and world view. Prerequisite: Anthro. 124 or graduate standing.

325. Social and Cultural Change. (3). A critical examination of the processual dynamics of social and cultural change the world over, with special emphasis on contemporary non-European areas. Prerequisite: Six hours anthropology.

326. Social Organization. (3). A survey of the varieties of social organization among nonindustrialized peoples throughout the world. Deals with family systems, kinship, residence patterns, and lineage, clan and tribal organizations. Prerequisite: Six hours of anthropology.

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327. **Primitive Religion.** (3). An examination of various concepts concerning the realm of the supernatural as held by primitive people. Relates such religious and magical beliefs—and the resultant practices—to the larger patterns of cultural context. Prerequisite: Six hours of anthropology.

328. **Introduction to Linguistics.** (3). Principles of descriptive and historical linguistics: Phonetics and phonology, morphology and syntax. (Also German 327.)

335. **Prehistory of North America.** (3). A survey of the prehistoric cultures of North America north of Mexico from the earliest peopling of the continent to the time of European colonization. Prerequisite: Anthro. 201 or equivalent.

338. **Early Man in the New World.** (3). A critical examination of facts and theories concerning early man in the New World, from the peopling of the continent to the beginning of the Archaic Tradition, and of the role of cultural contacts between East Asia and North America. Prerequisite: Anthro. 124 or 201 or equivalent.

340. **The Indians of the United States: Conquest and Survival.** (3). An anthropological inquiry into four centuries of cultural contact, conflict, resistance, and renascence. Prerequisite: Anthro. 124 or 201 or equivalent.

345. **Economics of Preindustrial Societies.** (3). The study of methods of production, division of labor, organization of markets, concepts of money and property allocation in tribal societies. An emphasis will be placed on kinship units as units of consumption and production. Prerequisite: Six hours of anthropology.

346. **Peasant Society.** (3). A cross-cultural survey of anthropological studies of peasant societies in Asia, Europe, Latin America, etc. Emphasis will be placed on the nature of peasant societies as compared with tribal or industrial societies. Prerequisite: Six hours of anthropology.

354. **Physical Anthropology.** (4). A course dealing with the biological evolution of man through time, and the variations among populations past and present. Prerequisite: Anthro. 201 and department consent.

355. **Fossil Evidence for Human Evolution.** (3). A detailed examination of man’s evolutionary history as evidenced by fossil remains and a survey of various interpretive explanations of the fossil record. Prerequisite: Anthro. 201 or Bio. 223 or equivalent.

356. **Human Variability.** (3). A critical examination of the biological and genetic aspects of human variation and of various classifications of man. Prerequisite: Anthro. 201 and Bio. 100.

360. **Anthropology of Law.** (3). Organizational structures and processes which maintain social order in preindustrial societies. Prerequisite: Six hours of anthropology.

361. **Political Anthropology.** (3). The study of political organization in non-Western societies. Topics covered would include the origin of the state, pre-Colonial politics, the impact of colonialism upon these politics, and problems in post-Colonial political development. Emphasis will be placed upon African political systems.

411. **Culture History of the Southwest.** (3). A comprehensive survey of the prehistoric, historic and living cultures of the American Southwest with particular emphasis on the cultural continuities and changes covering some 12,000 years. Prerequisite: Nine hours of anthropology or consent.

412. **Indians of the Great Plains.** (3). An investigation of the cultural dynamics of the Indian occupation of the Great Plains region, from the beginning to the present. Prerequisite: Nine hours of anthropology.
436. Advanced Studies in Archaeology and Ethnohistory. (3). Special area and theory problems in an historical approach to culture. Prerequisite: 12 hours of anthropology.

447. Theories of Culture. (3). A survey of the main theoretical movements in cultural anthropology, including both historical and contemporary schools of thought. Prerequisite: Six hours of anthropology.

449. Educational Anthropology. (3). A course dealing with the basic concepts of anthropology and their application to social science units in elementary and secondary grades. Explores the nature of subcultures in American society and the problems they pose for the classroom teacher. A course for education majors and graduate students. Also listed as Fd. Ed. 449. Cannot be used to meet requirements of the core curriculum for anthropology.

451. Language and Culture. (3). An introduction to historical and descriptive linguistic. Deals with the ethnography of communications, lexicostatistics and linguistic determinism. Prerequisite: Six hours of anthropology.

455. Seminar: Perspective on Human Design and Expression. (3). Surveys of concepts from anatomy, medicine, biology, anthropology, neuropsychology— concerned with human form and behavior. Discussion of individual differences. Consent required. (Also PE 455.)

462. Aspects of Linguistic Theory. (3). (Also English 462 and Linguistics 462.)

490. Field Methods in Anthropology. (3-8). A course which instructs the student in archaeological and ethnological field methods through actual participation in a field research program. The project depends upon the specific Summer Session and varies from year to year. Prerequisite: Consent of instructor.

498. Anthropological Problems. (2-3). Special problems in cultural anthropology. Prerequisites: 12 hours of anthropology. May be repeated up to six hours.

Graduate Courses

500. Comprehensive Seminar in Anthropology. (3). A review of the important concepts in archaeology, physical anthropology and cultural anthropology in preparation for graduate comprehensive examination. Prerequisite: Open only to graduate majors in anthropology.

501. Seminar in Archaeology. (3). Comprehensive analysis of archaeological data with emphasis on theoretical problems of interpretation and reconstruction. Prerequisite: Anthro. 301 or consent. May be repeated up to six hours.

502. Methods in Anthropology. (2-3). A course designed to develop abilities in the conception and investigation of anthropological problems, interview and observation techniques as well as more specialized methods such as photography, mapping and tape recording. Prerequisite: Department consent. May be repeated up to six hours.

505. Museum Methods. (3). An introduction to museum techniques relating to acquisition of collections and related procedures such as accessioning, cataloging, documentation, presentation and storage. Emphasis will be given to current trends in museological philosophy concerning purpose, function and relevance of museums, as well as career opportunities. Prerequisite: Consent of instructor.

506. Museum Exhibition. (3). Contemporary philosophy of exhibition design; the application of recent concepts to the planning and installation of an exhibit. Prerequisite: Anthro. 505 and consent of instructor.
537. Special Problems in Anthropology. (1-3). Intensive study on advanced theoretical questions in cultural anthropology or archaeology. Prerequisite: Five hours of anthropology. May be repeated up to six hours.

548. Recent Developments in Anthropology. (3). A review of the latest discoveries and interpretations in the science of man. Prerequisite: Five hours of anthropology. May be repeated up to six hours.

570. Independent Reading. (1-3). Prerequisite: Department consent. May be repeated up to a total of six hours.


ART STUDIO—MAJOR
See College of Fine Arts for requirements and curriculum.

ART HISTORY—MAJOR
See College of Fine Arts for requirements and curriculum.

BIOLOGY
Major: A major in biology leading to a Bachelor of Arts degree requires 30 hours of biology, and must include Biology 111, 112, and 201, or the equivalent. Chemistry 111, 112, 231 and 232 or the equivalent, are required.

A major in biology leading to a Bachelor of Science degree requires 40 hours of biology, and must include 111, 112, and 201, or the equivalent, Chemistry 111, 112, 231, 232, or the equivalent, Physics 123, 124, and the courses listed in one of the three options, said option to be selected by the beginning of the junior year.

Botany Option: Biology 322, 329 and 330.

Microbiology Option: Biology 301, 324 and either 325, 424, or 460. Students planning to do graduate work in microbiology are expected to complete satisfactorily Mathematics 142.

Zoology Option: Biology 225 or 310, 309 and 320.

Minor: A minor in biology requires 15 hours, including Biology 111, 112 and 201.

Several of the courses offered in the biology department are service courses, and are so designated. Service courses cannot be taken for credit toward a biology major or minor.

Lower Division Classes
100. Principles of Biology. (4). 3R; 2L. A general course in biology designed for students not majoring in sciences. Credit will not count toward a major or minor in biology. Credit will not be given for both Biology 100 and Science 102: Biological Science.

102. Biological Science. (5). 5R. Man in the living world. An introduction to the basic concepts of the biological sciences, with emphasis upon man himself.

111. Introductory Botany. (4). 3R; 3L. Fundamentals of plant science including plant structure, development and physiology; relationships of major
plant groups, and biological principles illustrated with plant materials. Concurrent enrollment in freshman chemistry is recommended.

112. Introductory Zoology. (4). 3R; 3L. Fundamentals of animal science including animal structure, development and physiology; relationship of major animal groups, and biological principles illustrated with animal materials. Concurrent enrollment in freshman chemistry is recommended.

120. Introduction to Microbiology. (4). 3R; 2L. Service course. Fundamentals of microbiology with emphasis on microorganisms important in sanitation and disease.


223. Introductory Anatomy and Physiology. (5). 4R; 2L. An introduction to the structure and functions of the human body. Credit not applicable toward the core requirement for laboratory science. Prerequisite: Biol. 100 or 112.

225. Comparative Anatomy. (5). 3R; 4L. An intensive study of representative chordates, with emphasis on vertebrate anatomy. Prerequisite: Biol. 201.

**Upper Division Classes**

300. Ecology and Man. (3). 3R. An introduction to the fundamentals of ecology with emphasis on man as a part of the environment. Service course. Not for core credit.

301. Bacteriology. (5). 3R; 6L. An introduction to growth, development and metabolism of bacteria and related forms. Prerequisite: Biol. 201, and Chem. 231 or concurrent enrollment.

302. Pathogenic Microbiology. (4). 3R; 3L. An introduction to the important pathogenic microorganisms and their relations to health and disease in man. Prerequisite: Biol. 301.

309. Invertebrate Zoology. (4). 3R; 3L. A comparative study of the morphology and phylogeny of the invertebrates with emphasis on the basic body types and their major variations. Prerequisite: Biol. 201.


311. Microscopic Technique. (3). 9L. Preparation of materials for the study of minute anatomy. Prerequisite: Biol. 201.

312. Parasitology. (3). 1R; 6L. The parasites of man and other vertebrate hosts. Prerequisite: Biol. 201.

320. Comparative Animal Physiology. (4). 3R; 3L. A survey of physiological phenomena in the major groups of animals with attention to physiology as a unifying discipline in zoology. Prerequisite: Biol. 201 and Chem. 231.

322. Plant Physiology. (5). 3R; 6L. The functional dynamics of plant metabolism and growth, including water relations, nutrition, translocation, photosynthesis, respiration, and various aspects of development. Prerequisite: Biol. 201 and Chem. 231.

324. Microbial Physiology. (3). 3R. The physiology and metabolism of microorganisms. Prerequisite: Biol. 301 and Chem. 231.

325. Microbial Physiology Laboratory. (2). 6L. An introduction to the basic techniques involved in the study of microbial physiology. Prerequisite: Biol. 301 and Chem. 231.
329. **Nonvascular Plants.** (4). 2R; 6L. An introduction to the structure, reproduction, and evolution of the algae, fungi, and bryophytes. Special emphasis on cytology, physiology. Prerequisite: Biol. 201.

330. **Vascular Plants.** (4). 2R; 6L. An introduction to the structure, reproduction and evolution of the major groups of living and extinct vascular plants. An introduction to flowering plant systematics will be included. Prerequisite: Biol. 201.

343. **Mycology.** (4). 2R; 4L. The structure, development and reproduction of fungi with emphasis on the cytology and physiology of forms of scientific and economic importance. Prerequisite: Biol. 201.

381. **Entomology.** (5). 3R; 4L. An introduction to the morphology, physiology, life cycles, behavior, ecology and economic significance of insects. Prerequisite: Biol. 201.

401. **Genetics.** (4). 4R. The mechanisms of heredity and variation in plants and animals with a critical review of the concept of the gene. Prerequisite: Biol. 201.

402. **Comparative Embryology.** (4). 2R; 4L. Gametogenesis, fertilization, and developmental processes in animals with emphasis on vertebrates. Prerequisite: Biol. 201. Biol. 225 recommended.

406. **Analytical Methods in Biology.** (2). 1R; 3L. The principles, capabilities and applications of modern techniques of instrumental measurement in biological research and teaching. Prerequisite: Biol. 201, Chem. 231, and Phys. 124.

412. **Physiological Plant Ecology.** (4). 2R; 6L. Principles and patterns of plant distribution and of adaptations of plants to particular habitats. Emphasis on the experimental approach to ecology. Field trips an integral part of the laboratory. Prerequisite: Biol. 322 or consent of instructor.

413. **Animal Behavior.** (3). 3R. A survey of animal behavior, including human, with major emphasis on the analysis of behavior as a concert of physiological processes. Prerequisite: Biol. 201 or department consent.

414. **Animal Behavior Laboratory.** (2). 6L. Individual or team research projects in the area of behavior. Prerequisite or corequisite: Biol. 413.

415. **Limnology.** (5). 2R; 6L. Introduction to the biological and physical processes that operate in lakes, streams, and estuaries. Assigned readings, individual projects and field trips required. Prerequisite: Biol. 201 and consent of instructor.

419. **Ecology.** (3). 3R. Principles underlying the interrelationships of living organisms and their environments. Prerequisite: Biol. 201 or consent of department.

420. **Field Ecology.** (3). 9L. Techniques for analysis of systems consisting of living organisms and their environments. Field trips required. Prerequisite or corequisite: Biol. 419 or consent of instructor.

421. **Genetics Laboratory.** (3). 9L. Use of viruses, bacteria, fungi and Drosophila to illustrate principles of mutagenesis, gene action, recombination and population dynamics. Prerequisite: Biol. 301 and 401.

422. **Protozoology.** (4). 2R; 6L. Survey of the free living and parasitic protozoa; identification, life cycles and host-parasite relationships emphasized. Prerequisite: Biol. 301 or 309 or 312.

423. **Cytology.** (3). 2R; 3L. The structure, chemistry, development, and function of the cell with particular reference to chromosomes and their bearing on genetics. Prerequisite: Biol. 201.
424. Immunobiology. (3). 3R. The nature of antigens, antibodies, and their interactions; cellular and humoral aspects of immunologic phenomena. Prerequisite: Biol. 201.

425. Immunobiology Laboratory. (2). 6L. Methods of immunization and techniques for qualitative and quantitative determinations of antibody production and antigen-antibody reactions. Prerequisite or corequisite: Biol. 424, Chem. 232 or consent of instructor.

430. Histology. (4). 2R; 6L. Microscopic anatomy of vertebrates with emphasis on the mammal. Prerequisite: Biol. 221.

460. Microbial Genetics. (4). 4R. The relationship between development, metabolism, and genetics in microorganisms. Prerequisite: Biol. 301 and 401 or department consent.

482. Topics in Botany. (2). Prerequisite: Consent of instructor. May be repeated once for credit.

483. Topics in Zoology. (2). Prerequisite: Consent of instructor. May be repeated once for credit.

484. Topics in Microbiology. (2). Prerequisite: Consent of instructor. May be repeated once for credit.


Graduate Courses

500. Biology Seminar. (1). Reviews of current research in biology. Prerequisite: Biol. 490 or consent of instructor. May be repeated once for credit.

501. Comparative Invertebrate Morphology. (3). 3R. A detailed analysis of the anatomy of invertebrate organ systems and their evolution. Prerequisite: Biol. 309 or consent of instructor.

502. Special Problems in Animal Behavior. (3). 3R. Emphases are on prey-predator interactions and the effect of a changing environment on behavioral patterns. Prerequisite: Biol. 413 or consent of instructor.

503. Special Problems in Ecology. (5). 2R; 6L. Emphasis on conservation of natural resources, land and water use, wildlife and fisheries management, and effects of pollution. Assigned readings, individual projects, and field trips required. Prerequisite: Biol. 415, 419, 420 or consent of instructor.

504. Advanced Immunology. (3). 3R. Contemporary problems in immunologic research. Lectures, assigned readings and reports. Prerequisite: Biol. 424 and consent of instructor.


507. Microbial Metabolism. (3). 3R. Studies of the degradative and biosynthetic metabolic pathways of representative bacteria, yeasts and higher fungi. Prerequisite: Biol. 301 or consent of instructor.

510. Physiological Basis of Behavior. (3). 3R. A modern approach to coordinative mechanisms which will stress the essential unity of nervous and endocrine function. Prerequisite: Biol. 320 or consent of instructor.

520. Radiation Biology. (3). 3R. Mechanisms of the genetic and non-genetic effects of radiations on unicellular and multicellular systems. Surveys of the physical properties of radiations and of radiation chemistry are included. Prerequisite: Consent of instructor.

561. Research. (1 to 5). Research opportunities offered in botany, microbiology and zoology. A maximum of eight hours may be taken for credit.

CHEMISTRY

MAJOR. A major with a Bachelor of Arts degree requires Chemistry 324, 332, 346, 347, and the necessary prerequisites, which include Mathematics 244 (or equivalent) and one year of college physics. Students with a substantial interest in the biological sciences may satisfy the BA requirements by substituting Chemistry 461 for Chemistry 324 or Chemistry 346. If substitution is made for 324 Chemistry 323 is required.

A major with a Bachelor of Science degree consists of the BA requirements, a reading knowledge (or two semesters) of German, and a minimum of eight hours of 400 level courses which must include Chemistry 411. Chemistry 461 may be included in the 400 level courses, but it cannot be substituted for Chemistry 324 or 346 in meeting the BS requirements. It is recommended that at least one credit hour of laboratory work be included in the 400 level courses. Additional physics and mathematics beyond the minimum requirements is strongly recommended. This curriculum meets the standards of the American Chemical Society in the professional training of chemists. The student who is working toward the Bachelor of Science degree should consult closely with the department in planning his curriculum.

The premedical student who majors in chemistry should be advised by a member of the chemistry department faculty.

Minor. The chemistry minor consists of at least 14 hours and must include at least four hours from Chemistry 302, 304, 323, and 331.

Lower Division Courses

103. General Chemistry. (5). 3R; 4L. A brief survey of inorganic, organic, and biological chemistry for the student who plans to take only one course in chemistry. This course is recommended for students in dental hygiene, and nursing, as well as those majoring in social science and the humanities. Students who expect to major in the natural sciences should take Chem. 111-112. Credit will not be granted for both Chem. 103 and Chem. 111.

111. General Chemistry. (5). 3R; 4L. An introduction to the general laws of chemistry and the nonmetals and their compounds. The Chem. 111-112 course sequence is designed to meet the needs of natural science majors and is not recommended for students with plan to take only one course in chemistry. Students who have had good high school preparation in chemistry and mathematics should consider the alternate afforded by Chem. 123-124. Prerequisite: 1.5 units of high school algebra or Math. 52. Credit will not be granted for both Chem. 103 and Chem. 111.

112. General and Inorganic Chemistry. (5). 3R; 4L. The chemistry of metals, electrochemistry, ionic equilibria, and introduction to qualitative analysis and organic chemistry. Prerequisite: Chem. 111 with a grade of C or better.

123-124. General and Analytical Chemistry. (5-5). 3R; 6L-3L; 6L. General chemistry and introductory quantitative analysis, including much of the material ordinarily presented in Chem. 323. Students who successfully complete this sequence are not required to take Chem. 323 as a prerequisite for Chem. 324. Prerequisite: 1.5 units of high school algebra, one unit of high school chemistry, and consent of department.
201. Glass Blowing. (1). 2L. Limited enrollment open to students upon recommendation of the chemistry department.

Upper Division Courses

302. Chemistry of Materials. (2). Fundamental general chemistry applied to chemical technology. Prerequisite: Chem. 112 (or equivalent) with a grade of C or better.

304. Elementary Physical Chemistry. (3). For students preparing for geology, biology, and medicine. Not for chemistry majors. Prerequisite: Chem. 112 (or equivalent) with a grade of C or better.

323. Introductory Analytical Chemistry. (4). 2R; 6L. The fundamental principles of gravimetric and volumetric analysis. Prerequisite: Chem. 112 with a grade of C or better.

324. Analytical Chemistry. (4). 2R; 6L. Analysis of complex mixtures and introduction to instrumental methods and organic analysis. Prerequisite: Chem. 323 (or 123-124), and 345. Corequisite: Chem. 346.

331-332. Organic Chemistry. (5-5). 3R; 6L-3R; 6L. Introduction to the chemistry of carbon compounds. Prerequisite: Chem. 112 (or equivalent) with C or better and consent of department.

345-346. Physical Chemistry. (3-3). 3R-3R. Introductory physical chemistry for students having a background in physics and calculus. Prerequisite: Chem. 331, Math. 243 (or equivalent), and one year of college physics.


401. Chemical Literature. (1). The use of the chemical literature. Prerequisite: 20 hours of chemistry and consent of instructor.

411. Inorganic Chemistry. (3). The periodic table; theoretical and descriptive inorganic chemistry. Prerequisite: Chem. 345. Corequisite: Chem. 346.


413. Inorganic Chemistry Laboratory. (1 to 2). 3L or 6L. Experimental methods of inorganic chemistry. Prerequisite: Chem. 411 or concurrent enrollment.

424. Advanced Analytical Chemistry. (3). 2R; 3L. Instrumental methods of chemical analysis. Prerequisite: Chem. 324 and consent of instructor.

425. Electronics. (2). 1R; 4L. Provides a working knowledge of electronic devices and circuits for the student or research worker who has little or no background in electronics. Prerequisite: Consent of instructor.

433. Organic Techniques. (3). 1R; 6L. The theory and practice of organic chemical preparations. Prerequisite: Chem. 332 and consent of instructor.

441. Advanced Physical Chemistry. (3). Introduction to quantum chemistry, atomic and molecular spectra, statistical thermodynamics, and reaction rate theory. Prerequisite: Chem. 346.

461. Biochemistry. (4). 3R; 3L. An introduction to protein, lipid, and carbohydrate chemistry. Prerequisite: Chem. 332 and 323 (or equivalent) or consent of instructor.

499. Independent Study and Research. (1 to 3). Prerequisite: Chem. 346 and consent of department. May be repeated for credit up to a maximum of three hours.

*At least one semester of physical chemistry is recommended in addition to the prerequisites listed.
Graduate Courses

500. Chemistry Seminar. (1). Review of current periodicals. Reports on student and faculty research. Prerequisite: 20 hours of chemistry. May be repeated for credit.

504. Radiochemistry. (3). 2R; 3L. Natural and artificial radioactivity; sources, preparations and properties. Prerequisite: Consent of instructor.

511. Theoretical Inorganic Chemistry. (3). Theory of bonding, molecular structure and spectra. Prerequisite: Chem. 411 and consent of instructor.

512. Coordination Chemistry. (3). Principles of coordination chemistry; structures and reactions of complex compounds. Prerequisite: Consent of instructor.

519. Special Topics in Inorganic Chemistry. (1 to 3). Prerequisite: Consent of instructor.

521. Advanced Analytical Chemistry. (1). Analytical chemistry of the less familiar elements. Prerequisite: Consent of instructor.

523. Analytical Spectroscopy. (3). 2R; 3L. Absorption, emission, NMR and mass spectroscopy. Prerequisite: Consent of instructor.

524. Electroanalytical Chemistry. (3). 2R; 3L. Electrometric methods of analysis. Prerequisite: Consent of instructor.

529. Special Topics in Analytical Chemistry. (1 to 3). Prerequisite: Consent of instructor.

531. Advanced Organic Chemistry. (3). Recent advances in organic chemistry. Prerequisite: Consent of instructor.

532. Heterocyclic Chemistry. (3). Prerequisite: Consent of instructor.

533. Qualitative Organic Analysis. (3). 1R; 6L. Identification of organic compounds. Prerequisite: Consent of instructor.

534. Quantitative Organic Analysis. (3). Prerequisite: Consent of instructor.

535. Physical Organic Chemistry. (3). Prerequisite: Consent of instructor.

539. Special Topics in Organic Chemistry. (1 to 3). Prerequisite: Consent of instructor.

541. Quantum Chemistry. (3). Quantum chemistry with emphasis on valence theory. Prerequisite: Consent of instructor.

542. Chemical Kinetics. (3). Prerequisite: Consent of instructor.

543. Introductory Statistical Mechanics. (3). Prerequisite: Consent of instructor.

545. Chemical Thermodynamics. (3). Classical Thermodynamics with an introduction to statistical thermodynamics. Prerequisite: Consent of instructor.

546. Molecular Spectroscopy. (3). Modern techniques and theory in the area of fluorescence spectroscopy and nuclear and electron spin resonance. Prerequisite: Consent of instructor.

549. Special Topics in Physical Chemistry. (1 to 3). Prerequisite: Consent of instructor.

561. Advanced Biochemistry. (3). Enzyme mechanisms, metabolic feedback, transport phenomena, hormones, porphyrins and nucleic acids. Prerequisite: Chem. 461 or its equivalent.

* May be repeated for credit.
569. Special Topics in Biochemistry. (1 to 3). Prerequisite: Consent of instructor.
591. Research in Inorganic Chemistry. (1 to 5).
592. Research in Analytical Chemistry. (1 to 5).
593. Research in Organic Chemistry. (1 to 5).
594. Research in Physical Chemistry. (1 to 5).
596. Research in Biochemistry. (1 to 5).

ECONOMICS

MAJOR: The economics major in the College of Liberal Arts and Sciences consists of a minimum of 30 hours and a maximum of 41 hours. Econ. 221, 222, 238, 340, 421 or 424, and 425 are required.

MINOR: A minor in economics in the College of Liberal Arts and Sciences consists of 15 hours exclusive of Econ. 100 and 190 and must include Econ. 221.

(Courses are listed under economics in the College of Business Administration.)

ENGLISH LANGUAGE AND LITERATURE

MAJOR: A major consists of 33 hours and must include 225, 260, 261, 262, and 446. In addition, courses must be selected from three groups as indicated below:

Period Courses:
(1) One of the following: 370, 371, 373, 374, 375, 376, 401, 402.
(2) One of the following: 252, 341, 342.

Major Author Courses: One of the following: 301, 430, 431, 433, 434.

Studies in Literary Types: One of the following: 302, 303, 321, 323, 324, 331, 332, 333.

English 111 is not counted on an English major. Also, only six hours from the following will be credited toward the major: 211, 311, 312, 313, 314, 316, 317 (except as noted below for the major with a creative writing sequence).

MINOR: A minor consists of 15 hours. Required are the following: two of these courses: 260, 261, 262, and at least six hours of upper division work. English 111 is not counted on a minor.

MAJOR WITH A CREATIVE WRITING SEQUENCE: With the written permission of the chairman of the department, a student desiring a creative writing sequence will fulfill the requirements for the regular major with the following exceptions: required courses are 225; 261 or 262, and 446. (The group requirements remain as set forth above.) In addition, the student must select at least 12 hours

* May be repeated for credit.

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from the following: 311, 312, 313, 314, 316, 317, and University Honors (1-6).

Major for Students Planning to Teach English in Secondary School: The teaching major in either the College of Liberal Arts and Sciences or the College of Education is 36 hours with the same requirements as listed for the regular major above, plus these additions: Studies in Language: 215; 461, 462, or 463, and Major Author Course: 433 or 434.

Minor for Students Planning to Teach English as a Second Subject in Secondary Schools: The teaching minor requirement is 24 hours, including the following: 215; 225; 252 or 262; 260 or 261; 323 or 324; 433 or 434.

Note: A 2.50 grade point index in English is required of all majors and minors applying for admission to the professional semester of student teaching in secondary school English.

Minor for Others in the College of Education: The English minor requirement for those planning to teach in elementary school is 18 hours, including the following: 211; 215; 260 or 261; 262; 302 or 323 or 324 or 342; 433 or 434.

Note: A 2.00 grade point index in the minor field is required for admission to the elementary professional semester in the College of Education.

Lower Division Courses

103 & 104. Masterworks of European Literature I & II. (3-3). Literary classics in translation. I: From the Greeks to the Renaissance. II: From the Renaissance to the modern world.

111. College English. (3). Planning, writing, and criticizing compositions; classroom discussions; conferences. See University College.

201. Narrative in Literature and Film. (3). (2-Lecture; 2-Laboratory). A comparative aesthetic analysis of the art of narration in literature and especially in film.

211. Advanced Writing. (3). Prerequisite: English 111 and sophomore standing. Recommended for non-English majors.

215. Introduction to English Linguistics. (3). Introduction to linguistic principles, including phonological and grammatical concepts. (Same as Linguistics 215.) Required of all English teaching majors.

223. Books and Ideas. (3). Open to any student but designed primarily for those who wish a course in literature which is appreciative rather than historical. Recommended for non-English majors.

224. 20th Century British and American Literature. (3). Not credited toward an English major or minor.

225. Literary Theory and Critical Writing. (3). Instruction in critical reading and critical writing through study of representative works in drama, poetry, and prose fiction. Limited to English majors or minors. Required of all English majors. Prerequisite: English 111 and sophomore standing.
240. Major Plays of Shakespeare. (3). Designed especially for nonmajors who wish to study the best work of Shakespeare's whole career in one semester. Will not apply on English major of students who attain credit in Engl. 433 or 434.

252. Modern American Writers. (3).

255. American Democracy. (3). Same as Political Science 211 (see for description).

260. Major British Writers I. (3). From the beginning through the 18th century. Required of all English majors. (Formerly Engl. 221.)

261. Major British Writers II. (3). From the 19th century to the present. Required of all English majors. (Formerly Engl. 222.)

262. Major American Writers. (3). From Poe to James. Required of all English majors. (Formerly Engl. 231.)

280. Sophomore Studies. (3). Prerequisites: Engl. 111 and 211 or 225 or department consent. Course content will vary from one semester to another. (Sample topics: Black Literature, Modes of Tragedy, etc.) May be repeated for credit.

Upper Division Courses

NOTE: No difference is implied between 300 and 400 courses in the English curriculum. All are open to juniors and seniors alike.

301a. American Authors. (3). Emphasis on Hawthorne and Melville.

301b. American Authors. (3). Emphasis on Emerson, Whitman, and Dickinson.

301c. American Authors. (3). Emphasis on James and Twain.


301e. American Authors. (3). Emphasis on Faulkner and the Moderns.

301f. American Authors. (3). Emphasis on writers selected by the individual instructor.


303. American Drama. (3).

309. Theme and Idea in Literature. (3). Reading, discussion, and some writing on literature from all periods, centered on great themes of human thought and action, designed especially for non-English majors. May not be offered for graduate credit.

310. Interrelated Arts. (3). Interdepartmental course presenting an aesthetic analysis of three arts, emphasizing style rather than the history of art. May not be offered for graduate credit.

311 & 312. Creative Writing: Workshop in Prose Fiction. (3-3). May not be repeated for credit. May not be offered for graduate credit. Prerequisite: Consent of instructor.

313 & 314. Creative Writing: Workshop in Poetry. (3-3). May not be repeated for credit. May not be offered for graduate credit. Prerequisite: Consent of instructor.

316 & 317. Playwriting I & II. (3-3). The writing of scripts for performance. Emphasis on both verbal and visual aspects of playwriting. If possible, the
scripts will be performed. Prerequisite: Engl. 324 and Speech 243 and 259; and consent of instructor. (Same as Speech 316 & 317.) May not be repeated for credit. May not be offered for graduate credit in English.

321. Elizabethan and Jacobean Drama. (3).

323. Later British Drama. (3). Selected plays from the Restoration to the modern period.


341. Modern British and American Literature from 1900 to 1922. (3).

342. Modern British and American Literature from 1923 to 1945. (3).

343. Modern British and American Literature from 1946 to present. (3).


371. The Age of Donne. (3). The Metaphysical poets, the Cavalier poets, and their contemporaries.

373. The Romantic Age. (3). Wordsworth, Coleridge, Byron, Shelley, Keats, and their contemporaries.


375 & 376. The Neoclassical Age I & II. (3-3). I: Dryden, Pope, Swift, and their contemporaries. II: Johnson, Fielding, Richardson, Sterne, and their contemporaries.

399. The Bible as Literature. (3).

401. Old English. (3).

402. Medieval Literature. (3). Middle English poetry, prose, and drama from the 12th to the 15th century.

430. Milton. (3).

431. Chaucer. (3).

433 & 434. Shakespeare I & II. (3-3). I: Shakespeare’s work to 1600. II: Shakespeare’s work after 1600.

440. Folklore. (3).

446. Literary Criticism. (3). Explores various historical and modern approaches to literary criticism and research. Required of English majors. Prerequisite: Engl. 225. May not be offered for graduate credit.

450. Workshop. (1-4). Prerequisite: Consent of instructor. May be repeated for credit.

461. History of the English Language. (3). Linguistic and cultural investigation of the development of English. Prerequisite: Engl. 215 or Linguistics 327 or consent of instructor.

462. Aspects of Linguistic Theory. (3). Examination of aspects of the structure of English and their relation to linguistic theory. Prerequisite: English 215 or Linguistics 327 or consent of instructor. (Same as Linguistics 462.)
463. The English Language in America. (3). Investigation of English, both past and present, in the Western Hemisphere. Prerequisite: Engl. 215 or Linguistics 327 or consent of instructor.

471 & 472. World Masterpieces I & II. (3-3). I: Selected readings in Oriental, Herbrew, Greek, Roman, and Medieval European literature in translation. II: Selected readings in European literature of the late Medieval, Renaissance, and modern periods in translation.


475 & 476. Independent Reading. (1-3; 1-3). Designed for majors and non-majors who wish to pursue special reading or research projects in areas not normally covered in course work. Admission to courses is by departmental consent. May not be offered for graduate credit.

480 & 481. Special Studies. (1-3; 1-3). The individual instructor will select and announce his own topic. May be repeated for credit.

491. Dialectology. (3). An introduction to the study of dialect in language, with special attention to regional dialect in America and methods of studying it. Prerequisite: Engl. 215 or Linguistics 327 or consent of department. (Same as Linguistics 491.)

492. The Study of Social Dialects. (3). A study of dialectal variation in relation to social classes. Prerequisite: Engl. 215 or Linguistics 327 or consent of department. (Same as Linguistics 492.)

493. Afro-American English. (3). A detailed study involving the analysis of samples of the language, of the characteristics of urban Afro-American speech and writing. Prerequisite: Engl. 491 or 492 or consent of department. (Same as Linguistics 493.)

494. Standard English as a Second Dialect. (3). Bibliography, survey, and presentation of methods of teaching standard English to speakers of English dialects. Contrastive analysis and dialect distribution and comparisons. The nature of language learning. Prerequisite: Engl. 492 or 493 or consent of department. (Same as Linguistics 494.)

Graduate Courses

501a. Graduate Readings in Pre-Renaissance Literature. (3). Early and middle English poetry, prose, and drama to the 15th century.


501e. Graduate Readings in Romantic Literature. (3). Wordsworth, Coleridge, Byron, Shelley, Keats, Scott, and their contemporaries.

501f. Graduate Readings in Victorian Literature. (3). Writers from Carlyle to Yeats studied in relation to political events and the social, scientific, and religious thought of the age.

501g. Graduate Readings in 20th Century British Literature. (3). Yeats, Joyce, Lawrence, Auden, Spender, and their contemporaries.

502b. Graduate Readings in American Literature II. (3). From 1870 to 1920. Emphasis on James, Twain, Crane, Dreiser, Robinson, Frost.


504a. Graduate Studies in Drama. (3). Selected topics in the history and nature of dramatic literature. With department consent, may be repeated for credit.

504b. Graduate Studies in Fiction. (3). Selected topics in the development of the form and content of prose fiction. With department consent, may be repeated for credit.

504c. Graduate Studies in Poetry. (3). Selected topics in forms, techniques, and history of poetry. With department consent, may be repeated for credit.

504d. Graduate Study in Criticism. (3). Selected topics in the theory and practice of literary criticism. With department consent, may be repeated for credit.

504e. Graduate Studies in Linguistics. (3). Selected topics in theories of language and methods of linguistic study. With department consent, may be repeated for credit.

506. Introduction to Graduate Study in English. (3). A course especially designed to prepare students to perform effectively in graduate classes in English. The course is concerned with: (1) basic bibliographical tools; (2) terminology, both technical and historical; (3) various approaches to the study of literature, such as intrinsic analysis of a literary work, the relationships of biography to literary study, and the relevance of other disciplines, such as psychology, to literature; (4) the writing of interpretative and research essays. Throughout the semester a balance between criticism and research is maintained.

509a-510a. Creative Writing: Fiction. (3-3). Advanced work in creative writing. Students who plan to offer creative writing in prose fiction as a thesis will be required to complete two semesters. Prerequisite: Consent of coordinator for creative writing. With department consent, may be repeated for credit.

509b-510b. Creative Writing: Poetry. (3-3). Advanced work in the writing of poetry. Students who plan to offer creative writing in poetry as a thesis will be required to complete two semesters. Prerequisite: Consent of coordinator for creative writing. With department consent, may be repeated for credit.

511. Directed Reading. (1-3). Designed for graduate students who want to pursue special research in areas not normally covered in course work. Prerequisite: Department consent. With department consent, may be repeated for credit.

520. Graduate Seminars in Special Topics. (3). Intensive study of selected texts, writers, or literary problems. Seminar discussions, reports, and research projects. With department consent, may be repeated for credit.

531. Graduate Studies in a Major Author. (3). Careful study of the works of a major author. Readings in secondary sources, reports, discussions, and papers. May be repeated for credit with change of content.

575. Master's Essay. (1-3).

FRENCH (See Romance Languages)

GEOLOGY AND GEOGRAPHY

The geology department is reevaluating its course offerings and its undergraduate and graduate programs. Please contact the department for current additional information.

FAIRMOUNT COLLEGE 119
MAJOR: A major with a Bachelor of Arts degree requires 35 hours of geology including:
   (1) Geol. 333, 337, and prerequisite courses;
   (2) At least two additional courses from the following: 331, 336, 347, 350, 361, 440;
   (3) A summer field course from an accredited university (or Geol. 335-336 if approved by the department).
A major with a Bachelor of Science degree requires 40 hours of geology including:
   (1) Geol. 333, 337, and prerequisite courses;
   (2) At least two additional courses from the following: 331, 336, 347, 350, 361, 440;
   (3) A summer field course from an accredited university (or Geol. 335-336 if approved by the department).
   (4) In addition 35 hours are to be selected from the fields of the sciences and mathematics to include:
      (a) a minor in one of the sciences or in mathematics;
      (b) Mathematics through Math. 243 or 246;
      (c) 10 hours of physics;
      (d) not less than five hours of chemistry;
      (e) not less than four hours of biology.
Note: No major is offered in geography.
MINOR: A minor in geology consists of 15 hours. A minor in geography consists of 15 hours, including Geography 201 and at least one upper division course.

GEOLOGY

Lower Division Courses

101. Physical Science. (5). 5R; D. Man in the physical world; offering some basic concepts in the physical sciences.

102. Earth and Space Science. (4). 3R; 2L. A general survey of man's physical environment; includes elements of geology, geography, meteorology, climatology, oceanography, and astronomy. Lectures, films, and demonstrations. Laboratory and field experiences. Not open to students who have taken Geol. 105, Geol. 111, or Geog. 201. Not for major or minor credit in geology.

111. General Geology. (5). 3R; 4L. The earth and its materials, structure and history; the various processes operating to change its aspects and composition. Field trip(s) required.

112. Historical Geology. (4). 2R; 6L. History of the earth from the time of its origin as a planet to the appearance of man. Prerequisite: Geol. 111. Field trip(s) required.

211. Astronomy (3). Celestial geometry, flow of energy in the cosmos, evolution of galactic and stellar systems, origin and nature of the solar system. Does not apply toward BS in geology. Prerequisite: Math 141.

225. Mineralogy. (5). 3R; 6L. Crystallography, and the determination of minerals by physical, optical, and chemical methods. Prerequisite: Geol. 112
and Chem. 111 or concurrent enrollment. Field trip(s) required at the option of the instructor.

226. Petrology. (4). 3R; 3L. The origin, modes of occurrence, alterations, classifications, and methods of determination of the igneous, sedimentary, and metamorphic rocks. Prerequisite: Geol. 112 and 225. Field trip(s) required.

Upper Division Courses

331. Geomorphology. (3). 2R; 3L. Genesis and interpretation of land forms; major physiographic provinces of North America. Prerequisite: Geol. 112 or Geog. 201. Field trip(s) required at the option of the instructor.

333. Structural Geology. (3). The mechanics of rock deformation; the description and genesis of features resulting from diastrophism. Prerequisite: Geol. 226 and Physics 123 or 103. Field trip(s) required.

335. Field Mapping. (2). 6L. Field mapping methods, with special reference to use of level, compass, barometer, alidade, and air photos. Prerequisite: Geog. 201 or Geol. 112. Field trip(s) required.

336. Field Geology and Stratigraphic Mapping. (3). 9L. Field geology and stratigraphy of Eastern Kansas. Prerequisite: Geol. 112. Field trips required.

337. Invertebrate Paleontology. (3). 2R; 3L. Invertebrate fossils, criteria of identification, classification. Prerequisite: Geol. 112, or biology majors upon instructor's consent. Field trip(s) required.

347. Sedimentology. (3). 2R; 3L. Origin, classification, textures, and structures of sedimentary rocks. Prerequisite: Geol. 225 or department consent. Field trip(s) required.

350. Principles of Stratigraphy. (3). 2R; 3L. Principles and techniques of description, classification, correlation, interpretation, and dating of the sedimentary rock record. Prerequisite: Geol. 337. Geol. 347 recommended. Field trip(s) required.

361. Economic Resources. (3). 2R; 3L. Distribution, classification, composition and origin of economic resources, metallic and nonmetallic. Prerequisite: Geol. 226. Field trip(s) required.

405. Regional Geology of the United States. (3). A detailed regional survey of the general geology, geomorphology, stratigraphy, and structural geology of the United States. Prerequisite: Geol. 331 or concurrent enrollment.

425. Optical Analysis. (4). 2R; 6L. Use of the polarizing microscope; mineral identification and rock classification. Prerequisite: Department consent.

436. Vertebrate Paleontology. (3). 2R; 3L. Systematic study of the fossil records of the vertebrates; laboratory training in identification of fossil bones and teeth; emphasis on regional faunas; collecting and museum trips required. Prerequisite: Geol. 112; biology majors upon instructor's consent.

438. Micropaleontology. (3). 2R; 3L. This course is designed to prepare students for research work in laboratories of oil companies, geological surveys and oceanographic stations. Emphasis on latest techniques, identifications, and use in correlation of foraminifera (including fusulinids), dinoflagellates, coccoliths, palynomorphs, etc. Prerequisite: Geol. 112 and consent of instructor. Field trip(s) required at the option of the instructor.

439. Palynology. (3). 2R; 2L. An introduction to the study of both modern and fossil spore and pollen morphology as applied to problems of plant taxonomy and evolution, paleoclimates, phytogeography, paleoecology, interpretation of sedimentary environments, biostratigraphy, Pleistocene climates and

* May be offered only in alternate years.

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archaeology. Emphasis is on vascular plants, but includes study of dinoflagel-
lates and related algae and nonvascular plants. Prerequisites: Geol. 112, or 
Biol. 330 and consent of instructor.

440.° Map Interpretation and Photogeology. (3). 2R; 3L. Construction, use, 
and interpretation of maps; use and interpretation of aerial photographs. 
Prerequisite: Geol. 112 or Geog. 201.

443°. Subsurface Geology. (3). 2R; 3L. All subsurface methods, including 
laboratory, logging, testing, treatment, valuation, and mapping methods. Pre-
requisite: Geol. 226 and Physics 124 or 103. Field trip(s) required at the 
option of the instructor.

444°. Petroleum Geology. (3). 2R; 3L. Origin, migration, and accumulation 
of oil and gas in the earth's crust. Distribution and significant features of 
modern fields. Prerequisite: Geol. 112. Field trip(s) required at the option of 
the instructor.

445°. Subsurface Formation Evaluation. (2). Detailed study of fluid content, 
fluid pressures, and other characteristics of subsurface formations as revealed 
by electric logs, other types of mechanical logs, and various testing devices. 
Introduction to the principles and uses of shut-in pressure build-up data. 
Prerequisite: Consent of instructor.

460. Planetary Geoscience. (3). 2R; 3L. Elements of astrogeology, nature and 
origin of the solar and planetary system, imagery mapping of lunar and plane-
tary surfaces, geochemistry and geophysics of planets and meteorites. Pre-
requisites: Geol. 101, 102, or 111.

470. Geohydrology. (3). The hydrologic cycle, physical and chemical prop-
erties of water, fluid flow through permeable media, exploration for and eval-
uation of ground water, water quality and pollution, water law. Prerequisites: 
Geol. 111, Math. 243, or consent of instructor.

480°. Geochemistry. (3). 3R. The chemistry of earth materials; the impor-
tant geochemical processes and cycles operating on and within the earth through 
time. Prerequisites: Geol. 226 and Chem. 112 or consent of instructor.

exploration. Prerequisites: Geol. 333 and Physics 103 or 124.

490°. Special Studies in Geology. (1-3). Prerequisite: Consent of instructor. 
May be repeated, but total credit may not exceed six hours.

499°. Research in Geology. (1-3). Research on special problems in the field 
of geology: (a) General; (b) mineralogy; (c) petrology; (d) structural; (e) pa-
leontology; (f) economics; (g) sedimentation; (h) petroleum; (i) stratigraphy; 
(j) geophysics. Prerequisite: Department consent.

Graduate Courses

500°. Research in Geology. (1-3). Research on special problems in the field 
of geology: (a) General; (b) mineralogy; (c) petrology; (d) structural; (e) pa-
leontology; (f) economics; (g) sedimentation; (h) petroleum; (i) stratigraphy; 
(j) geophysics. Prerequisite: Department consent.

505°. Advanced General Geology. (4). 2R; 6L. Principles, physical processes, 
structure, earth history, and economic implications of geology, based upon a 
study of original sources; student reports. Prerequisite: Instructor's consent. 
Field trip(s) required at the option of the instructor.

506°. Advanced Historical Geology. (3). Historical geology of the world. 
Emphasis on original sources and current research investigations. Prerequisite: 
Instructor's consent. Field trip(s) required at the option of the instructor.

* May be offered only in alternate years.
† May be repeated for credit up to six hours.
521.° Advanced Stratigraphy. (3). 2R; 3L. Advanced concepts and principles of stratigraphic analysis and interpretation. Emphasis on original sources and current research investigations. Field problem required. Prerequisite: Geol. 350 or consent of instructor. Field trip(s) required at the option of the instructor.

525.° X-ray Analysis and Clay Mineralogy. (4). 3R; 3L. Introduction to the principles of x-ray diffraction and spectography; use of x-ray diffraction apparatus in mineral identification and crystal structure study. Special emphasis on the origin and identification of clay minerals. Prerequisite: Geol. 225 or consent of instructor.

530.° Igneous and Metamorphic Petrology. (4). 2R; 4L. Mineral paragenesis, bulk chemical compositions, physical-chemical relationships, textures, structures, origins, and classifications of igneous and metamorphic rocks. Thin-section studies facilitate rock identifications and the determination of petrogenetic relationships. Prerequisite: Geol. 425 and consent of instructor.

532.° Sedimentary Petrology. (3). 2R; 3L. Detailed study of sedimentary rocks and their origins. Determinations of mineral compositions, textures, structures, fabrics, and petrogenetic relationships are facilitated by the use of thin sections, peels, and geochemical analyses. Prerequisite: Geol. 425 and consent of instructor.

534. Geotectonics. (3). Physical and geological principles of crustal deformation and tectonic interpretation; orogenies and epeirogenies in their time-space relationships; special reference to structural geology of North America. Prerequisite: Instructor's consent. Field trip(s) required at the option of the instructor.

537.° Paleocology. (3). Reconstruction of ancient terrestrial and marine environments. Emphasis on synthesis of total raw data (paleontological, sedimentary, mineralogical, stratigraphic, etc.). Prerequisite: Instructor's consent. Field trip(s) required at the option of the instructor.

542.° Ore Deposits. (3). 2R; 3L. An advanced treatment of the occurrence, classification, and origin of metalliferous ore deposits. Prerequisite: Instructor's consent. Field trip(s) required at the option of the instructor.

549 & 550. Geology Seminar. (1-1). Review of current periodicals. Reports on students and faculty research. Prerequisite: Instructor's consent. May be repeated for credit up to two hours each.


GEOGRAPHY

Only courses 201, 235, and those cross-listed with geology, are intended as physical science courses. All other geography courses are intended as social science offerings.

Lower Division Courses


201. Physical Geography. (3). 2R; 3L. Emphasis upon the physical basis of geography, including climate, terrain, soils, landforms, and the seas; economic resources; cartographic elements; introduction to regional studies. Field trip(s) required at the option of the instructor.

* May be offered only in alternate years.

FAIRMOUNT COLLEGE 123
210. World Geography. (3). A general survey of world geography, including an analysis of the physical, political, economic, historical, and human geography of the major world regions.

223. Economic Geography. (3). A geographical analysis of the distribution and utilization of basic world resources.

235. Descriptive Meteorology. (3). 2R; 2L. An introductory study of the atmosphere and its properties and the various phenomena of weather; a brief survey of important principles of physical, dynamic, synoptic, and applied meteorology. Prerequisite: Consent of instructor. Does not apply toward a major or minor in geology. Field trip(s) required at the option of the instructor.

Upper Division Courses

302. Geography of the United States and Canada. (3). Physical, political, economic, historical, and human geography of the United States and Canada. Lectures, assigned readings, films, and reports.

331. Geomorphology. (3). 2R; 3L. (See Geol. 331.)

335. Field Mapping. (2). 6L. (See Geol. 335.)

342. Geography of Europe. (3). 3R. Physical, political, economic, historical, and human geography of Europe. Lectures, assigned readings, films and reports.

361. Economic Resources. (3). 2R; 3L. (See Geol. 361.)


440. Map Interpretation and Photogeology. (3). 2R; 3L. (See Geol. 440.)

470. Urban Geography. (3). 2R; 3L. Geography of cities; the origin, growth, functions, characteristics and environmental problems of urban areas; structure and dynamic elements of intraurban space; land use analysis and approaches to urban planning; problems of urban ecology.

GERMAN

Major A: A major in German consists of a minimum of 24 hours beyond the level of German 112 and including German 325 and 327. It is strongly recommended that the major program include at least two of the survey courses offered. In addition, the student should elect courses in one other foreign language, English language and literature, linguistics, history, and philosophy.

Native speakers of German are not normally permitted to enroll in 100-200 level German courses nor to receive credit in such courses by advanced standing examination. A minimum of 12 hours in upper division courses including German 325 and 327 is normally required for a native speaker to earn a German major. Native

* May be offered only in alternate years.
speakers of German should consult with the department before enrolling in German courses.

MINOR: A minor in German consists of a minimum of 11 hours beyond the 112 level, to include German 225 and one upper division course.

MAJOR B: The teaching major in German in either Fairmount College of Liberal Arts and Sciences or in the College of Education consist of at least 50 semester hours chosen from the following categories:

At least 24 hours in the language beyond the 111-112 level, as listed under Major A, and

(A) At least 21 hours in a second language as listed under Minor, or

(B) At least 15 hours from one or more of the following related fields: English, history, linguistics, philosophy, political science (these will be chosen in consultation with the teacher education adviser) or

(C) A totally separate second major as prescribed by the Catalog.

NOTE: Students who wish to enter the student teaching program must have a 2.75 grade point average in German and department consent in order to be admitted to the professional semester, which includes Secondary Education 442Y and 447. It is urgent that such students consult with the departmental professor in charge of teacher education early in their college careers.

**Lower Division Courses**

60. German for Graduate Reading Examination. (3). Open to upper division and graduate students only. A reading course designed to prepare students to fulfill department requirements of a reading knowledge of German for the MA or MS degrees. No previous knowledge of German required. Will not count toward a degree.

111-112. Elementary German. (5-5).

191. Elementary German Review. (3). Intensive practice and review of basic German structure. Primarily for students whose study of German has been interrupted or whose preparation in elementary German is inadequate to permit satisfactory performance in 223 or 225. Does NOT apply on liberal arts and sciences language requirement for graduation nor on German major or minor. Prerequisite: German 112 or equivalent and departmental consent.

223. Intermediate German I. (3). Intensive reading and discussion of short works; grammar review. Prerequisite: German 112 or equivalent.

224. Intermediate German II. (3). Readings in German civilization accompanied by extensive studies of selected literary works. Prerequisite: German 223 or equivalent. (German 224 satisfies the core curriculum literature requirement.)

225. German Conversation and Composition I. (2). Development of oral and written skills. Prerequisite: German 223 or consent of instructor.

226. German Conversation and Composition II. (2). Continuation of German 225. Prerequisite: German 225.
Upper Division Courses

Except as noted, all upper division literature courses have as a prerequisite or corequisite German 340 or consent of instructor.

311. Civilization of the German-Speaking Countries. (3). Selected topics on significant aspects of life and thought in Germany, Austria, and Switzerland. The emphasis will be on the modern period with special attention paid to the interrelation of cultural trends. A knowledge of German is desirable but not required. Prerequisite: Upper division standing.

321. German in Technical Fields. (3). Supervised individual readings in the student's field of specialization—humanities, social sciences, or natural sciences. Prerequisite: German 223. Does not satisfy core curriculum literature requirement.

325-326. Advanced Composition and Grammar. (2-2). Prerequisite: German 226 or department consent.

327. Introduction to Linguistics. (3). Principles of descriptive and historical linguistics: phonetics and phonology, morphology and syntax. The phonological and grammatical structures of Modern Standard German and its development from Proto-Germanic. Required for a German major. Prerequisite: Completion of liberal arts foreign language requirement. (Same as Linguistics 327 and Anthropology 328.)

329. Linguistics in the Teaching of German. (3). The principles of linguistics applied to the problems of teaching German. Contrastive analysis of the phonological and grammatical structures of English and German. Prerequisite: German 327 or consent of instructor. (Same as Linguistics 329.)

331. Modern German Literature in English Translation. (3). Consideration of the works of one major author, of a literary movement or trend, or of a specific genre. May be repeated once for credit. Does not count on German major or minor. Prerequisite: Upper division standing.


351. Survey I. (3). Medieval period through the 18th century with special emphasis on storm and stress and classicism.


353. Survey III. (3). Modern literature: Naturalism to the present.

427. Comparative Germanic Readings. (3). Historical development of German and its relationship to other Germanic languages based on text material in Old English, Old Norse, Gothic, and Old High German. Prerequisite: German 327 or consent of instructor.

428. Middle High German Language and Literature. (3). The guided reading of Middle High German epic and lyric poetry and shorter verse narratives; fundamentals of Middle High German grammar. Prerequisite: German 327 or consent of instructor.

435. Drama. (3).

436. Contemporary Literature. (3).

437. Goethe. (3). Intensive study of some significant works of Goethe, predominantly Werther and Faust.

438. Lyric. (3). The reading, interpretation, and appreciation of selected lyric poetry of leading German poets.
441. Seminar in Special Topics. (3). Special studies in (a) a particular period, (b) a specific genre, (c) the works of one outstanding author, or (d) stylistics and literary translation. Prerequisite: two upper division literature courses or department consent. May be repeated once for credit.

HISTORY

MAJOR: 31 hours minimum. The major will specialize in one of the following areas:

(1) Ancient and Medieval.
(2) Modern Europe.
(3) England.
(4) United States.
(5) Latin America.

Students electing group I through III will take 101 and 102 and one other lower division course. Students electing group IV or V will take 131 and 132 and one other lower division course. Nine upper division hours are to be selected from courses in the appropriate group, chosen in consultation with an adviser. All majors will take 498 and 300. In addition, sufficient hours will be elected to bring the total to 31. At least five of these hours must be at the upper division level and may not be in the area of specialization.

MINOR: A minor in the College of Liberal Arts and Sciences consists of 15 hours, including either 101 and 102 or 131 and 132 and at least three upper division hours.

Lower Division Courses

101 & 102. History of Western Civilization. (4-4). 101: Prehistory to 1648. 102: 1648 to the present.

103 & 104. Evolution of the Non-Western World. (4-4). 103: An examination of the political, social and cultural roots of the non-Western peoples; Africa, Near East, Inner Asia, China, Japan, India and Southeast Asia. 104: A study of the non-Western world in modern times; Africa, Near East, Inner Asia, China, Japan, India and Southeast Asia.

113 & 114. English History. (3-3). 113: From the earliest times to the beginning of the Stuart period, emphasizing the origin and development of institutions, customs, and nationalism. 114: From the beginning of the Stuart period to the present.

131 & 132. History of the United States. (4-4). 131: Survey from the colonial period through the Civil War. 132: Survey from Reconstruction to the present.


271 & 272. The Far East. (3-3). A survey of the social, economic, and political development of the Far East with emphasis on China, India, and Japan. Prerequisite: Sophomore standing.
Upper Division Courses

300. Introduction to Historical Research and Writing. (2). Basic instruction in research methodology, composition, and criticism. Required of history majors.

301. The Ancient Near East. (3). Political and cultural history on ancient Mesopotamia, Iran, Egypt, Palestine, Syria, and Asia Minor to the death of Alexander the Great.


321. Medieval Social and Intellectual History. (2). Survey of the social and intellectual history of Europe from the 4th to the 15th centuries.

322. Byzantine History. (3). Survey of Byzantine history from its origins in the late Roman World to its fall in 1453 with an investigation of its major institutions and foreign relations.

323 and 324. Medieval History. (3-3). 323: The history of Europe from the fall of the Roman Empire through the Crusades. 324: Continues to 1500.

325. The Bolivarian States. (3). Venezuela, Colombia, Ecuador, Peru, and Bolivia from independence to the present.

326. Republic of Mexico. (3). Mexico from the independence movement to the present.

327. Argentina, Brazil, and Chile. (3). From independence to present.

328. Inter-American Relations. (2). Includes economic and cultural as well as political topics.

329. Central America and the Caribbean. (2). From the independence period to the present, with special attention to U. S. involvement in this area.

331. The American Colonies. (3). Colonization of the New World with emphasis on the British peoples and their development.

333. The American Revolution and the Early Republic. (3). Examination of selected phases of the Revolutionary, Confederate, and Federal periods.

334. Age of Jefferson and Jackson. (3). Political, economic and cultural development of the United States from the election of Thomas Jefferson to the end of the Mexican war, with emphasis on the growth of American nationalism.

335. The Negro in the United States. (3). Negro life, culture, and history from the 17th century to the present.

337. Economic History of Europe. (3). Same as Econ. 305. (See for description.)

338. Economic History of the United States. (3). Same as Econ. 307. (See for description.)

339. The American City: From Village to Metropolis. (3). Urbanization and urban life from colonial times to the present: changing life styles and thought patterns, urban architecture, ethnic assimilation, emergence of the suburb, political and ecological adjustments, and the influence of new technology and forms of business organization.

350. Military History. Major military developments and the conduct of war from antiquity to the mid-20th century.

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352. The Indian in American History. (3). Indian life, culture, and history from the early 16th century to the present, with emphasis on the impact of federal Indian policy since 1800.

380 & 381. History of Science. (3-3). 380: Ancient and Medieval science from its beginnings in the Near East to the end of the Middle Ages. 381: Rise of modern science from its first formative steps in the Medieval world to the 20th century.

382. Social and Environmental History of Science and Technology. (3). An examination of the social and environmental implications of the development of science and technology from its earliest beginnings to the present day.

411. England under the Tudors. (3).

412. England under the Stuarts. (3).

413. 18th Century Great Britain. (3). From the accession of William and Mary to the French Revolution.

414. 19th Century Great Britain. (3). From the French Revolution to the death of Queen Victoria.

415. The Reign of George III. (3). Political, constitutional, economic, and religious developments in England from 1760 to 1820.

423. The Italian Renaissance. (3). Italian history from the 14th through the 16th centuries with an emphasis on cultural achievements.

424. The Reformation. (3). The great religious changes of the 16th century in the political, social, and intellectual contexts.

429 & 430. Constitutional History of the U. S. (3-3). 429: The evolution of the American Constitutional system from English and colonial origins through the Civil War. 430: American Constitutional development from Reconstruction to the present.

431. Civil War and Reconstruction. (3).

432. America's Gilded Age, 1877 to 1900. (3). Emphasis on roots of urban problems, foundations of dissent, policy toward minority groups, and evaluation of imperial expansion.


437 & 438. Social and Intellectual History of the United States. (3-3). 437: Survey of American thought and society to the end of the Civil War. 438: The significant social and intellectual currents from the middle of the 19th century to present, with special reference to the interaction between ideas and social structure.

440. History of the Old South. (3). Examination of Southern Civilization prior to the American Civil War.

441. History of Kansas. (3) History of the Kansas region from Spanish exploration to the present, with principal emphasis on the period after 1854.

442 & 443. History of Eastern Europe. (3-3). The development of the Bulgar, Czech, Magyar, Polish, Rumanian, and Yugoslav peoples.

444. The Atlantic and Trans-Appalachian West. (3). Exploration and settlement of the coastal and trans-Appalachian frontiers from colonial times to about 1840.
445. The Trans-Mississippi West. (3). Spanish, French and Anglo-American penetration and settlement west of the Mississippi River from the 16th century to about 1900.


453 & 454. History of Russian Thought. (3-3).

455. Europe 1870-1914. (3). Politics and diplomacy leading to World War I.

456. Europe 1914 to Present. (3). Politics and diplomacy leading to World War II.


461. The French Revolution and the Napoleonic Period. (3).

462. 17th Century Europe. (3).


464. Europe, 1815-1870. (3).


470 & 471. Modern Germany. (3-3). 470: Creation of the German Empire and its role in world affairs 1848 to 1914. 471: Establishment and collapse of the Weimar Republic, the rise and fall of Hitler’s Third Reich, the divided Germany of the present, and the role of each in world affairs, 1914 to the present.

472 & 473. Modern France. (3-3). 472: Restoration, reaction and revolution; Bourbon Restoration, Revolution of 1848, Napoleon III and Second Empire, and the Franco-Prussian War. 473: Crisis and decline; formation of the Third Republic, impact of World War II, interwar challenges, Vichy, problems of the Fourth and Fifth Republics, withdrawal from Indochina and Middle East, and prelude to major power involvement.

487 & 488. European Diplomatic History. (3-3). 487: European international politics and diplomatic practices, with emphasis and actions of the great powers and their statesmen, Concert of Europe to World War I. 488: Versailles settlement, totalitarian aggression, appeasement, World War II, the “cold war,” and decolonization of Southeast Asia and Middle East as prelude to major power involvement.

491. Workshop in American History. (1-3). May be repeated for graduate credit but will not satisfy requirements for the Master of Arts degree.

492. Workshop in European History. (1-3). May be repeated for graduate credit but will not satisfy requirements for the Master of Arts degree.

495. Special Topics in History. (1-3 in an area).

498. Historiography. (2). Review of the major schools of historical thought, philosophies of history, and eminent historians, from the ancient world to the present.

Graduate Courses

505. Seminar in Ancient History. (3). Prerequisite: Consent of department.

506. Seminar in Medieval History. (3). Prerequisite: Consent of department.
507. Seminar in Renaissance and Reformation. (3). Prerequisite: Consent of department.

508. Seminar in 17th and 18th Century Europe. (3). Prerequisite: Consent of department.

509. Seminar in English History. (3). Prerequisite: Consent of department.

510. Seminar in Modern German History. (3). Prerequisite: Consent of department.

511. Seminar in Modern French History. (3). Prerequisite: Consent of department.

512. Seminar in Slavic History. (3). Prerequisite: Consent of department.

513. Seminar in the History of Science. (3). Prerequisite: Consent of department.

514. Seminar in Latin American History. (3). Prerequisite: Consent of department.

520. Seminar in American Colonial History. (3). Prerequisite: Consent of department.

521. Seminar in American Constitutional History. (3). Prerequisite: Consent of department.

522. Seminar in American Diplomatic History. (3). Prerequisite: Consent of department.

523. Seminar in American Civil War and Reconstruction. (3). Prerequisite: Consent of department.

524. Seminar in American Economic History. (3). Prerequisite: Consent of department.

525. Seminar in American Social and Intellectual History. (3). Prerequisite: Consent of department.

526. Seminar in the American West. (3). Prerequisite: Consent of department.

527. Seminar in American State and Local History. (3). Prerequisite: Consent of department.

528. Seminar in 20th Century America. (3). Prerequisite: Consent of department.

531. Reading Seminar in American History. (3). Prerequisite: Consent of department. May be repeated for credit.

532. Reading Seminar in American History. (3). Prerequisite: Consent of department. May be repeated for credit.

534. Reading Seminar in Latin American History. (3). Prerequisite: Consent of department. May be repeated for credit.

535. Reading Seminar in the History of Science. (3). Prerequisite: Consent of department. May be repeated for credit.

553. Readings in Modern European History. (3). Prerequisite: Consent of department. May be repeated for credit.

554. Readings in Modern European History. (3). Prerequisite: Consent of department. May be repeated for credit.

555. Reading in Ancient History. (3). Prerequisite: Consent of department. May be repeated for credit.
556. Readings in Medieval History. (3). Prerequisite: Consent of department. May be repeated for credit.


595. Special Topics in History. (1-3). Open only to graduate students. May be repeated for credit to a maximum of four hours.

ITALIAN (See Romance Languages)

JOURNALISM

Major: The major in journalism consists of at least 26 hours, including Journalism 115, 226, 380, and 447, and a concentration of not less than 15 hours in one additional field of study in a school or college of the University. In addition, one of the following sequences must be completed:

Radio-Television Sequence: Journ. 322, 324 or 326, 330, and 336.

Minor: A minor in journalism consists of at least 15 hours, including Journ. 115, 226, 330, 336, and/or 380 or 447.

Lower Division Courses

115. Introduction to Mass Communication. (3). Required for the major in journalism. The role of mass communication in media, with emphasis on the history of American journalism. Consideration of the freedom and responsibilities of the mass media.

226. Newswriting. (3). 2R; 3L. Required for the major in journalism. Evaluation, reporting, and writing of various types of news stories. Prerequisite: Journ. 115. Reasonable typing competence required.

232. Introductory Photojournalism. (3). 2R; 3L. Basic photographic theory and technique, with emphasis on aspects of importance to journalists, writers, and editors. Using the department's cameras and laboratory facilities, students take, develop, and prepare photographs for publication. Prerequisite: Journ. 115.


Upper Division Courses


324. Television News Film. (3). 3R; 5L. Advanced work with TV news production with an emphasis on news film. Prerequisite: Journ. 322.

326. Newscasting. (3). 3R; 5L. Advanced work in radio news including writing and audiotapes. Prerequisite: Journ. 322.

327. Sunflower Reporting. (3). Optional to students who have completed Journ. 330. Writing for the campus newspaper. Prerequisite: Journ. 330.
330. Advanced Newswriting and Reporting. (3). 2R; 3L. Reporting and writing the more demanding types of material: feature, interpretive, and public affairs and stories, editorials, and interviews. Prerequisite: Journ. 226.

336. Editing. (3). 2R; 3L. Selection, evaluation, and preparation of copy and pictures for publication; copyreading, rewriting, headline and caption writing, page makeup. Prerequisite or concurrent: Journ. 330.


380. History of Communications. (3). Research into the development of mass media. Emphasis will be given to the development and presentation of original research papers. Bibliography and criticism in mass communications. Prerequisite: Journ. 330.


447. Law of the Press. (3). An examination of the statutory laws governing the mass media with an emphasis on libel, free press vs. fair trial and the fairness doctrine with research into case histories. Prerequisite: Journ. 336.

448. Special Topics in Journalism. (3). Directed individual research in various aspects of journalism and mass communications, or related topics. Preparation of a major term paper. Prerequisite: Journ. 380 and senior standing.

466. World Press. (3). A study of international comparative press and broadcast systems with emphasis on press freedoms and their relation to historical political freedoms; plus cross-cultural communications. Open to journalism juniors and seniors and seniors and graduate students from throughout the University.

LATIN AND GREEK (See Romance Languages)

LINGUISTICS

Major: A major in linguistics consists of a minimum of 24 hours from the courses listed below, including at least nine hours from Group A and at least one phonetics course (Linguistics 223, French 305, or Spanish 335). A major must be combined with either a minor in a foreign language or the 111-112 sequence in two different foreign languages and three hours beyond 112 in one of them (or the equivalent).

Minor: A minor in linguistics consists of 15 hours from the courses listed below which are not also counted towards the student’s major. At least six hours must be taken from Group A.

Courses

Group A (basic linguistic theory)


298. Special Studies. (1-3). The individual instructor will select and announce his own topic. Credit will be assigned to Group A, B, or C depending on content. May be repeated for credit when content varies.

327. Linguistics. Introduction to Linguistics. (3). (Same as German 327.)

462. Linguistics. Aspects of Linguistics Theory. (3). (Same as Engl. 462.)


465. Linguistics. Structure of a Selected Non-Indo-European Language. (3). The language offered will depend on student demand and availability of staff. May sometimes be conducted as a field methods course. May be repeated for credit when different languages are offered. Prerequisite: Linguistics 215 or 327.

491. Dialectology. (3). (Same as Engl. 491.)

Group B (linguistic study of specific languages or language groups)

401. English. Old English. (3).

461. English. History of the English Language. (3).

463. English. The English Language in America. (3).

492. English. The Study of Social Dialects. (3).


329. German. Linguistics in the Teaching of German. (3).


428. German. Middle High German. (3).

Group C (areas of contact between linguistics and other disciplines)

212. Logopedics. The Development of Language. (3).


325. Philosophy. Symbolic Logic. (3).


440. Philosophy. Philosophy of Language. (3).

345. Psychology. Psycholinguistics. (3).

498. Linguistics. Special Studies. (1-3). The individual instructor will select and announce his own topic. Credit will be assigned to Group A, B, or C depending on content. May be repeated for credit when content varies.

499. Linguistics, Directed Readings. (1-3). Credit will be assigned to Group A, B or C depending on content. May be repeated for credit.

MATHEMATICS

Since a satisfactory major depends primarily on a suitable combination of courses, the courses which comprise the major must be
approved by the department. Because of the importance of verbal experience in learning mathematics, a student intending to major in mathematics should take English 111 or Speech 111 during his first college semester.

**MAJOR:** For the BA degree in mathematics, the major requires Mathematics 244, 307, 313, 335, and nine additional hours of upper division work in the department. In addition, Philosophy 325 or Computer Science 300 is required. The foreign language should be French, German, or Russian.

For the BS degree in mathematics, the major requires Mathematics 244, 307, 313, 335, 336, 346, and nine additional hours of upper division work in the department. In addition, Philosophy 325 or Computer Science 300 is required. The student must also complete nine semester hours of upper division work in philosophy or in one of the natural or social sciences. The foreign language must be French, German, or Russian.

For the BS degree in mathematics with emphasis in computer science, the student must complete Mathematics 244, 307, 313, 335, 346, Statistics 471; and Computer Science 199, 228, 300, 381. Recommended electives are Statistics 472 and Mathematics 336 and 452, and other courses in Computer Science.

For the BS degree in mathematics with emphasis in statistics, the student must complete Mathematics 244, 307, 313, 335, 336, and Statistics 371-372 and 471-472. He must also complete either Philosophy 325 or Computer Science 300 and nine semester hours of upper division work in philosophy or one of the natural or social sciences.

Recommended schedules for each of these degree programs are available in the department office. A calendar indicating when particular courses are to be offered is also available. A student majoring in mathematics should consult closely with his adviser on any of these programs.

**MINOR:** A minor in mathematics requires a minimum of 15 semester hours of credit courses, including three hours of upper division work.

For some curricula in the University, one and one-half units of high school algebra and one unit of high school geometry is required. For students lacking such prerequisites, the mathematics department offers remedial courses, as listed below.

**Remedial Courses**

52. **Algebra.** (5).° The topics from high school algebra essential to the study of university level mathematics. May be used, in meeting department prerequisite in place of one and one-half units of high school algebra. Prerequisite: None.

° Hours do not apply toward a Wichita State University degree.

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60. Plane Geometry. (2). For students without high school credit in plane geometry. May be used in meeting department prerequisites, in place of one unit of high school geometry. Prerequisite: One unit of high school algebra or Math. 52, or concurrent enrollment in Math. 52.

Lower Division Courses

121. Discrete Mathematics I. (3). Set theory, probability, and the elements of statistics. Prerequisite: One unit of high school algebra.

122. Discrete Mathematics II. (3). Linear algebra and related topics. Prerequisite: 121.

139. College Trigonometry. (2). A study of the trigonometric functions with applications. Prerequisite: Math. 140 or equivalent high school preparation. (No credit for students who have completed Math. 141.)

140. College Algebra. (3). Functions, theory of equations and inequalities, complex numbers, and exponential and logarithmic functions. Prerequisite: One and one-half units of high school algebra or Mathematics 52 and one unit of high school geometry or Math. 60.

141. Algebra and Trigonometry. (5). Functions, theory of equations and inequalities, complex numbers, the trigonometric functions, exponential and logarithmic functions, and other standard topics prerequisite to a beginning study of analysis. Prerequisite: One and one-half units of high school algebra or Math. 52, and one unit of high school geometry or Math. 60.

142. Introductory Analysis I. (5). Analytic geometry and the calculus in an interrelated form. Prerequisite: Math. 141 with a C or better or two units of high school algebra, one unit of high school geometry, and one-half unit of high school trigonometry, or Math. 139 and 140 with C or better in each.

243. Introductory Analysis II. (5). A continuation of Math. 142. Includes a study of integration and applications and an introduction to infinite series. Prerequisite: Math. 142 with a C or better.

244. Introductory Analysis III. (3). A continuation of Math. 243. Includes a study of multiple integration and partial derivatives. Prerequisite: Math. 243, with a C or better.

245. Survey of Analysis. (3). A brief, but careful introduction to mathematical analysis for students of the humanities, the social sciences, and business. Prerequisite: Math. 140 or 141. Credit in both 245 and 142 is not allowed.

Upper Division Courses

303-304. Topics in Modern Mathematics I and II. (3-3). An investigation of the newer topics of secondary school curriculums. Not open to mathematics majors. May be repeated for credit with consent of department. Prerequisite: Consent of department.

307. Linear Algebra I. (3). An elementary study of linear algebra including a study of linear transformations and matrices over finite dimensional spaces. Prerequisite or corequisite: Math 244.

311. Elementary Geometry. (3). The structure of Euclidean geometry. Prerequisite: Math 243 or 245.

313. Fundamental Concepts of Algebra I. (3). Groups, rings, fields. Prerequisite: Math 307 or consent of department. (Not for major graduate credit.)

* Hours do not apply toward a Wichita State University degree.
315. Elementary Number Theory. (3). Properties of the integers studied by elementary means. Prerequisite: Math 245 or upper division standing or Math 244 or consent of department.

335. Intermediate Analysis I. (3). A detailed study of limits, continuity, and integration. Prerequisite: Math 244 with C or better. (Not for major graduate credit.)

336. Intermediate Analysis II. (3). The calculus of functions of several variables, line and surface integrals. Prerequisite: Math 307 and 335 with C or better in each.

346. Ordinary Differential Equations. (3). Integrating factors, separation of variables, critical points, linear differential equations with constant coefficients, variation of parameters, existence and uniqueness for initial value problems, and systems. Prerequisite: Math 244 with a C or better. (Not for major graduate credit.) Not open to students with credit in 349 or 446.

373-374. Elementary Mathematics I and II. (3-3). Topics necessary to an understanding of the elementary school curriculum, such as set theory, the real numbers and geometry. Prerequisite: Elementary education major or consent of department. Not for major or minor credit.

412. Modern Geometry. (3). Fundamental concepts of geometry. Prerequisite: Math 313 or consent of department.

414. Fundamental Concepts of Algebra II. (3). A continuation of Math 313. Prerequisite: Math 313 with a C or better.

431. Intermediate Analysis III. A continuation of Math 336. Prerequisite: Math 336 with C or better.

437. Elementary Topology. (3). Primarily the topology of metric spaces. Prerequisite: Math 335 with a C or better or consent of department.

438. Introduction to Complex Analysis. (3). Basic treatment of analytic functions. Prerequisite: Math 346 with a C or better or consent of department.

447-448. Engineering Mathematics I and II. (3-3). Vector analysis, matrices, infinite series, orthogonal and special functions, Fourier series, and boundary value problems. Prerequisite: Math 346, with C or better. (No credit for mathematics majors.)

452. Numerical Analysis. (3). Numerical solutions of algebraic and differential equations. Prerequisite: Math 307 and 335 with C or better in each.


470. Introduction to Combinatorial Mathematics. (3). Permutations, generating functions, partitions, distributions, and elements of graph theory. Prerequisite: Math 335 or consent of department.

499. Individual Projects. (1 to 5). May be repeated to a total of 10 credits. Prerequisite: Consent of department. (Not for graduate credit.)

Graduate Courses

501-502. Real Analysis I and II. (3-3). A study of the foundation of analysis and the fundamental results of modern real analysis. Prerequisite: Math 431 or consent of department.

503-504. Abstract Algebra I and II. (3-3). A treatment of the standard basic topics in abstract algebra. Prerequisite: Math 414 or consent of department.

505-506. Complex Analysis I and II. (3-3). Theory of analytic functions. Prerequisite: Math 431 or consent of department.
507-508. Topology I and II. (3-3). Point set and algebraic topology. Prerequisite: Math 437 or consent of department.

520. Proseminar. (1). Oral presentation of research in areas of interest to the students. Prerequisite: Major standing.

521. Individual Reading. (1 to 5). Prerequisite: Consent of department. May be repeated up to a maximum of five hours with the consent of the department.

525. Special Topics. (2 or 3). May be repeated by consent.
   A. Analysis.
   B. Algebra.
   C. Geometry.
   D. Topology.
   E. Applied Mathematics.
   F. Foundations.
   G. Number Theory.
   H. Statistics.
   Prerequisite: Consent of instructor.

531-532. Topics for Mathematics Teachers I and II. (3-3). Topics for secondary school mathematics teachers, related to the secondary school mathematics curriculum. Topics to be chosen according to the needs and interests of individual students. May be repeated for credit with departmental consent. (Not applicable toward the MA or MS in mathematics.)

546. Ordinary Differential Equations. (3). Existence, uniqueness, stability, and other "qualitative theories" of ordinary differential equations. Prerequisite: Math 335 and 346 or consent of department.

553-554. Numerical Analysis I and II. (3-3). Numerical approximations of solutions to initial and boundary value problems of ordinary and partial differential equations. Prerequisite: Math 335 or consent of department.

555-556. Partial Differential Equations I and II. (3-3). Existence and uniqueness theory for boundary value problems of partial differential equations of all types. Prerequisite: Math 335 or consent of department.


581-582. Selected Topics in Engineering Mathematics. (3-3). Advanced topics in mathematics of interest to engineering, including such topics as tensor analysis, calculus of variations, and partial differential equations. (Not applicable toward the MA or MS in mathematics.)

STATISTICS AND COMPUTER SCIENCE

The courses in statistics and computer science listed here are offered by the mathematics department. No major or minor is offered, but a BS degree in mathematics with emphasis in computer science and a BS degree in mathematics with emphasis in statistics are available and are described at the beginning of the mathematics section of the Catalog. For further information, consult the mathematics department. All courses here satisfy core and liberal arts mathematics requirements.

As a part of the 124 semester hours required for graduation, a student may take up to 15 semester hours of statistics and/or computer science courses in addition to the 43 semester hours of course work allowed in mathematics.

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STATISTICS

Upper Division Courses

301. Elementary Statistics. (3). Elementary descriptive statistics, binomial and normal distributions, elementary problems of statistical inference; linear correlation and regression. Prerequisite: Math 121, 140, or 141. Not open to students with credit in Math 243 or to mathematics majors.

302. Elementary Probability. (3). Probability functions, random variables, and expectation of finite sample spaces. Prerequisite: Math 121, 140, or 141. Not open to students with credit in Math 243 or to mathematics majors.

371-372. Statistical Methods I and II. (3-3). 2R; 2L. In 371, basic experimental statistics; problems of statistical inference; confidence limits; forms of correlation; and analysis of variance. In 372, sampling; additional analysis of variance; randomized block; Latin square; factorial; multiple and curvilinear correlation. Prerequisite: Math 243 or 245.

471-472. Probability and Statistics I and II. (3-3). A course in the theory of the subject. Prerequisite: 335 with C or better.

COMPUTER SCIENCE

Lower Division Courses

199. Introduction to the Computer. (Same as Engr. 199.) (3). Automatic data processing, digital computers, flow charting, computer languages, Fortran IV, sorting techniques, and the solution of elementary problems. Prerequisite: Math 140 or 141.

228. Computer Organization and Programming. (3). (Same as Engr. 228). Introduction to basic concepts of computer organization and operation. Study of machine and assembly language programming concepts which illustrate basic principles and techniques. Prerequisite: CS 199 or Engr. 199 or equivalent.

Upper Division Courses


311. Introduction to Discrete Structures. (3). Relations and mappings. Algebraic structures, including semigroups. Theory of graphs. Applications of these concepts to problems in computer science. Prerequisite: CS 199 or equivalent and Math 243.

312. Data Structure. (3). The formal specification of data structures. Linear lists and arrays, orthogonal lists and multilinked structures. Representation via trees and graphs. Searching and sorting techniques. Prerequisite: CS 230 or equivalent and CS 311.

320. Programming Languages. (3). Formal definition of programming languages, including syntax and semantics. Underlying properties of algorithmic languages, including scope of declarations, storage allocation, grouping of statements, binding time of constituents, subroutines and tasks. Prerequisite: CS 230 or equivalent and CS 311.

381. Computer Solution of Numerical Problems. (3). Finite differences, interpolation, solution of systems of equations, numerical integration. The student will use the computer facility in the solution of problems. Prerequisite: CS 199 and Math 244 and 307, with C or better in each.

382. Special Topics in Computer Science. (3). Topics such as sequential machines, automata theory, computability and solvability. Prerequisite: CS 381 and Math 313.
394. Logic Design and Switching Theory. (3). 2R; 3L. (Same as EE 394.) An introduction to the theory and application of switching devices with particular emphasis on computer applications. Combinatorial, sequential, and threshold logic concepts and realizations; network minimization methods, hazards, codes, and computerized logic design. Prerequisite: CS 311 and Physics 124 or equivalent.

498. Individual Projects. (1-3). May be repeated for a total of six hours credit. Prerequisite: Consent of department.

MINORITY STUDIES

The overall goal of the Department of Minority Studies is to provide a coherent and socially relevant education, humanistic and pragmatic, which prepares students for service to the entire community and therefore enriches the total society. The minority studies department offers courses and programs which may bring about a more favorable interaction with people and thus reduce the racial tension in the society. The emphasis within the department is on cross-cultural communications. The department provides experiences by which a student might explore his or her own uniqueness and also provides favorable methods of interacting with other people.

In order for the department to meet its goal, the curriculum is geared to three areas of the student's development: (1) his functioning as a unique individual, (2) his functioning as a participant-leader in an age of technology, and (3) his functioning as a trained specialist and humanist. These functions overlap and therefore the department is designed to address itself to the curriculum and the community.

The department does not agree with those who oversimplify the black, Chicano or Indian situation by denying that these minorities are any different from other Americans and implying that they should not be singled out for special attention.

The department becomes equally impatient with the advocates of a complete restoration of black, Indian or Chicano cultures. The realities of life preclude the return to the idyllic life styles devoid of the technological accomplishments of mass communication, mass production, mass transportation, mass education, and mass medical treatment.

MAJOR: The major in minority studies consists of at least 24 hours including: Minority Studies 210, 330, 336, 380, 440, 445, and 448 and a concentration of not less than 15 hours in one additional field of study in a school or college of the University.

Minority studies majors must follow this sequence unless deviations are approved, in advance, by the department.

Certain courses, in related areas not to exceed six hours that meet the particular needs of the student and if approved by his adviser, may be counted towards a major.
MINOR: A minor in minority studies consists of at least 15 hours. The courses are to be approved by the student's departmental advisor and must include Minority Studies 210, 330, 336, and 380.

Lower Division Courses

100. Introduction to Minority Studies. (3). Orientation to the nature and scope of minority studies. Emphasis on the unique nature of the experiences of minority groups in this country. A cursory examination of some alternative styles of behavior to deal with problems peculiar to minority people in the United States will be undertaken.

210. Fundamentals of Cross-Cultural Communications. (3). An examination of the effects of different cultures on language and methods of communicating. Also, a study of communications and its relationship to behavior in this country.

Upper Division Courses

330. Individual Group Cross-Cultural Communications. (3). Designed to enable students to explore their own unique character and behavioral traits as related to their particular ethnic group. An exploration of the relationship between their particular ethnic group's language and behavior. Prerequisite: Minority Studies 210.

336. Biracial Cross-Cultural Communications. (3). An examination of concepts and behaviors useful in analyzing interpersonal behavior in an organizational setting between two selected ethnic groups. Readings and face to face encounters with situations involving progress of morale, productivity, motivation, leadership, authority, communication, and the introduction of change will be used to facilitate an understanding of these areas of human interaction. Prerequisite: Minority Studies 330.

380. Multiracial Cross-Cultural Communications. (3). This course will be a special laboratory group experience for advanced students. Leadership styles, group development skills, and interpersonal competence in a multietnic setting will be developed. Prerequisite: Minority Studies 336.

440. Advanced Multiracial Cross-Cultural Communications. (3). This will be an advanced study on special topics in human relations. Prerequisite: Minority Studies 380 or concurrent enrollment.

445. Cross-Cultural Communications Theory. (3). Varying in content, this course will offer specific consideration of important areas of cross-cultural communications such as current issues, theory of structured exercises, and laboratory planning. Prerequisite: Minority Studies 440 or concurrent enrollment.

448. Practicum in Cross-Cultural Communications. (2-5). This will be an investigation and analysis of methods of experimental research in cross-cultural communications with emphasis on experimental designs that can gather legitimate data on specific ethnic groups. The application of cross-cultural communications and additional skills gained through courses in allied departments, i.e., economics, linguistics, political science, etc., in research problems. Credit hours to be determined by degree of difficulty and time necessary for each project. Prerequisite: Minority Studies 445 or concurrent enrollment.

MUSIC

See College of Fine Arts section for requirements and curriculum.
PHILOSOPHY

The Department of Philosophy offers a wide range of courses in order to enable an undergraduate major to acquire familiarity with the varieties of philosophic inquiry and to pursue in some detail those topics in which he becomes especially interested.

Major: A major requires (1) a minimum of 24 semester hours of philosophy courses, at least 12 of which must be upper division courses, and (2) included within the 24 hour major, certain required courses selected from three areas of study as follows:

I. Logic (Three hours): 225 or 325 or 426.
II. Value Theory (Three hours): 244 or 313 or 360 or 375.
III. History of Philosophy (Six hours): 331, and 333 or 334.

Minor: A minor consists of 15 hours of philosophy selected in consultation with the department, with the aim of orienting the student to the philosophic aspects of his major field.

Lower Division Courses

121. Introduction to Philosophy. (3). An introduction to the philosophic principles and methods employed in treating the problems of truth and validity, reality and appearance, and good and evil, by means of an analysis of the classical doctrines of the nature of things, the structure of knowledge, and the criteria for moral value.

150. Introduction to Contemporary Philosophy. (3). An introduction to the basic problems and trends in recent philosophy.

225. Logic. (3). An introduction to the basic principles of rational thinking, with an emphasis on argument forms, deductive techniques, and methods of proof.

226. Introduction to Philosophy of Science. (3). A study of the basic philosophic presuppositions of the scientific method, as exemplified in the problems of induction, deduction, hypothesis, evidence, probability, verification, definition, and experimental technique.

244. Ethics. (3). A comprehensive study of the classical and modern theories of social and moral value as they give meaning to the concepts of law, morality, tradition and social reality.

Upper Division Courses

304. Analytic Philosophy. (3). A critical examination of various contemporary philosophical problems as seen through the writings of philosophers such as Moore, Carnap, Ayer, Russell, Ryle, Wisdom, Strawson, Quine, Wittgenstein and others. Prerequisite: Three hours of philosophy or consent of instructor.

305. Philosophy of Education. (3). An examination of educational concepts, with an emphasis on the implications of such concepts with respect to the problems of moral, political and religious education in a secular, democratic society.

313. Social and Political Philosophy. (3). An examination of various philosophical theories of the state and society. Prerequisite: Phil. 121 or equivalent.

Whenever applicable, Philosophy 490 (Special Studies) can be substituted for one or more of the required courses, with the approval of the department. Also, University honors courses having core credit which are taught by the philosophy staff can be included as part of the 24 hour major requirement, with department approval.
325. Symbolic Logic. (3). The logic of truth-function and quantification; relations, identity and definite descriptions. Russell's paradox.

331. Ancient Philosophy. (3). A study of the basic philosophic systems from the pre-Socratic to the Hellenistic Period, with an emphasis on the works of Plato and Aristotle.


334. Late Modern Philosophy. (3). A study of the philosophical thought of the 18th century with selections from such philosophers as Berkeley, Hume, and Kant.

335. 19th Century Philosophy. (3). A study of the philosophical thought of the 19th century including selections from such philosophers as Hegel, Fichte, Schelling, Schopenhauer, Mill, Marx, Kierkegaard, Peirce, and Nietzsche.

340. Epistemology. (3). A critical examination of the nature of knowledge and of the philosophical problems concerning skepticism, knowledge of the self, material objects, other minds, the past, present and future, universals, and necessary truths. Selections from both historical and recent writings. Prerequisite: Phil. 121 or equivalent.

350. Metaphysics. (3). An exploration of some basic topics in the theory of reality. Issues include such notions as space, time, substance, causality, particulars, universals, appearance, essence and being. Prerequisite: Phil. 121 or equivalent.

356. American Philosophy. (3). A study of philosophy in America with readings selected from such authors as Peirce, James, Royce, Santayana, Dewey, Lewis and Quine. Prerequisite: Phil. 121 or equivalent.

360. Ethical Theory. (3). A concentrated study of ethical theory in the context of certain fundamental ethical problems. Prerequisite: 121 or 244 or equivalent.

366. Philosophy of Literature. (3). An exploration of the philosophic themes present in literature. Special attention is devoted to literature as an aesthetic phenomenon and the associated problems of the essential nature of literature as a particular art form, the author's intentions, the criteria of aesthetic appreciation, and literature as knowledge. Emphasis on the special type of literature—poetry, drama, the novel, the short story—is the instructor's choice.

369. Existentialism. (3). An examination of the leading contemporary philosophic movement in Europe as expressed in the writings of Kierkegaard, Nietzsche, Schopenhauer, Heidegger, Sartre, Camus and Jaspers. Prerequisite: Phil. 121 or equivalent.

375. Aesthetics. (3). A study of the various philosophic conceptions of the fine arts, and an analysis of the notions of imitation, imagination, expression, creativity, feeling, intuition and technique, as they relate to the aesthetic context of artist, audience and the work of art.

380. Phenomenology. (3). A study of the phenomenological movement in philosophy, with special attention to its source in Husserl; and an introduction to its recent developments in such thinkers as Scheler, Heidegger, Sartre, Merleau-Ponty, and Straus. Prerequisite: 121 or equivalent.

420. Logical Theory. (3). A study of the views of selected philosophers concerning the nature and function of logic and other selected problems in logical theory. Prerequisite: Phil. 225 or 325, or consent of instructor.
425. Philosophy of Science. (3). Consideration of the presuppositions, results and limitations of the natural and social sciences; the relations among the sciences; the nature of the philosophic problems and scientific methods used.

426. Advanced Symbolic Logic. (3). An axiomatic development of the propositional and first-order functional calculi, including such topics as proofs of consistency and completeness, prenex and skolem normal forms, Lowenheim's theorem, and the decision problem. Prerequisite: Consent of the instructor.

440. Philosophy of Language. (3). An examination of philosophical problems concerning the nature and function of language; discussion of traditional and recent theories of meaning, and the relevance of philosophy of language to other areas of philosophy. Prerequisite: Phil. 225 or 325 or equivalent, or consent of the instructor.

446. Philosophy of Religion. (3). An examination of some basic religious problems such as the nature grounds of religious belief, religious language, the existence and nature of God, human immortality, the problem of evil.

475. Philosophy of the Social Sciences. (3). A study of such topics as the relations of social science with natural science and philosophy, methodological problems peculiar to social science, the nature of sound explanation, concepts and constructs, the roles of mathematics and formal theories in social science.

480. Studies in a Major Philosopher. (3). A concentrated study of the thought of one major philosopher announced by the instructor when the course is scheduled. May be repeated for credit. Prerequisite: Consent of instructor.

490. Special Studies. (3). The instructor will announce the topic for study. May be repeated for credit. Prerequisite: Consent of the instructor.

499. Directed Readings. (1-3). A course designed for the student interested in doing independent study and research in a special area of interest. Prerequisite: Departmental consent. May be repeated for credit.

Graduate Courses

500. Seminar. (3).

501. Selected Topics in Epistemology. (3). The instructor will announce the topic for study. May be repeated for credit with department consent. Prerequisite: Consent of the instructor.

502. Selected Topics in Metaphysics. (3). The instructor will announce the topic for study. May be repeated for credit with department consent. Prerequisite: Consent of the instructor.

506. Selected Topics in Ethical Theory. (3). The instructor will announce the topic for study. May be repeated for credit with department consent. Prerequisite: Consent of the instructor.

510. Directed Readings. (1-3). Repeatable for credit up to six hours. Prerequisite: Department consent.


PHYSICS

Major: The following courses are required for a physics major: General College Physics (123-124 or 243-244), 311, 333-334, 339-340, and 454, Math 335 and 346, and one semester of chemistry. For a Bachelor of Arts degree, one upper division physics laboratory course and three additional hours of physics are required. For a
Bachelor of Science degree, three upper division physics laboratory courses and eight additional hours of physics are required. Also required for the Bachelor of Science degree is a reading knowledge, or two semesters of German, Russian, or French.

**Minor:** A minor in physics consists of General College Physics (123-124 or 243-244) and at least six additional hours of physics.

### Lower Division Courses

103. Introductory Physics. (5). 4R; 3L. A general physics course for liberal arts students and those who have not had physics in high school. Topics to be included are: Mechanics, heat, electricity and magnetism, wave phenomena, and modern physics. Not open to students who can meet the prerequisites for Physics 243. Prerequisite: One year of high school algebra.

110. Introduction to Modern Astronomy. (4). A general survey course in astronomy intended for the liberal arts major with little or no background in the physical sciences or mathematics. Subjects studied will include the characteristics and origin of the solar system; the distribution, characteristics, and evolution of stars and associated objects; and the nature and evolution of the universe.

111. Laboratory in Modern Astronomy. (1). 2L. The application of the techniques and the analysis of the data of modern astronomy. Intended for the student with some background in the physical sciences. Prerequisite: Two semesters of high school algebra or the equivalent or the consent of the instructor. Prerequisite or corequisite: Physics 110.

123-124. General College Physics. (5-5). 4R; 3L. First semester: Mechanics, heat and sound. Second semester: Electricity, light, and modern physics. Intended for students who have a working knowledge of algebra and trigonometry but who have had no calculus. Prerequisite for 123: High school trigonometry or Math 141. Prerequisite for 124: Physics 123 or 243.

243-244. General College Physics. (5-5). 4R; 3L. Intended for students who have had an introduction to calculus. First semester: Mechanics and heat. Second semester: Electricity and light. Prerequisite: High school physics, or Introductory Physics 103, or junior standing in the University. Co-requisite for Physics 243: Math 243. Prerequisite to Physics 244: Math 243 with a grade of C or better and, Physics 123 with consent of department, or Physics 243.

243(E)-244(E). General College Physics Lectures. (4-4). 4R; 0L. The lecture portion of Physics 243-244 and carries the same prerequisites. Open only to engineering students.

261. General Physics Laboratory. (1 or 2). 3L. The general college physics laboratory for students who have taken Physics 243(E) and 244(E) and wish to transfer to liberal arts. Prerequisite: Physics 243(E).

### Upper Division Courses

300. Seminar. (1). Student reports on topics of general interest in physics. May be repeated for credit up to two hours. May not be counted for credit toward a minor in physics. Prerequisite: Completion of, or concurrent enrollment in, an upper division physics course, and consent of instructor.

311. Topics in Modern Physics. (3). An introduction to selected areas of modern physics with emphasis on the features of atomic, nuclear, and solid state physics which require modifications of classical physics for their explana-

* Credit will not be given for both 123 and 243 or both 124 and 244.
tion. Prerequisite: The sequence of 123-124 with a grade of B or better in both, or Physics 244 or department consent. Corequisite: Math 244.

320 & 321. Classical Physics Laboratory. (1-1). 3L. An intermediate laboratory with experiments drawn from the following areas of classical physics: Mechanics, optics, electricity and magnetism. Corequisite: Physics 333 or 345.

333-334. Electricity and Magnetism. (3-3). Direct and alternating currents; electric and magnetic field theory including an introduction to Maxwell's electromagnetic wave theory. Prerequisite for 333: The sequence of Physics 123-124 with a grade of B or better in both, or Physics 244 with a grade of C or better, and Math 244 with a grade C or better.

339-340. Elementary Mechanics. (3-3). Motion of a particle in one and several dimensions; motion of systems of particles; motion of rigid bodies; moving coordinate systems, mechanics of continuous media, and the Lagrangian Equations of Motion. Prerequisite for 339: The sequence of Physics 123-124 with a grade of B or better in both, or Physics 244 with a grade of C or better, and Math 244 with grade of C or better. Prerequisite for 340: Physics 339.

345. Physical Optics. (3). Electromagnetic waves, diffraction and interference, radiation, scattering, and optical properties of solids. Prerequisite: The sequence of Physics 123-124 with a grade of B or better in both, or Physics 244, and Math 244.

350. Thermophysics. (3). The laws of thermodynamics, thermodynamic potentials and applications; distribution functions, Boltzmann equation, transport phenomena and fluctuations; introduction to statistical mechanics. Prerequisite: The sequence of physics 123-124 with a grade of B or better in both, or Physics 244, and Math 244.

380. Special Studies in Physics. (1-5). May be repeated, but total credit may not exceed two hours for physics majors. Prerequisite: Department consent.

402. Numerical Methods in Chemistry and Physics. (2). 1R; 3L. Applications of numerical methods to problems in chemistry and physics. Roots of equations, curve fitting, interpolation, extrapolation and smoothing of experimental data, numerical differentiation and integration, computer programming. Prerequisite: Consent of instructor.

421 & 422. Modern Physics Laboratory. (1-1). 3L. An advanced laboratory with experiments drawn from various areas of modern physics. In 421, the emphasis is on a determination of the fundamental constants of physics. 422 is devoted to experiments in nuclear physics. Prerequisite for either course: Physics 311, and 320 or 321.

425. Electronics. (2). 1R; 4L. Provides a working knowledge of electronic devices and circuits for the student or research worker who has little or no background in electronics. Prerequisite: Consent of instructor.

454-455. Modern Physics. (3-3). Introduction to quantum mechanics, the Schroedinger equation, elementary perturbation theory, one- and multielectron atoms, molecular physics. Prerequisite: Physics 311 and department consent. Physics 454 is a prerequisite for 455.

456. Applications of Quantum Mechanics. (3). Applications of quantum mechanics to problems in solid state and nuclear physics. Prerequisite: Physics 454.

460. Introduction to Theoretical Physics. (3). Techniques of mathematical physics and their application to boundary value problems in mechanics, electricity and magnetism, wave motion, etc. Prerequisite: Consent of instructor.
Graduate Courses


512. Elementary Statistical Mechanics. (3). An introduction to the basic concepts and methods of statistical mechanics with applications to simple physical systems. Prerequisite: Math 346; Physics 340.

515-516. Introduction to Solid State Physics. (3-3). The basic knowledge of the nature and properties of the solid state including the structural, thermal, mechanical, electrical, and magnetic properties. Electron theory of metals, band theory of solids. Prerequisite: Physics 311, or department consent, and Math 346.

521. Individual Readings. (1 to 3). Prerequisite: 30 hours of physics and department consent. May be repeated for credit up to three hours.

529. Selected Topics in Physics. (2 or 3). May be repeated for credit up to six hours. Prerequisite: Department consent.

533-534. Elementary Quantum Mechanics. (3-3). Elementary principles, formulations, and methods of quantum mechanics with special application to atomic and molecular phenomena. Prerequisite: Physics 340 and 454 or department consent, and Math 346.


537-538. Nuclear Physics. (3-3). The nuclear two-body problem and nuclear forces, models of the nucleus, nuclear decay, theory of nuclear reactions, and strange particles. Prerequisite: Physics 455.

550. Seminar. (1). Review of current periodicals. Reports on student and faculty research. May be repeated for credit up to two hours. Prerequisite: 20 hours of physics.

551. Research and Thesis. (1-3). May be repeated for credit up to six hours.

POLITICAL SCIENCE

Major: A major consists of 30 hours. Requirements are as follows: Pol. Sci. 345 or 444; and 447 or 449; three hours each from Groups 2, 3, 4, and 5; and enough additional hours to complete the 30-hour major requirement.

Minor: A minor consists of three hours from Group 1; and 12 additional hours, six of which must be upper division.

(4) International Relations 335, 336, 433, 434, 436.
(5) Public Administration 321, 464, 480, 487.

FAIRMOUNT COLLEGE 149
Lower Division Courses

121. American Political System. (3). An analysis of the basic patterns and structure of the American political system, with emphasis on policies and problems of American politics.

150. Workshop. (1-4). Prerequisite: Consent of instructor.

200. Research Techniques. (3). Introduces the beginning student to research techniques in political science. Recommended for majors.

211. American Democracy. (3). Currents in the development of American democracy with emphasis on the ideas and ideals which have contributed to the development of Americanism and the literature which deals with these currents of thought.

219. State Government. (3). The role of the states in the federal system, and the patterns of politics and institutions in the several states. Particular attention to the State of Kansas. (Formerly offered as Pol. Sci. 319.)

226. Comparative Politics. (3). An analysis of the basic patterns and structures of Western democratic political systems, transitional systems, and dictatorial or totalitarian systems.

227. Comparative Analysis of Western Democracies. (3). Utilizing experience from Great Britain, France, the British-speaking Commonwealth and Western Europe, and analysis of the characteristics of these systems.

228. Autocracy, Dictatorship, and Totalitarianism. (3). An analysis of limited access—mass-participatory—political systems, their traditions and development, with special emphasis on Nazi Germany, Soviet Russia, and Mainland China.

232. Basic Ideas in Political Theory. (3). Introduces the student to recurring themes of political thought, examines their diverse meanings and considers problems that arise when values seem to be in contradiction.

Upper Division Courses

315 & 316. The Presidency, Congress, and Public Policy. (3 & 3). First semester focuses upon the evolution of the Presidential office, the recruitment of Presidents, and the nature of Presidential power. Second semester focuses on the Congress, with particular attention to interest articulation in the legislative process. Either semester may be taken independently of the other, but if both are taken it is recommended that they be taken in sequence.

317. Urban Politics. (3). An analysis of politics in urban areas, including such topics as the nature and distribution of community power, influence, and leadership, the nature of community conflict, the formation of policy, urban problems and political solutions, and trends in urban politics.

318. Political Parties. (3). The role of political parties in the American political decision-making process at the national, state and local levels.

321. Introduction to Public Administration. (3). A general survey of the scope and nature of public administration; policy and administration; administrative regulation and adjudication; organization and management; budgeting and fiscal management; public personnel administration; political, judicial, and other controls over the administration.

330. Soviet Politics and Government. (3). A general introduction to the study of Soviet Russia. Discussion of historic and demographic factors; the Marxist-Leninist ideology; party, state, and legal structure; social structure of the USSR; federalism and the nationalities; industry, agriculture, and trade unions; policy formulation; political power; factors of stability and instability.

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333. Comparative Western Democracies. (3). Comparative studies of selected Western political systems. The student is assumed to have basic knowledge of the structure of prototypes of Western democracies.

335 & 336. International Politics and Institutions. (3-3). First semester: An analysis of the controls governing the nation-state system; special consideration of such concepts as balance of power, collective security, propaganda and diplomacy. Second semester: Emphasis on international law and the development of international organizations. Either 335 or 336, but not both, will be accepted toward a major in history.

339. Government and Politics in Asia. (3). The breakdown of the "colonial" systems during and after World War II. Japan, China, India, Southeast Asia, Southwest Asia. Continuing political instability in Asia. (Formerly offered as Pol. Sci. 229.)

345. Classical and Medieval Political Theory. (3). An analytical study of the major offerings of the Greek, Roman, and Feudal periods. The contributions of Plato, Aristotle, and the Stoics are emphasized in the early period; the works of Seneca, Cicero, and the Roman lawyers during the second; and the juridical impact of the feudal system and the philosophic legacy of the ecclesiastical writers during the third. (Formerly offered as Pol. Sci. 343 & 344.)

360. Primitive Law and Government. (3). Same as Anthro. 360. (See for description.)

400. Ethnic Politics. (3). An intensive analysis of the literature and data on the role of ethnic groups in the political system. Attention will be given to the network of relationships which affect, and are effected by, ethnic groups. Participants in the course will be expected to develop and complete a research project for presentation and evaluation.

420. Politics of Developing Areas. (3). A survey of the political systems in Latin America, Africa, the Middle East, South and Southeast Asia. Special attention to colonialism as a system, the effects of colonialism and patterns of emerging nations.

423. Government and Politics of Latin America. (3). An examination of the political institutions and processes which currently exist in the Latin American republics. Emphasis will be on the social, economic and psychocultural factors which affect these institutions and processes. In addition, students will be given an opportunity to participate in an original research experience.

426. Comparative Politics of the Middle East. (3). An examination of the political institutions and processes of Middle Eastern governments. The social, economic and Islamic cultural factors which affects these institutions and processes will be studied.

433. Policy Development in Foreign Relations. (3). The process of foreign policy making in the American structure of government. Particular attention will be given to the problems of federalism and separation of powers in foreign policy development.

434. Problems in Foreign Policy. (3). Analysis of the alternative courses of action open to the United States in the present international political system.

436. Soviet Foreign Policy. (3). The concept, content, and control of Soviet foreign relations; instruments and tools of Soviet diplomacy; "strategy and tactics"; change and continuity from Russia to Soviet foreign relations and policy aims; execution of foreign policy in selected areas.

440. American Political Behavior. (3). An intensive examination of the patterns of political behavior in the United States through primary and secondary analysis of existent data. Emphasis will be given to the development and presentation of an original research paper.
444. Modern Political Theory. (3). A description and analysis of the works of the principal political theorists of the modern state. Beginning with Machiavelli, the most persistent problems of early and modern nationalism are examined through the writings of Hobbes, Locke, Rousseau, Hegel, Burke, Marx, and others.

446. Seminar on Comparative Marxism. (3). An examination and evaluation of the ideas which have helped to shape the "ideologies" of the various party-states. The contribution of Marx, Engels, Kautsky, Bernstein, Luxemburg, Lenin, Trotsky, Stalin, Mao, Khrushchev, Tito, Togliatti, etc.


449. Approaches to the Study of Political Science. (3). Scope and methods of political science and research techniques designed to prepare the student for either graduate work in political science or administrative research. Prerequisite: Senior standing.

450. Workshop. (1-4). Prerequisite: Consent of instructor.

451. Public Law. (3). An analysis of the role of appellate courts, and especially of the United States Supreme Court, in the American political system. Emphasis is placed upon judicial review of state and federal legislation, the separation of powers, federalism, the taxing power, and the commerce clause.

452. Public Law. (3). An analysis of the role of appellate courts, and especially of the United States Supreme Court, in the American political system. Emphasis is placed upon the guarantees of the Bill of Rights and the 14th Amendment.

454. Judicial Process and Behavior. (3). Focuses upon the behavior and policy-making roles of courts and judges.

458. American Political Thought. (3). Consideration of selected topics in the development of political ideas in the United States.

464. Comparative Public Administration. (3). A study of the administrative systems of selected developed and developing countries with special attention to the various methods and approaches of comparative analysis and to the relationships between administrative institutions and their environmental settings.

477. Introduction to Urban Affairs. (3). An introduction to the study of the metropolis as a social, political and economic system. Prerequisites: Principles of Economics (Econ. 211) and a course in sociology or political science. An interdisciplinary approach. Same as Econ. 477 and Soc. 477.

479. Urban Government Finance. (3). Analysis of urban government expenditure and revenue systems. Introduction to urban financial administration. Same as Econ. 455.

480. Administration and the Policy Making Process. (3). The problems of government encountered in the administration of public policy. The approach will be analytical rather than descriptive. May be repeated for credit.

487. Theory of Administration. (3). A study of organizational theory and the various approaches to the study of organization.

490. Special Topics in American Politics. (3). An analysis of selected topics in American politics in a seminar setting. Content will vary depending upon the instructor, but will include problems of policy (civil rights, business and government, etc.) and of structure (federalism, the party system, etc.). May be repeated for credit.

499. Directed Readings. (2 or 3). A course designed for the exceptional student to meet his needs and deficiencies. May be repeated for credit. Prerequisite: Senior standing and consent.

*Prerequisite may be waived by department consent.
Graduate Courses

500. Advanced Directed Readings. (1 to 3). Prerequisite: Department consent. May be repeated for credit.

501-502. Method and Scope of Political Science. (3-3). The first semester emphasizes philosophy of science and methodology (as distinguished from "method" and "technique"), and exposes the student to recent works of methodological import in the various subfields within the discipline. The second semester will place emphasis on methods and techniques of data collection and analysis in political science. Prerequisite: Department consent.

510. Seminar in Comparative Government. (3). The comparative study of selected aspects of the politics and institutions of foreign governments. Prerequisite: Department consent.

520. Seminar: The Administrative Process. (3). Consideration of the process and environment of administration, with special attention given the role of the executive in policy formulation, organization, planning, budgeting, staffing, coordination, communications, and administrative responsibility. Prerequisite: Department consent.

521. The Budgetary Process. (3). Analysis of the development and utilization of the budgetary process in government administration, with special attention given to the budget in relation to its role in policy formulation. Prerequisite: Department consent.

535. Seminar in International Relations. (3). Analysis of special problems in, and approaches to, the study of international relations. Prerequisite: Department consent.

537. Seminar in Soviet Government. (3). An analysis and evaluation of approaches to the study of the Soviet political system, including in-depth examination of selected facets of the system. Prerequisite: Department consent.

541. Seminar in Urban Politics. (3). An intensive analysis of urban politics with emphasis on individual research projects. Prerequisite: Department consent.

544. Seminar in Political Theory. (3). Emphasizes topics selected for their significance in the development and content of political theory. Prerequisite: Department consent.

545. Seminar in Political Theory. (3). Detailed study of the relevant works of a major political philosopher and his contribution to contemporary thought. Prerequisite: Department consent.

551. Seminar in Public Law and Judicial Behavior. (3). Analysis of special problems in and approaches to the study of legal systems. Emphasis will be given to developing the student's awareness of research in the field. Prerequisite: Department consent.

556. Seminar in American Politics and Institutions. (3). Analytical study, with emphasis on individual research, of selected topics in American political behavior. Prerequisite: Department consent.

574. Internship. (1-6). An intensive applied learning experience supervised by a University department or committee. To receive credit, a student must secure approval of a written report from his own department. Prerequisite: Consent of department.

575 & 576. Thesis. (3-3).
PSYCHOLOGY

MAJOR: The major consists of a minimum of 26 hours and a maximum of 36 hours. Psych. 111 is a prerequisite for all other courses. All majors are required to take Psych. 111, 112, 211, and 212. Students who expect to enter graduate work in psychology should take Psych. 342 and 343. Other courses should be selected with the aid of the adviser.

MINOR: The minor consists of 15 hours and should be fitted to the individual needs with the help of the student's adviser.

Lower Division Courses

111. General Psychology. (3). An introduction to the general principles and areas of psychology.

112. General Psychology Laboratory. (2). 4L. Introduction to scientific method in psychology. Prerequisite: Psych. 111; concurrent enrollment preferred.

211 & 212. Advanced General Psychology. (3-3). A more intensive treatment of the topics of General Psychology. Prerequisite: Psych. 111.


246. Social Psychology. (3). A psychological study of the individual in the social situation. Prerequisite: Psych. 111.

260. Child Psychology. (3). The infant and child with special reference to their behavioral development. Prerequisite: Psych. 111.

275. Psychology of Personality. (3). Theoretical concepts, factors in development, and methods of assessing personality. Prerequisite: Psych. 111.

Upper Division Courses

342. Psychological Statistics. (3). Emphasizes basic quantitative techniques in measurement and evaluation of behavior. Prerequisite: Psych. 112, Math. 121 & 122 or Math. 141.

343. Experimental Psychology. (3). Laboratory study of behavior stressing experimental design and research techniques. Prerequisite: Psych. 112 and 342.

345. Psycholinguistics. (3). Survey of psychological, linguistic and informational analyses of language. Prerequisite: Psych. 211.

346. Advanced Social Psychology. (3). An intensive review of a selected contemporary issue in social psychology. Prerequisite: Psych. 246 and consent of instructor.

350. Physiological Psychology. (3). Physiological factors in behavior. Prerequisite: Psych. 211.

351. Physiological Psychology Laboratory. (3). Instruction in laboratory methods. Each student must carry out his own research project. Prerequisite: Psych. 350.

360. Psychology Tutorial. (3). Selected topics in psychology. (May be repeated for a maximum of six hours credit.) Prerequisite: Average of B in psychology courses which must include Psych. 211 and 212 and consent of instructor.

* With sufficient reason a student may apply for consent of instructor to waive course prerequisite.
370. Comparative Psychology. (3). Behavioral research and principles at different phylogenetic levels. Prerequisite: Psych. 112 and 211.

401. Introduction to Clinical Psychology. (3). Application of psychological principles to the field of problem behavior. Prerequisite: Psych. 275, 444, and 465.

410. History of Psychology. (3). Psychological theory and experimentation from ancient to modern times. Prerequisite: 10 hours of psychology.

443. Operant Conditioning Laboratory. (3). Experimental laboratory stressing analysis of behavior by operant techniques. Prerequisite: Psych. 112 and 211.

444. Introduction to Psychopathology. (3). Individual differences and their relation to "normal" behavior. Prerequisite: Psych. 275.


456. Special Investigation. (1-3). Upon consultation with the instructor concerned, advanced students with adequate preparation may undertake original research in psychological problems. (May be repeated for a maximum of six hours credit.) Prerequisite: 10 hours of psychology and consent of department.

460. Developmental Psychology. (3). Survey of theories of child development and applications to special aspects of the developmental process. Prerequisite: Psych. 260.


468. Human Factors. (3). Explores the impact of modern machines on man and the problems of performance, training, perception, and error resulting from man-machine confrontations. Surveys current literature and experimentation with some attention to industrial design criteria. Prerequisite: Psych. 342 and 343.

469. Human Factors Laboratory. (3). Applications of human factors principles and guidelines. Experimentation, measurement, equipment design, field studies and analysis of complex machines and equipment. Prerequisite: Psych. 468.


498. Introduction to Psychoanalytic Theory. (3). A consideration of the theory and practice of Freud's system, its variants and derivatives. Prerequisite: Psych. 444.

Graduate Courses

500. Research Design in Psychology. (3). Scientific methods, techniques, and designs of psychological research applicable to laboratory, clinical, and field settings. Prerequisite: Consent of instructor.

502. Seminar in Clinical Psychology. (2). Intensive study of clinical theory, research and practice. Prerequisite: Consent of instructor.

* With sufficient reason a student may apply for consent of instructor to waive course prerequisite.
503. Clinical Psychology Laboratory. (2). 4L. Practical experience in the applied aspects of clinical psychology. Includes observation, recording, and interpretation of a wide range of behavior, and communication of findings. Prerequisite: Psych. 502 or concurrent enrollment in 502 and consent of instructor.


512. Cognitive Assessment Laboratory. (2). 4L. Practical experience in administration and scoring of different tools, and in the utilization of data in evaluating behavior. Prerequisite: Psych. 503 and 511 or concurrent enrollment in 511.

515. Clinical Research and Practice. (2). Designed to give the student further experience in clinical skills and clinical research. Enrollment optional during first year for students concentrating in the clinical area but required both semesters of second year. (May be repeated for a maximum of four credit hours.) Prerequisite: Consent of instructor.

517. Assessment of Personality and Human Interaction. (2). Rationale and methods of assessing personality as manifested in patterned regularities of interactive behavior: particular reference to behavior disorder and psychotherapeutic relationships. Prerequisite: Psych. 502 and consent of instructor.

518. Personality and Human Interaction Laboratory. (2). 4L. Research and practicum experience in the measurement and control of human interaction patterns. Prerequisite: Psych. 503 and 517 or concurrent enrollment in 517, and consent of instructor.

520. Graduate Research Seminar. (3). Advanced experimental procedures. Required of all graduate majors in psychology. Prerequisite: Consent of instructor.

525. Seminar in Psychotherapy. (3). A critical survey of theory and research in psychotherapy. Prerequisite: Consent of instructor.

526. Techniques of Behavior Modification. (2). A critical review of theory, research, and practice in behavior modification. Prerequisite: Psych. 465 or equivalent, 503, and consent of instructor.

527. Techniques of Behavior Modification Laboratory. (2). 4L. Practical experience with a variety of techniques. Prerequisite: Psych. 526 or concurrent enrollment in 526, and consent of instructor.

530. Seminar in Community Psychology. (3). Comprehensive overview of theory, research and practice in the emerging field of community psychology from the perspective of general systems theory. Prerequisite: Consent of instructor.

531. Research in Community Psychology. (3). Special topics and group field research projects in community psychology. Prerequisite: Consent of instructor.

532. Practicum in Community Psychology. (3). Supervised practice in such areas as psychological consultation, program evaluation, program development, paraprofessional training, and preventative programs in community agencies and organizations. (May be repeated for a maximum of six credit hours.) Prerequisite: Psych. 530, 531, and consent of instructor.

542. Advanced Psychological Statistics. (3). Design, analysis, and evaluation of behavioral research data. Required of all majors. Prerequisite: Consent of instructor.
544. Seminar in Personality and Psychosocial Disorders. (3). Relationship of normal behavior development and maladjustment; a critical review of theory and research. Prerequisite: Psych. 444 and consent of instructor.

551. Seminar in Physiological Psychology. (3) Intensive study of theory and research in physiological factors in behavior. Prerequisite: Psych. 350 or equivalent and consent of instructor.

560. Systematic Psychology. (3). A critical survey of systems of psychology. Prerequisite: Consent of instructor.


570. Seminar in Current Developments. (3). Intensive study of current issues, techniques, research and application. May be repeated for different topics. Maximum credit six hours. Prerequisite: Consent of instructor.

572. Seminar in Comparative Behavior. (3). Intensive study of theories, methodology and research in laboratory and field investigations of behaviors of different species. Prerequisite: Psych. 370 and consent of instructor.

573. Seminar in Motivation and Emotion. (3). Intensive study of theory and research in motivational and emotional processes. Prerequisite: Psych. 473 or equivalent and consent of instructor.

575-576. Thesis. (2-2). Prerequisite: Enrollment only with written consent of the graduate student committee.

585. Seminar in Perception. (3). Intensive study in theory and research in perceptual processes. Prerequisite: Psych. 485 or equivalent and consent of instructor.

RELIGION

The Department of Religion offers a wide range of courses, in order to enable the undergraduate major to acquire familiarity with the broad phenomena of the world's religions and to become aware of the methods for studying religion.

MAJOR: The major consists of a minimum of 30 hours, 15 of which must be upper division. A maximum of six hours from cross-referenced courses will be accepted. Three hours must be completed from each of the following groups.

2. History of Religion (3) 336, 337.
3. Methodological and Phenomenological Studies (3) 301, 345, 480.
4. Constructive Studies (3) 342, 373, 383, 421, 480.

MINOR: The minor consists of 15 hours in religion, selected in consultation with the department.

Lower Division Courses

111. Religion in America. (3). A survey of the beliefs, practices, and issues current in major American religious bodies with some attention to minor religious denominations such as the Black Church, Christian Science, and the Latter Day Saints.

130. Introduction to Religion. (3). Designed to acquaint the introductory student with some major varieties of religious history, belief, practice and problems, Eastern and Western, with emphasis on the West.

201. Current Religious Issues. (3). A critical study of contemporary issues in the West with some attention to non-Western religions. The relationship of religion to such topics as race, war, secularism, population explosion, and politics will be considered.


260. Western Religious Thought. (3). An historical and critical study of the main currents of thought in the West. Emphasis will be on primary forces and personalities which gave background shape and development to the Hebrew-Christian tradition.

270. Historical Studies: Post-Biblical Judaism. (3). An historic-literary study of Jewish thought from the canonization of the Bible to the present time. Texts, historic settings, personalities and development of ideas and values will be emphasized.

Upper Division Courses

301. Phenomenology of Religion. (3). An observation and analysis of the patterns found in the characteristic religious phenomena (e.g., myths, symbols, rites, institutions), with a view to a systematic understanding of man's religious life as it has expressed itself throughout his history.

305. New Testament Greek I. (3). The essentials of Greek grammar, elementary reading exercises and selected readings in Gospels and Epistles. Completion of two semesters required for credit.


321. Sociology of Religion. (3). (Same as Soc. 321.)

322. Historical Studies: New Testament Backgrounds. (3). A study of selected material from the Dead Sea Scrolls, the Apocrypha and the Pseudepigrapha as well as a consideration of Gnosticism and the mystery religions.

327. Primitive Religion. (3). (Same as Anthro. 327.)

336. Eastern Religions. (3). An examination of the major religious traditions of the East by means of an analysis of their classical writings—e.g., the Upanishadic literature and the Bhagavad Gita (Hinduism); the Dhammapada (Buddhism); the Analects (Confucianism); the Tao Te Ching (Taoism); others.

337. Islam. (3). The religion in its geographical, social, political and cultural context, both Arab and non-Arab.

342. Modern Religious Thought. (3). A critical study of Western religious thought in the 19th and 20th centuries including selections from such theologians as Schleiermacher, Kierkegaard, Barth, Buber, Rahner, and Tillich.

345. Modern Critiques of Religion. (3). An examination and evaluation of the seminal critiques of religion (e.g., Marx, Feuerbach, Freud, Straus, Darwin, Nietzsche) produced by modern Western man.

373. Religion and the Future. (3). An examination of the ways world religions are responding to current technological, cultural and social trends and an
indication of future issues which will call for a response. The relationship between religion and future developments in automation, population explosion, biological engineering, and arms control will receive special attention.

383. Religious Thought and Human Conflict. (3). A critical examination of the relationship between religion and human conflict as expressed in war, revolution, civil strife and interpersonal relationships. Special attention will be given to the ways Western and Eastern religions have justified, tried to limit, or ameliorate human conflict.

421. A Study of Religious Experience. (3). An interdisciplinary study of forms of religious experience such as conversion, mysticism, prayer, worship, and vision. Readings from such representative thinkers as James, Freud, Marx, Otto, Allport, and Maslow will be included.

424. The Reformation. (3). (Same as History 424.)

425. The Problem of Salvation. (3). A comparative analysis of the various answers mankind has given to the problem of the nature of evil and of man's salvation from it, utilizing selections from both East and West, and from both within and outside the specifically religious traditions.

446. Philosophy of Religion. (3). (Same as Phil. 446.)

475. Independent Work. (1-3). Designed for the student capable of doing independent study in a special area of interest. May be repeated for credit. Prerequisite: Consent of instructor.

480. Special Studies. (3). A concentrated study of a contemporary theologian, theological movement or religious issue announced by the instructor when the course is scheduled. May be repeated for credit. Prerequisite: Consent of the instructor.

**ROMANCE LANGUAGES**

**French**

**Major A:** A major in French consists of 24 semester hours beyond French 112 or its equivalent and must include French 220, 333, 334, 336, and an additional upper division French literature course, exclusive of Major Topics. In addition, it is strongly recommended that French majors: (1) Choose a minor in some other foreign language, and (2) elect, where possible, complementary courses in English, history, philosophy, and art history.

**Minor:** The French minor consists of a minimum of 11 hours beyond the 112 level and must include French 220, 221, 225 and one upper division French course, exclusive of Major Topics.

**Major B:** The teaching major in French in either Fairmount College of Liberal Arts and Sciences or in the College of Education consists of at least 50 semester hours chosen from the following categories: At least 24 hours in the language beyond the 111-112 level, as listed under Major A, and

(A) At least 21 hours in a second language as listed under Minor, or

(B) At least 15 hours from one or more of the following related fields: English, history, linguistics, philosophy, political science
(these will be chosen in consultation with the teacher education adviser), or

(C) A totally separate second major as prescribed by the Catalog.

Note: It is strongly recommended that majors who plan to teach French should qualify to teach at least one other foreign language. They must have a 2.75 average in French and departmental approval in order to be admitted to the professional semester. It is further recommended that majors who are planning to teach take French 305 and 330. Secondary Education 442F and 447 are required of all majors and minors seeking a high school teaching certificate. Majors interested in teaching French in the elementary schools will consult the departmental professor in charge of teacher education.

Lower Division Courses

60. French for Graduate Reading Examination. (3). Open to upper division and graduate students only. A reading course designed to prepare students to fulfill department requirements of a reading knowledge of French for the MA or MS degrees. No previous knowledge of French required. Will not count toward a degree.

111-112. Elementary French. (5-5). Speaking, reading, writing, including grammar essentials. Daily classroom and laboratory work required. (In special cases where students with previous credit in high school French feel incompetent to continue with the next sequence course for reasons of a long lapse of time or poor preparation those with one year of high school French may request permission from the department to take 111 for credit and those with two years of high school French to take 112 for credit.)

205. Basic French Phonetics and Pronunciation. (2). Introductory, practical course to improve individual pronunciation: intensive drill of vowels, consonants, and speech patterns. Prerequisite: French 112 or equivalent.

210. Intermediate French. (5). Writing, cultural readings, and speaking, including a general review of French grammar using the oral method. Not open to students with prior credit in French 200, 220 or 221. Prerequisite: Two units of high school French, French 112 with a maximum grade of "C" or credit or department consent. This course is designed primarily for students working to fulfill the liberal arts language requirement.

220. Intermediate French Grammar and Composition. (3). Prerequisite: French 112 or department consent.

221-222. Intermediate French Readings I and II. (3-3). Intensive reading of French literary works. Prerequisite: French 112 or equivalent for French 221, French 221 or equivalent for 222. May be used to meet the foreign literature requirement.

225. Intermediate French Conversation. (2). Oral assignments will involve some regular work in the language laboratory. Prerequisite: French 112 or equivalent.

232. French Civilization. (3). The background of history, art, and institutions. Prerequisite: 221 or department consent.

Upper Division Courses

Upper division courses are given on a rotating basis. French 222 is prerequisite for all upper division literature courses.

315 & 316. Major Topics. (1-2, 1-2). Directed studies in any field or period agreed upon. Total credit not to exceed four hours. Prerequisite: French 221 or department consent.

325. Advanced Conversation. (3). A course designed to increase fluency in speaking French, assignments to include oral reports, dialogues, and work in the language laboratory. Prerequisite: 225 or department consent.

330. Explication de textes. (2). Scrutiny of poetry and prose passages, with a careful study of the contents, style, author, and background. Prerequisite: French 222.


341. Masterpieces of French Literature in English Translation I. (3). A study of French literature from the Middle Ages through the 17th century. Such selected readings as the Song of Roland; medieval romances and legends; the Farce of Maitre Pathelin; the poetry of François Villon; the poetry of the Pléiade; Rabelais; Montaigne; Racine; Corneille; Molière; Descartes; Pascal; La Bruyère. French is not a prerequisite. Does not count toward a French major or minor.

342. Masterpieces of French Literature in English Translation II. (3). A study of French literature of the 18th and 19th centuries. Such selected readings as Marivaux; Montesquieu; Voltaire; L'Abbé Prévost; Jean-Jacques Rousseau; Diderot; Beaumarchais; Stendhal; Balzac; Hugo; Lamartine; Vigny; Musset; Baudelaire; Flaubert; Zola; Mallarmé; Verlaine; Maupassant; Rimbaud. French is not a prerequisite. Does not count toward a French major or minor.

343. Masterpieces of French Literature in English Translation III. (3). A study of French literature of the 20th century up to the present time. Such selected readings as Bergson; Gide; Proust; Valéry; Apollinaire; Giraudoux; Bernanos; Saint-Exupéry; Malraux; Sarthe; Anouilh; Camus; Prévert; Teilhard de Chardin; Ionesco; Robbe-Grillet; Butor; Pagnol; Sarraute. French is not a prerequisite. Does not count toward a French major or minor.

423. Seminar in French. (1-5). Special studies in (1) French language, (2) French literature, (3) French culture and civilization, or (4) methods of teaching French in the elementary and secondary schools. May be repeated for credit. Prerequisite: Department consent.

430. Medieval and Renaissance French Literature. (3).

431. 17th Century French Literature. (3).

432. 18th Century French Literature. (3).

433. 19th Century French Literature. (3).

434. Contemporary French Literature. (3).

435. Introduction to Romance Linguistics. (3). An introduction primarily to the historical phonology and morphology of the romance languages, with particular emphasis on French and Spanish. Prerequisite: French 305 or Spanish 334 or department consent. (Same as Spanish 435).

436. Introduction to Literary Criticism. (3). An introductory course presenting the history and the methods of literary criticism in France. Analysis and
discussion of important trends in French literary criticism. Prerequisite: 330, 333 and 334, or department consent.

**Italian**

There is no major in Italian. A minor in Italian will consist of 12 hours beyond the 112 level and must include Italian 331.


223-224. Selected Italian Readings. (3-3). Intensive reading of Italian literary works. Discussion in Italian, oral and written summaries. Prerequisite: Italian 112 or two units of high school Italian for 223; 223 or three high school units for 224.

225. Intermediate Conversation. (2). Prerequisite: Italian 112 or department consent.

230. Intermediate Italian Grammar and Composition. (3). Prerequisite: Italian 112 or equivalent.

331. Introduction to Italian Literature. (3). Prerequisite: Italian 224 or department consent.

340. Masterpieces of Italian Literature in Translation. (3). Representative selections in English translation from Italian Medieval and Renaissance literature: The works of Dante and other writers in their Medieval context: Boccaccio and the “Waning of the Middle Ages”; Petrarch and the formation of a new, humanistic civilization—reflections and divergences in the 14th, 15th, and 16th centuries. A knowledge of Italian is not a prerequisite. Does not count toward an Italian minor.

**LATIN AND GREEK**

**MAJOR A**: The major in Latin consists of a minimum of 24 hours beyond Latin 112 or its equivalent, to include at least nine hours of upper division courses. It is recommended that Latin majors take History 307, 308, 323, and 324.

A minor in Latin consists of a minimum of 11 hours beyond the 112 level, to include at least one 300-level course.

**MAJOR B**: The teaching major in Latin in either Fairmount College of Liberal Arts and Sciences or in the College of Education consists of at least 50 semester hours to include:

At least 24 hours in the language beyond the 111-112 level, as listed under Major A and

(A) At least 21 hours in a second language as listed under Minor, or

(B) At least 15 hours from one or more of the following related fields: English, history, linguistics, philosophy, political science. (These will be chosen in consultation with the teacher education adviser), or

(C) A totally separate second major as prescribed by the Catalog. It is strongly recommended that majors who plan to teach Latin qualify in at least one other foreign language. They must have a 2.75 average in Latin and departmental approval in order to be
admitted to the professional semester. Secondary Education 442F and 447 are required of all majors and minors seeking a high school teaching certificate.

**Latin**

**Lower Division Courses**


221. Basic Latin Review. (3). Prerequisite: Two units of high school Latin or equivalent.

223. Intermediate Latin. (3). Cicero's orations, essays, and letters. Prerequisite: Latin 111-112 or two years of high school Latin or department consent.

224. Intermediate Latin. (3). Sallust's Catiline and Livy's invasion of Hannibal. Prerequisite: Latin 223 or department consent.

**Upper Division Courses**

Latin 224 or consent are prerequisites to all upper division Latin literature courses, unless otherwise specified.

331. Advanced Latin. (3). Introduction to Latin verse. Prerequisite: Latin 223-224 or department consent.

332. Advanced Latin. (3). Vergil's Aeneid. Prerequisite: Latin 331 or department consent.

333. Roman Comedy. (3).

334. Roman Elegy. (3).

335. Roman Novel. (3).

336. Selected Latin Readings. (3). (a) Golden Age (b) Silver Age.

443. Medieval Latin and St. Jerome. (3). Prerequisite: two 300-level courses or department consent.

444. Latin Prose Composition. (3).

445. Advanced Selected Latin Reading. (3). (a) Golden Age (b) Silver Age.

446. Seminar in Latin. (3). (a) Golden Age, (b) Silver Age.

**Greek**

**Lower Division Courses**


223. Intermediate Greek. (3). Plato and Herodotus. Prerequisite: Greek 111-112.

224. Intermediate Greek. (3). Homer's *Iliad*. Prerequisite: Greek 223.

**Upper Division Courses**

331. Advanced Greek. (3). Sophocles and Euripides. Prerequisite: 224.

332. Advanced Greek. (3). Thucydides. Prerequisite: Greek 331.

**Portuguese**

60. Reading Portuguese. (2). Open to Latin American Studies majors and to upper division or graduate students who need to fulfill departmental require-
ments of a reading knowledge of a foreign language for the MA or MS degrees. No previous knowledge of Portuguese required. **Will not count toward a degree.**

**Spanish**

**Major A:** A major in Spanish consists of a minimum of 24 hours beyond Spanish 112 or its equivalent and must include Spanish 224, 226, 326 and at least nine hours of upper division Hispanic literatures, to include two Survey of Literature courses. Courses in Spanish or Spanish-American history, economics, or art are strongly recommended for all majors. All courses offered in the Spanish department count toward the major in Spanish. With department approval, a maximum of four hours in courses in related fields taken in the WSU Summer Program in Mexico may count toward the Spanish major.

**Note:** Native speakers of Spanish normally will not be permitted to take courses at the 100-200 level and must take a minimum of 12 hours of Hispanic literatures in order to complete a major in Spanish. Students who have completed more than two units of high school Spanish and students who have spoken Spanish natively will consult with a Spanish department counselor before enrolling in Spanish courses.

A minor in Spanish consists of a minimum of 11 hours beyond the 112 level, and must include 223, 226, 230, and one upper division course exclusive of 315.

Native speakers normally will not be permitted to take courses at the 100-200 level and must take a minimum of six hours of Hispanic literatures in order to complete a minor in Spanish.

**Major B:** The teaching major in Spanish in either Fairmount College of Liberal Arts and Sciences or in the College of Education consists of at least 50 semester hours to include: At least 24 hours in the language beyond the 111-112 level, as listed under Major A, and

(A) At least 21 hours in a second language as listed under Minor or

(B) At least 15 hours from one or more of the following related fields: English, history, linguistics, philosophy, political science. (These will be chosen in consultation with the teacher education adviser) or

(C) A totally separate second major as prescribed by the Catalog.

Students who wish to enter the student teaching program must have a 2.75 average in Spanish and department approval in order to be admitted to the professional semester. It is strongly recommended that majors who are planning to teach take Spanish 335 or 426. Secondary Education 442F and 447 are required of all majors and minors seeking a high school teaching certificate. Majors in-
interested in teaching Spanish in the elementary schools will consult the departmental professor in charge of teacher education.

**Lower Division Courses**

111-112. Elementary Spanish. (5-5). Emphasis on the four fundamental skills in language learning: Understanding, speaking, reading, and writing. (In special cases where students with previous credit in high school Spanish feel incompetent to continue with the next sequence course for reasons of a long lapse of time or poor preparation, those with one year of high school Spanish may request permission to take 111 for credit and those with two years of high school Spanish to take 112 for credit.

210. Intermediate Spanish. (5). Spanish review with emphasis on conversation and cultural readings. Prerequisite: Spanish 112 or two units of high school Spanish or department consent. Not open to students with prior credit in Spanish 221. Note: This course is designed primarily for students wishing to fulfill the liberal arts language requirement. It is recommended that prospective majors and minors go directly into Spanish 223, 226, or 230.

223-224. Selected Spanish Readings. I & II. (3-3). Intensive reading of Latin-American and Spanish literary works. Outside readings and reports. Prerequisite: Spanish 112 or two high school units of Spanish for 223; Spanish 223 or three high school units of Spanish for 224.

226. Intermediate Conversation. (2). Prerequisite: Spanish 112 or two units of high school Spanish. Should be taken with Spanish 230.

230. Intermediate Spanish Grammar and Composition. (3). Prerequisite: Spanish 112 or two units of high school Spanish.

**Upper Division Courses**

Spanish 224 is a prerequisite for all upper division literature and civilization courses unless otherwise specified.

315. Major Topics. (1-4). Special studies in (a) language; (b) literary reports; (c) commercial Spanish; (d) the language laboratory; (e) music; (f) composition; (g) problems in teaching Spanish. May be repeated for credit. Prerequisite: Department consent.

324. Advanced Conversation. (3). Prerequisite: 226 or department consent.

326. Advanced Grammar and Composition. (3). Prerequisite: Spanish 230 or department consent.

331. Survey of Spanish Literature. (3). Main currents of Spanish literature from 1700 to the present.

332. Survey of Spanish Literature. (3). Spanish literature from the beginning to 1700. Prerequisite: Spanish 331 or department consent.

334. Contemporary Spanish Theatre. (3).

335. Spanish Phonetics. (2). Prerequisite: Any 200-level course or department consent.

336. Contemporary Spanish Novel. (3). Not open to students with prior credit in 424.

340. Masterpieces of Spanish Literature Through the Golden Age in Translation. (3). A critical study of great literary works such as The Poem of the Cid, The Celestina, Don Quijote, Lazarillo, and the theater of the Golden Age. Knowledge of Spanish is not a prerequisite. Does not count toward a Spanish major or minor.

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341. Spanish Literature Since 1870 in Translation. (3). Reading in English of selected works of important Spanish novelists, poets, and dramatists since 1870 to include Galdós, Unamuno, Benavente, Sender, Antonio Machado, Juan Ramón Jiménez, and Lorca. Spanish is not a prerequisite. Does not count toward a Spanish major or minor.

342. The Contemporary Latin American Novel in Translation. (3). Selected major novelists of Spanish America and Brazil such as Rulfo, Fuentes, Asturias, García Márquez, Carpentier, Mallea, Sábato, Cortázar, and Amado. Does not count toward a Spanish major or minor. A knowledge of Spanish is not a prerequisite.

343. Contemporary Chicano Literature. (3). A study of modern and contemporary Chicano writers in the U. S. to include such writers as Allurista, Corky González, and Octavio Romano. Extensive use of Chicano magazines and newspapers will be made.

420. Great Themes of Spanish Literature. (2). Prerequisite: Any 300-level Hispanic literature course. Not open to students with prior credit in 333.

421. Main Currents of Spanish-American Literature. (3). Prerequisite: Any 300-level Hispanic literature course.

422. Seminar in Spanish. Special studies in (a) Language; (b) Spanish and Spanish-American literature; (c) Spanish and Spanish-American culture and civilization; (d) methods of teaching Spanish in the elementary and secondary schools. May be repeated for credit. Prerequisite: Departmental consent.


426. Spanish Civilization. (3). Intensive study of Spanish culture, including historical and geographical factors in its development, and its contributions to world civilization. Portuguese civilization will also be considered.

427. Ibero-American Civilization. (3). Intensive study of Ibero-American culture, including the historical and geographical factors in its development and its contributions to world civilization.

435. Introduction to Romance Linguistics. (3). An introduction primarily to the historical phonology and morphology of the Romance languages, with particular emphasis on French and Spanish. Prerequisite: French 305 or Spanish 335 or department consent. (Same as French 435.)

**Graduate Courses**

500. Introduction to Research. (1). A course designed to give graduate students basic tools for writing research papers. Includes the preparation of bibliographies, footnoting and basic techniques of literary interpretation.


526. Grammar and Stylistics. (3). Intensive study of advanced grammar and stylistic usage.

531. Seminar in Spanish Literature. (3). (a) Middle Ages; (b) Renaissance; (c) Golden Age theater; (d) Cervantes; (e) modern novel; (f) Generation of '98; (g) Contemporary Novel; (h) 20th century theater; (i) Spanish Romanticism; (j) 20th century poetry.

532. Seminar in Spanish-American Literature. (3). (a) Colonial period; (b) contemporary novel; (c) short story; (d) poetry; (e) modernism; (f) essay; (g) theater.
SOCIOLOGY

MAJOR: A major consists of at least 30 hours including Soc. 211, Soc. 310 and Soc. 445 or Soc. 446. Certain courses in related departments not to exceed six hours, when they meet the particular needs of the student and are approved by his adviser, may be counted on the major. Sociology 120 does not count for major credit. With the exception of SW 214-215, social work courses do not count toward the major.

MINOR: At least 15 hours of sociology, including Soc. 211, and a minimum of six hours of upper division courses. No social work courses may be counted on the minor. Sociology 120 does not count for minor credit.

Lower Division Courses

120. American Society. (3). An analysis of contemporary American society with emphasis on the problems of an urban society. Does not count for major or minor credit.

211. Introduction to Sociology. (3). Introduction to basic concepts, propositions and theoretical approaches of sociology including elementary methods of studying social phenomena. Serves as the basic course for students who intend to take additional courses in sociology.

226. Race Relations. (3). The nature of race; ethnic groups confused with races; interrelations of ethnic groups in the United States and other countries; processes of change; action programs. Prerequisite: Soc. 211.

Upper Division Courses

310. Sociological Statistics. (4). Statistical application to sociological problems. Parametric measures including significance of differences and correlation. Nonparametric measures such as binomial expansion and chi-square. Prerequisite: Soc. 211; Math. 121-122 or 141.

314. Comparative Family Systems. (3). Ethnographic and historical studies of family systems; range of variation; vestiges of older systems in contemporary United States. Prerequisite: Soc. 211.

315. The American Family. (3). Analysis of American family behavior including the selection of marriage partners, the husband-wife, parent-child relationships, and the relation of those patterns of behavior to other aspects of American society. Prerequisite: Soc. 211.

320. The Normative Order and Social Control. (3). Analysis of the development of the normative system, the concept of social control and the breakdown of social order in collective and deviant behavior. Prerequisite: Soc. 211.

321. Sociology of Religion. (3). The function and role of religious belief and religious organization in human societies with special reference to American society. Relation of religious belief and organization to other aspects of the social structure and to social change. Prerequisite: Soc. 211.

322. Deviant Behavior. (3). The structure, dynamics, and etiology of those behavior systems which are integrated around systematic violations of the control norms. Competing theories are presented and evaluated within the context of the assumption that man is a social product. Prerequisite: Soc. 211.

323. Sociology of Law. (3). The study of law and legal institutions within their social context. Prerequisite: Soc. 211.
325. **Formal Organizations.** (3). Characteristics of complex organizations and factors related to their effectiveness. Emphasis on research methods and findings. Prerequisite: Soc. 211.

326. **Political Sociology.** (3). Social bases and consequences of political behavior; the study of power and authority; problems in the development and maintenance of viable democratic political structures; bureaucratic organization and power. Prerequisite: Soc. 211.

327. **Violence and Social Change.** (3). The analysis of the causal processes and functions of extreme and violent political behavior, i.e., revolutionary, insurrectionary and protest movements; includes analysis of consequences for social change. Prerequisite: Soc. 211.

330. **Social Stratification.** (3). An analysis of status, class, and caste in various societies, especially American society. The relationship of stratification to the various social institutions. Prerequisite: Soc. 211.

331. **Population.** (3). The size, composition, distribution, and recent trends in the population of the world and the United States, and the relation of population to world problems. Prerequisite: Soc. 211.

334. **Urban Sociology.** (3). Urban population, urban organization, urban institutions, and programs of city planning. Prerequisite: Soc. 211.

335. **Industrial Sociology.** (3). The work group as a social group, social organization of the work plant, and social factors affecting the worker. Prerequisite: Soc. 211.

338. **Medical Sociology.** (3). An analysis of social and cultural factors related to physical and mental illness; the dynamics of communication and role relationships among patients and medical personnel, and social research and theory relevant to the health professions. Prerequisite: Soc. 211.

339.° **Juvenile Delinquency.** (3). The factors related to juvenile delinquency and the measures of treatment and prevention. Prerequisite: Soc. 211.

340.° **Criminology.** (3). The extent and nature of criminal behavior and societal reactions to it. Prerequisite: Soc. 211.

341.° **Contemporary Corrections.** (3). Historical and contemporary programs for the treatment of offenders, viewed as societal reactions to criminal behavior. Prerequisite: Soc. 339 or 340.

400. **Selected Topics in Sociology.** (3). Study in a specialized area of sociology with emphasis on student research projects. Areas covered will include deviant behavior, political sociology, the family, and others. May be repeated for a maximum of six hours credit. Prerequisite: Soc. 211, consent of instructor and substantive area course.

410. **Introduction to Scientific Method in Sociology.** (3). The development of the problem, techniques of data collection, analysis and presentation. Laboratory work in the form of a completed project required. Prerequisite: Soc. 310.

428. **Social Interaction.** (3). Group effects on the individual. Symbolic interaction theory in sociology with special emphasis on research and findings. Prerequisite: Soc. 211.

445. **History of Sociological Theory.** (3). Analysis of the emergence of sociological theory. Prerequisite: Eight hours of sociology.

446.° **Principles and Concepts of Sociology.** (3). Critical evaluation of major principles and concepts, their derivation and relationship to systematic theory. Prerequisite: Eight hours of sociology.

*Prerequisite may be waived by department consent.
470. Independent Reading. (2-3). Designed for the advanced student capable of doing independent work in an area of special interest. Prerequisite: 15 hours of sociology and instructor's consent.

477. Introduction to Urban Affairs. (3). An introduction to the study of the metropolis as a social, political and economic system. Cross listed as Pol. Sci. 477 and Econ. 477. Prerequisite: Econ. 221 and Soc. 211 or a course in political science.

Graduate Courses

500. Research Methods in Sociology. (3). The application of research methods to sociological data. Includes research design, collection of data, development of questionnaires, schedules and scales, interviewing methods, analysis of data, and summary. Prerequisite: Soc. 410 and department consent.

515. Seminar on the Family. (2). Review of recent research on the family and the theoretical implication thereof. Prerequisite: Soc. 315, 410, and department consent.

520. Seminar in Social Movements. (2). Analysis of the elements in social movements as factors in social and cultural change. Prerequisite: Soc. 320, 410, and department consent.

525. Seminar in Organizational Analysis. (2). Exploration of selected problems in organizational theory based on major theoretical and empirical approaches, both classical and contemporary. Prerequisite: Soc. 325, 410 or department consent.

534. Seminar in Urban Sociology. (3). Independent research projects in urban sociology. Prerequisite: Soc. 334 and/or 477, 410 and department consent.

541. Advanced Seminar on Theories of Correctional Treatment. (3). Evaluation of the range of contemporary theories of individual and group techniques of correctional treatment with special emphasis upon the literature related to process research and outcome research. Prerequisite: Soc. 341 and 410.

547. Recent Developments in Sociology. (2). Major issues, new theories, new techniques of research, new areas of research, new applications. Prerequisite: 15 hours of sociology including Soc. 410 and department consent. May be repeated for credit not to exceed four hours.

570. Independent Reading. (2). Advanced systematic reading in a topical area under the tutorship of a member of the graduate faculty. May be repeated for credit not to exceed a total of four hours. Prerequisite: Consent of department.


SOCIAL WORK

MAJOR: A minimum of 33 hours consisting of the following: SW 214-215, 314, 320, 420, 421-422; Soc. 120 and 315; and Psych. 444.

MINOR: A minimum of 16 hours consisting of the following: SW 214-215, 314, 320 and 421.

Lower Division Courses

214. The Social Welfare Institution. (3). Analysis of social welfare as a social institution including the social, cultural, political, and economic factors affecting policies and programs, with special emphasis on public income maintenance systems. Prerequisite: Soc. 211.

* Prerequisite may be waived by department consent.
215. The Social Welfare Institution. (3). Functional approach to social welfare based on social welfare values and objectives, the helping process and relationship, with special emphasis on selected social problem areas along with community programs designed to resolve them. Prerequisite: SW 214.

Upper Division Courses

314. The Social Work Profession. (3). The development of a theory of practice for social work by use of description and analysis of the objectives, values, roles, settings, and knowledge base of the profession in the provision of services. Prerequisite: Soc. 120, Psych. 111, and SW 214-215*. (Not open to students with credit in SW 311 or SW 312.)

320. Basic Practice Skills in Social Work. (3). An introduction to basic skills intrinsic to all social work practice with concentration on provision of services at the level of interaction between social worker and client, emphasizing the interpersonal modes of influencing individuals and groups in their social situations. Prerequisite: SW 215 and 314.


421. Social Welfare Field Experience. (4). Placement in community social welfare agencies for supervised periods of observation and direct service assignments, with special emphasis on performance of basic practice skills and understanding of the social welfare agency and its role in the community service network. Prerequisite: SW 320, or SW 320 concurrent with SW 421.

422. Social Welfare Field Experience. (5). Placement in community social welfare agencies for supervised direct service assignments, with emphasis on formulation of appropriate goals; selection of various social work roles; and in-depth development of techniques and skills common to practice in the social welfare field. Prerequisite: SW 320, 420, 421 or 420 concurrent with SW 422.

* May be waived by department consent.

SPANISH (See Romance Languages)

SPEECH

Major: A minimum of 30 hours including Speech 111, 221, plus specialization in area (1), (2), (3), or (4) below:

(1) (Public Address): Speech 212, 213, 228, 335, 432, three hours from theater area, three hours from radio-television area, and five to six hours to be elected with consent of the area adviser from 412, 413, 415, 436, 437, 461.

(2) (Theater): Speech 243, 244, 253, 259, 423, 424, plus at least seven hours of electives to be chosen with consent of area adviser from other theater courses. All theater majors will be expected to participate in some area in the production of the University Theater plays, in consultation with the staff.


(4) (General Speech): Speech 212, 213, 143 or 228, 243, 244, 259, 461, 465, and three hours to be elected with consent of the area adviser.
Students completing option (1) must participate in intercollegiate forensics for a minimum of two semesters prior to the senior year.

Students completing option (4) must complete three semesters of cocurricular activities. These may consist of two semesters of intercollegiate forensics and two semesters of theater.

Option (4) is structured primarily for those planning to teach at the secondary school level. However, a student who wishes to teach may also choose option (1) or (2). Students not planning to seek qualification for teaching may substitute within option (4) with the consent of the department. Students planning to teach should also check state certification requirements.


Minor: A minimum of 15 hours selected with the approval of the Department of Speech.

Lower Division Courses

101 & 102, 201 and 202. Debate. (1-1). Research for debates, participation in 30 or more full length debates per year (15 of which must be intercollegiate competition), and debate squad meetings. Prerequisite: Department consent. Maximum credit in debate four hours; not counted toward major.

111. Extemporaneous Speaking. (2). Analysis of audience, selection of subject, choice of ideas, finding and testing supporting materials, organization, and delivery.

114. Broadcasting and the Citizen. (3). Organization, structure, history, social implications of the broadcasting industry.

143. The Art of the Theater. (3). An introduction to the theater as an art form, with emphasis on critical appreciation from the viewpoint of the audience. (Not counted toward theater major.)

212. Persuasive Speaking. (2). Training in influencing human behavior in socially acceptable ways via the spoken word. Prerequisite: Speech 111.

213. Argumentation and Debate. (3). The principles of reasoned discourse. The practices of scholastic forensics for prospective secondary teachers. Prerequisite: Department consent.

214 & 215. Radio Workshop. (1-1). Relation of theory to application at KMUW-FM.

221. Oral Interpretation. (3). The development of the mental, vocal, and analytical techniques essential to the interpretation of literature.

223. Phonetics. (2). The physical properties of speech; the formation of sounds, combination of sounds into word patterns, dialectical variety and transcribing of sounds of American English by use of International Phonetic Alphabet.

224. Radio and TV Production. (3). Production and direction of radio and TV programs, laboratory work, KMUW-FM.

225. Business and Professional Speaking. (2). Prerequisite: Speech 111 or department consent. (Offered only at night.)
226. Parliamentary Law and Procedure. (1). The parliamentary rules governing the order and conduct of meetings, methods of keeping and the writing of minutes and resolutions.

228. Principles of Group Discussion. (3). Development of reflective thinking, group leadership, and effective group participation. Prerequisite: Speech 111 or department consent.

232. Radio-Television Writing. (3). Writing formats, commercials, continuity, and drama for radio and television.

243. Acting I. (3). Emphasis on the internal techniques of acting, on characterization, and on the actor's analysis of the play and the role.

244. Stagecraft. (3). R; L arr. Theory and practice of making, painting, and using scenery for the stage. Practical work on University Theater productions.

253. Costuming for the Stage. (3). R; L arr. Basic principles of costume design and construction. Pattern making, material selection, wardrobe management and organization. Practical experience with University Theater and Experimental Theater productions.

259. Directing I. (3). R; L arr. Basic theories and principles of stage directing; problems of producing the play with practical experience gained by use of the project methods. Prerequisite: 243 or consent.

275. Directed Projects in Theater. (1-4). Independent research or practical and creative projects in the various areas of theater, including performance, design, technical theater, management, and dramatic literature. Prerequisite: Department consent. May be repeated for credit to a maximum of four hours.

**Upper Division Courses**

301 & 302, 401 and 402. Debate. (1-1). Research for debates, participation in 30 or more full length debates per year (15 of which must be intercollegiate competition), and debate squad meetings. Prerequisite: Department consent. Maximum credit in debate, 4 hours; not counted toward major.

314 & 315. Radio Workshop. (1-1). Relation of theory to application at KMUW-FM.

316 & 317. Playwriting I & II. (3-3). The writing of scripts for performance. Emphasis on both verbal and visual aspects of playwriting. If possible, the scripts will be performed. Prerequisites: Engl. 324 and Speech 243 and 259; or consent of instructor. (Same as Engl. 316 & 317.)


322. Radio and Television News. (3). (See Journ. 322.)

335. Survey of Rhetorical Theory. (3). From the Greeks to the Moderns.

343. Acting II. (2). Utilization in scenes of the method gained in 243, with emphasis on styles of acting and on comedy technique. Prerequisite: Acting 243.

344. Advanced Stagecraft. (3). R; L arr. Theory and practice of translating set designs and drawings to the physical stage. Practical experience with University Theatre productions. Prerequisite: Speech 244 with a grade of C or better.

359. Directing II. (2). R; L arr. Staging and rehearsal techniques, with emphasis on the problems of the period and stylized play. Prerequisite: Speech 259 or department consent.

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403-404. Television Workshop. (2-2). R; L arr. The theories, tools, and techniques of television production; studio work as a member of a TV production crew.

405. Radio and TV Station Management. (3). The organization and management of radio and television station; administrative, programming, technical and sales problems, physical facilities. Prerequisite: Department consent.

407. Radio and TV Programming. (3). Planning, developing, scheduling, based upon audience and market analysis, program ratings, principles of evaluation and criticism.

412. Contemporary Theories of Oral Communication. (3). Conceptual models useful in the scientific study of speech and application from selected areas of psychology, sociology, anthropology, and other related fields.

413. Advanced Theories of Argumentation. (3). Intensive examination of the principles and problems of reasoned discourse.

415. Language and Symbolic Processes. (3). Application of the theoretical framework of general semantics, linguistics, and psycholinguistics to the analysis of oral language behavior. Analysis of language usage which leads to conflict, confusion, and misdirection, and development of methods of accuracy and precision in language usage.

421. Advanced Oral Interpretation. (3). Intensive study and analysis of various forms of literature, the techniques of effective oral communication, and the building of the individual or group concert recital. Prerequisite: Speech 221.

423. Development of the Theater I. (3). The history of theatrical activity as a social institution and an art form, from the beginning to the 17th century. Representative plays, methods of staging, and theatrical architecture of various periods.

424. Development of the Theater II. (3). From the 17th century to the present.

425. Dramatic Theory. (3). Critical examination of selected esthetic theories of the theatrical arts; relationship of the theories to major dramatic works and theatrical periods. Prerequisite: Speech 423 or 424 or consent.

432. American Public Address. (3). A detailed study of notable American speakers and their public utterances; their impact on the political, economic, and social history of this nation from Colonial times to the present.

436. Advanced Public Speaking. (3). Theory and practice in the various forms of platform speaking for the academically mature student. Includes such special forms as the after dinner speech, speeches of goodwill, tribute, keynote, and courtesy. Prerequisite: Speech 212.

437. Theory of Mass Persuasion. (2). An analysis of the techniques used in the mass media with special emphasis on the use of spoken language.

444. Scene Design. (3). R; L arr. Fundamentals of scene design. Practical work on University Theater productions. Prerequisite: 244 with grade of C or better; also Engr. Graphic 250, or consent.

445. Stage Lighting. (3). R; L arr. Lighting equipment, light design and its relation to scenery design; emphasis upon the problems in the high school, college, church, etc. Practical work on University Theater productions. Prerequisite: Speech 244 with a grade of C or better.

450. Workshops in Speech. (2-4). (See Sec. Ed. 450.)

453. History of Costume. (3). R; L arr. Historical survey and individual research of dress from ancient Egypt to present day period. Theory and practice
of adapting period styles to the stage. Practical experience on University and Experimental Theater productions. Prerequisite: Speech 253 or consent.

461. Directing the Forensics Program. (2). A study of the problems and techniques of administering secondary school and college forensics activities.

465. Communication Disorders. (3). Problems of the speech defective relative to emotional handicaps, pedagogical retardation, etc. Methods for classroom teacher. Also listed as Logopedics 421.

470. The Audience. (3). Analyses of speech audiences, including those of radio, television, public address, and theater. Demographic and psychosocial dimensions and characteristics. Quantitative and qualitative techniques of audience measurement and evaluations thereof.

472. Practicum in Audience Measurement. (3). Application of research techniques to practical problems in audience measurement. Identification of specific problems. Construction of measuring instruments (e.g., questionnaires), sampling techniques, collection of data, tabulation, analysis, and reports of findings. Prerequisite: Speech 470 or department consent.

475. Directed Study. (1-4). Individual study or projects. Prerequisite: Department consent. May be repeated for credit with department consent.

Graduate Courses

500. Introduction to Graduate Study in Speech. (3). Major emphasis is placed upon the principles of research, bibliographical data, and historical, descriptive, and experimental research methods useful in speech, broadcasting, and drama. This course should be taken at the beginning of the graduate program.

503. Educational and Instructional Broadcasting. (3). Investigation of the methods of producing and using educational and in-school instructional radio and television programs.

506. Regulation and Responsibility in Broadcasting. (3). Government and broadcasting relations; review of basic radio and television law; emphasis on responsibilities of broadcast licensee.

520. Investigation and Conference. (1-3, 1-3). Directed research and experimentation for graduate students in some phase of (a) public address, (b) theater history and production, (c) radio-television or (d) the teaching of speech. May be repeated for credit up to a total of six hours.


524. Development of Modern Theater Styles. (3). An examination of the major movements in the modern theater since 1850. Emphasis is on both literary and physical elements of styles.

530. Theories of Rhetoric: Classical. (3). An intensive study of the rhetorical theories of classical writers from 466 B.C. to the decline of Roman oratory. Principal emphasis will be on Isocrates, Plato, Aristotle, Quintilian, Cicero, and Longinus.

531. Theories of Rhetoric: Medieval, Renaissance, and Modern. (3). A study of the emerging patterns of rhetoric from the Second Sophistic to modern times. Analysis of the rhetorical systems associated with such figures as Augustine, Fenelon, Bulwer, Sheridan, Steale, Rush, John Quincy Adams, Blair, Campbell, and Whately.

560. Seminars in Speech. (2-3). Special seminars designed to treat problems in: (a) public address, (b) drama, (c) radio-television or (d) speech education. May be repeated for credit.

567. Trends in Speech Education. (3). To provide advanced speech students with a background for a philosophy of speech education. Readings and seminar discussions of the philosophical rationales which underlie speech and drama as academic disciplines. History of speech education. Analysis of theories and methods. A comparative study of speech curricula today and projectives to the future.
Named for a prominent Wichita oilman, R. P. Clinton Hall houses the College of Business Administration.
The College of Business Administration has as its primary objective the preparation of young men and women for active, intelligent, and responsible participation in business and community life. Such participation requires that the graduate have an understanding of the world and society in which we live, an understanding of our business and industrial community, and an understanding of the role of the business administrator.

The objectives of the College of Business Administration are, then:

1. To provide the student with some understanding of our world and society, to develop the student's intellectual capacities, and to develop an understanding of his rights and responsibilities as an active member of society.
2. To encourage in the student the habit of orderly thinking and to foster creativity.
3. To equip the student with the fundamental business skills and to develop his understanding of the business process.
4. To prepare the student to make valid business decisions and to increase his ability to communicate with others in the execution of those decisions.
5. To provide the student with a degree of specialized skill or knowledge in a selected area of business.
6. To develop within the student an understanding of and an appreciation for research methodologies.

Undergraduate Programs

The undergraduate curriculum of the college leads to the degree of Bachelor of Business Administration. A two-year program in secretarial training leads to a Certificate of Applied Science in secretarial training.

The college is divided into the departments of accounting, administration, business education, and economics.

Graduate Programs

In recent years additional resources have been devoted to the various graduate programs of the College of Business, paralleling the widening scope and changing characteristics of the research efforts of both graduate students and faculty. The college continually
attempts to expand and improve its research effort and to provide a climate for effective graduate study.

The College of Business Administration offers a course of study leading to a Master of Business Administration degree. This program is designed primarily for students with undergraduate degrees other than the baccalaureate degree in business administration.

In addition, the departments of accounting and administration each offer a course of study leading to the Master of Science degree. The economics department offers courses of study leading to the Master of Science degree and to the Master of Arts degree.

For graduate programs, see the Graduate School Bulletin.

Other Programs

The College of Business recognizes that its urban environment offers many advantages to students interested in the research and study of business problems. The college is also aware that this urban setting imposes many responsibilities. The accelerating technological changes in industry in recent years have been accompanied by social demands which, in part, are a reflection of these changes.

The college feels a responsibility for adding to the total body of knowledge about business and economics. Further, as an urban, state-supported institution, the college feels a responsibility to provide educational programs and specialized services for members of the community and the state who are not full-time students.

In response to community needs, the college maintains an active program of continuing education. Through the Center for Management Development, seminars and other programs are developed to enable businessmen to keep abreast of current developments in specialized areas of the business environment.

Other activities under the auspices or joint sponsorship of the college include the Center for Business and Economic Research, the Center for Economic Education, and the Center for Human Appraisal. In addition, the college publishes a newsletter which periodically reports current developments of interest to the business community.

Accreditation

The college is a member of the American Association of Collegiate Schools of Business and its undergraduate program is accredited by the organization.

REGULATIONS

ADMISSION

Entering freshmen interested in business administration are admitted to the University College and must meet the general entrance
requirements of the University, elsewhere in the Catalog. The program of high school preparation recommended for entering students is given in the University College section of the Catalog.

Students may enter the College of Business Administration from the University College, other degree-granting colleges within the University, or other universities and colleges, provided they have completed 24 semester credit hours and have earned a credit point index as follows: 24-63 hours, 1.70; 64 or more hours, 2.00, and are not on academic probation.

PROBATION
A student will be placed on probation at the end of any semester in which he does not have a cumulative grade point index of 1.70 for 24-63 credit hours and 2.00 for 64 or more credit hours. A student on probation may not enroll for more than 12 semester hours. Probation is removed when the cumulative grade point index reaches the required level. The student remains on probation if he earns at least a 2.00 index in the term during which he is on probation and his cumulative grade point index does not yet meet the minimum standards. No student who enrolls in fewer than seven hours shall be dismissed for failure to raise the cumulative GPA to the required level; however, if the student has earned seven or more hours in two or more terms, he must achieve a GPA for the semesters of 2.00 to be continued on probation.

A student on probation shall be dismissed from the College of Business Administration if he fails to meet either of the requirements of his probationary status. When dismissed, students must apply to the College of Business Administration Exceptions Committee to be considered for readmittance on a final probationary status.

GRADUATION REQUIREMENTS
In addition to fulfilling the general requirements of the University for graduation, each student shall elect at least six hours from the departments represented in Groups I through IV of the prescribed fields of study exclusive of courses in economics.

Candidates for the baccalaureate degree offered by the college shall complete at least 56 semester hours of courses offered outside the college. (Econ. 221 and 222 may count as courses outside the college. Hist. 336, 337, 338 and Pol. Sci. 453 may not count as courses outside the college.) In addition, such students shall complete at least 50 semester hours of courses offered by the college.

A grade point index of 2.00 or better must be earned: (1) on all college work; (2) on all work taken at this University; (3) on all business and economics courses, and (4) on all business and econ-
nomics courses taken at this University which could be applied to the degree sought.

Not more than six hours of the last 30 nor 10 hours of the total number of hours required for graduation may be extension or correspondence courses. Permission of the dean must be secured before taking such courses. No extension or correspondence courses will be allowed that duplicate courses required for any degree granted by the college, courses required for any emphasis within the college, or any junior or senior level courses offered in the college.

A student whose college program has not been interrupted by more than two consecutive calendar years may graduate under the requirements in effect in the college on the date he first entered Wichita State University or the requirements of any subsequent Catalog. If his college program has been interrupted by more than two consecutive years, a student will be subject to the Catalog requirements in effect when he reenters, or if he elects, the requirements of a later Catalog.

RESTRICTIONS

A. Credit/no credit. The following restrictions pertaining to courses taken for credit/no credit shall apply to students enrolled in the College of Business Administration:

(1) No more than six hours of courses taken in the College of Business core may be taken for credit/no credit.
(2) No more than 12 hours of courses offered in the College of Business may be taken for credit/no credit.
(3) No more than six hours may be taken for credit/no credit in any department in the College of Business.

B. Maximum hours in any one department. No student may take more than 48 hours of the 124 required for graduation in any one department, including any courses that may be cross-listed with any other department.

BACHELOR OF BUSINESS ADMINISTRATION DEGREE

All students in the College of Business Administration will design their own course of study from the courses listed in the four major areas below:

(1) Environment of Business.
Choose A or B below.
(A) 9-12 hours * in at least three of the four subdivisions, of which a minimum of nine hours must be in economics and of the nine hours, three must be Econ. 221.
   (1) General macro: Econ. 221, 424.
   (2) General micro: Econ. 222, 320, 421.

* If a student elects the "A" option in one or two of the four major areas, he must take the maximum number of hours required in those areas. If he also elects to take the "A" option in a third and/or fourth area(s), he may take the minimum number of hours in those areas.
(4) Legal, political, social: Adm. 332, 334, Econ. 414, 462.
(B) BA 211-212. (3-3).
BA 317. (3).
(II) Business Functions.
Choose A or B below.
(A) 6-9 hours* in at least two of the three subdivisions.
(2) Finance: Adm. 343, 441, 442, 443.
(B) BA 321. (5).

(III) Quantitative Studies.
Math. 140 and 245. (3 & 3). Required of all students.
(Math. 142 will be accepted in lieu of Math. 245.)
Choose A or B below.
(A) 9-12 hours* with at least three hours in each subdivision (three
hours of which must be Acctg. 213).
(1) Statistics: Econ. 238, 438, Adm. 370, 376.
Operations research: Adm. 371, 456.
(2) Accounting: Acctg. 213, 214, 335, 345.
Information systems: Adm. 375, 471, Acctg. 433.
(B) BA 231-232. (3-3).
BA 233. (3).

(IV) Administrative Processes.
Choose A or B below.
(A) 9-12 hours* in at least three of four subdivisions and of this, three
hours must be Adm. 260.
(2) General organizational behavior: Adm. 362, 363, 364, 365,
367.
(3) Special fields: Adm. 361, 462, 464, 466; Econ. 461.
(B) BA 341-342. (4-4).

Each candidate for the BBA degree shall satisfy the additional
specific requirements of one of the following curricular emphasis:

** ACCOUNTING **

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acctg. 214, Introduction to Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 335, Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 345, Income Tax and Managerial Decisions</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. Electives**</td>
<td>9</td>
</tr>
<tr>
<td>Adm. 334, Law and Business</td>
<td>5</td>
</tr>
</tbody>
</table>

** ADMINISTRATION **

Students must elect an additional 21 hours beyond the college
core from upper division courses (300 and 400 level) in the College
of Business Administration. A minimum of 15 upper division hours
must be taken within the administration department, and the re-
maining six hours may be elected from upper division courses in
accounting, administration, or economics.

* If a student elects the "A" option in one or two of the four major areas, he must
take the maximum number of hours required in those areas. If he also elects to take the
"A" option in a third and/or fourth area(s), he may take the minimum number of hours
in those areas.

** Elective courses should be selected on the basis of the student's career objective in
professional accounting. Consultation with a faculty adviser in the Department of
Accounting is strongly recommended.
ECONOMICS

Within the 124 hours required for graduation, a minimum of 30 hours in economics is required and a maximum of 40 hours in economics is allowed.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ. 414, Gov't Regulation of Economic Activity</td>
<td>3</td>
</tr>
<tr>
<td>Electives in economics (12 hours upper division courses, including not more than six hours from among Econ. 305, 307, and 406)</td>
<td>12-22</td>
</tr>
</tbody>
</table>

BUSINESS EDUCATION

The maximum lower division credit from the Department of Business Education shall be 28 hours. Required courses for the secretarial emphasis are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus. Ed. 133, 138, 237, Typewriting</td>
<td>6-8</td>
</tr>
<tr>
<td>Bus. Ed. 201, Secretarial Office Machines</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 202, Calculating Machines</td>
<td>1</td>
</tr>
<tr>
<td>Bus. Ed. 231, 234, 240, Shorthand</td>
<td>6-9</td>
</tr>
<tr>
<td>Bus. Ed. 136, 203, Records Management and Office Procedures</td>
<td>4</td>
</tr>
<tr>
<td>Bus. Ed. 248, Written Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 345, Transcription</td>
<td>3</td>
</tr>
</tbody>
</table>

CERTIFICATE OF APPLIED SCIENCE IN SECRETARIAL TRAINING

The Certificate of Applied Science in secretarial training provides an opportunity for secretarial preparation of a high quality in a college atmosphere with a view to attaining the Certified Professional Secretary status.

The requirements for the certificate are as follows: Engl. 111; Econ. 221, 222; Acctg. 213, 214; Adm. 120, or 260, or 332; Bus. Ed. 136, 138, 201, 202, 203, 231, 234, 237, 240 or 345 (138, 231, and 234 may be taken in high school), and 248; science or Math. 121; six hours of humanities; nine hours of general University requirements outlined elsewhere in this Catalog, plus sufficient free electives to equal 64 hours. Thirty hours and 60 credit points shall be earned in residence. Twelve of the last 15 hours must be taken in residence. Of the required 64 hours, not more than one fourth of D work will count on the Certificate of Applied Science in secretarial training. If taken in high school, no credit is given for Bus. Ed. 133 or Bus. Ed. 231; business electives shall be substituted for these courses.

BUSINESS TEACHER EDUCATION DEGREE

Students interested in preparing to teach business subjects in high school enroll the first year in University College and then transfer to the College of Education. All students in the University who
receive a certificate to teach must meet the requirements as outlined in the College of Education section of the Catalog.

**Integrative Core Courses**

The following descriptions represent the courses that students may take if they select the “B” option for any of the areas in the College of Business requirement.

**BA 211-212. Economics I-II (3-3).** Study and analysis of the environment of business, labor, government, banking, and other economic institutions. Prerequisite: Closed to students with credit in Econ. 221-222.

**BA 231-232. Quantitative Methods I-II (3-3).** Emphasis on development of a strong conceptual understanding of statistical methodology and a survey of model building and techniques of operations research. Prerequisite: Math. 245. Closed to students with credit in Econ. 238 or Adm. 370.

**BA 233. Concepts and Uses of Accounting Information. (3).** Underlying concepts, processing and utilization of financial accounting information as a part of a managerial information system. Emphasis is on revenue and expense recognition and measurement, asset valuation, and measurement of management's profitability performance. Prerequisite: Sophomore standing. Closed to students with credit in Acctg. 213 or 113 and 114.

**BA 317. Social Environment of Business (3).** Analysis of the social environment of business in its broadest context, including the legal-political system, the social and cultural setting, and the responsibilities of businessmen within this setting. Prerequisite: Closed to students with credit in Adm. 332.

**BA 321. Business Functions (5).** Description, analysis, and integration of all the processes involved in the internal operation of a business, including manufacturing, marketing, and finance. Prerequisite: Closed to students with credit in Adm. 300, 343, or 351.

**BA 341-342. Administrative Behavior I-II (4-4).** Analysis of behavioral concepts from the standpoint of the individual, intra- and intergroup processes, organizations (including strategies for selecting and implementing goals), and the relationships of organizations to cultural systems. Prerequisite: Closed to students with credit in Adm. 260 or 261.

**ACCOUNTING**

An emphasis in accounting may be taken only in the College of Business Administration. The requirements for an emphasis in accounting are listed under the Bachelor of Business Administration degree information.

**MINOR:** A minor in accounting may be taken in the College of Liberal Arts and Sciences. A minimum of 15 hours must be taken, including Acctg. 213-214, and 315-316.

**CERTIFICATE OF CERTIFIED PUBLIC ACCOUNTANT**

The designation “Certified Public Accountant” is available to those individuals who are able to demonstrate basic competence of professional quality in the discipline of accounting. This basic competence is demonstrated by acquiring the body of knowledge common to the professional and passing the CPA examination.
Eligibility requirements for candidates who wish to take the CPA examination are established by Kansas law as follows: (1) Beginning in August 1970, new candidates must possess a baccalaureate or higher degree with a major or concentration in accounting, or what the State Board of Accountancy determines to be substantially the equivalent thereof. After August 1976, this requirement will apply to all candidates who wish to sit for the CPA examination. (2) Candidates who were eligible to take the CPA examination prior to the enactment of the educational requirement in (1) above have until August 1976 to do so. The prior Kansas law specified any one of three admission requirements: (a) proof of college degree, including 30 or more semester hours of accounting, business law, economics, business, and finance, of which at least 20 semester hours must be in accounting; (b) proof of college degree and completion of three years of public accounting experience; or (c) proof of graduation from high school, or an equivalent education and completion of three years of public accounting experience.

The CPA certificate is issued upon (1) successful completion of the CPA examination and (2) completion of two years of public accounting experience. The experience requirement is waived for those candidates who possess a master's or higher degree with a major or concentration in accounting.

Graduates with an accounting emphasis qualify to sit for the Kansas CPA examination; however, the department strongly recommends graduate work leading to the MS degree in accounting to best prepare the student to enter the profession as well as to pass the examination.

**Lower Division Courses**

213. Introduction to Financial Accounting. (3). The study of accounting as a means of communicating financial information about the activities of business enterprises. Emphasis is on concepts and principles underlying the measurement of income and financial position, and how this information may be used to evaluate the progress of a firm. Prerequisite: Sophomore standing or department consent.

214. Introduction to Managerial Accounting. (3). The study of accounting in terms of management's information requirements. Emphasis is on the use of accounting in planning and controlling a firm’s activities. Prerequisite: Acctg. 213 and sophomore standing.

**Upper Division Courses**


335. Cost Accounting. (3). The study of accounting for manufacturing operations, with emphasis on the processing, analysis, and interpretation of cost data.
for income determination, inventory valuation, and internal management use. Prerequisite: Acctg. 214.

345. Income tax and Managerial Decisions. (3). An examination of the federal income tax law relating to business income taxation. Primary emphasis is upon the income tax results of alternative courses of action taken in a business. Prerequisite: Acctg. 213.


413. Principles of Auditing. (3). A study of the accountant’s attest function. Emphasis is on the role of the independent auditor, his legal responsibilities, his code of ethical conduct, and auditing standards, together with technical aspects of attesting to the reliability of financial and other data. Prerequisite: Acctg. 316.

423. Selected Topics in Financial Accounting. (3). Accounting topics associated with revenue recognition under specialized sales situations, financial statement presentation on a nonhistorical cost basis, financial statement preparation from incomplete records, and businesses in distress. Course content will change as financial accounting problems facing the accounting profession evolve. Prerequisite: Acctg. 316.

433. Electronic Data Processing and Accounting Systems. (3). A study of the format and content of accounting systems, reflecting the application of electronic computers to the processing of business data. Includes basic computer programming. Prerequisite: Acctg. 214 or department consent.

445. Advanced Income Tax. (3). Study of the federal income tax law and its relation to individuals and other entities. Designed primarily for those students who wish to work with income tax as part of a career objective. Prerequisite: Acctg. 345 or department consent.

453. Advanced Managerial Accounting. (3). Advanced study of the use of accounting information in financial policy decisions, profit planning and control, quantitative analysis of financial data, and capital budgeting. Includes the application of selected quantitative methods in accounting. Prerequisite: Acctg. 214 or equivalent.

Graduate Courses (courses have been changed, please refer to Graduate Bulletin)

501. Financial Accounting. (3). The basic structure of accounting, income determination, asset valuation, liability recognition, accounting for ownership equity, and the interpretation and analysis of financial statements. Prerequisite: Open only to students without previous credit in accounting or by department consent.

502. Managerial Accounting. (3). Use of accounting data to analyze management problems; concepts of cost analysis, return on investment analysis, operations and capital budgeting. Prerequisite: Acctg. 501 or its equivalent.

510. Accounting Evolution and the Social Environment. (3). Study and discussion of accounting concepts from an evolutionary point of view, emphasizing the interrelationship between accounting and socioeconomic factors. Prerequisite: Undergraduate emphasis in accounting or consent of instructor. Closed to students with credit in Acctg. 511.

515. Theoretical Foundations of Accounting. (3). A systematic treatment of the basic concepts and methodology of accounting theory, and their application to problems of income determination and asset/liability valuation. Prerequisite: Undergraduate emphasis in accounting or consent of instructor. Closed to students with credit in Acctg. 512.

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520. Contemporary Issues in Accounting. (3). A study of current issues in accounting, with emphasis on the releases of the American Institute of Certified Public Accountants and of other professional organizations and governmental agencies. Prerequisite: Undergraduate emphasis in accounting or consent of instructor.

525. Accounting Information Systems. (3). A study of the concepts of information systems, their design and operation, and the relationship of these concepts to the economic information requirements, information flows, decision criteria, and control mechanisms in the business organization. Prerequisite: Undergraduate emphasis in accounting or consent of instructor.

530. Advanced Cost Accounting Theory. (3). An advanced study of theoretical concepts underlying cost accounting, with emphasis on the nature of business costs, establishing a conceptual framework for cost and managerial accounting, and selected problem areas in cost determination and analysis. Prerequisite: Undergraduate emphasis in accounting or consent of instructor.


540. Advanced Principles of Auditing. (3.) An advanced study of auditing theory and problems relating to the accountant's attest function. Prerequisite: Acctg. 413 or consent of instructor. Closed to students with credit in Acctg. 533.

545. Seminar in Income Tax Research. (3). A research course emphasizing the utilization of various income tax research materials in the preparation of written reports on tax problems. Includes a review and discussion of current problems in taxation and tax practice. Prerequisite: Acctg. 445 or consent of instructor. Closed to students with credit in Acctg. 563.

591. Directed Study in Accounting. (1-3). Prerequisite: Department consent. Closed to students with credit in Acctg. 503.

595. Research Seminar in Accounting. (3). An advanced seminar offering opportunity for oral discussion and written reports on matters of current interest in diverse areas of accounting. A major course objective is to develop the ability for independent research and the presentation and defense of findings. Prerequisite: Undergraduate emphasis in accounting or consent of instructor. Closed to students with credit in Acctg. 550.

599. Thesis Research. (3).

ADMINISTRATION

The requirements for an emphasis in administration on a Bachelor of Business Administration degree are listed earlier in this section of the Catalog.

Lower Division Courses

120. Introduction to Business. (3). The concept and function of business management in the capitalistic economic system. Includes the development of concepts of management analysis and action. Not open to upper division students in the College of Business Administration.

161. Decision Making and Society. (3). Deals with the decision making process in our society, both at a theoretical level and as applied in various social institutions.
170. Introduction to Computers. (3). The development, present applications
and future uses of computers in business, education, government, and science.
Analysis of the social, political, and economic significance of computers.

260. Behavioral Concepts in Business. (3). Emphasizes the application of
behavioral concepts to business including: learning, cognitive processes, needs
and need satisfaction, attitudes and values, language and communication, group
dynamics, social structure, and culture. Prerequisite: Sophomore standing.

**Upper Division Courses**

300. Marketing. (3). A description and analysis of our marketing system and
an investigation of the factors affecting management of the major policy areas
of marketing in the firm. Prerequisite: Closed to students with credit in BA 321.

303. Marketing Research. (3). Design of marketing information systems and
marketing research procedures. Prerequisite: Adm. 300 or BA 321 and Econ.
238 or BA 331. (Formerly Adm. 403.)

305. Consumer Behavior. (3). Study of variety of concepts in the behavioral
sciences related to specific topics in consumer behavior, e.g., mass communica-
tions, reference groups, and sociological, psychological and economics aspects
of consumer behavior. Prerequisite: Adm. 300 or BA 321. (Formerly Adm.
405.)

332. Law and Society. (3). An analysis of our legal system in operation.
Includes legal philosophy and the ends of law, the basic characteristics and
subject matter of law, and legal reasoning and process. The role of the legal
system in society is examined through study of the concept of freedom of
contract. Prerequisite: Closed to students with credit in BA 317.

334. Law and Business. (5). The framework of private and public law within
which business operates, including contract law, the Uniform Commercial
Code, corporation law, regulatory aspects, and special topics. (Formerly Adm.
434.)

343. Finance. (3). Corporate organization, types of securities, obtaining short
and long term capital. Includes financial planning and control, forecasting and
budgeting. Prerequisite: Acctg. 213 or BA 233. Closed to students with
credit in BA 321.

351. Industrial Management. (3). The concepts and procedures involved in
industrial management. Prerequisite: Closed to students with credit in BA
321.

361. Administrative Process. (3). An analysis of the administrator and the
environment in which he operates. Prerequisite: Adm. 260. Closed to stu-
dents with credit in BA 341.

362. Authority and Leadership in Organizations. (3). Concepts of authority
and authority delegation. Relationships between organizational power, author-
ity, responsibility, and leadership. Analysis of leadership styles. Prerequisite:
Adm. 260 or BA 341.

363. Organizational Motivation. (3). Theories of human motivation and adap-
tation of these theories to programs of motivation for complex organizations.
Prerequisite: Adm. 260 or BA 341.

364. Organizational Communication. (3). Design of organizational communi-
cation systems. Introduction of communication models, and analysis of the
interpersonal communication process. Prerequisite: Adm. 260 or BA 341.

365. Organizational Conflict and Change. (3). Explores conflicts in organiza-
tions and management's task of stimulating innovation and implementing
change. Prerequisite: Adm. 260 or BA 341.
367. Organizational Design. (3). Includes interrelationships of organization goals, structure hierarchies, and roles. Prerequisite: Adm. 260 or BA 341.

370. Quantitative Methods and Research. (4). A combination of quantitative tools of analysis and research methods in business. Concerned with elementary research procedures, statistics, and modern quantitative methods from the point of view of the management's direction and use of these methods. Prerequisite: Econ. 238. Closed to students with credit in BA 231.

371. Operations Research and Systems Analysis. (3). Operations research and systems analysis as management science. Examination of the theoretical basis of quantitative models of operating systems. Emphasis on the logic of techniques of analysis. Prerequisite: Econ. 238 or BA 231.


376. Administrative Decision Making. (3). Analysis of decision making under conditions of uncertainty with particular emphasis on Bayesian decision processes. Prerequisite: BA 231 or Econ. 238.

401. International Marketing. (3). Problems and procedures of marketing in foreign countries, including effects of foreign cultures and marketing systems on the design of marketing programs. Prerequisite: Adm. 300 or BA 321.

404. Distribution Management. (3). Study of retailing and wholesaling as elements of a distribution system, management of channels of distribution, and physical distribution. Prerequisite: Adm. 300 or BA 321.

406. Creative Marketing Strategy. (3). In conjunction with local firms, groups of class members work as consulting teams to help a particular company study and develop an operable plan or program to handle a specific marketing problem. Prerequisite: Adm. 300 or BA 321.

407. Promotional Management and Market Communication. (3). Establishing objectives and budgets for sales promotion activities. Advertising and sales strategy. Advertiser-agency relationships. Measuring the effectiveness of sales promotional activities. Social and ethical implications of sales promotion, mass communication techniques, and research studies from the social sciences. Prerequisite: Adm. 300 or BA 321.

408. Selling and Sales Force Management. (3). An analysis of current behavioral concepts of personal selling and the problems and policies involved in managing a sales force. Prerequisite: Adm. 300 or BA 321.

409. Price Problems and Policies. (3). An examination of the pricing problems confronting a marketer and an analysis of the policies and decision processes used by manufacturers and middleman in pricing. Prerequisite: Adm. 300 or BA 321 and Econ. 222 or BA 212.

410. Marketing Programs. (3). An integration of all the aspects of the marketing mix into an effective and coordinated marketing program. Prerequisite: Adm. 300 or BA 321 and three additional hours of marketing.

441. Investments. (3). Analysis of investment risks, financial information, and industry characteristics. Examination of corporate, government, municipal, and financial institution securities and of other investment types. Personal portfolio construction, supervision, and management. Prerequisite: Adm. 343 or BA 321.

442. Financial Management. (3). The problems and operations for which the financial officer is responsible, emphasizing controversial aspects of financial analysis. Prerequisite: Adm. 343 or BA 321 and six hours of accounting or department consent.

443. Capital Markets and Financial Institutions. (3). Introduction to the capital markets system. The management and operations of financial institu-
tions. Each major type of financial instruction is viewed in the context of its competitive environment with respect to both asset and liability management. Prerequisite: Adm. 343 or BA 321.

444. Commercial Bank Management. (3). Bank asset and liability management; internal organization of commercial banks; current problems and recent innovations in commercial banking. Prerequisite: Adm. 443.


446. Financing International Operations. (3). Aspects of financial planning for corporations with overseas operations; analysis of sources and uses of corporate funds abroad; effects on international financial administration of the characteristics of foreign money and capital markets and foreign financial institutions. Prerequisite: Adm. 343 or BA 321.

450. Workshop in Administration. (1-6).

455. Materials Management. (3). A consideration of the factors of procurement, inventory control and materials handling in the factory environment. Prerequisite: Adm. 351 or BA 321.

456. Production Analysis. (3). Applications of probability theory and simulation to problems of inventory control, queuing, scheduling, and allocation. Prerequisite: Adm. 371.


462. Personnel Management. (3). Analysis of the functions of personnel management including selection procedures, evaluation of personnel, training, motivation, job evaluation, discipline, and personnel research. Prerequisite: Adm. 260 or BA 341 or concurrent enrollment.

463. Small Group Processes. (3). Effects of small group processes on individuals and organizations. Interaction of work group processes and organizational performance. Leadership and follower roles. Conflict and cooperation within and between groups. Prerequisite: Adm. 260 or BA 341 or concurrent enrollment.

464. Labor Relations. (3). Designed to present the philosophy underlying labor legislation, and the function of collective bargaining in labor-management relationships. Prerequisite: Adm. 260 or BA 341 or concurrent enrollment.

466. Selection, Training, and Placement. (3). Analysis of advanced programs of employee selection, training, and placement. Includes testing, interviewing, counseling, appraisal, job analysis, job design. Prerequisite: Adm. 260 or BA 341 or concurrent enrollment.


481-482. Administrative Policy I-II. (3-3). An integration of all aspects of business administration in the analysis of and making decisions for policy development. Prerequisites: BA 321 or any two of the following: Adm. 300, 343, 351.

490. Seminar in Selected Topics. (1-5). May be repeated by department consent.
Independent Study. (1-5). 2.75 GPA in department. For credit/no credit only. Closed to graduate credit.

Graduate Courses

500. Marketing Systems. (3). All intensive analytical introduction to the combination of institutions which comprise the overall marketing system and to the marketing function as a major subsystem within the individual business firms.

501. Marketing Management. (3). The development of marketing programs or "mixes" to obtain sales and profits under a variety of operating conditions. Concerned with the management of specific problem areas such as product, channels, promotion and pricing.

502. Marketing Strategy. (3). Integration of long-range marketing and corporate policies. Budgetary control and evaluation of the effectiveness of marketing systems. Organization of the marketing department and its relation to the total organization. Prerequisite: Adm. 501 or consent.

503. Marketing Analysis. (3). Application of the scientific method to the solution of marketing problems. Prerequisite: Adm. 501 or consent.

505. Consumer Decision Processes. (3). An examination of different aspects of the behavior of consumers and of the factors that help explain that behavior. Includes an analysis of current concepts and models. Prerequisite: Adm. 501 or consent.

509. Marketing Theory. (3). Utilization of marketing research findings to analyze current marketing theory. Development of conceptual and theoretical frameworks for marketing analysis. Prerequisite: Six hours of marketing including Adm. 501.

532. Law and Society. (3). An analysis of our legal system in operation. Includes legal philosophy and the ends of law, the basic characteristics and subject matter of law, and legal reasoning and process. The role of the legal system in society is examined through study of the concept of freedom of contract. Prerequisite: Consent.

533. Political and Social Environment of Business. (3). An examination of the political and social environment within which business operates. A consideration of how business interacts with society, including the role of governmental and legal constraints, changing social patterns and forces, and competing ideas and values. Prerequisite: Adm. 532 or consent.

536. International Business Administration. (3). An introduction to international business administration with particular attention being given to the development of multinational business strategies in light of the diverse economic, political, social, and cultural dimensions of the environments which exist in both "developed" and "developing" areas of the world.

540. Financial Systems. (3). An intensive analytical introduction to finance from a management viewpoint, including theory of financial management, the financial institutional structure, and an analysis of a variety of practical problems of business finance. Prerequisite: Consent.


542. Structure and Policies of Financial Institutions. (3). The development, management, and impact of policies of financial institutions including planning, measuring, and achieving financial goals. Prerequisite: Adm. 541 or consent.

models. Intensive study of models encompassing interaction of growth rate of firms, rate of return, uncertainty, dividend payout, leverage, and the cost of capital. Prerequisite: Adm. 541 or Adm. 442.

545. Security Analysis. (3). Analysis and valuation of investment securities issued by corporations and governmental agencies. Prerequisites: Adm. 541 or consent.

546. Capital Budgeting. (3). Organization and operation of the capital budgeting system; problems in partial decentralization and in comparability of estimates of funds flow. Contemporary methods of treating uncertainties and constraints; application of programming techniques. Determination of appropriate discount rates. Prerequisite: Consent.


554. Security Analysis. (3). Analysis and valuation of investment securities issued by corporations and governmental agencies. Prerequisites: Adm. 541 or consent.

560. Behavioral Science in Business. (3). Analysis of concepts and tools of psychology, social psychology, sociology, and anthropology that have greatest relevance for business administration.

562. Organizational Behavior. (3). Study in individual behavior in an organizational setting. Analysis of the human variables in business from the standpoint of job placement, performance, and individual development. Topics covered include behavioral development, motivation, and learning in human relations. Prerequisite: Adm. 560 or consent.

565. Communication. (3). Analysis of communication models with emphasis on their applications to communication problems in organizations. Social-psychological processes underlying persuasion in interpersonal relations and through the mass media. Critical analysis of communication systems and techniques within formal organizations. Prerequisite: Adm. 560 or consent.

566. Organizational Conflict and Stress. Studies in flexibility and rigidity. Review of research and thinking in the areas of innovation, conflict, resolution, stress, and anxiety as relevant to organizational structures and behaviors. Prerequisite: Adm. 560 or consent.

569. Research in Behavioral Science. (3). Analysis of some of the concepts and tools in behavioral science that are relevant to research in organizations. May take one or two areas such as motivation, cognitive processes, attitudes and values, etc., and analyze in depth. Prerequisite: Adm. 562 or consent.

570. Survey of Statistical Methods. Intensive examination of statistical methodology applicable to research and decision making.

571. Statistical Analysis and Decision Theory. (3). Probability concepts used in modern decision theory. Topics treated will include: Probabilities as decision data; preposteriori analysis; estimation theory; and statistical significance tests.

572. Advanced Statistical Analysis. (3). Topics such as sample design, chi-square, variance analysis, and correlation and regression analysis are approached from conceptual and decision-making points of view. Prerequisite: Adm. 571.

574. Computer Systems and Procedures. (3). Planning, development, and operation of business computer systems. Emphasis given to information handling and development of real-time management information systems. Study of computer applications in the areas of marketing, production and finance. Consideration of human factors in a man/machine communication system. Prerequisite: Adm. 471 and consent.

575. Management Science. (3). Provides quantitative bases from which the student may develop his analytical abilities for use as a decision maker. Areas of study include: mathematical programming, game theory, forecasting, queuing theory and simulation. Prerequisite: Adm. 571 or consent.

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580. Analysis of Behavioral Systems. (3). Concentration on theoretical and methodological contributions to the understanding of behavioral systems. Critical analysis of models and research methodology on individual behavior, small group processes, and organizations. Prerequisite: Consent.

581. The Philosophy of Management. (3). Concentrated readings and research to define the relation of management leadership to our society. Prerequisite: Consent.


586. Seminar in Research Methodology. (3). Study of concepts and procedures in the design and performance of research.

590. Seminar in Special Topics. (1-3). May be repeated by consent.

591. Directed Studies. (1-5). Prerequisite: Consent.

593. Special Project in Administration. (1-4). May include original case research, supervised internships, or field research. Prerequisite: Approval of the MS Committee.

595-596. Thesis. (2-2).

BUSINESS EDUCATION

Major: The department offers courses of study leading to a major in business teacher education. This degree is granted by the College of Education. (See College of Education section of the Catalog.) The department also offers courses in business education that count on a major for the secretarial emphasis in the College of Business Administration.

Minor for Students Planning to Teach Business Education as a Second Subject in Secondary School: The teaching-minor requirement is 24 hours, including the following: Acctg. 213, 315; Econ. 221; Bus. Ed. 138, 237; and nine hours from accounting, administration, economics, or shorthand, of which one course must be upper division.

Two-Year Program: A two-year secretarial program leading to a Certificate of Applied Science in secretarial training is offered by this department. (See information listed earlier in this section.)

Students who are enrolled for less than nine hours may not enroll in business education courses until the last day of final registration. However, business education courses are open to all University students upon the approval of the business education department. A college graduate is permitted to enroll for shorthand and typewriting with the consent of the department and the dean. For exception to these rules, a written application must be made to the chairman of the department for consideration with the dean of the college concerned. The facilities available determine the enrollment. The decision as to the availability of equipment is made by the chairman of the department and the dean of the College of Business Administration.

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Although students may audit courses in business education, available space in the classrooms is a major factor in the number of auditors. No credit is given toward graduation for repetition of first-year shorthand or typewriting taken in high school even though a grade is recorded in the course.

Lower Division Courses

133. Beginning Typewriting. (2). 3R. Correct fingering, mechanical operation of a typewriter, and introduction to business forms. No credit is given to students with a unit in high school typewriting. (Credit earned in this course does not apply on the Bachelor of Business Administration degree or the Certificate of Applied Science in secretarial training.) In enrolling for this course, preference is given to students specializing in business or pursuing a teacher-preparation program.

136. Records Management. (2). All basic filing systems. Prerequisite: Bus. Ed. 133 or one year high school typewriting, or department consent.

138. Advanced Typewriting. (3). Stress is placed on business, letter, and manuscript forms; tabulation; and timed production problems. Prerequisite: Bus. Ed. 133 or one year of high school typewriting, or department consent.

201. Secretarial Office Machines. (3). 3L. Designed to familiarize students with office machines, including transcribing machines, executive typewriters, duplicating machines, copying machines, and other secretarial office equipment. Some part-time office experience. Prerequisite: Bus. Ed. 237, or department consent.

202. Calculating Machines. (1). 2L. Designed to familiarize students with adding machines, rotary, printing, and electronic calculators. Prerequisite: Department consent.


231. Elementary Shorthand. (3). 5RDL. Theory of Gregg Diamond Jubilee Shorthand. No credit given to student with one unit of high school shorthand. Prerequisite: Bus. Ed. 133, or one unit of high school typewriting, or department consent.


237. Technical Typewriting. (3). Letter forms used in business, difficult tabulating projects, legal typewriting, and advanced timed production problems. Emphasis is placed on accuracy at a high rate of speed to meet office standards. Prerequisite: Bus. Ed. 138 or two units secretarial training in high school, or department consent.

240. Technical Shorthand. (3). 3R; 1L. Advanced dictation with emphasis on technical vocabularies. Prerequisite: Bus. Ed. 234 with a grade of C or better, and Bus. Ed. 237, or department consent.


Upper Division Courses

300. Office Practice. (3). 2R; 1L. Advanced office duties, techniques, and procedures. Also includes various methods of teaching office machines and the
functional use of selected machines as well as a survey of available equipment. Prerequisite: Bus Ed. major or minor with credit in Bus. Ed. 237.

345. Transcription. (3). 2R; 2L. Emphasis on transcribing advanced shorthand notes with speed, accuracy, and correct form. Prerequisite: Bus. Ed. 240 with a grade of C or better, or department consent.

450. Workshops in Business Education. (1-4). Selection of one major area of business education for study in terms of methods, materials, research, and curricular problems. Instructor assisted by guest lecturers. May be repeated for credit. Prerequisite: Teacher certification or department consent.

460. Directed Studies. (1-5).

ECONOMICS

Lower Division Courses

100. Business, Economics, and Society. (3). Study of basic factors of business and economic changes, the role of business leaders, the relationship to the social environment; emphasis on United States development. Not open to upper division students in the College of Business Administration.

175. Economics of Environmental Quality. (3). An introduction to the scientific, engineering, and economic principles needed for the enhancement of the quality of man's total environment. Discussion of air and water pollution, solid waste disposal, water resources and conservation. Course will emphasize various principles of economics such as marginal analysis, benefit-cost analysis, systems approach, externalities as appropriate.

190. Consumer Economics. (3). Consumers role in the economy; market organization and its impact on consumers; discussion of information sources for consumers; analysis of the programs for consumer protection. Not open to upper division students in the College of Business Administration.

211-212. Economics I-II. (3-3). Study and analysis of the environment of business, labor, government, banking, and other economic institutions. Closed to students with credit in Econ. 221-222.


222. Principles of Economics II. (3). An introduction to price and distribution analysis; market structure and performance, contemporary issues and public policy. Prerequisite: Econ. 221. Closed to students with credit in BA 211-212.

235. Introductory Business Statistics. (3). An introduction to the use of statistical methods in economics and business including measures of distribution, elements of statistical inference, simple regression and correlation, index numbers, and time series analysis. Prerequisites: Math. 122, 140, or 141.

Upper Division Courses

305. Economic History of Europe. (3). (History 337.) An analysis of the development of economic institutions; the rise of capitalism and its influence on overseas expansion, technology, precious metals, politics and war; changes in economic ideologies; cultural effects of economic change. Prerequisite: Econ. 221 or BA 221.

307. Economic History of the United States. (3). (History 338). An analysis of the basic factors in economic growth; agriculture, trade and commerce, industrial development, and the changing role of government in economic activity. Prerequisite: Econ. 221 or BA 211.
320. Managerial Economics. (3). Applications of microeconomic theory to the solution of business problems. Prerequisite: Econ. 222 or BA 212.

340. Money and Banking. (3). Principles of money and credit. Evolution of modern money systems. The commercial banking system and the structure and role of the Federal Reserve System. Nonbank financial institutions. Prerequisite: Econ. 221 or BA 211.

360. Labor Economics. (3). Survey of the field of labor economics; labor markets, trade unionism, collective bargaining; wage determination, employment, unemployment, and labor legislation. Prerequisite: Econ. 222 or BA 212.


370. International Economics. (3). A study of the foundations of international trade, tariffs, and other barriers to trade, customs, unions, balance of payments, problems and policies, the foreign exchange market, and the functioning of the international monetary system. Prerequisite: Econ. 222 or BA 212.

400. Seminar in Social Sciences. (3). An interdisciplinary course participated in by staff representatives of the departments of economics, political science, psychology, and sociology. Following a study of the development of the social sciences, an interdisciplinary analysis of a contemporary social problem or institution will be undertaken. Prerequisite: Consent of instructor.


406. Age of Enterprise and Economic Consolidation. (3). (History 436). Economic development of the United States from the Civil War to the present. Prerequisite: Econ. 221 or BA 211.

414. Government Regulation of Economic Activity. (3). A critical appraisal of the objectives and results of government policy and practice in controlling economic activity. Prerequisite: Econ. 222 or BA 212.

415. Economics of Transportation. (3). Study of economic characteristics of transportation modes, problems and policies. Prerequisite: Econ. 222 or BA 212.

416. Economics of Air Transportation. (3). Study of economic characteristics of air transportation. Prerequisite: Econ. 222 or BA 212.

417. Economics of Public Utilities. (3). Study of general economic characteristics and regulation of water, gas, electric, communications, and related industries, including atomic power. Prerequisite: Econ. 222 or BA 212.

421. Production, Price and Distribution Analysis. (3). Analysis of production and pricing by firms and industries and distribution of income to factors of production. Prerequisite: Econ. 222 or BA 212.

424. National Income Analysis. (3). Aggregate economic analysis and examination of policies affecting the level of income and employment. Prerequisite: Econ. 222 or BA 212.

425. History of Economic Thought. (3). A critical analysis of economic thought, the factors which influence this thought, and its impact upon the social and economic development of the modern world. Prerequisite: Econ. 222 or BA 212.

427. Readings in Current Economic Literature. (3). Reading, study, and discussion of contemporary, nontechnical economic literature. Student participation in classroom discussion will be emphasized. Prerequisite: Econ. 222 or BA 212.
438. Intermediate Business Statistics I. (3). Statistical inference, problems of estimation and tests of hypotheses, linear correlation and regression and index numbers to be used as tools of analysis in economics and business. Prerequisite: Econ. 238 or BA 232.


450. Workshop in Economics. (1-6).

453. Public Finance. (3). Analysis of fiscal institutions and decision making in the public sector of the American economy; budget planning and execution; taxation, debt, and fiscal policy. Prerequisite: Econ. 222 or BA 212.

454. Fiscal Policy. (3). The economics of government spending and taxation; analysis of the fiscal role and instruments of government and their effects on the economy. Prerequisite: Econ. 222 or BA 212, and 453.


461. Collective Bargaining and Wage Determination. (3). Economic and legal aspects of collective bargaining, emphasizing the techniques and procedures used, and the major issues and problems inherent in the bargaining process. Manner in which wages are determined under various institutional relationships. Prerequisite: Econ. 222 or BA 212.

462. Public Policy Toward Labor. (3). An examination of federal and state legislation, judicial action and administrative practice directed toward controlling or mitigating problems arising from the labor-management relationship. Regulations in the private sector and employment practices in the public sector will be studied. Prerequisite: Econ. 222 or BA 212.

463. Economic Insecurity and Social Insurance. (3). An examination of the impact of social insecurity and of alternative policies related thereto. Costs and benefits of security programs for the aged, unemployment compensation, workmen's compensation, nonindustrial disability compensation, and other relevant public policy. Prerequisite: Econ. 222 or BA 212.

470. International Trade. (3). Study of the theory of international trade and its empirical foundations. An analysis of private and public barriers to trade, within the context of theory and contemporary events. Prerequisite: Econ. 421 or consent of instructor.

471. Economic Growth and Development. (3). Survey of leading growth theories with an emphasis on the processes of development and capital formation in developed and underdeveloped economies. Determinants of real income, resource allocation, investment criteria, balance of payment problems, national policies, and related topics analyzed within this framework. Prerequisite: Econ. 222 or BA 212.

472. International Finance. (3). Concepts and theories of balance of payments equilibrium, foreign exchange rate determination, and capital movements; current problems and policies related to balance of payments disequilibrium, international liquidity, and the functioning of the international monetary system. Prerequisite: Econ. 421 or consent of instructor.

475. Natural Resources and Regional Planning. (3). A study of the approaches to the optimal allocation of natural resources. Criteria for policy decisions; evaluation of the social and economic benefits and costs of the use of resources through time. Prerequisite: Econ. 222 or BA 212.

477. Introduction to Urban Affairs. (3). An introduction to the study of the metropolis as a social, political and economic system. Prerequisites: Econ. 222 or BA 212 and a course in sociology or political science.

196 COLLEGE OF BUSINESS ADMINISTRATION
480. Risk and Insurance. (3). Economic theory of risk, its significance and treatment; theory and practice of property, liability, life and health insurance. Prerequisite: Econ. 222 or BA 212.

490. Business Forecasting and Demand Theory. (3). An examination of the factors affecting demand with emphasis on changes over time. Prerequisite: Econ. 236 and 222 or BA 232 and BA 212.

491. Directed Study. (1-3). Individual and group study of various aspects and problems of economics. Repeatable. Prerequisite: Department consent. 2.75 GPA in department. For credit/no credit only. Closed to graduate credit.


Graduate Courses


515. Seminar in the Regulated Industries. (3). An intensive analysis of the economic characteristics of the regulated industries; i.e., transportation and public utilities, with emphasis on problems, issues and public policy in these industries. Prerequisite: Econ. 415, 416, or 417.

521. Microeconomic Analysis. (3). An intensive analysis of contemporary literature and problems in the area of production, pricing and distribution. Prerequisite: Econ. 421 or 520 and one course in calculus. (Repeatable with department consent.)

522. Macroeconomic Analysis. (3). An intensive analysis of contemporary literature and problems of national income analysis. Prerequisite: Econ. 424 and one course in calculus. (Repeatable with department consent.)

530. Analysis of Economic Theory. (3). An intensive analysis of micro- and macroeconomic principles. Prerequisite: Department consent.

531. Analysis of Business Conditions. (3). Economic forecasting and its relationship to macroeconomic analysis. Prerequisite: Econ. 530 or equivalent.

534. Managerial Economics. (3). A survey of theoretical and analytical tools of economics which are useful in decision making by managers. Prerequisite: Econ. 222 or BA 212 or Econ. 530.

535. Business and Public Policy. (3). The effects of government regulation, monetary and fiscal policy on business. The social responsibility of business. Prerequisite: Department consent.

536. Methodology of Economics. (3). A study of what constitutes the basis of knowledge in economics. The manner in which the principles of abstract reasoning, deduction and induction, can be applied to produce knowledge in economics. Prerequisite: Econ. 421 and 438.

539. Introduction to Econometrics. (3). Analysis of time series, multiple regression, multiple and partial correlation, analysis of variance and introduction to econometric techniques. Prerequisite: Econ. 438 and one course in calculus.

540. Seminar in Monetary Theory. (3). An examination of neoclassical and contemporary monetary theories. An analysis and evaluation of current monetary problems. Prerequisite: Econ. 222 and 340. (Repeatable with department consent.)

554. Seminar in Public Finance. (3). Analysis of theoretical and applied aspects of public finance in the American and foreign economies. Selected
topics of current and permanent importance. Prerequisite: Econ. 454 or 453. (Repeatable with department consent.)

561. Seminar in Contemporary Issues. (3). Intensive analysis of contemporary problems in the field of labor. The specific nature of the problems will be determined by the interest of those enrolled in the course. Prerequisite: Econ. 360. (Repeatable with department consent.)

570. Seminar in International Economics. (3). An intensive study of the pure theory of international trade, resource allocation, balance of payments adjustments, and economic integration. Considerable analysis is devoted to recent publications on selected topics. Prerequisite: Econ. 470 or 472. (Repeatable with department consent.)

571. Seminar in Economic Growth and Development. (3). Theories of economic growth and development. Selected topics relating to economic growth and development such as national planning, allocation of resources, selection and evaluation of investment projects, and other current issues. Prerequisite: Econ. 471 or 421 and 424.

575. Seminar in Environmental Quality Control. (3). Examination of actual problems, projects, and/or current approaches to environment quality control. Critical look at current happenings and trends. Prerequisite: Econ. 475.

591. Directed Study. (1-3). Individual and group study of various aspects and problems of economics. Prerequisite: Graduate standing and department consent. (Repeatable with department consent.)

592. Group Studies in Economics. (1-3). (Repeatable. Prerequisite: Department consent.)


596. Thesis. (2).
Ablah Library on the Wichita State campus offers the perfect setting for study and research.
Seminar-styled classes in the College of Education provide maximum opportunity for participation.
The principal purpose of the College of Education is to provide professional programs appropriate for the development of competent teachers, administrators, supervisors, and counselors for schools. In addition to preparing broadly educated professionals, the college faculty provides leadership in professional service and research designed to contribute to the improvement of both the schools and teacher education at local, state, and national levels.

The curricula listed in the sections that follow offer an organization of courses which gives opportunity for systematic study. They are oriented from the notion that understanding of self and one's world are necessary bases for professional growth and are arranged to permit the development of (a) understanding of the culture characteristic of a democratic society and education's place within it; (b) a philosophy of education consistent with living within this society (c) an adequate professional preparation and the opportunity to relate content to the problems of living; (d) knowledge of human growth and development, and (e) skills in the application of principles of human learning and adjustment.

ACCREDITATION AND CERTIFICATION

The College of Education is accredited by all the pertinent agencies which accredit the University. Its accreditation by the State Board of Education permits it to recommend to that body the awarding of appropriate teachers' certificates without examination.

Within the college, programs are available leading to the baccalaureate degree and to state teachers' certificates at either the elementary or secondary level. Through the departments within the school of graduate studies, there are course sequences leading to the Master of Arts in education, the Master of Education, the Master of Science Education degrees, and the Specialist in Education degree. Through the Department of Logopedics, the Master of Arts and Doctorate of Philosophy can be earned. Included in these graduate programs are the requirements for certification for elementary principals, secondary principals, supervisory personnel, educational administrators, school counselors and other specialists. (For specific graduate programs, see the Graduate Bulletin.)

The State Board of Education regulates the standards for all teaching certificates. As the minimum requirements change, the curricula provided in this Catalog change accordingly.
REQUIREMENTS

ADMISSION TO THE COLLEGE

Candidates for admission to the College of Education must have met the general entrance requirements of the University and have fulfilled conditions for transferring from the University College:

1. The completion of 24 hours.
2. A cumulative grade point index of 2.00.
3. A grade of C or higher in Eng. 111 or a statement of proficiency from the Department of English.

Probation and Dismissal Standards

It is expected that students will make satisfactory progress in their studies. A student who fails to do so may be placed on probation at any time and ultimately dismissed from the University.

Students in the College of Education, not on probation, who fail to earn a grade point average (GPA) of 2.00 in a semester will be placed on probation for the following semester. At the end of the semester in which the student has been on probation, he will be continued on probation if his GPA for the semester is at least 2.00 and until he reaches a cumulative GPA of 2.00. If he fails to earn at least a 2.00 for any semester on probation, he will be dismissed for poor scholarship. Students on probation may enroll in 13 hours.

A student who has been dismissed for poor scholarship may enroll only with special permission of the committee on admissions and exceptional programs.

ADMISSION TO THE TEACHER EDUCATION PROGRAMS

Admission to this college, however, is tentative, and is not to be construed as approval for one of the teacher education programs. To be admitted as a candidate for a state teacher's certificate approval by the admissions committee of the College of Education must be gained. Application to this committee and qualification by it must be accomplished during enrollment in the course Fd. Ed. 232, Introduction to the Study of Education. Eligibility to enroll in subsequent courses of the professional sequences is determined in this course. These provisions and the requirements below apply as well to teacher candidates enrolled in any other college of the University.

BACCALAUREATE REQUIREMENTS

There are several sets of requirements that must be met to achieve graduation. These apply not only to undergraduates in the College

* Note: No student on probation who enrolls in fewer than seven hours shall be placed on academic dismissal for failure to raise the cumulative grade point index to the required level; however, if such a student has earned seven or more hours in two or more terms, he must achieve a GPA of 2.00 or better in those terms to be continued on probation.

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of Education who are seeking the degree Bachelor of Arts in education but to all who seek the institution's recommendation for a teaching certificate. There are certain differences planned for those who would teach the fine arts and these differences are described in the fine arts section of this Catalog.

A student enrolled in the College of Education must maintain at least a 2.00 grade average. Admission into the student teaching semester requires a grade point average of 2.25 and a 2.50 average in the major field as well as a grade of C or higher in Speech 111 or its equivalent and recommendation of the major department. The requirements for admission to student teaching for logopedics students are listed in the department's program description.

Prospective teachers in the specialized fields of art, music, and special education are subject to certain departmental requirements. Majors in these curricula must also complete general and professional education requirements listed under secondary education. School psychology requires five years.

**ELEMENTARY EDUCATION**

I. The following general program is required of all elementary education candidates:

**General Education**

(66 + 4 hours minimum.) (Must meet minimum requirements in first five areas.)

<table>
<thead>
<tr>
<th>Area</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area I.</td>
<td><strong>SCIENCE-MATHEMATICS</strong> 15-17 hours</td>
</tr>
<tr>
<td></td>
<td>(Two or more divisions—four hour lab. required)</td>
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<tr>
<td></td>
<td>(a) Chemistry, Geology, Biology, Physics</td>
</tr>
<tr>
<td></td>
<td>(b) Mathematics 373-374 (six hours required)</td>
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<td></td>
<td>(c) Engineering 300</td>
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<td></td>
<td>(d) Geography (Physical)</td>
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<tr>
<td></td>
<td>(e) Other</td>
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<tr>
<td>Area II.</td>
<td><strong>COMMUNICATIONS</strong> 8-12 hours</td>
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<tr>
<td></td>
<td>(a) English Composition (six hours)</td>
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<tr>
<td></td>
<td>(b) Speech 111</td>
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<td></td>
<td>(c) Other</td>
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<tr>
<td>Area III.</td>
<td><strong>HUMANITIES</strong> 15-27 hours</td>
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<tr>
<td></td>
<td>(Four or more divisions—12 hours other than Modern Languages)</td>
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<tr>
<td></td>
<td>(a) Literature (six hours required)</td>
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<tr>
<td></td>
<td>(b) History (all)</td>
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<td></td>
<td>(c) Art-Music (No skill courses)</td>
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<td></td>
<td>(d) Philosophy-Religion</td>
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<td></td>
<td>(e) Modern Languages</td>
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<td></td>
<td>(f) American Studies</td>
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<tr>
<td></td>
<td>(g) Humanities 102</td>
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<tr>
<td></td>
<td>(h) Other</td>
</tr>
<tr>
<td>Area IV.</td>
<td><strong>SOCIAL SCIENCE</strong> 15-27 hours</td>
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<tr>
<td></td>
<td>(Four or more divisions)</td>
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<tr>
<td></td>
<td>(a) Psychology 111, 112, 211, 212, 246, 260, 275 (six hours required)</td>
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<tr>
<td></td>
<td>(b) Sociology</td>
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<tr>
<td></td>
<td>(c) Anthropology</td>
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</tbody>
</table>

THE COLLEGE OF EDUCATION 203
II. The following professional program is required of all elementary education candidates:

**PROFESSIONAL EDUCATION**

**Area I. FOUNDATIONS OF EDUCATION** .................................................. 8 hours
  * (a) Introduction to Education 232
  * (b) Educational Psychology 233

**Area II. MAJOR IN ELEMENTARY EDUCATION** .......................................... 28 hours
  * (a) Reading 320a or 320B
  * (b) Science in Elem. School 321
  * (c) Social Studies in Elem. School 406
  * (d) Math in Elem. School 344A or 344B
  * (e) Language Arts in Elem. School 319
  * (f) Teaching the Kindergarten Child 318
  * (g) Student Teaching 447
  * (h) Seminar in Student Teaching 448

**Area III. ALLIED FIELDS** ................................................................. 15 hours
  (Hours used here cannot be used to meet requirements in General Education.) (Student must have three divisions from a, b, c, d, e. Two divisions from f, g, h, i, j, k, l, m, n.)
  * (a) Art 240
  * (b) Children's Literature 216
  * (c) Music 251 and/or 252, 305
  * (d) English 215
  * (e) Physical Education 115, 117, 210, 225
  * (f) Individual Studies 322
  * (g) Anthropology 124, 202
  * (h) Economics 221, 222, 203, 307, 310
  * (i) Geography 125, 210, 342, 364, 402, 422
  * (j) Kansas History 441
  * (k) Political Science 121, 211, 219
  * (l) Sociology 111, 210, 226, 315, 320, 322, 334
  * (m) U. S. History 131, 132, 314, 432, 433, 444
  * (n) Logopedics 421

**RELATED FIELDS OF STUDY IN EDUCATION** ........................................... 1-13 hours
  (Not required on elementary major.) May be used in lieu of electives in Area VI.
  **Area I. Physical Education**
  **Area II. Library Science**
  **Area III. Early Childhood Education**

**TOTAL HOURS** .......................................................... 124 hours
**UPPER DIVISION** ............................................................ 40 hours

**SECONDARY EDUCATION**

All prospective secondary education graduates must satisfy the general requirements of the University as they are distributed in

* Specific requirements.
section I below; must complete one of the professional sequences as set out in sections II and III below, and must fulfill the teaching specialty emphasis of a program as specified in the teaching field section which follows: Only those specialties listed among the combined curricula and departmental majors and minors in that section may be counted.

I. The following general program is required of all secondary education candidates:

Area I. **Mathematics and Natural Sciences** ........................................ 12 hours
A minimum of four hours must be a laboratory science. Must include courses from two of the four areas of biological science, physical science, mathematics and Engineering 127, 225, or 300.

Area II. **Communications** ................................................................. 8 hours
(a) English 111, 211, 225, 311, 312, 313, 314 (six hours)
(b) Speech 111 (two hours)

Area III. **Humanities** .................................................................12 hours
(a) Literature (English or Foreign) (six hours)
(b) Options (Two divisions)
   1. History 101, 102, 103, 104, 113, 114, 131, 132, all upper division courses except 300 and 498
   2. Art—All Art History courses except 407g and 463; Music—113, 114, 161, 315, 316, 331, 332, 493; ensembles and applied music where background justifies; Speech 143
   3. Philosophy all courses; Religion all courses
   4. Humanities 102
   5. American Studies—all courses except 498 and 499

Area IV. **Social Science** ............................................................. 12 hours
(Courses must be taken in at least three of the five divisions. Psych. 111 is required.)
(a) Psychology 111, all other courses
(b) BA 211, 212; Economics 211, 212, 221, 222 and any upper division economics course
(c) Political Science; all 100 and 200 level courses except 150 and 200
(d) Sociology 111; all others after first course
(e) Anthropology; all courses
(f) (History may be added for three hours credit)

Area V. **Electives** (may include courses in the major) ................... 6 hours

Area VI. Four hours of electives in courses offered by any department except the student’s major department. (Exception: Music majors may take marching band, and physical education majors may take physical education in the 101-108 series under this section.) These electives may include courses in aerospace studies, military science, physical education, and marching band.

II. The following program is required of all who plan to qualify for the standard secondary teaching certificate, except those enrolling in 3 below:
   (A) Study in a major field normally taught in secondary schools.
   (B) Study in at least one minor field. In no case will the minor consist of less than 15 semester hours. No minor is required if an area major of 50 hours is elected.
   (C) Complete the following sequence in professional education:

Area I. **Educational Psychology** ........................................ 6 hours
Ed. Psych. 333 and 433 *

* Taken in the professional semester.
Area II. Foundations of Education ........................................... 6 hours
Ff. Ed. 232 and 428

Area III. Secondary Education ............................................. 11 hours
Sec. Ed. 442 * and 447 *

(D) Electives to complete the minimum program of 124 hours.
(See University regulations concerning upper division courses.)

III. Those planning to teach in the junior high school will qualify for the standard secondary teaching certificate as follows:
(A) Study in the "junior high school core" in lieu of a major field and (B) of Area II, above.

GROUP 1

The American Culture ....................................................... 40 hours
(Including 10 upper division hours.)
Engl. 215, 251, 252, 262; Speech 221 and 228; History 102;
Soc. 111; Art 165 or 303; Pol. Sci. 121; History 131-132 or 313-
314, or 431-432; and elect from Phil. 356; Eng. 301, 302, 303,
461; History 433, 436, 437, 444, 447, 448; Anthro. 309, 310, 323,
336, 337; Pol. Sci. 458, 459.

GROUP 2

The Physical World ......................................................... 22 hours
Intermediate algebra, and geometry completed on high school
or college level; Math. 121 and 122, or Math. 373 and 374; Sci.
Sur. 101 and Biol. 100; one laboratory science course of no fewer
than four hours, though the total shall be 15 hours—from the sci-
ces; PE 212 or 225, and 210 or 400. (These may overlap I
above.)

IV. Teaching Fields

The major is generally made up of not fewer than 30 semester
hours. (For specific exceptions see mathematics, language, and the
combined curricula programs.) The student may elect one of the
majors listed under Departmental Majors and Minors later in
this section, which are offered in the Fairmount College of
Liberal Arts and Sciences, College of Fine Arts, College of Business
Administration, or the College of Education. The student must
meet the specific course requirements of the department in which
the major is offered. For example: A student may elect to major
in history because he wishes to become a high school history teacher.
To do so he must complete the history major as prescribed by the
history department in Fairmount College of Liberal Arts, and
Sciences. In addition he will complete University core curriculum
requirements (the same courses may be used both to develop a
major and to satisfy core requirements), the professional education
sequence, and other requirements for the teacher's certificate prior
to graduation. Each student should work closely with a College

* Taken in the professional semester
† May be taken during the professional semester or student may elect Ff. Ed. 427 out-
side the professional semester.
of Education advisor to be sure that he meets certification requirements. A check sheet of all requirements is available from the College of Education in the dean’s office.

**COMBINED CURRICULA**

The teaching assignment after graduation often involves a combination of subjects more or less closely related. For this reason intensive study in the combined disciplines listed below is offered in lieu of a departmental major and minor. Students should work closely with advisers to insure proper course selection for certification.

**BUSINESS EDUCATION**

**Major:** Teachers of the business subjects in high school of Kansas are required to have 21 semester hours in the field with the equivalent of six semester hours in each subject taught, of which at least two semester hours must be resident college credit in other than the beginning course.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Accounting 213 and 315 †</td>
<td>6</td>
</tr>
<tr>
<td>Administration</td>
<td>9</td>
</tr>
<tr>
<td>Behavioral Concepts in Business 260</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 300</td>
<td>3</td>
</tr>
<tr>
<td>Law and Society 332</td>
<td>3</td>
</tr>
<tr>
<td>Economics 221-222</td>
<td>6</td>
</tr>
<tr>
<td>Business Education</td>
<td>24</td>
</tr>
<tr>
<td>Typewriting</td>
<td>6</td>
</tr>
<tr>
<td>† Shorthand</td>
<td>6</td>
</tr>
<tr>
<td>Office Practice</td>
<td>3</td>
</tr>
<tr>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>Office Machines 201</td>
<td>3</td>
</tr>
<tr>
<td>Calculating Machines 202</td>
<td>1</td>
</tr>
<tr>
<td>Records Management</td>
<td>2</td>
</tr>
<tr>
<td>Electives: Two upper division business courses in any area</td>
<td>6</td>
</tr>
</tbody>
</table>

**Minor:** Accounting 213, 315; Economics 221, Business Education 138, 237; and nine hours from accounting, administration, economics or shorthand, of which one course must be upper division.

**NATURAL SCIENCES—BIOLOGICAL**

Teachers in Kansas schools are required to have 24 hours in the field of science with 12 hours in each subject taught. A teacher qualifying under this provision may also teach general science. Requirements for the major listed below include the general graduation requirements 1 and 5 of the College of Education.

**Major:** Required—Biol. 111, 112, 201, 309, or 310, 329 or 330, plus seven hours of upper division biology. Chem. 111, 112, 231,
232 or the equivalent, and either a physics or geology option (Physics 123 and 124 or Geol. 111 and 112).

MINOR: Biol. 111, 112, 201, and at least four hours of upper division biology; and five hours of chemistry or physics. Students should not elect this minor if they are majoring in one of the sciences. Those who do may use the same course for both major and minor requirements only if they select additional hours equal to those taken to satisfy both the major and minor requirements.

NATURAL SCIENCES—PHYSICAL

The teaching requirement set forth in the biological science field applies to the physical sciences as well. Requirements for the major listed below include also the general graduation requirements 1 and 5 of the College of Education.

MAJOR: Required—Biol. 111, 112; Chem. 111, 112; Geol. 111; Phys. 123, 124; and 10 hours from the following, including at least five hours from one department (specific course prerequisites must be met): Chem. 231, 232, 302, 304, 323, 324, 411, 412; Geol. 331, 335, 336, 337, 446; physics, any of the upper division courses.

MINOR: The minor shall consist of at least 15 hours beyond the general graduation requirements, including three hours of upper division credit from chemistry, geology, or physics. Students should not elect this minor if they are majoring in one of the sciences. Those who do may use the same course for both major and minor requirements only if they select additional hours equal to those taken to satisfy both the major and minor requirements.

SOCIAL STUDIES

To teach any of the social sciences, 36 hours in the field of social studies are required for certification with a minimum of six hours preparation in each specific subject taught, with the exception of American history, political science and other courses in history which require a minimum of 12 hours in the specific field taught. Requirements for the major may overlap general graduation requirements 3, 4, and requirement 5 of the College of Education.

MAJOR: Required—Econ. 221 and 222, and three hrs. upper division economics; Hist. 101, 102, 131, 132 or Hist. 311, 312, 313 and 314; Pol. Sci. 100, 121, 211 and 336; Soc. 111; Anthro. 124 or 202; Psych. 246 or Soc. 320; Geog. 125 and 201 or 210. In addition to these courses a minimum of nine semester hours shall be selected from one of the four options:

Options

(A) Hist. 432, 433, 438, 448.
(B) Hist. 331, 333, 431, 437.
(D) Courses listed in the minority studies section of the College of Liberal Arts and Sciences portion of the Catalog.

MINOR: Econ. 221, and three hours upper division economics; Hist. 131, 132; Pol. Sci. 100, 121; Soc. 111; Anthro. 124 or 202, and one course from Option (A), (B), or (C) above. Students majoring in history or political science should not elect this minor. Those who do may use the same courses for both major and minor requirements only if they select additional hours equal to those taken to satisfy both the major and minor requirements.

V. DEPARTMENTAL MAJORS AND MINORS

Selection of teaching fields for the junior or senior high school must be made with an academic counselor representing the College of Education. The teaching field or major should be declared not later than the beginning of the junior year.

The student who wishes to become a secondary teacher may elect his major and minor from the following fields. Only those marked with an asterisk (*) will be accepted as a major by the College of Education. Any of the following fields is suitable as a supporting minor. The specific course requirements of the department from which the major work is taken will prevail:

| Accounting | *American Studies | Journalism | *Logopedics |
| Anthropolgy | *Art | *Mathematics | *Physics |
| Biology | *Business Education | *Natural Sciences—Biological | *Physical Education |
| *Chemistry | *Classical Languages | *Natural Sciences—Physical | Psychology |
| Economics | *Economics | Philosophy | Religion and Philosophy |
| *English Language and Literature | *French | *Political Science | Social Studies |
| *Geology | *German | *Psychology | Sociology |
| Geography | *History | *Spanish | Speech |
| *Industrial Education | | |

AEROSPACE STUDIES

AIR FORCE ROTC

The purpose of Air Force ROTC is to select and prepare qualified University students for careers as commissioned officers in the United States Air Force. The objective of all courses in aerospace

† Needs no minor if a 50 hour field major is outlined in consultation with a College of Education adviser.
‡ Teaching preparation for a modern language requires 24 semester hours in the language to be taught or 15 semester hours if the prospective teacher has 24 semester hours in another modern language.
§ Religion must be combined with Philosophy on minor—no more than eight hours religion will count towards degree.

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studies is to strengthen the general education base of students who are to become junior commissioned officers. Following conferral of a degree and successful completion of prescribed AFROTC requirements, a cadet is commissioned a second lieutenant in the United States Air Force. Uniforms and aerospace studies texts are provided at no expense to members enrolled in aerospace studies courses. The Department of Aerospace Studies is staffed by active duty officers and noncommissioned officers to conduct the two-year and four-year AFROTC programs.

FOUR-YEAR PROGRAM
The four-year program consists of the general military course (GMC) for freshmen and sophomores and professional officer course (POC) for qualified students with two years of academic work remaining.

(1) General Military Course: The two-year GMC consists of one lecture hour and one corps training hour per week.

(2) Professional Officer Course: The POC consists of three lecture hours and one corps training hour per week. POC students in the four-year program must attend a four-week field training course (summer camp) at an Air Force Base, normally between the second and third years of the AFROTC program. To qualify for acceptance into the POC a student must:

(a) Have four semesters of study remaining at undergraduate or graduate level or a combination of both as a full-time student.
(b) Complete the GMC or have been granted equivalent credit.
(c) Pass the Air Force Officer Qualifying Test (AFOQT).
(d) Have a scholastic GPA of 2.0 or above.
(e) Be physically qualified.
(f) Complete required processing.
(g) Be selected by a board of officers.

TWO-YEAR PROGRAM
The two-year program consists of only the professional officer course. Students participating in this program must successfully complete a six-week field training course (summer camp) at an Air Force base prior to acceptance into the POC. Two-year POC students do not attend the four-week field training course required of four-year students. Additional requirements for enrollment are identical to those listed for the four-year program except that completion of the GMC is not required.

FLIGHT INSTRUCTION PROGRAM
Qualifying male POC students may participate in the flight instruction program (FIP) during the second year of the POC. Approximately 72 hours of specialized instruction is provided. Thirty-six hours of ground training and approximately 36 hours of flying instruction by an approved FAA school provide the student an opportunity to qualify for a private pilot's license.
PAY AND ALLOWANCES

POC students are entitled to receive $100 per month for a maximum of 20 months. A student in the four-year program receives approximately $250 for the four-week field training course (summer camp) attendance plus a travel allowance of six cents per mile to and from the encampment. A two-year applicant receives approximately $400 for the six-week field training course attendance plus a similar travel allowance to and from camp. Upon entering active duty the new officer receives a $300 uniform allowance. Total pay and allowances for students completing AFROTC will normally exceed $2,000.

AFROTC COLLEGE SCHOLARSHIP PROGRAM

Students enrolled in the four-year program may be eligible for scholarships which provide full coverage of general academic fees, laboratory expenses, incidental fees, book allowances, and $100 per month. Applicants are selected on the basis of scores on a qualifying test, quality of academic work, and rating by an interview board. Applications from AFROTC freshmen, sophomores, and juniors are normally submitted near the end of the fall semester. Additional scholarships designed for AFROTC cadets are listed under “Financial Aids and Awards” of this Catalog.

EXTRACURRICULAR ACTIVITIES

Field trips to various Air Force installations and activities are scheduled throughout the year for members of AFROTC. A flight orientation program is conducted to provide flight experience for interested cadets. Arnold Air Society, an honorary cadet organization, pledges AFROTC students for membership each semester. Additional activities with the Color Guard and cadet newspaper are also available for interested students.

Lower Division Courses

113 & 114. U. S. Military Forces in the Contemporary World. (1-1). IR, 1R/L. The first year general military course (GMC) is a study of the doctrine, mission, and organization of the United States Air Force; strategic offensive and defensive forces; aerospace and missile defense, and general purpose and aerospace support forces. Corps training provides practical leadership experience in basic military and officer-type activities, including drill and ceremonies, customs and courtesies, Air Force as a career, and officer environment. Prerequisite: Department consent.

223 & 224. U. S. Military Forces in the Contemporary World. (1-1). IR, 1R/L. The second year general military course (GMC) studies U. S. national defense policies and the role of alliances; policies and strategies of the Soviet Union and China; Department of Defense organization and decision making, and the role of the military in United States national policies. Corps training provides practical leadership experience in basic military and officer-type activities, including drill and ceremonies, customs and courtesies, Air Force as a career, and officer environment. Prerequisite: Department consent.
Upper Division Courses

335 & 354. Growth and Development of Aerospace Power. (3-3). 3R, 1R/L. The first year professional officer course (POC) is a seminar study of the development of airpower; aerospace power today; the future of manned aircraft; the U.S. space program; the spatial environment; space orbits, trajectories, vehicle systems, operations, and future developments. Corps training provides practical leadership experience in basic military and officer type activities, including drill and ceremonies, customs and courtesies, Air Force as a career, and officer environment. Prerequisite: Department consent.

453 & 454. The Professional Officer. (3-3). 3R, 1R, 1R/L. The second year professional officer course (POC) is a seminar study of professionalism, leadership, and management as applicable to the Air Force officer. It includes the meaning of professionalism; officer responsibilities; the military justice system; leadership theory, functions and practices; management principles and functions, and problem solving procedures. Corps training provides practical leadership experience in basic military and officer type activities, including drill and ceremonies, customs and courtesies, Air Force as a career, and officer environment. Prerequisite: Department consent.

455. Flight Instruction Program (FIP). (3). This course provides the student an opportunity to learn and experience the basic techniques of flying, navigation, and air traffic control. It consists of 36 hours of classroom study (ground school) and 36 hours of flight training to prepare the student for the FAA flight examination and a private pilot’s license. The FIP is limited to senior AFROTC cadets qualified for pilot training and department consent.

ART EDUCATION

Art Minor for Students Majoring in Elementary Education
Students will complete 18 art hours. These hours will be distributed as follows: 165, 240, 343, one elected studio course and six hours of art history: 101, 102.

Lower Division Courses

240. Art Fundamentals for the Classroom Teacher. (3). For students without previous art background who plan to teach in the elementary school classroom. Study of fundamental methods, materials, and concepts used to develop art knowledge and skills in the elementary age levels.

343. Fiber and Fabric Process. (3). Fiber processing and structuring in traditional and experimental processes in woven forms and other structural techniques using natural and man-made fibers. Prerequisite: Art 241 or consent of instructor.

Upper Division Courses

406. Art Curricular and Supervision Methods. (4). The construction of an art program of study outline for elementary grades and junior and senior high school; techniques in the supervision of an art education program.

442. Art Education in the Secondary School. (3). The study of philosophy, objectives, and classroom procedures directed toward the development of informational and studio skills at the secondary level.

450. Art Workshop. (1-3). May be repeated for credit. (The area to be covered will be inserted at the time the course is offered.)

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EAS Graduate Courses

501. Introduction to Administration and Supervision. (3). An examination of the major theories of administration and their application to specific problems. Emphasis upon an overview of administration of the school district, especially problems involving the community and the staff. Includes data gathering for self-evaluation of supervisory potential. Open to all College of Education graduate majors. (Summer; fall; spring.)

503. The Sociology of Administration. (3). An examination of the interaction of society and the school as it relates to the administrative processes. Systems of control, social class, power structure, human relations and group dynamics. (Summer, odd numbered years; fall, even numbered years.)

504. Supervision and the Improvement of Instruction. (3). The application of curricular theories, psychology and methods of supervision to the problems of improving classroom instruction and teaching methods. Open to all College of Education graduate majors. (Summer; fall; spring.)

506. Elementary School Organization and Administration. (3). Alternate methods of organizing the elementary school and its classrooms, problems of administration of staff, curriculum, pupils and facilities, community relations. Prerequisite: EAS 501. (Summer, even numbered years; fall.)

509. School-Community Relations. (3). Knowledge about and experience with the unique nature of the community school. The student will study the actions of community persons within the school community, formulate cooperative plans for community development, develop ways in which the personnel and facilities can be better utilized and promote the school-community concept to the benefit of the school and the community. (Summer, even numbered years; spring.)

510. Secondary School Student Activities. (3). The role of extracurricular activities in secondary school programs. Problems of organizing and administering the program. (Summer, even numbered years; fall, odd numbered years.)

512. The Middle School. (3). A middle school offering children an education appropriate for present times, built upon human development in late childhood through the early stages of adolescence. This school evolves as an organic whole with development of program, administrative pattern and teaching requirements creating grouping practices with focus on transcendence. Vertical and horizontal organization patterns include taking the child from where he is educationally. (Fall.)

515. The Community Junior College. (3). Considers educational services to a community as the basic thrust of the organization; surveys the history and philosophy of the community junior college movement; emphasizes the curricula provided appropriate to the community and studies the administrative organization, legal control, and methods of financing. (Spring.)

518. Group Dynamics for Teachers. (2). A laboratory course in human relations and group dynamics based upon involvement in various group activities. Applications for the use of group dynamics in classroom teaching utilizing knowledge gained in personal experience in group work. (Prerequisite: Teacher's certification.) (Offered summer; fall; spring.)

522. Financial Support of Education. (3). Concepts of the financial support of education at local, state and national levels. Emphasis upon methods of taxation, budget preparation, and efficient expenditures. Prerequisite: EAS 501. (Summer; spring.)
523. School Law. (3). General concepts of law, interpretations of statutes and court decisions affecting education, legal responsibilities of school personnel. Kansas school law. (Summer; fall.)

524. The School Plant. (3). Planning new school facilities based upon educational programs. Evaluation of existing schools, remodeling, operation and maintenance of present school plant. Prerequisite: Master's degree or consent of instructor. (Summer; spring.)

526. Curriculum Development. (3). Curriculum philosophies and theories. An examination of recent programs and proposals. The local school building and individual teacher as units of curriculum development. System-wide curriculum development and evaluation with kindergarten through grade 12 articulation. Prerequisite: EAS 504. (Summer; fall.)

527. The Ungraded School. (3). Understanding the rationale of nongradedness. Organizing and teaching the nongraded concepts centered upon individualization of instruction, continuous pupil progress. Operation of viable flexible program. Prerequisites: One course in curriculum or consent of instructor. (Spring.)

531. Organization and Administration of the Secondary School. (3). Organizational plans for junior and senior highs, present trends. Problems of administration of staff, pupil, curriculum, facilities and community relationships in the modern secondary school. Prerequisite: EAS 501. (Summer, odd numbered years; spring.)

536. Problems of Staff Personnel. (3). Advanced study of staff problems—selection and recruitment, certification, orientation, in-service training, evaluation, transfer and dismissal, and retirement. Prerequisite: Master's degree or consent of instructor. (Summer, even numbered years; spring, odd numbered years.)

537. School Business Management. (3). School budgeting processes, salary scheduling, cost accounting and purchasing procedures, IBM programming of record systems. Prerequisites: EAS 522 and consent of instructor. (Summer, odd numbered years; fall, even numbered years.)

538. Advanced Group Dynamics. (2). A laboratory course in theories of group dynamics, with emphasis upon their application to uses in education, especially in the classroom and in faculty-administrator relationships. Prerequisite: EAS 460 or EAS 518 and consent of the instructor. (Summer, odd numbered years; spring, even numbered years.)

546-547-548-549. The Internship. (2-3-4-5). Administrative assignment in educational institutions. Prerequisite: Nine semester hours of postmaster's graduate courses in educational administration and supervision and 3.10 graduate GPA. (Arranged on individual basis.)

550. Special Problems in Administration. (1-4). Directed reading in research under supervision of a graduate instructor. Prerequisite: Approval of the department.

560. Seminar in the Process of Administration. (1-3). Concurrent enrollment in the internship is required. (Arranged on an individual basis.)

562. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Prerequisite: Ed. Psych. 560. May be repeated for a maximum total of two hours credit.

566. Frontiers of Knowledge and the Future of Education. (3). Key concepts and discoveries in the sciences and humanities presented by experts in each field and investigation of their possible implications in education. (Fall, odd numbered years.)

EDUCATIONAL PSYCHOLOGY

Lower Division Courses

219. Introduction to Child Growth and Development. (3). Designed to provide a systematic study of the processes involved in how children grow and develop. The interrelatedness of various aspects of growth (physical, social, emotional, intellectual) and their implications will be given attention.

220. Psychological Problems of Young Children. (3). The course will introduce students to (1) the types and nature of emotional and behavioral problems encountered in your children, (2) the identification of these problems (3) the factors determining the problems (developmental, experiential, social), (4) methods of intervention to modify the problems, and (5) the community resources available to assist in dealing with the problems and how to use these resources. Prerequisite: Consent of department.

221. Interviewing and Recording for Social Service Aides. (3). To develop skills and understandings of the basic methods of interviewing and recording as related to headstart families. Prerequisite: Consent of department.

233. The Elementary School Child. (4). His sociocultural context, developmental characteristics, with stress upon application to instruction. Prerequisite: Psych. 111, Ed. Ed. 232 (or department consent) and sophomore standing.

Upper Division Courses


361. Educational Measurements. (3). Fundamental statistical methods applied to educational problems; construction, administration, and analysis of teacher made examinations. Prerequisite: Ed. Psych. 233 or 333.

401. Introduction to Exceptional Children. (3). Emphasis on recognition and education of children with mental and physical handicaps. Prerequisite: Ed. Psych. 233 or 333.

402. Introduction to the Gifted Child. (3). Emphasis on recognition and education of the gifted child. Prerequisite: Ed. Psych. 233 or 333.

404. Understanding of the Mentally Retarded Child. (3). The current research and historical approaches to the education of the mentally retarded will be examined. The literature in this field will be surveyed. Prerequisite: Ed. Psych. 401 or consent.

419. Growth and Development I. (3). Biosocial foundations of human growth and development related to the development of behavior from birth to eight years. Prerequisite: Ed. Psych. 233 or 333 or consent.

420. Growth and Development II. (3). Biosocial foundations of human growth and development related to the development of behavior from middle childhood to maturity. Prerequisite: Ed. Psych. 419 or consent.

421. Mental Hygiene. (3). Principles of mental hygiene in relationship to the development of wholesome personality. There are examined the interrelationships of teacher, school, home, and community as they affect mental health. Prerequisite: Ed. Psych. 233 or 333.


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434. Principles of Learning and Evaluation for Teachers. For description of course see Ed. Psych. 433. This course is intended for those students not taking 433 in the secondary student teaching block. It may be substituted for Ed. Psych. 433; not open to students with credit in Ed. Psych. 433. Prerequisite: Ed. Psych. 333.

443. Programmed Instruction. (3). Study of approaches to programming; techniques of programming. Students will construct and develop a programmed unit in their own area of interest. Prerequisite: Psych. 111, Ed. Psych. 233 or 333, or consent of instructor.

444. Curriculum for the Mentally Retarded Child. (3). Adaptations of the standard curriculum and innovations which have proven to be beneficial for the teaching of the mentally retarded child. Prerequisite: Ed. Psych. 401 or consent.

450. Workshop in Educational Psychology. (1-3).

451. Institute in Educational Psychology. (1-4). Designed to study physical, social, emotional and psychological development of humans. Specific emphasis will be on growth and development of school age children and adolescents.

Graduate Courses

501. Introduction to Educational Research. (3). An introduction to research in education. Included in the course content: (1) a survey of current educational research; (2) the nature of research methodology; (3) the preparation of research reports, and (4) criticisms of current research.

504. Introduction to Educational Statistics. (3). An introduction to statistics including measures of central tendency, variability, correlation, chi-square, "t" test, F test and analysis of variance. (Not open to students with credit in Ed. Psych. 500.)


519. Human Growth and Development. (3). The study of human development (physical, mental, social, emotional) from birth to maturity. Prerequisite: Ed. Psych. 233 or 333 or consent.


521. Advanced Educational Psychology. (3). Review of recent research in the areas of personality and social psychology. Prerequisite: Ed. Psych. 520 or consent.

530. Educating the Adolescent. (3). A study of the nature of the adolescent with emphasis on the relation of development to the secondary school. Prerequisite: Six hours of Ed. Psych.

540. Program Development in Mental Retardation. (3). Examination of the social and psychological factors in classroom organization and management. Focus will be on the mentally retarded classroom as a model of the factors affecting the establishment and operation of programs for the handicapped. Prerequisite: Consent of instructor.

541. Psychology of Exceptional Children. (3). A study of the conceptual and theoretical formulations, empirical evidence, and research concerning behavioral characteristics of exceptional children with an emphasis on the mentally retarded child. Prerequisite: Consent of instructor.

544. Occupational Aspects in Mental Retardation. (3). Designed to study in depth occupational information, curriculum, and methods employed by teach-
ers of the mentally retarded in secondary school. Prerequisite: Ed. Psych. 404 or consent.

547. Practicum and Internship in Special Education: Mental Retardation. (3-6). Full-time participation in a special education class under immediate supervision of a master teacher and a college supervisor. (A) A minimum of two years experience in the specific special education field is required. (B) A full course sequence has been followed leading to this stage of preparation. For master's level students without teacher credentials and experience. Prerequisite: Ed. Psych. 540, Ed. Psych. 544 or consent.

550. Special Problems in Educational Psychology. (1-4). Directed reading and research under supervision of a graduate instructor. Prerequisite: Department consent.

558. Experimental Design in Educational Research. (3). A consideration of sampling theory; design for testing hypotheses about populations from samples; testing correlation coefficients; means and difference between means; simple factorial designs; designs involving matched groups; designs involving repeated measure of the same group; analysis of covariance. (Not open to students with credit in Ed. Psych. 559.) Prerequisite: Ed. Psych. 504.

560. Seminar on Research Problems. (1). Development and presentation of research proposals. Required of students enrolled in MA or 32 hour MEd programs. Prerequisite: Ed. Psych. 558 or concurrent enrollment.

562. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Prerequisite: Ed. Psych. 560. May be repeated for a maximum total of two hours credit.


**ELEMENTARY EDUCATION**

**Lower Division Courses**

216. Children's Literature. (3). Reading and discussion of stories, poems, and factual materials for children; a background of appreciation essential to the setting up of standards of selection. Authors, illustrators, poets, and their contributions to children's literature are studied; also the children's library and booklist.

222. Directed Study in Elementary Education. (1-6).

246. Introduction to Methods and Materials in Preschool Education. (3). Introduction to the study of teaching methods for the teacher of the preschool child and the preparation of materials to enhance the learning experiences of these children.

252. Introduction to Educating the Disadvantage. (3). An investigation into the cultural backgrounds, the economic problems and the educational issues presented by the disadvantaged. Laboratory experiences in various school and community programs are included.

**Upper Division Courses**

318. Methods for the Kindergarten Teacher. (3). To acquaint students with all aspects of the kindergarten program and introduce the wide variety of materials available and in use. Prerequisites: Fd. Ed. 232 and Ed. Psych. 233.

319. Language Arts in the Elementary School. (3). Objectives, methods and materials of teaching the language arts including listening, oral and written communications, spelling and handwriting. Students will be given an opportunity to acquire skill in manuscript and cursive writing. Prerequisite: Fd. Ed. 232 and Ed. Psych. 233.

321. Science in Elementary Education. (3). This course will encompass the areas of: Development of scientific concepts in children, strategy, tactics and audiovisual aids in teaching elementary school science, stating objectives, off-campus observation and participation, and introduction to experimental science. Prerequisite: Fd. Ed. 22 and Ed. Psych. 233.

322. Individual Studies in Education. (1-2).

314. Mathematics in the Elementary School. (3). A study of the basic methods of instruction with emphasis given to relating mathematical concepts to cognitive development and learning. Specific attention will be given to current curriculum practices, materials and evaluation technique. Prerequisite: Math 373 and 374 may be taken concurrently.

405. Developmental Reading. (3). To acquaint students and teachers with all of the aspects of current reading theory and pertinent reading research. Also to point out the possibilities of applying this theory and research to actual teaching of children in the classroom. Prerequisite: El. Ed. 320.


443. Parent Education for Preschool Teachers. (3). An introduction to ways of working with parents of preschool children; analysis of formal and informal approaches with emphasis on the teacher's role in developing these procedures. Prerequisites: El. Ed. 444 or consent of instructor.

444. Early Childhood Education. (3). An introduction to the problems and philosophy of educating children in the preschool years.

445. Guidance of the Preschool Child. (3). Study of the dynamics of behavior of the preschool child in his relations with peers and adults; in his methods of coping with developmental aspects of growth, and the teacher's role in guiding such behavior. Prerequisite: El. Ed. 444 or consent.

446. Methods and Materials in Preschool Education. (3) The study of teaching methods for the teacher of the preschool child and the preparation of materials to enhance the learning experiences of these children. Prerequisite: El. Ed. 444 or consent of the instructor.

447E. Student Teaching in the Elementary School. (3-10). The student teaching program provides full-time participation in the public schools under guidance of a master teacher and a college supervisor. Prerequisite: El. Ed. 319, 320, 321, 344, 406.

The student teaching semester is required of all students who are working toward a degree certificate in elementary education. Every student wishing to receive the above certificate must file an application with the coordinator of elementary student teaching. Application for the fall semester must be filed by April 15; spring semester by Nov. 15. Applications may be secured in Room 117, CEC. (The only exception ever granted to the requirement of 13 semester hours is to the transfer student that has taken student teaching elsewhere or may have taught a number of years.) Any deviations from established grade point averages and other regulations must be approved by the elementary education department.

447L. Student Teaching for Logopedics Majors. (4). These students will be assigned to a self-contained classroom in the elementary school for the first nine weeks and then assigned to the Department of Logopedics for the second nine weeks of the semester. Prerequisite: Senior standing. Fd. Ed. 232, Ed. Psych. 233, El. Ed. 320, 321, 344, and 406.
447M. Student Teaching in the Elementary School. (3). Prerequisite: Music majors.

447P. Student Teaching in the Elementary School. (3). Prerequisite physical education majors. Application for student teaching must be made to the director of student teaching prior to the semester in which the student intends to enroll. The assignment for student teaching begins with the opening of the public school and the student is expected to follow the public school calendar for a semester. The student will receive 13 hours credit.

448. Seminar in Student Teaching. (3). Taken concurrently with Student Teaching. Concerned with evaluation of experience and planning for the next experience in the classroom.

450. Workshop in Education. (1 to 6).

451. Institute in Elementary Education. (1-6). (a) Math., (b) science. Course designed for elementary teachers, who will be institute participants. One or a combination of preselected areas will be emphasized during a semester. Prerequisite: Consent of instructor.

452. Special Studies in Education. (1-3). (a) Mathematics, (b) health and physical education, (c) language arts, (d) reading, (e) recent innovations, (f) science, (g) social studies, (h) instructional media, (i) other areas. Course designed for elementary school teachers. Only one preselected area will be emphasized during a semester. (Prerequisite: Teacher certification and consent.) This course may be repeated with adviser's consent. *Prerequisites may be waived for equivalent experience by department consent.

Graduate Courses

528. Elementary School Curriculum. (3). An intensive study of the field of curriculum in the elementary school. Who should make the curriculum; bases for making curriculum decisions; diversity within a school and school system; participation in curriculum development and revision; the future in elementary school curriculum.

530. Language Development in the Reading Process. (3). Emphasis will be placed upon the relationship of the child's language and the reading process. A review of the influence of environmental and intellectual abilities will be made to examine how the speech-to-print correspondence may be made.

540. Diagnostic Procedures in Reading. (3). Emphasis upon diagnosis; use of standardized instruments, teacher-made instruments and corrective treatment of reading difficulties. Diagnostic practicum included. Prerequisite: El. Ed. 320 or equivalent.

542. Clinical Procedures in Reading. (3). Emphasis upon diagnosis and corrective treatment of reading difficulties. A laboratory practicum in corrective teaching required. Prerequisite: El. Ed. 540 or equivalent.

549. Seminar in Reading. (3). The Reading seminar is designed to examine the organization and administration of reading programs. Additional time will be spent investigating pertinent research in the area of reading instruction. Prerequisite: El. Ed. 405 or equivalent.

550. Special Problems in Education. (1 to 4). Directed reading and research under supervision of a graduate instructor. Prerequisite: Approval of the department.

552. Improvement of Instruction in Language Arts. (3). This course is designed to aid the student in developing an understanding of the communicative arts in the elementary school by focusing on the past, present and future. It is hoped that this experience will present a balanced, realistic picture of the language arts curriculum and deal with materials and related experiences in the area.
554. Improvement of Instruction in Social Studies. (3). A study of recent changes in social studies curriculum and instruction. Emphasis is placed on the teaching of concepts, values, and independent learning skills. The inquiry-centered learning environment is stressed as behavioral objectives, innovative teaching strategies, and complementary evaluative techniques are studied and practiced.

556. Improvement of Instruction in Mathematics. (3). For teachers in service. Consideration of recent trends in subject matter content and teaching guides to improve understanding of meanings, vocabulary, and mathematical concepts. Instructional methods and materials. Prerequisite: El. Ed. 344 or consent.

558. Improvement of Instruction in Science. (3). To identify and explore the principles of science that teachers should recognize and understand; to give consideration to their development from kindergarten through grade eight. To experience these concepts through demonstration or experimentation for teachers in service. Prerequisite: El. Ed. 321 or consent.

559. Seminar in Elementary Education. (3).

562. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Prerequisite: Ed. Psych. 560. May be repeated for a maximum total of two hours credit.

563. Trends in Theories of Instruction. (3). Uses materials from public school work groups and from research journals to examine development of modern practices in elementary education.


**INDUSTRIAL EDUCATION**

Industrial education includes the following areas of specialization: Industrial arts education and vocational-industrial education.

Industrial arts education prepares young men to become industrial arts teachers at the junior high and senior high level. The person selecting this field will teach young people about the tools, materials, processes, and products of industry. Industrial arts instructors teach such general courses as metals, electricity-electronics, woods, plastics, drafting, auto mechanics, or a combination of some of these in a comprehensive general shop. Work experience in his specialty is not demanded of the industrial arts teacher, but it is highly desirable.

Vocational-industrial education is for persons who wish to become certified vocational-industrial instructors. The vocational-industrial educator, like the industrial arts educator, deals with tools, materials, and processes of industry, but stresses skill development more than is possible in the industrial arts program. Instructors in this field teach vocational subjects in such fields as drafting and design, machine shop practice, electronics, auto mechanics, industrial plastics, and the like. Certification for vocational teaching does require a minimum of 2,000 clock hours of occupational experience in the field taught.

*Prerequisites may be waived for equivalent experience by department consent.*

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COMBINED MAJOR AND MINOR: Required—Ind. Ed. 111, 120, 124, 135, 155, 180, 260, 319, 401, and Sec. Ed. 443. An additional 21 hours of industrial education will be selected in consultation with the student's major adviser, completing the combined curricula with a minimum of 50 semester hours.

Lower Division Courses

111. Introduction to Industrial Education. (2). Industrial education as a career; an introduction to present day programs and the opportunities available; a survey of materials and processes used in industry; recommended as a first course in the department.

120. Drafting I. (3). 2R; 3L. An introduction to orthographic projection, pictorial representations, with emphasis placed on auxiliary view, sectional views, sketching, revolutions, dimensioning, lettering, care and use of drafting instruments.

121. Drafting II. (3). 2R; 3L. A study of the relationship of views in drafting with emphasis on rotation, projection of solids, planes, and lines using standard drafting techniques and procedures. Prerequisite: Ind. Ed. 120.

124. Woodwork I. (3). 2R; 3L. A study of the use and care of hand and power tools, methods of finishing, wood technology, and an overall view of the woods industry.

125. Woodwork II. (3). 2R; 3L. A study in design, construction, and finishing of woodworking projects, with special emphasis on woodworking machine tools, including methods and processes used by industry. Prerequisite: Ind. Ed. 124.

135. Metalwork. (3). 2R; 3L. A basic course dealing with the processes, equipment, materials and products of the metal-working industry; lab experience in sheetmetal, benchmetals, forging, founding, welding, and machine tools.

154. Power Mechanics I. (3). 2R; 3L. A study of energy sources and the machines that convert energy into useful work. Emphasis is given to a broad overview of the entire field of power and its importance to technology.

180. Electricity I. (3). 2R; 3L. A study of basic principles of electricity and electronics as related to home and industry. Emphasis on electrical theory, transmission, and utilization. Laboratory activities include experimentation and fabrication of electrical components.

181. Electricity II. (3). 2R; 3L. A study of basic concepts of alternating current electricity with emphasis on reactance and impedance of resonant and nonresistant circuits. Prerequisite: Ind. Ed. 180.

225. Drafting III. (3). 2R; 3L. Development of working drawings in machine, aircraft, steel structural, electrical, architectural details, pipe, map, patent drawings—all conforming to industrial and prescribed standards. Prerequisite: Ind. Ed. 121.

236. Metals II. (3). 2R; 3L. A study of materials, machines and handtools used by the sheetmetal industry and an introduction to basic machine tool operations. Prerequisite: Ind. Ed. 135.

255. Power Mechanics II. (3). 2R; 3L. A study of the operation of motor vehicles, including chassis and drive line components. Lab experiences include repair techniques and procedures. Prerequisite: Ind. Ed. 154.

260. Plastics I. (3). 2R; 3L. Study of plastic materials being used in industry; fundamental operations including molding, casting, thermoforming, fabrication, and finishing.

* Prerequisite may be waived for equivalent experience by department consent.

THE COLLEGE OF EDUCATION 221

282. * Electronics I. (3). 2R; 3L. A basic study of electronics including the function of components, dc and ac theory, vacuum tube characteristics and applications and power supplies. Experimentation and project construction. Prerequisite: Ind. Ed. 180.

283. * Electronics II. (3). 2R; 3L. A study of basic electronic circuits and systems, including an introduction to radio circuits and systems, with proper circuit analysis techniques receiving major emphasis. Prerequisite: Ind. Ed. 282.

Upper Division Courses

319. Shop Planning and Organization. (3). Selection, purchase, and organization of shop equipment and supplies; developing and maintaining necessary records and reports; planning of shop facilities.

325. * Woodwork III. (3). 2R; 3L. For advanced woodworking students, with special emphasis on tools, materials, and construction practices as they relate to the building trades. Prerequisite: Ind. Ed. 124.

326. * Woodwork IV. (3). 2R; 3L. Advanced work for specialists in the woodworking field with emphasis placed on problems growing from the needs of the student. Prerequisite: Ind. Ed. 125.

327. * Drafting IV. (3). 2R; 3L. Advanced study for drafting students with emphasis on problems growing from the needs of students based on past performances and progress. Complete dwelling and machine problems. Special emphasis on industrial practices and procedures. Prerequisite: Ind. Ed. 225.

337. * Metals III. (3). 2R; 3L. A study of the structure, physical and mechanical properties of metals and the effect of heat treatment on these characteristics; the methods of hot working metals including forging, foundry, and arc, acetylene and tungsten inert gas welding. Prerequisite: Ind. Ed. 135.

350. * Metalwork IV. (3). 2R; 3L. Fundamentals of benchwork and basic operations on lathes, mills, grinders, shapers, and drills. Prerequisite: Ind. Ed. 236.

351. * Metalwork V. (3). 2R; 3L. Emphasis on advanced machine tool operations; new techniques of industry and the making of basic tools and dies. Prerequisite: Ind. Ed. 350.

356. Power Mechanics III. (3). 2R; 3L. A continuation of the study of motor vehicles, including tune-up, electrical systems, fuel systems, and engine service. Prerequisite: Ind. Ed. 154.


364. * Electronics III. (3). 2R; 3L. Course includes the theory, instrumentation, and application of semiconductors in electronic circuitry. Emphasis will be placed on the utilization of transistors and newly developed semiconductors. Prerequisite: Ind. Ed. 282.

385. * Electronics IV. (3). 2R; 3L. Motors and generators; synchros and synchro control systems; servo control devices and systems; industrial measure-

* Prerequisites may be waived for equivalent experience by department consent.
ment and control systems; introduction to microwaves and microwave oscillators; microwave transmitters, microwave duplexers and antennas; amplifiers and microwave mixers; microwave receivers; multiplexing; radar detection and navigation systems. Prerequisite: Ind. Ed. 384.

401. Preparation of Instructional Materials. (3). The selection, development, and organization of instructional materials for effective teaching of industrial education.

450. Workshop in Education. (1-4). This course will be offered from time to time on various aspects of industrial education.

457. Power Mechanics IV. (3). 2R; 3L. Advanced study in the power mechanics field with emphasis placed on problems growing from the needs of the student. Prerequisite: Department consent.

Graduate Courses

520. Foundations for Curriculum Development in Industrial Education. (3). A study of the theory and practice of curriculum development as determined by social, cultural, and industrial changes, including current industrial education curriculum designs, problems and trends.

521. Curriculum Construction in Industrial Education. (3). Selection and construction of curriculum content for general and specialized areas of study in industrial education. Prerequisite: Ind. Ed. 520.

560. Seminar in Industrial Education. (1-3). (May be repeated.) Prerequisite: Consent of instructor.

LIBRARY SCIENCE

Students wishing to become school librarians in Kansas must have valid teaching certificates plus specific courses in library science which may be taken either at the upper division or graduate level. Effective July 1, 1967, requirements are as follows:

Elementary School Librarian: A valid certificate for teaching in the elementary school and a minimum of 15 semester hours of library science and audiovisual courses.

Junior and Senior High School of fewer than 500 pupils: A valid certificate for teaching in the secondary schools and a minimum of 15 semester hours of library science and audiovisual courses.

Junior and Senior High Schools of more than 500 pupils: A valid certificate for teaching in the secondary schools and a minimum of 24 semester hours of library science and audiovisual courses.

Upper Division Courses

400. Introduction to the School Library Program. (3). The introductory course in the library science program with emphasis on planning and implementing an effective school library program. Objectives and standards are explored and all phases of instruction and service, including media, through which the school library contributes to the instructional program are introduced. (Not open to those with credit in Libr. Sci. 405.)

501. School Library Cataloging and Classification. (3). The fundamentals of the Dewey Decimal Classification system and the basic cataloging techniques necessary for organizing a school library collection.

* Prerequisites may be waived for equivalent experience by department consent.

403. School Library Administration. (2). The activities and functions of the school library, the relationships of the librarian to the teaching staff, the organization of technical and mechanical processes such as circulation and order routines, the repair of books, and teaching the use of the library to students.


LOGOPEDICS (Speech, Language and Hearing Disorders)

The Department of Logopedics provides academic and clinical training for University students who wish to become professionally qualified to work with communicatively handicapped children and adults. The undergraduate program constitutes a broad and comprehensive preprofessional preparation for specialized training which is offered on the graduate level. A graduate program, culminating in a master's degree, is required to obtain professional certification to work as a speech or hearing clinician in the public schools, hospital clinics, rehabilitation centers, or to engage in private practice. With an undergraduate, preprofessional major, a student can normally complete the graduate program in one calendar year and be eligible for certification by the American Speech and Hearing Association and the State of Kansas public schools.

MAJOR: A preprofessional, undergraduate major may be obtained with emphasis in speech pathology, audiology, or deaf education. Logopedics 317 and 326 are observation courses required of all students. Supervised practicum courses are also required: Either Logopedics 417 or 441 is required on the undergraduate level for students majoring in speech pathology; in addition, Logopedics 447 and 448 are required for those planning to qualify as speech clinicians in the public schools; Logopedics 441 is required for those majoring in audiology, while Logopedics 440 is required for those majoring in deaf education. All of these clinical courses are designated by the symbols (R) and (L) which stipulate the number of clock hours of recitation or laboratory required per week. Other courses are designated with the symbols (R) and (D) which indicate the number of clock hours of recitation and demonstration offered each week.

Undergraduate students may major in logopedics in either the College of Education or the Fairmount College of Liberal Arts and Sciences. Most students normally take the program in the College of Education. Those wishing to prepare themselves exclusively for employment in community speech and hearing clinics or hospitals
may wish to pursue the program in the College of Liberal Arts and Sciences.

The major with emphasis in speech pathology consists of 30 hours and includes the following courses:

Required—Logopedics 111, 212, 214, 216, 218, 315, 317, 324, 326, 431, and either 417 or 441. Students planning to qualify as speech clinicians in the public school are required to complete, in addition, Logopedics 327, 447 and 448.


The major with emphasis in audiology consists of 30 hours and includes the following courses:

Required—Logopedics 111, 212, 214, 216, 218, 315, 431, 436, 437, and 441 and 455.

Optional—Logopedics 132, 317, 324, 326, 327, 432 and 435.

Undergraduate preparation for emphasis in deaf education consists of 30 hours and includes the following courses:

Required—Logopedics 111, 212, 214, 216, 218, 315, 317, 326, 431, 432 and 436. Logopedics 441 is required, but may be taken in the first semester of graduate work.

Teacher Education: One full semester of student teaching is required for all who are working toward certification as a public school speech clinician. In order to complete this requirement, students must take Logopedics 417 and 441 in a clinical setting and 447 and 448 in a public school setting for a total of 13 hours credit.

The assignment for student teaching begins with the opening of the public school and the student is expected to follow the public school calendar, on a half-day basis, for a semester.

Admission into the student teaching semester requires a grade point average of 2.5, a 2.5 average in the major field, a grade of C or higher in Speech 111 or its equivalent, and recommendation of the major department.

By arrangement with the Department of Elementary Education, any of these emphases in logopedics may be combined in a dual major with elementary education.

The logopedics undergraduate preprofessional major may be applied toward certification by the American Speech and Hearing Association. This certification requires a master's degree (or equivalent) with major emphasis in speech pathology or audiology.

Minor: A minor in logopedics consists of 15 hours and may be utilized in either the College of Education or the College of Liberal Arts and Sciences. Arrangements for the minor should be made in consultation with the Department of Logopedics.

Logopedics 421 "Speech Defective Child in the Public School" (also cross-listed as Speech 465) is a general survey course; hence,
it may not be used as part of either a major or minor in logopedics at the undergraduate or graduate level.

Corrective training for regularly enrolled University students with speech or hearing disorders may be arranged with the Department of Logopedics. A minimal fee is charged.

SPEECH PATHOLOGY

Lower Division Courses

111. Introduction to Speech Pathology. (3). 3R; 1D. General orientation, history of the field, the place of logopedics among the professions, speech and language disorders commonly found, and application of the border sciences to these conditions.


212. The Development of Language. (3). 3R; 1D. The study of the acquisition of language in the child from birth to six years of age. Various acquisition theories are evaluated in the light of current psychological and linguistic thought. Special emphasis is given to the development of phonology, morphology, and syntax. Prerequisite: Logopedics 111, or concurrent enrollment in Logopedics 111, or department consent. (Offered spring semesters.)

214. Anatomy and Physiology of the Speech and Hearing Mechanisms. (3). A study of the prenatal development and basic anatomy of the systems necessary for speech and hearing. The respiratory, phonatory, articulatory and auditory mechanisms will be discussed from a functional point of view. Prerequisites: Sophomore standing; Logopedics 111, or concurrent enrollment in Logopedics 111, or department consent. (Offered fall semesters.)

216. Introduction to Speech and Hearing Sciences. (2). 2R; 1D. Examination of elements in the chain of events that lead to human communication. Speech production and speech reception will be studied at physiologic and acoustic levels, with primary emphasis on acoustics. Prerequisites: Sophomore standing; Logopedics 111, or concurrent enrollment in Logopedics 111, or department consent. (Offered spring semesters.)

218. Phonetics: Theory and Application. (3) 3R; 1L. The study of physiologic, acoustic and perceptual specification of speech sounds; a survey of current phonological theory and applications to speech improvement; extensive practice in transcription of speech. Prerequisites: Sophomore standing; Logopedics 111, or concurrent enrollment in Logopedics 111, or department consent. (Offered spring semesters.)

Upper Division Courses

315. Clinical Phonetics. (3). 3R; 1D. Anatomy of the face, tongue, and mandible. Applied phonetics as it relates to articulatory defects. Prerequisite: Logopedics 111 and 218 with grades of C or better, or department consent.

317. Techniques of Speech Pathology. (2). 1R; 3L. Observation of cases in the speech clinic, with emphasis on simpler types of defects. Routine of record taking, interview and counseling techniques with parents and professional workers. The use of graphic equipment. Prerequisite: Logopedics 315 with a grade of C or better, concurrent enrollment in Logopedics 315, or department consent.

324. Anatomy of Voice. (3). 3R; 1D. Anatomy of the pharynx, nose, larynx, and thorax. Disorders from organic and functional changes in the organs of phonation. The normal voice. Prerequisite: Logopedics 315 with a grade of C or better, or department consent.

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326. Application of Techniques. (2). 1R; 3L. Supervised application of techniques to cases with simpler problems. Observation of more difficult communicative disorders. Introduction to techniques used with stutterers and aphasics. Prerequisite: Logopedics 324 with a grade of C or better, concurrent enrollment in Logopedics 324, or department consent.

327. Speech Therapy in the Public School: Methods and Procedures. (3). Organization, administration, and professional relationships in public school speech therapy programs on the elementary and secondary school levels. Emphasis given to procedures and materials for surveying scheduling, therapy lesson planning and record keeping, and utilization of various instructional media. Prerequisite: 315 and 324 with grades of C or better or consent. (May be taken concurrently with 324.)

415. Organic Anomalies of Speech. (3). 3R; 1D. Specific congenital and postnatal anomalies that produce speech disorders, including cleft palate and mongolism. Prerequisite: Logopedics 324 with a grade of C or better, concurrent enrollment in Logopedics 324, or department consent.

417. Supervised Practicum in Speech Pathology. (3). 2R; 4L. Supervised practice teaching including application of advanced techniques to problems of an organic or neurological etiology. Prerequisite: Logopedics 415 with a grade of C or better, concurrent enrollment in Logopedics 415, or department consent.

421. Speech Defective Child in the Public School. (3). Problems of the speech defective child in the schools relative to emotional handicaps, pedagogical retardation, etc. Methods for classroom teachers. Also listed as Speech 465.

442. Infancy: Pre- and Postnatal Behavior. (2). Development of behavior from the ontogenetic viewpoint in both subhuman and human infants. Prerequisite: Department consent.

447. Student Teaching in Public School Speech Therapy. (4). One half-time participation in a public school speech therapy program under the guidance of a certified clinician and a college supervisor. Prerequisite: Senior standing, Logopedics 327, and permission of the department.

448. Seminar in Public School Speech Therapy. (3). Taken concurrently with Logopedics 447. Discussion and evaluation of the student teaching experience in the public school speech therapy program on the elementary and secondary school levels.

450. Workshop in Logopedics. (1-4). This course will be offered from time to time on various aspects of speech and hearing habilitation.

461. The Neurology of Speech and Language. (4). A consideration of basic neuroanatomy and neurophysiology necessary for an understanding of the representation of language in the human central nervous system and of conditions resulting from neurological impairment, such as cerebral palsy and aphasia. Senior standing or department consent. (Offered fall semesters.)

462. Cerebral Palsy. (4). 3R; 1D. Problems and training procedures concerned with cerebral palsy. Prerequisite: Logopedics 461 with a grade of C or better, or department consent.

470. Laboratory Instrumentation. (3). 2R; 3D. Application of and limitations of research and clinical instruments employed in the field of logopedics. Prerequisite: 18 hours of logopedics or department consent.

490. Advanced Logopedics. (1-2). Individual study and research on specific problems. (May be repeated.)

491. Selected Topics in Logopedics. (1-3). Individual and group study in a specialized area of communicative sciences and disorders. May be repeated for credit with permission of department. Prerequisite: Department consent.

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Graduate Courses

505. Introduction to Graduate Study. (3). Survey of research in the fields of speech pathology, audiology, and voice science. Principles of research procedure.

507. Early Speech Development. (2). Mastery during infancy of elementary speech sounds, patterning of sounds, appearance of words, sentences and meanings. Prerequisite: Department consent.

524. Aphasia. (3). 3R; 1D. Various contemporary theories in regard to the cause and neurophysiology of aphasia; modern techniques. Prerequisite: Logopedics 461 with a grade of C or better, or department consent.

531. Basic Communicative Sciences I. (3). 3R; 2D. A critical review of pertinent research concerning the physiological bases of speech-respiratory, laryngeal, resonatory and articulatory functions. Prerequisite: Logopedics 470 with a grade of C or better, or department consent.

532. Basic Communicative Sciences II. (3). 3R; 2D. A critical review of research dealing with the perception of speech. Emphasis is also given to techniques of speech synthesis and analysis. Prerequisite: Logopedics 470 with a grade of C or better, or department consent.

535. Stuttering. (3); 3R; 1D. Organismal and functional approaches to the problem.

541. Neurophysiology of Communication. (2). Special lectures, seminars, clinical demonstrations, and independent study. Prerequisite: Logopedics 461 with a grade of C or better or department consent.

552. Examination Methods in Speech Pathology. (4). 3R; 4D. The differentiation of logopedics disorders on an objective basis. Prerequisite: Logopedics 461 with a grade of C or better, or department consent.

560. Seminar in Rehabilitation of Speech and Hearing Handicaps. (3). Rehabilitation of adults with various types of organic problems including cerebral palsy, aphasia, hearing loss or other handicaps resulting from organic impairments. Prerequisite: Department consent.

562. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Prerequisite: Logopedics 505. May be repeated for a maximum total of two hours credit.

568. Seminar in Clinical Research. (3). Emphasis is given to a review of recently published research which reflects applicability in the clinical setting. Techniques of experimental design are discussed. Prerequisite: Logopedics 505 with a grade of C or better, or department consent.


Audiology

Upper Division Courses

431. Introduction to Audiology. (3). 3R; 1D. History and scope of the field. Elementary anatomy of the ear, auditory testing. Rehabilitation and training of the deaf and hard of hearing. Prerequisite: Logopedics 315 with a grade of C or better, or department consent.

435. Anatomy, Physiology, and Pathology of the Ear. (3). 3R; 1D. Detailed study of the ear. Prerequisite: Logopedics 431 with a grade of C or better, or department consent.

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436. Introduction to Audiometrics. (3). 3R; 1D. Techniques and interpretation of hearing tests. Prerequisite: Logopedics 431 with a grade of C or better, or department consent.

437. Speech Reading and Auditory Training. (3). 3R; 1D. Methods of teaching speech reading. Techniques used in auditory training. Prerequisite: Logopedics 431 with a grade of C or better, or department consent.

441. Supervised Practicum in Speech for the Deaf. (3). 2R; 4L. Supervised application of techniques involving the teaching of speech, speech reading and auditory training to the deaf and hard of hearing child. Prerequisite: Logopedics 431 with a grade of C or better, concurrent enrollment in Logopedics 431, or department consent.

455. Practicum in Audiometrics. (3). 1R; 9L. Application of audiometric techniques in clinical situations. Prerequisite: Logopedics 436 with a grade of C or better, concurrent enrollment in Logopedics 436, or department consent.

Graduate Courses

510. Auditory Evaluation of Infants and Children. (3). 3R; 1D. Demonstration and practice in assessing auditory functioning of infants and children through 48 months of age; report writing and parent counseling; appropriate instruments and procedures are included. Prerequisite: Logopedics 436 or department consent. (Offered spring semesters.)

514. Hearing Aids. (3). 2R; 6D. Speech audiometry; assessing the usefulness of residual hearing; the construction and function of hearing aids, principles and procedures in selecting a hearing aid, and adjustments to a wearable instrument. Prerequisite: Logopedics 436 with a grade of C or better, or department consent.

516. Advanced Clinical Audiology. (3). 2R; 6D. Diagnostic procedures in an audiological clinic. Techniques for administration and interpretation of advanced audiometric tests. Prerequisite: Logopedics 436 with a grade of C or better, or department consent. (Offered in alternate years.)

518. Seminar in Audiology. (3). Principles of the psychophysical dimensions of hearing, functions of the normal ear; problems in industrial noise. Prerequisite: Logopedics 436 with a grade of C or better, or department consent. (Offered in alternate years.)

DEAF EDUCATION

Upper Division Courses

432. Introduction to Deaf Education. (3). 3R; 1D. Comparison and contrast of the deaf child with the normal child in the areas of physical, mental, social and personality development. Evolution of educational programs and methods used with the deaf. Special aspects of curriculum development in schools and classes for the deaf. Agencies, professional organizations, and journals concerned primarily with education and rehabilitation of the deaf. Prerequisite: Logopedics 431 with a grade of C or better, or department consent.

434. Teaching Language to the Deaf. (3). 3R; 1D. Evolution of methods. Analysis of language problems and teaching techniques. Prerequisite: Logopedics 432 with a grade of C or better, or department consent. (Offered in alternate years.)

438. Teaching Speech to the Deaf. (3). 3R; 1D. Current methods. Evaluation techniques. Prerequisite: Logopedics 432 with a grade of C or better, or department consent. (Offered in alternate years.)

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439. Teaching School Subjects to the Deaf. (3) 3R; 1D. A study of the principles, techniques and methods for teaching school subjects to deaf children. The development of reading readiness and reading ability from the point of view of acquiring language facility or achievement in other basic subjects. Prerequisite: Logopedics 432 with a grade of C or better, or department consent. (Offered in alternate years.)

440. Supervised Practicum in Teaching the Deaf. (2) 1R; 6L. Supervised application of techniques involving the teaching of academic material and the development of language for the deaf child. Prerequisite: Logopedics 439 with a grade of C or better, or department consent. (Offered in alternate years.)

**MILITARY SCIENCE**

**U. S. ARMY ROTC**

The Army Reserve Officers' Training Corps exists to develop citizen officers for the United States Army. It enables a student to prepare for a position of leadership in either a civilian or military career by earning a reserve Army commission while acquiring his baccalaureate degree. Outstanding students are designated as Distinguished Military Students with an opportunity to acquire a regular Army commission. Completion of the ROTC program, coupled with courses in a prescribed field of study enables the college graduate to fulfill his military obligation as an officer.

Information of Army ROTC scholarships is listed under “Financial Aids and Awards,” in this Catalog.

Students enrolled at nearby colleges not offering Army ROTC may enroll in the ROTC program at Wichita State University as special students and thereby qualify for a commission.

Currently a University graduate who is commissioned through Army ROTC is placed on active duty in the U. S. Army for a maximum period of two years. Commissionees may apply for active duty for training and serve on active duty for a period of three to six months. Students may be permitted to delay entry upon active duty for a period up to four years in order to pursue graduate level studies.

Wichita State University offers two elective ROTC programs. They are designated as the four-year and two-year programs.

**Four-year Program**

The four-year program consists of a basic course for freshmen and sophomores and an advanced course for juniors and seniors. Freshmen and sophomores attend one conference hour each week, plus an additional leadership laboratory hour each week. Enrollment in the basic course does not obligate a student to enter the advanced course.

The advanced course requires juniors to attend two conference hours per week in the fall and three conference hours per week in the spring; seniors attend three hours per week in the fall and two
conference hours per week in the spring. Juniors and seniors must also attend one leadership laboratory hour each week. Advanced course students attend a six-week summer camp between their junior and senior years.

Prerequisites for enrollment in the advanced course are as follows:

1. Completion of the basic course or Armed Forces active duty service credit.
2. Physically qualified.
3. Scholastic grade point average of 2.00 or above.
4. Successfully complete survey and general screening tests.
5. Pass the Officer Qualification Test.

The testing and physical examinations are scheduled and arranged by the military science department.

Advanced course students receive $100 per month for approximately 20 months. Attendance at summer camp is reimbursed by approximately $500; plus six cents a mile for travel to and from summer camp. Total pay allowances received by an advanced course student is approximately $2,500. The commissioned officer is presented with a uniform, and upon entering active duty, a $300 uniform allowance.

During all courses each student is furnished a uniform and military science texts. Extracurricular activities that students may voluntarily participate in are the Pershing Rifles Drill Team, the Scabbard and Blade fraternal organization, and the ROTC Rifle Team.

**Two-year Program**

Although designed basically for transfer students from junior colleges and colleges and universities not offering ROTC, any student who has four semesters of school remaining before qualifying for a degree may enroll in a basic six-week summer camp between his sophomore and junior years. This camp is designed to educate the student in the basic military skills which he would have acquired during the first two years of the four-year program. Pay for this camp is approximately $500. Upon beginning the junior year the two-year program students will then complete the same advanced course as the four-year program student. Prerequisites are the same as those for entry into the four-year advanced course.

**Army Aviation Training**

Qualifying ROTC seniors may participate in an on-campus pilot training program. Thirty-five hours of ground training and 36 hours of flying instruction by an approved FAA school leads to the opportunity to qualify for a private pilot’s license. Upon graduation and commissioning, the students are given Army aviation assignments, upon completion of Army aviation training.
**Lower Division Courses**

F113 & S114. First year basic. (1-1). 1C; 1 Leadership Laboratory. Historical growth and development of the Army; The United States Army and national security.

F223 & S224. Second Year Basic. (1-1). 1C; 1 Leadership Laboratory. Introduction to tactics; map reading; cadet noncommissioner officer training. Prerequisite: Completion of MS 113 and MS 114 or department consent.

**Upper Division Courses**

F333 & S334. First Year Advanced. (2-3). 2C-3C; 1 Leadership Laboratory. Branches of the Army; military teaching principles; leadership: Small unit tactics and communications. Prerequisite for 333: MS 223 and 224 or basic summer camp.

F443 & S444. Second Year Advance. (3-2). 3C-2C; 1 Leadership Laboratory. Theory and dynamics of the military team; seminar in leadership and management; military law; service orientation.

**MUSIC EDUCATION**

**Lower Division Courses**


139. Methods of Teaching Band and Orchestral Instruments (brass). (1). Procedures and materials for class and private teaching of all brass instruments, emphasizing tone qualities, difference in embouchure, and necessary technique for performance. Band and orchestra laboratory.


142. Survey of Choral Techniques and Literature. (1). A study of basic techniques of singing and examination of literature for solo voice, large and small ensembles. Prerequisite: One hour of applied voice.

201. Fundamentals of Vocal Music for Elementary School. (2). The teaching of music in the elementary school, consideration of objectives, examination of materials. For students primarily interested in teaching music in elementary schools. Includes observation in public schools. Prerequisite: Music education major or consent of instructor.

202. Fundamentals of Instrumental Music for Elementary School. (2). Materials and techniques focused on teaching instrumental music in the elementary
schools. Includes observation in the public schools. For students primarily interested in teaching instrumental music in the elementary schools. Prerequisite: Music education major or consent of instructor.

203. Fundamentals of Vocal Music for Secondary Schools. (2). The teaching of music in the secondary school, consideration of objectives, examination of materials. For students primarily interested in teaching music in secondary schools. Includes observation in public schools. Prerequisite: Music education major or consent of instructor.

204. Fundamentals of Instrumental Music for Secondary Schools. (2). Techniques and materials focused on teaching instrumental music in junior and senior high schools. Emphasis on instrumental organization and administration, pedagogical practices, laboratory experiences, guiding student behavior, evaluation, and professional responsibilities. For students primarily interested in teaching instrumental music in the secondary schools. Prerequisite: Music education major or consent of instructor.

251. Music Fundamentals for the Classroom Teacher. (3). For students planning to teach in the elementary school classroom. Basic fundamentals of music with emphasis upon development of student's musical ability in singing, playing piano and classroom instruments.

252. Music Methods for the Classroom Teacher. (3). For the elementary classroom teacher. Development of children's musical growth through singing, listening, rhythmic and creative activities. Prerequisite: Music 251 or consent of instructor.

Upper Division Courses

301. Survey of Vocal Music for Secondary School. (3). An overview of activities in secondary vocal and general music programs. Includes study of objectives for secondary classes, consideration of materials and methods. For students primarily interested in teaching music in the elementary schools. Prerequisite: Music 201.


303. Survey of Vocal Music for Elementary Schools. (3). An overview of activities in the elementary general music program. Includes study of objectives for elementary classes, consideration of material and methods. For students primarily interested in teaching music in the secondary schools. Prerequisite: Music 203.

304. Survey of Elementary School Music. (3). A survey of activities in the elementary school, including consideration of the general music program and instrumental instruction. For students primarily interested in teaching instrumental music in the secondary schools. Prerequisite: 204.

306. Music Methods for Early Childhood Education. (3). Methods and material for teaching music in the preschool and kindergarten classroom. Development of the child's musical growth through singing, listening, rhythmic and creative activities; survey of available materials, and continuation of playing, singing and conducting skills. Prerequisite: Music 251 or consent of instructor.

337. Advanced Techniques in Woodwind Methods. (1). (See Music 337.)

339. Advanced Techniques in Brass Methods. (1). (See Music 339.)

340. Advanced Techniques in Percussion Methods. (1). (See Music 340.)

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402.° Advanced Techniques of Elementary School Music. (2). Emphasis on special problems related to preparation for student teaching; consideration of the instrumental and the general music programs at the elementary level. Includes audiovisual instruction and materials. Prerequisite: Music 202 and 302.


*(Requirements for admission to the student teaching semester.)*

Senior standing.
Overall grade average 2.25.
Major field grade average 2.50.
English 111 with C or better or equivalent.
Speech 111 with C or better.
Fd. Ed. 232.
Ed. Psych. 333. (Elementary major may elect Ed. Psych. 233.)
Physical examination.
Students who have taken education courses at other institutions must have such courses validated and approved.
Music methods completed:
Elementary vocal 201, 301.
Elementary instrumental 202, 302 (plus Methods 135 through 140—Music 142.)
Secondary vocal 203, 303.
Secondary instrumental 204, 304 (plus Methods 135 through 140—Music 142.)
Recommendation of department.
Application for student teacher semester must be on file with the music education supervisor.
Piano proficiency passed.
Conducting (217 or 218), (451 or 491.)

406. Comparative Arts for Teachers. (3). Emphasis on the related arts of music, visual art and literature from two approaches; an approach that shows the elements the arts have in common, with an emphasis on creativity; an approach that examines the relationships of the three areas according to basic philosophies. Attention will be given to materials and activities suitable for use in the classroom at various levels.

432. Teaching of Music Literature. (2). (See Music 432.)

450. Music Education Workshop. (1-4). Prerequisite: Consent of instructor. May be repeated for credit.

484. String Teaching Seminar. (2). Historical development of string instrument teaching. Problems involving traditional and recent techniques. Private study versus class study. School class methods, studio methods, etc. Prerequisite: Consent of instructor.

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Graduate Courses

521. Elementary Music Supervision. (3). Trends in elementary music education; evaluation of various materials and techniques; special projects in planning and executing a modern program of music supervision. Prerequisite: Music Ed. 531.

530. Seminar in Music Theory. (3). (See Music 530.)

531. Developing the Child's Musical Understanding. (3). (See Music 531.)

532. Music in the Junior High School. (3). Elective for MME program. Suggested for credit toward administrative certification. To include administrative structures, the curriculum, adolescent development, teaching as behavior, and competencies needed for successful teaching.

535. Teaching in Music Education Materials (Vocal). (2). (See Music 535.)

541-542. Special Project in Music. (1-3; 1-3). (See Music 541-542.)

545. Seminar in Music Education Materials (Instrumental). (2). (See Music 545.)

551. Psychology of Music. (2). (See Music 551.) (Prerequisite: 552.)

552. Introduction to Graduate Study. (3). (See Music 552.)

554. Research Seminar in Music Education. (3). (See Music 554.)

571. Philosophy of Contemporary Music Education. (2). A study of historical trends and contemporary philosophies of music education, behavioral objectives and curriculum planning. Prerequisite: Music 551.

575. Thesis Research. (2). (See Music 575.)

576. Thesis. (2). (See Music 576.)


591-592. Seminar in Music History. (3-3). (See Music 591-592.)

593. Music of Antiquity Through the Renaissance. (3). (See Music 593.)

594. Music of the Baroque Era. (3). (See Music 594.)

595. Music of the 18th Century. (3). (See Music 595.)

596. Music of the 19th Century. (3). (See Music 596.)

597. Music of the 20th Century. (3). (See Music 597.)

PHYSICAL EDUCATION, HEALTH, AND RECREATION

SERVICE PROGRAM

All PE 101 activity courses will meet two class periods each week and will carry one hour credit. Such courses will count toward graduation requirements, but will not replace any required academic hours.

Juniors and seniors may enroll for three hours of physical educa-
tion per week for one hour of elective credit, not to replace any academic requirements for graduation.

When enrolling in PE 101 activity courses, the course numbers are to be followed in sequence to designate the semesters of activity courses already completed.

Physical Education for Men 101, 102, 103, 104, 105, 106, 107, 108 (1 hour each). Two hours per week to be elected each semester from the following activities:

*Group Activities:* Basketball, soccer, softball, touch football, speedball, volleyball, and varsity activities.

*Individual Activities:* Tennis, badminton, golf, bowling, swimming, weight training, adapted physical education.

*Gymnastics:* Tumbling, trampoline, and apparatus.

*Combatives:* Wrestling, karate.

Physical Education for Women 101, 102, 103, 104, 105, 106, 107, 108 (1 hour each). Two hours per week to be elected each semester from the following activities on the advise of the adviser and in specific instances, the physician.

*Team Sports:* Basketball, field hockey, soccer, speed-a-way, softball, volleyball.

*Individual Sports:* Badminton, bowling, tennis, golf, swimming, lifesaving, water safety, gymnastics, track and field events.

*Dance:* Folk dance, square dance, modern dance I, II, III, theater dance, social dance, ballet I, II, III, and orchesis.

*Miscellaneous:* Outing activities, recreational games, and special restricted activities.

Coeducational Physical Education 101, 102, 103, 104, 105, 106, 107, 108 (1 hour each). Two hours per week to be elected each semester from the following activities:

*Group Activities:* Volleyball.

*Individual Activities:* Tennis, badminton, bowling, swimming, fencing, ice skating, archery, bicycling, mountaineering, canoeing, jogging.

*Dance:* Folk dance, square dance, modern dance, theater dance, social dance, ballet orchesis.

*Combatives:* Karate.

**PROFESSIONAL PROGRAM REQUIREMENTS**

Teachers in Kansas schools in the field of physical education are required to have 24 hours preparation, including a minimum of five hours of health, physiology, first aid, or hygiene, and a minimum of 10 hours in physical education, including teaching methods in physical education.

**Major:** Required—PE 111, 115, 117, 212, 225, 329, 330, 433, and 444. Also PE 101, 102, 103, and 104 (service courses) will be required of all majors. Women majors must enroll in specifically designated sections. In addition to these courses one of the following options must be completed.

**Options**

In addition to the professional core requirements, the following options are offered:
(A) (Secondary Physical Education) (Women) PE 203W, 204 W, 324, 350W, 351W and electives chosen from the professional course offering to complete 40 hours.

(B) (Dance) (Women) PE 204W, 212, 223, 324, 350W or 351W, 446 and electives chosen from the following to complete 40 hours: PE 202, 203W, 400, 424, and 331.

(C) (Men) PE 204M, 218M, 311M, 312M, 331, 335M, 336M, and 337M. Men physical education majors must pass a sports skills proficiency examination before being permitted to enroll in PE 311M or PE 312M.

MINOR: The following courses are required in order to complete a minor in physical education: PE 111, 115, 329, and 330. In addition one of the following options must be completed.

Options

(A) (Physical Education) (Women) PE 212, 225, 203W, 204W, 350W or 351W. Prerequisite for 203W and 204W: Sports in specific areas. Prerequisite for 350W and 351W: Service courses in sports included in each course.

(B) (Dance) (Women) PE 212, 223, 324, 412, 424, 446. Prerequisite for professional courses are listed in the Catalog. Dance 101 courses are recommended.

(C) (Men) PE 204M, 218M, 225, 311M, 312M, 331 and three hours of electives. Men physical education minors must pass a sports skills proficiency examination before being permitted to enroll in PE 331M or PE 312M.

(D) (Men and women—Recreation) 202, 212, 225, 226, and 426. Minors with this option may be elected in the College of Liberal Arts and Sciences in accordance with transfer regulations.

PROFESSIONAL COURSES

Professional courses for physical education, health, and recreation are offered in the College of Education and, unless otherwise indicated, are open to both men and women. Course numbers followed by M are for men only; by W for women only.

Lower Division Courses

111. Introduction to Physical Education. (2). Prerequisite for professional sequence—A survey study of health, physical education, and recreation as to their identification, purpose, and interrelationship in the total field of education.

115. Personal and Community Health. (3).

117. First Aid. (2). Standard and/or advanced first aid with certification by the American Red Cross.


203W. Officiating Techniques for Women's Sports. (3). Includes the study of the philosophies and standards of DGWS, officiating techniques, basic skills,
testing procedures, and laboratory work. Prerequisite: PE 101 Basketball and Volleyball or consent of department.

204M. Body Mechanics and Gymnastics. (2). A fundamental skills and content laboratory course in gymnastics, designed to aid the physical education major in his ability to teach and coach this activity. Prerequisite: PE 101 Gymnastics or consent of department.

204W. Body Mechanics and Gymnastics. (3). 2R; 3L. Principles of body mechanics and application to gymnastics including free exercise, tumbling, apparatus, and trampoline. Prerequisite: PE 101 gymnastics, or consent.


212. Folk and Square Dance. (2). 1R; 2L. Materials from different countries and teaching methods for high school and recreational groups. Prerequisite: Sophomore standing or department consent.

218M. Fundamentals of Major Sports. (3). The elementary fundamentals of major sports. Emphasis on materials, techniques, theory, and coaching methods. Prerequisite: PE 111.

220M. Rules and Mechanics of Officiating. (2). 2R; 1L. Theory, rules, and mechanics of officiating major sports common to the high school and college athletic program.

223. Introduction to Dance. (2). 2R; 2L. History, philosophy, and basic background work in the field of dance. Prerequisite: One activity course in modern dance.

224. Methods in Modern Dance. (2). Teaching techniques and compilation of materials for teaching dance in educational programs. Prerequisite: One semester modern dance or equivalent.

225. Methods in Elementary School Physical Education. (3). 2R; 2L. A study of the curriculum and methods of teaching physical activities to elementary children. Includes practice in playing and teaching games in the normal progression used in elementary physical education; and field work with children of elementary school age. Prerequisite: Sophomore standing.

226. Introduction to Community Recreation. (2). A study of the philosophy, origin and development of modern recreation programs.

Upper Division Courses

300. Basic Driver Education and Training I. (3).

301. Advanced Driver Training II. (3).

311M. Techniques in Physical Education I. (3). 2R; 3L. Emphasis upon development of skill and assimilation of teaching techniques. Activities covered are soccer, golf, bowling, and badminton. Prerequisites: Pass the sports skills proficiency examination in the above activities.

312M. Techniques in Physical Education II. (3). 2R; 3L. Emphasis upon development of skill and assimilation of teaching techniques. Activities covered are wrestling, tennis, and volleyball. Prerequisite: Pass the sports skills proficiency examination in the above activities.

324. Methods in Modern Dance. (2). Teaching techniques and compilation of materials for teaching dance in educational programs. Prerequisite: One semester modern dance or equivalent.

329. Applied Human Anatomy. (3). 3R; 1L. A study of the structure and function of the skeletal and muscular systems of the human body with direct application to body movements in physical activities. Prerequisite: C or better in Biol. 100 or consent of department.
330. Kinesiology. (3). 3R; 1L. The study of human motion by means of muscular and mechanical analysis. Prerequisite: PE 329 with a grade of C or better or department consent.

331. Athletic Injuries and Training Techniques. (2). 2R; 1L. Injuries common to athletic activities, emphasizing prevention, first aid, treatment and care as prescribed by the team physician.

335M. Football Theory and Organization. (2). Advanced theory of team play, organization and management of competition, etc. Prerequisite: PE 218 or concurrent enrollment.

336M. Basketball Theory and Organization. (2). Theory of basketball, including methods of teaching fundamentals, individual and team offense and defense, various styles of play, and methods of coaching. Prerequisite: PE 218 or concurrent enrollment.

337M. Theory and Organization of Track and Field Athletics. (2). Selection of personnel, conditioning, training, and techniques. Prerequisite: PE 218 or concurrent enrollment.

350W. Methods in Team Sports. (3). 3R; 2L. Techniques and teaching progressions in basketball, softball, hockey, volleyball, and soccer. Organization of classes and contests, practical experience in officiating. Prerequisite: Satisfactory completion of 101 courses in the above sports or consent of instructor.

351W. Methods in Individual Sports. (3). 3R; 2L. Techniques and teaching progressions in golf, tennis, badminton, and archery. Organization of classes and contests, practical experience in officiating. Prerequisite: Satisfactory completion of 101 courses in the above sports or consent of instructor.

400. Health Education. (3 or 3). Health problems and organization of materials for health instruction. Individual projects for graduate students.

412. Methods and Materials in Folk and Square Dance. (2). 2R. Materials selected from American and European countries and teaching methods for school and recreational groups. Will include outside preparation dealing with source materials and methods. Prerequisite: PE 212 or consent of department.

424. Creative Dance in the Schools. (2). Discussion and laboratory work with emphasis on appropriate and sincere expression. Class work, reading, and observation of selected groups. Prerequisite: Modern Dance I or PE 223 or consent of department.


436. Camp Administration. (3). Modern practice in camp organization, program building, business practices, staff training and guidance. Problems in camping administration.

444. History, Philosophy, Curriculum, and Administration. (4). History, philosophy and objectives of physical education. The organizational and administrative problems of the health and physical education programs, and the management of the physical plant and curriculum.

446. Dance Composition and Production. (2). Prerequisite: Modern Dance I or PE 223 or PE 424 or consent of department.

450. Workshop in Education. (1-4).

455. Perspectives on Human Design and Behavior. (3). Survey of concepts from anatomy, medicine, biology, anthropology, neuropsychology—concerned with human form and behavior. Discussion of individual differences. Prerequisite: Consent of instructor. (Also Anthro. 455.)
495. Applied Health I. (2). Introduction to public health problems and practices. Field excursions arranged. Prerequisite: Department consent.

496. Applied Health II. (2). Intensive study of selected health problems with regard to illness prevention and the present state of world health. Prerequisite: PE 495 or department consent.

**Graduate Courses**

500. Recent Literature in Health, Physical Education, and Recreation. (3). Survey and critical analysis of research and other pertinent materials in the field.

510. Adapted Physical Education. (3). Philosophy, principles, and methods of adapting physical education and recreation activities to the needs of the handicapped and the exceptional individual; laboratory experience. Prerequisite: PE 330 or consent of department.

512. Advanced Techniques in PE. (3). Comprehensive coverage of selected physical activities with special emphasis on class procedures. Laboratory experiences.

515. Problems in Health, Physical Education, and Recreation. (1-4). Directed reading and research under supervision of a graduate instructor. Prerequisite: Department consent.

520. Foundations of Physical Education. (3). Examination of the philosophical and biological basis for physical education.

525. Physical Education in Elementary Schools. (2). New concepts, recent trends, methodology, programming, and supervision. For the elementary teacher and physical education specialist.


550. Analysis of Motor Skills. (3). Techniques of analyzing fundamental motor skills. Selected mechanical principles; fundamental motor skills analyzed in terms of the stated mechanical principles. Prerequisite: PE 330.

557. Seminar in Physical Education Problems. (3). Seminar in major problems in health, physical education, and recreation. Prerequisite: PE 500.

562. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Prerequisite: PE 557. May be repeated for a maximum total of two hours credit.


**SECONDARY EDUCATION**

**Upper Division Courses**

322. Individual Studies in Education. (2-3). (Each semester.)


A—Art Education in the Secondary Schools. (Same as Art Ed. 442.)

B—Field and Laboratory Methods in Biology.

D—Methods of Teaching Speech and Dramatic Art.

E—The Teaching of English. Preparation for student teaching of English composition, grammar, and literature. Required of all English majors expecting
to teach in junior and/or senior high schools, and strongly recommended for all English minors expecting to teach English in junior and/or senior high schools. Prerequisite: Completion of the requirements of the English department for English majors and minors planning to teach English in junior and/or senior high schools.

FL—The Teaching of Foreign Languages. Methods of teaching foreign languages, based on the audiolingual approach and applied linguistics contrasted with traditional methods. Laboratory techniques, transition into reading and writing, planning, evaluation of student progress.

Required of all foreign language majors expecting to teach in junior and senior high schools; strongly recommended for all minors expecting to teach.

H—Methods of Teaching the Social Studies in Secondary Schools. Preparation for student teaching in history, political science, economics, sociology and psychology. Meaning and content of the broad field of the social studies, materials for instruction, preparation of teaching units, and evaluating instruction and student progress in the social studies.

I—Methods of Teaching Industrial Education. Selection and arrangement of teaching content, methods of teaching, lesson planning, courses of study, testing and grading shop work, evaluating pupil progress, securing industrial education positions, and professional responsibility of the shop teacher.

P—Methods in Physical Education. Presentation and participation in methods of teaching physical education. Emphasis on techniques, skills, organization of activities, and classroom procedure.

R—Methods in Teaching Science and Mathematics. Preparation of the student for teaching in biological science, physical science, or mathematics. Materials for instruction, preparation of teaching units and evaluating instruction and student progress in the sciences or in mathematics.

S—Special Methods of Business Education. Prerequisite: Sec. Tr. 234 or Data Processing, Sec. Tr. 237, Acctg. 113 and 114.

443. Methods of Teaching in the Comprehensive General Shop. (3). 2R; 3L. Preparation for teaching industrial arts in the comprehensive general shop. Emphasis is placed upon theory, organization, and operation of a comprehensive general shop program. Prerequisite: Department consent. (Spring.)

447. Student Teaching. (Each semester.)

The student teaching semester is required of all those who are working toward a secondary certificate, and is a full-time assignment. Applications for approval to enroll in this program must be made to the coordinator of student teaching by March 1 of the semester prior to the year in which the student intends to enroll. In addition, students must obtain approval from the representative of the subject area in which they wish to student teach before placement will be considered.

It is expected that students will student teach in their field of major interest. However, individuals who are well prepared in more than one field may apply to student teach in a second field. Those desiring to student teach in two fields must take the special methods course in the second field before entering the student teaching semester.

The assignment for student teaching begins with the opening of the public school semester, and enrollees must arrange to meet from 8 a.m. to 5 p.m. daily and to be available for selected evening programs throughout the semester.
Credit for the student teaching semester will be entered on the transcript according to the following distribution:

Fd. Ed. 428.* Social Aspects of the Teaching Process. (2 or 3).
Ed. Psych. 433. Psychological Aspects of the Teaching Process (2 or 3).
Total—16 or 17 semester hours.

450. Workshops in Education. (1 to 4).

452. Special Studies in Education. (1-5). (a) Mathematics, (b) health and physical education, (c) language arts, (d) reading, (e) recent innovation, (f) science, (g) social studies, (h) other areas. Courses designed for secondary school teachers. Only one preselected area will be emphasized during a semester. (Prerequisite: Teacher certification or consent of instructor.) This course may be repeated with adviser's consent.

455. Aerospace-Aviation Education. (3). For those who have an interest in aviation education and particularly for those who plan to teach aviation in the secondary schools. There are two parts: (1) Aeronautical knowledge of the airplane and of flight and (2) general knowledge about aviation and aerospace. Part I will include the basic ground school subjects of aerodynamics, structures and propulsion, meteorology, navigation, communication and federal aviation regulations. Part II will present information concerning occupational opportunities and the influence of powered flight on modern society.

Graduate Courses

529. Secondary School Curriculum. (3). Basic curriculum concepts necessary to meet the needs of high school youth are studied. Major emphasis upon the conversion and improvement of high school curriculum to comprehensive designs, college preparatory and vocational, with studies of methods of curriculum evaluation.

530. Trends and Innovations in Secondary Education. (3). Emphasis is placed upon the factors bearing upon the development of a qualitative learning environment in the secondary school and the evaluation of current trends in the secondary school. Modular scheduling, team teaching, educational television, and interaction analysis are indicative of topics presented.

535. Problems in Teaching at the Secondary Level. (3). A course designed to study in depth new curricular designs and emphases in specific disciplines at the secondary level. Particular attention will be devoted to examining the latest curricular developments, new techniques in teaching, research in secondary education and new materials available in secondary disciplines. Students will be encouraged to place emphasis in their study upon the disciplines in which they teach.

536. Problems in Teaching Social Studies at the Secondary Level. (3). A course designed to study in depth new curricular designs and emphases in secondary social studies. Particular attention will be devoted to examining the latest social studies curriculum developments, new techniques for teaching the social studies, research in social studies education, and new materials available to the secondary social studies teacher.

537. Problems in Teaching Science at the Secondary Level. (3). A course designed to study in depth new curricular designs and emphases in secondary school science. Particular attention will be devoted to examining the latest science curriculum developments, new techniques for teaching the sciences,

* Fd. Ed. 427 may be selected in lieu of Fd. Ed. 428 in order to reduce the load in the student teaching semester.
methods of conducting research in science education, and new materials available to the secondary science teacher. (Summer.)

538. The Core Curriculum. (3). The study of the theory and philosophy of the core curriculum with practical application of aspects of this curricular organization to various fields of study. (Spring, summer.)

548. Teaching Reading in the Secondary School. (3). Emphasis upon the teaching of reading in the content areas. Secondary teaching experience or consent. (Spring, summer.)

550. Special Problems in Education. (1 to 4). Directed reading and research under supervision of a graduate instructor. Prerequisite: Department consent. (Each semester.)

557. Seminar in Secondary Education. (3). (Each semester.)

562. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Prerequisite: Ed. Psych. 560. May be repeated for maximum of two hours credit. (Each semester.)


**FOUNDATIONS OF EDUCATION**

**Lower Division Courses**


**Upper Division Courses**

425. History of Education. (3). Education's career in relation to other institutions (political, religious, etc.) in promoting and inhibiting social change. Prerequisite: Fd. Ed. 232. (Summer.)

426. Comparative Education. (3). Education systems of selected nations in terms of their unique structures and pervasive problems.

427. Educational Sociology. (3). Attention is given to the contributions of sociology and anthropology to the understanding of the school and its position in relation to contemporary social problems. Prerequisite: Fd. Ed. 232. May be substituted for 428 in student teaching semester. (Not open to those who have had Fd. Ed. 428.) (Each semester.)

428. Social Aspects of Education. (3). Part of the secondary student teaching block. For description, see Fd. Ed. 427 above. (Fall, spring.)

429. Philosophy of Education. (3). Introduction to the analysis of concepts such as mind, experience and knowledge in their relationship to educational problems and practices and to philosophical systems. Prerequisite: Fd. Ed. 232 or Phil. 121. (Spring.)

449. Education Anthropology. (3). A course dealing with the basic concepts of anthropology and their application to social science units in elementary and secondary school. Explores the nature of subcultures in American society and the problems they pose for the classroom teacher. A course for education majors and graduate students. (Also listed as Anthro. 449.) (Fall.)

*Prerequisites may be waived for equivalent experience by department consent.

THE COLLEGE OF EDUCATION 243

489°. Theories of Knowledge and the Curriculum. (3). What does it mean to "know" in the various curriculum areas, and what methods and measurements are implied? Prerequisite: Fd. Ed. 429 or consent.

Graduate Courses

526. Humanistic Foundations of Education. (3). The philosophic, historic and literary foundations of modern education. Emphasis will be on recent scholarship in these areas. (Fall, Summer.)

529°. Educational Classics. (3). Depth study of master works, ancient and modern, in education. Prerequisite: Consent of instructor. Prerequisite: Six hours of Fd. Ed.

534°. Basic Concepts of Citizenship. (3). Basic principles of citizenship as found in great treatises are discussed in the context of the democratic American tradition. Prerequisite: Six hours of Fd. Ed.

STUDENT PERSONNEL AND GUIDANCE

Upper Division Courses

450. Workshop in Education. (1-4).

452. Special Studies in Education. (1-5). (e) recent innovations, (h) other areas. Course designed for students with personnel and guidance interests. Different preselected areas may be emphasized during a semester. This course may be repeated with adviser's consent. Prerequisite: Consent of instructor.

Graduate Courses

501°. Principles and Philosophy of Guidance. (3). The development of a guidance philosophy and a survey and study of the several guidance services that are part of the modern elementary and secondary school guidance program. Not open to students with credit in SPG 423.

502. Introduction to Interaction Processes. (1). A laboratory approach to an examination of the counselor's role in the counseling process. Designed to aid the prospective counselor increase personal understanding of self as a variable in the counseling process. (Limited to SPG majors. To be taken concurrently with SPG 501. Not open to students with credit in SPG 424. May not be taken concurrently with SPG 525.)

503°. Counseling Theory. (2). A study of selected theories of counseling. Prerequisite: SPG 501 or concurrent enrollment.

505. Educating the Poorly Adjusted Individual. (3). Perceptual approach to the problems of emotionally disturbed and/or delinquent children and youth in both elementary and secondary schools.

506. Children of Poverty. (3). A perceptual approach to children and youth whose adjustment problems appear to be related to poverty in the affluent society.

510. Guidance Services for the Elementary School. (2). Examination of the role of the guidance counselor and techniques appropriate to guidance services in an elementary school setting. Prerequisite: SPG 501. Recommended: SPG 505 or SPG 506.

*Prerequisites may be waived for equivalent experience by department consent.

523. Psychometric Procedures in Counseling. (3). Survey and study of standardized tests and their application in counseling with an emphasis on their selection, use, and interpretation. Study of the basic concepts pertaining to the interpretation of psychological tests and inventories including basic measurement theory and the factors involved in the selection of tests. Prerequisite: SPG 501, Ed. Psych. 504 or concurrent enrollment.

524. Techniques of Counseling. (3). Through simulated counseling situations and extensive examination of counseling case studies, techniques of counseling are examined and practiced. Prerequisite: SPG 503.

525. Group Techniques in Guidance. (2). Laboratory approach to the study of group formation, process, and communication as a tool for guidance services. Prerequisite: SPG 501 or concurrent enrollment.

533. Administration of Guidance Services. (3). Administration theory with emphasis for the SPG major on relating theory to the problem of administration of guidance services. Prerequisite: 15 hours SPG.

550. Special Problems in Guidance. (1-4). Directed reading and research under supervision of a graduate instructor. Prerequisite: Department consent.

555. Individual Intelligence Testing in the Public School. (3). Use of individual tests for appraisal of intelligence. Prerequisite: SPG 523 or concurrent enrollment and consent of department.

556. Practicum in Individual Counseling. (3). (May be repeated.) Supervised practice in individual counseling. Prerequisite: SPG 524 and consent of instructor.

557. Seminar in Guidance. (2). Prerequisite: 15 hours in SPG sequence.

558. Diagnostic Testing. (3). Practice in the interpretation and evaluation of commonly used test results and student records to develop an educational diagnosis and a remediation program for individual students in the public schools. Prerequisite: Ed. Psych. 501, SPG 555 and consent of instructor.

562. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Prerequisite: Ed. Psych. 560. May be repeated for a maximum of two hours credit.

566. Practicum in Guidance Services. (3). Supervised work in administration, test interpretation, group counseling, and other activities of the guidance counselor. Prerequisite: SPG 533 and consent of instructor.

567. Practicum in Group Guidance and Counseling Methods. (3). Supervised practice in group guidance and group counseling. Prerequisite: SPG 525 and SPG 556 and consent of instructor.


* Prerequisites may be waived for equivalent experience by department consent.
Engineering facilities include holography and laser photography, a plasma tunnel and minicomputer systems.
The many recent technological developments in engineering have resulted in considerable modification of engineering curricula. To meet such technological needs, the College of Engineering is dedicated to providing a vigorous and challenging experience to all students admitted to engineering. In particular, the curriculum includes a great breadth of subject material covering a broad spectrum of fundamental technical knowledge. In addition to such technical material, the engineering programs contain a sufficient number of courses in humanities, social sciences, communications, mathematics and physical sciences. A proper balance in the curriculum prepares the students to hold professional positions in the scientific-industrial community after the BS degree, or prepares him by means of additional graduate offerings for a more active participation in research and advanced study.

The faculty provides the student with a basic core of knowledge including a large portion of scientific and analytical tools which will be required for the complex problems he is likely to face as an engineering leader. Thus, the student is being prepared for real-world problems which he will continually encounter throughout his professional career.

Because of the diverse nature of engineering subject material, the College of Engineering is organized into several degree granting departments. Curricula offerings in aeronautical, electrical, industrial and mechanical engineering are available at the Bachelor of Science level. The Master of Science degree is offered in aeronautical, electrical, engineering mechanics and mechanical engineering. A cooperative PhD program with the University of Kansas in the field of aeronautical engineering is available for graduate work beyond the master's level. See Graduate Bulletin for greater detail.

The curricula of the various departments at the undergraduate level contain a large portion of common courses (two years being common) with provisions for specialized departmental offerings in the following years. The student is allowed ample flexibility within a chosen major field to study select areas outside the "engineering core subjects." Detailed program requirements for the majors in the various engineering fields are given under departmental offerings.

The programs in engineering are offered in daytime and evening classes. The courses are the same whether they are taught in the daytime or at night. The curricula on the following pages are ar-
ranged for full-time sequences and contain all the requirements for
the various undergraduate degrees.

The curricula of the departments of aeronautical engineering,
electrical engineering and mechanical engineering are accredited
by the Engineers' Council for Professional Development.

Programs leading to the Master of Science degree are offered in
the departments of aeronautical, electrical and mechanical engineer-
ing.

The Doctor of Philosophy degree in aeronautical engineering
is offered in cooperation with the University of Kansas.

**ENTRANCE REQUIREMENTS**

Students may enter the College of Engineering from University
College, other degree granting colleges within the University, or
other universities and colleges, provided they have completed 24
semester credit hours with a 2.00 grade point index.

A student with less than 72 credit hours with less than a 2.00 but
more than a 1.70 grade point index will be admitted to the College
of Engineering on probation provided he has not been academically
dismissed from the entering institution. A student with more than
72 credit hours with less than a 2.00 grade point index will be
admitted on probation provided he has not been academically
dismissed from the entering institution and subject to the approval
of the Engineering Exceptions Committee.

Particular attention is called to Mathematics 142 as a first
semester offering in the engineering sequence of courses. A pre-
requisite for Math 142 is Math 141 or equivalent.

**Mathematics 141. Algebra and Trigonometry.** (5). Functions, theory of
equations and inequalities, complex numbers, the trigonometric functions, ex-
ponential and logarithmic functions, and other standard topics prerequisite
to a beginning study of analysis. Prerequisite: One and one-half units of
high school algebra or Math 52, and one unit of high school geometry or
Math 60. (For those students who doubt the adequacy of their mathematical
preparation, a placement examination is available for advisory purposes.)

**Mathematics 142. Introductory Analysis I.** (5). Analytic geometry and the
Calculus in an interrelated form. Prerequisite: Math 141 with a C or better or
two units of high school algebra, one unit of high school geometry, and one-
half unit of high school trigonometry. (For those students who doubt the
adequacy of their high school preparation, a placement examination is available
for advisory purposes.)

Engineering students who do not have high school physics will be
permitted to register for Physics 123. These students will then
normally be required to take Physics 244E when they have fulfilled
the prerequisites for this course. (Prerequisite to Physics 244E:
Math 243 with a grade of C or better and Physics 123 with consent
of the department, or Physics 243E). Students who have had high
school physics should prepare themselves with the proper mathematics prerequisites and enter the Physics 243E-244E sequence.

PROBATION AND DISMISSAL STANDARDS

PROBATION

A student will be placed on probation for the next term in which he enrolls if his cumulative grade point index falls below 2.00.

The student remains on probation if he earns at least a 2.00 grade point index in the term during which he is on probation and his cumulative grade point index does not yet meet 2.00.

Probation is removed when the cumulative grade point index reaches the required level.

A student also will be placed on probation for the next term in which he enrolls if his engineering major grade point index falls below 2.00 (the engineering major consists of the 43 hours of engineering core courses and the courses required by the student's engineering department). A student will not be placed on probation until he has completed 12 or more hours in his major at Wichita State University.

The student remains on probation if he earns at least a 2.00 engineering major grade point index in the term during which he is on probation and his cumulative engineering major grade point index does not yet meet the minimum standards.

Probation is removed when the engineering major grade point index reaches the required level.

A student on probation for not meeting either the required cumulative or the required engineering major grade point index may not enroll for more than 12 semester hours in an 18-week term, or six semester hours in a summer term, plus one hour of military or air science, physical education, or marching band. Exceptions to this limitation may be made on recommendation of the student's adviser with the approval of his dean. Such exception is to be recorded by the Committee on Admission, Advanced Standing, and Exceptional Programs.

ACADEMIC DISMISSAL

A student is subject to academic dismissal from the College of Engineering if he fails to satisfy the following criteria:

(1) if he is on probation because of his cumulative grade point index and if his grade point index for the term during which he is on probation falls below 2.00.*

* No student on probation because of a deficient cumulative grade point index shall be placed on academic dismissal for failure to raise this index until he accumulates 12 or more hours. When such a student has accumulated 12 or more hours, the cumulative grade point index including these hours shall be used to determine whether he shall be academically dismissed.
(2) if he is on probation because of his cumulative engineering major grade point index and if his engineering major grade point index for the term during which he is on probation falls below 2.00.†

READMISSION

A student who has failed to meet the necessary scholastic requirements and has been academically dismissed may apply to the College of Engineering Exceptions Committee for readmission consideration. It is the student's responsibility to supply the committee with sufficient reason for readmission consideration.

Students are expected to maintain a “C” average in all work for which they are registered for credit during any semester. Failure to maintain this standard implies the advisability of limiting the student's program.

No student shall be allowed credit toward graduation for D grade work in excess of one-quarter of total hours.

At the end of the first eight weeks in each semester, reports of unsatisfactory grades are set to the student.

CORE CURRICULUM

The curriculum in engineering is common for the first two years. For administrative purposes, the student is requested to choose a departmental curriculum in which to study. Change to another curriculum may be made during this period without loss of credit toward graduation.

Each of the curricula consists of three parts: (1) The general requirements of the University, (2) an “engineering core” program, and (3) specialized department courses.

As a portion of the general requirements of the University, the student must elect four hours of University core electives, as specified elsewhere in the Catalog.

Every engineering student is required to complete a total of 43 hours of courses from the following “engineering core courses.” Some of these courses are required as departmental prerequisites for the departmental offerings; the remainder of courses should be selected in consultation with a faculty adviser.

<table>
<thead>
<tr>
<th>Engineering Core</th>
<th>Hours Required</th>
</tr>
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<tbody>
<tr>
<td>Engr. 100, Engr. Perspectives</td>
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<tr>
<td>IE 110, Graphics I</td>
<td>2</td>
</tr>
<tr>
<td>Engr. 125, Intro. to Engr. Concepts</td>
<td>2</td>
</tr>
<tr>
<td>IE 213, Graphics II</td>
<td>2</td>
</tr>
<tr>
<td>IE 254, Engr. Probability and Statistics</td>
<td>3</td>
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</tbody>
</table>

† No student on probation because of a deficient engineering major grade point index shall be placed on academic dismissal for failure to raise this index until he accumulates three or more engineering major courses. When such a student has accumulated three or more engineering major courses, the cumulative engineering major grade point index, including the hours for the last three or more courses, shall be used to determine whether he shall be academically dismissed.

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The recommended sequence of courses for all engineering students is outlined below. This sequence has been planned for completion of the program in the minimum time and to satisfy all University course requirements and prerequisites for engineering students. Any deviation from this sequence should be discussed with the engineering faculty adviser.

A student may elect to take courses outside his major under the credit/no credit option. Under the option the grade for the course is recorded as "credit" if the student performs at a C or better level, and "no credit" if class performance is below the C level. A course major is defined as follows: "All courses in the Catalog Sequence of Courses (courses required for graduation designated by a course number) are considered as required courses for a student's major. In technical elective courses, a course will be considered a major if taken in the department in which the student is majoring."

Credit/no credit courses are allowed up to a 24 hour maximum and not more than two courses per semester.

SEQUENCE OF COURSES

AERONAUTICAL ENGINEERING

Rapid progress in the development of airplanes, missiles, and space vehicles presents challenging opportunities for engineers interested in research, development, design, and teaching. A strong fundamental knowledge in mathematics, physics, and the engineering sciences is required of those persons who will contribute to future developments in aeronautical and astronautical engineering.

The curriculum in this field offers students an opportunity to develop this foundation and acquire competence in professional fields such as aerodynamics, flight and orbital mechanics, propulsion, control systems, and structural mechanics. Emphasis is placed on the fundamental principles involved in aeronautical engineering so that graduates will be prepared to contribute to this rapidly changing and growing field with its wide variety of engineering applications. Engineers trained in this field also may find challeng-
ing careers in other industries which are making use of many advanced concepts similar to those developed in the aeronautical field.

The program requires the completion of 132 semester hours for graduation, less hours commensurate with honors and advanced placement credit.

### FRESHMAN

<table>
<thead>
<tr>
<th>Course</th>
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<th>Course</th>
<th>SECOND SEMESTER</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Engl. 111, College English</td>
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<tr>
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### SOPHOMORE

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### JUNIOR

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<th>Course</th>
<th>SECOND SEMESTER</th>
<th>Hrs.</th>
</tr>
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<tbody>
<tr>
<td>Engr. 361, Fluid and Heat Flow</td>
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<td>AE 384, Aerodynamics Theory</td>
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<tr>
<td>EE 392, Electrical Dynamics</td>
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<td>Physics 311, Modern Physics</td>
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<th>Course</th>
<th>SECOND SEMESTER</th>
<th>Hrs.</th>
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<tbody>
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<td>AE 425, Flight Struc. I</td>
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<td>AE 426, Flight Struc. Lab.</td>
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<tr>
<td>AE 412, Exper. Methods in AE</td>
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<td>AE 417, Projects in AE</td>
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<tr>
<td>AE 414, Flight Mechanics</td>
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<td>AE Technical Electives †</td>
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<td></td>
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<td>17</td>
<td></td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

* Engineering core electives totaling at least 13 hours must be chosen from the following courses:
† Technical electives may be chosen from any course numbered 300 or above in engineering, math., or any of the physical sciences, with the exception of BSAE required courses.

### ELECTRICAL ENGINEERING

In the electrical engineering department emphasis is placed on the intensive study of physical laws as appropriate to the study of modern electrical devices, including electrical machines. The laws governing the individual behavior as well as behavior in the interconnection of devices is particularly emphasized. Analysis and
synthesis of electrical networks, or systems, is of particular concern in specialized courses. The undergraduate program in electrical engineering is sufficiently flexible so that a student may choose a program particularly appropriate to communication systems, modern control theory, computers, energy conversion, network and system theory, biomedical engineering, and general electronics.

Students in this curricula are required to have a strong interest in mathematics and physics. As a part of the curriculum, students at the senior level are required to take a senior project of their own choosing under the supervision of a faculty member. The choice of subject material is varied, and represents a challenge to the student to exercise judgment and creativity in analysis or design. This program requires the completion of 133 semester hours for graduation, less hours commensurate with honors and advanced placement credit.

The specific requirements and suggested semester breakdown for the electrical engineering program is as follows:

### FRESHMAN

<table>
<thead>
<tr>
<th>Course</th>
<th>FIRST SEMESTER Hrs.</th>
<th>Course</th>
<th>SECOND SEMESTER Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl. 111, College English</td>
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<td>Engr. Core Elective</td>
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</tr>
<tr>
<td>Math. 142, Intro. Analysis</td>
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<td>Communications Elective</td>
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</tr>
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<td>Chem. 111, General Chemistry</td>
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<td>Math. 243, Intro. Analysis</td>
<td>5</td>
</tr>
<tr>
<td>Speech 111, Ext. Speaking</td>
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<td>Physics 249E, Gen. College Physics</td>
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### SOPHOMORE

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<th>FIRST SEMESTER Hrs.</th>
<th>Course</th>
<th>SECOND SEMESTER Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 223, Engr. Mech. I</td>
<td>3</td>
<td>EE 382, Electrical Dynamics</td>
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<tr>
<td>Humanities or Social Science</td>
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<td>ME 298, Thermodynamics</td>
<td>3</td>
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<tr>
<td>IE 254, Engr. Prob. and Statistics</td>
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<td>Math. 346, Differential Eq.</td>
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<td>Math. 244, Intro. Analysis III</td>
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### JUNIOR

<table>
<thead>
<tr>
<th>Course</th>
<th>FIRST SEMESTER Hrs.</th>
<th>Course</th>
<th>SECOND SEMESTER Hrs.</th>
</tr>
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<tbody>
<tr>
<td>Engr. Core Elective</td>
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<td>Engr. Core Elective</td>
<td>3</td>
</tr>
<tr>
<td>EE 392, Electronic Circuits</td>
<td>4</td>
<td>EE 480, Trans. and Freq. Anal.</td>
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</tr>
<tr>
<td>Physics 311, Topics in Mod. Physics</td>
<td>3</td>
<td>ME 369, Energy Conversion</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Social Science</td>
<td>3</td>
<td>Technical Electives</td>
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<tr>
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<td>17</td>
<td>Humanities and Social Science</td>
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</tr>
</tbody>
</table>

### SENIOR

<table>
<thead>
<tr>
<th>Course</th>
<th>FIRST SEMESTER Hrs.</th>
<th>Course</th>
<th>SECOND SEMESTER Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr. Core Elective</td>
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<td>EE 495, Elec. Design Prof. II</td>
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</tr>
<tr>
<td>EE 485, Elec. Design Prof. I</td>
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<td>Technical Electives</td>
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<tr>
<td>EE 486, Information Proc.</td>
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<td>Humanities and Social Science</td>
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<tr>
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<td>University Core Elective</td>
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<td>Humanities and Social Science</td>
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</tbody>
</table>

Technical electives may be chosen from (a) any 300 or 400 level EE course which was not required (at least six hours of technical electives must be selected from EE courses) (b) any 300 or 400 level engineering core course over and above the basic core requirement, (c) selected courses in mathematics and engineering outside the EE department with the approval of the student's advisor.
INDUSTRIAL ENGINEERING

The Department of Industrial Engineering is concerned with instruction and research in the design, analysis, and operation of integrated systems of men, material, equipment, and money. In addition to a strong interest in the solution of current, real problems found in industry, the curricula is devoted to the preparation of students who can examine and analyze problem areas that are amenable to a system’s engineering approach.

Sixteen hours of industrial engineering electives allows the student to tailor his program in one of the following primary options: (1) Operations research, (2) manufacturing systems, and (3) information systems. This scheme is completely flexible so that a student may specialize in a specific aspect of industrial engineering. A student’s program is determined by his own special interests and in consultation with his major adviser.

A modern, well equipped laboratory is also available to supplement classroom theory in human factors engineering, manufacturing processes, work measurement, and factory planning. In addition, the industrial engineering department has the responsibility for teaching all engineering graphics courses. To accomplish this end, the department maintains modern drafting rooms and drafting facilities. Also, the department is seeking to develop a modern sequence of engineering graphics courses oriented toward digital computer applications.

The industrial engineering program requires the completion of 133 semester hours for graduation, less hours commensurate with honors and advanced placement credit.

### FRESHMAN

<table>
<thead>
<tr>
<th>Course</th>
<th>First Semester</th>
<th>Hrs.</th>
<th>Course</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl. 111, College English</td>
<td></td>
<td>3</td>
<td>Communications Elective</td>
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</tr>
<tr>
<td>Chem. 111, General Chemistry</td>
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<td>5</td>
<td>IE 110, Engr. Graphics I</td>
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<tr>
<td>Humanities or Social Sciences</td>
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<td>Phys. 243E, Gen. College Physics</td>
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<tr>
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### SOPHOMORE

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<th>Course</th>
<th>Second Semester</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>AE 227, Engr. Dig. Comp.</td>
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<td></td>
<td>IE 254, Engr. Prob. and Statistics</td>
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### JUNIOR

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<th>Course</th>
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<th>Hrs.</th>
<th>Course</th>
<th>Second Semester</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Engr. 361, Fluid and Heat Flow</td>
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<td>IE 355, Engineering Economy</td>
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<td>Physics 311, Topics in Mod. Physics</td>
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254 COLLEGE OF ENGINEERING
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16

Engineering core electives may be selected from the following courses in consultation with the major adviser:

Engr. 363, E. M. Fields
ME 369, Energy Conversion
EE 392, Electronics Circuits
AE 398, System Dynamics

IE Electives may be selected from the following courses with the approval of the student’s major adviser:

<table>
<thead>
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<tr>
<td>IE 257 Tool Design I</td>
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<td>IE 356 Intro. to Num. Control</td>
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<td>IE 401 Probabilistic Methods in Operations Research</td>
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<td>IE 435 Project Engineering</td>
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<td>IE 449 The Human Factor in Engr. Design</td>
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<td>IE 450 Applied Operations Research II</td>
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<td>Engr. 464, Field Analysis</td>
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<td>Engr. 100, Engr. Perspectives</td>
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</tr>
<tr>
<td>Engr. 125, Intro. to Engr. Concepts</td>
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</table>

Industrial engineering electives may be selected from the following courses with the approval of the student’s major adviser:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>IE 257 Tool Design I</td>
<td>3</td>
</tr>
<tr>
<td>IE 452 Factory Planning</td>
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</tr>
<tr>
<td>IE 453 Production Control</td>
<td>3</td>
</tr>
<tr>
<td>IE 454 Statistical Quality Control</td>
<td>3</td>
</tr>
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<td>IE 455 M. Control and Parts</td>
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<tr>
<td>Prog. I</td>
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<tr>
<td>IE 456 Intro. to Information Systems</td>
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<tr>
<td>IE 458 Production Design</td>
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<td>IE 457 Management Inform.</td>
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<table>
<thead>
<tr>
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<tr>
<td>IE 450 Senior Projects in Ind.</td>
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<tr>
<td>Engr.</td>
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</tbody>
</table>

Electives taken in other departments may be selected with the approval of the student’s major adviser.

**MECHANICAL ENGINEERING**

The curriculum in mechanical engineering is based upon three central parts of an integrated program of study. The first part provides the student with a basic series of courses in physics, mathematics, and appropriate humanities. This is followed by a core of engineering science subjects embracing the concepts and techniques which are judged to be fundamental to the requirements of the modern mechanical engineer. The third part of the program permits the student to choose from a series of specialized mechanical engineering department electives in addition to choosing from a series of engineering core courses which best suit the needs and desires of the student. Study in all three of these fields is distributed throughout the entire curriculum in order to provide a fully integrated program. The undergraduate program in mechanical engineering is sufficiently flexible so that a student may choose a program which is appropriate to the fields of design, heat transfer, systems, thermodynamics, instrumentation, and experimentation.

The objective of this program is to provide a modern engineering education and a strong stimulus for continued learning which will enable the student to take an active and meaningful part in the technical and social community of today and tomorrow.

The program includes the technical and conceptual fundamentals which are necessary to permit the student to contribute to the technical or scientific community and/or continue his education at the graduate level. At the same time, the program is broad enough to help the student find an appreciation and concern for the social aspects of engineering.
problems which he will encounter in his professional and personal life.

The technical portion of the program will provide the background for a career in design, research, development, production and technical management in a wide variety of industries and fields. The course of study will equip the student for the development of systems and processes involving mechanical, thermal, and electrical energy, including the generation, conversion, metering, control, and utilization of these energy sources.

The student will be prepared to accept the challenges from almost the entire range of industry including electrical and heat energy generation, transportation by all modes, consumer products, manufacturing, environmental control and health engineering equipment. In fact, many employers seek the mechanical engineer because of his versatility.

The faculty and laboratory facilities of the department provide the elements for a well-balanced, coherent program. In the senior year, the program provides for a selection of specialized electives, where the student may emphasize the study of design, fluid flow, heat transfer, instrumentation, or systems and controls. The student is urged to work out a suitable program of study with consultation of the faculty. The program requires the completion of 135 semester hours for graduation, less hours commensurate with honors and advanced placement credit.

FRESHMAN

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Engl. 111, College English</td>
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<td>Math. 142, Intro. Analysis I</td>
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<td>IE 110, Engr. Graphics I</td>
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<td>Math. 243, Intro. Analysis I</td>
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<td>Physics 243E, Gen. College Physics</td>
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SOPHOMORE

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<tr>
<td>Speech 111, Ext. Speaking</td>
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<tr>
<td>Math. 244, Intro. Analysis III</td>
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<td>Physics 244E, Gen. College Physics</td>
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<tr>
<td>AE 223, Engr. Mechanics I</td>
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<td>AE 227, Dig. Computation</td>
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<td>ME 298, Thermodynamics I</td>
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<tr>
<td>Chem. 111, General Chemistry</td>
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<td>Math. 346, Diff. Equations</td>
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<td>IE 254, Engr. Prob. and Stat.</td>
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<td>AE 373, Engr. Mechanics II</td>
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JUNIOR

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<td>EE 382, Electrical Dynamics</td>
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<tr>
<td>AE 333, Mech. of Materials</td>
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<tr>
<td>Engr. 361, Fluid and Heat Flow</td>
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<td>Physics 311, Topics in Mod. Physics</td>
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<tr>
<td>AE 398, Systems Dynamics</td>
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<td>ME 301, Mech. Engr. Meas.</td>
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<td>ME 459, Mech. Engr. Design I</td>
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### SENIOR

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<tr>
<th>Course</th>
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<th>Course</th>
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<th>Hrs.</th>
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<tr>
<td>ME 402, Thermodynamics II</td>
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<td>ME Electives</td>
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<td>ME 441, Mech. Engr. Des. II</td>
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<td>ME Elective</td>
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Mechanical engineering electives may be selected from the following: ME 404, 405, 421, 422, 443, 456, 459, Math 335, 447. Appropriate courses from other engineering departments may be selected if they suit the academic needs of the student. Electives must have the approval of the student’s departmental adviser.

### OTHER ENGINEERING FIELDS

Students desiring to specialize in other fields of engineering may complete two years at Wichita before transferring. It is suggested that the student planning to transfer at the end of two years make the selection of his school as soon as possible in order to permit his program to be planned to meet the requirements of that school.

### GRADUATE WORK

The departments of aeronautical engineering, electrical engineering, and mechanical engineering supervise graduate programs leading to the degree of Master of Science as offered by the Graduate School. A notation on the diploma identifies the department of study. Various specializations are available in each of the departments.

The Doctor of Philosophy degree in aeronautical engineering is offered in cooperation with the University of Kansas.

Students must be accepted for graduate standing before any graduate work can be scheduled. Prospective students should obtain a *Graduate Bulletin* and the engineering graduate regulations prior to application for graduate standing.

### GENERAL ENGINEERING CURRICULUM

Majors and specialized curricula. See appropriate departmental offerings.

### Lower Division Courses

100. Engineering Perspectives. (1). Introductory course for freshman students with an interest in science and engineering. Lectures, tours, demonstration of laboratories and computing equipment. Small group sessions. Grade for the course will be credit/no credit. Prerequisite: Not open for enrollment to students with more than 32 hours or credit in Engr. 125.

125. Introduction to Engineering Concepts. (2). 4L. An introduction to the orderly approach to problem solving used in engineering by guiding the student through a comprehensive design project. Emphasis on problem formulat-

* Total of two hours required for graduation.
† Engineering core electives must be selected from the following list: AE 347, Engr. 100, 125, 363, ME 369, EE 392, AE 399, Engr. 464. A minimum of 11 hours of these engineering core electives are required for graduation, and must have the approval of the student’s departmental adviser.
tion and solution techniques as they are required in the design project. Prerequisities: Freshman standing with one and one-half units high school algebra. Not open for enrollment to students with more than 48 hours credit.


228. Computer Organization and Programming. (3). (Same as Computer Science 228.) Introduction to the basic concepts of computer organization and operation. Study of machine and assembly language programming concepts which illustrate basic principles and techniques. Prerequisite: CS or Engr. 199.

**Upper Division Courses**

300. Engineering Science in Society. (3). A course to demonstrate and explain—in depth but without technical jargon—developments in engineering science in the past century which have influenced large portions of society. Emphasis will be placed upon conceptual understanding of scientific phenomena and devices. Guest lecturers and demonstrations will be used extensively. Prerequisite: Upper division standing.

361. Fluid and Heat Flow. (4). 3R; 3L. Pressure and velocity fields, kinematics of perfect and real fluids; similarity; temperature fields and heat transfer. Conduction, convection, radiation; introduction to gas dynamics. Prerequisites: Physics 244E, Math. 346, and ME 298.


400. System Modeling. (3). Interdisciplinary subjects are considered to analytically develop simple models of real systems. These models are then fully exploited, to show similarities between systems performance and analysis techniques. Examples are taken from anthropology, sociology, economics, and technology. Senior or graduate standing recommended. Prerequisite: Consent of instructor.


**AERONAUTICAL ENGINEERING**

**Lower Division Courses**


**Upper Division Courses**


373. Engineering Mechanics II. (3). 3R. The laws of motion and the dynamics of particles and systems of particles. Prerequisites: AE 223 with C or better and Math. 244.


399. Experimental Mechanics Laboratory. (1). 3L. Selected experiments in mechanics of material and materials science. Experiment design, measurement and data interpretation. Prerequisite: AE 333, AE 347 or concurrent.

412. Experimental Methods in Aerodynamics Engineering. (2). 4L. Experimental methods and test planning, error analysis and propagation, model design, instrumentation, flow visualization. Use of subsonic and supersonic wind tunnels, shock-tube, etc. Prerequisite: AE 324 or concurrent.


417. Projects in Aeronautical Engineering. (1-2). Design, analysis, or research problems under supervision of faculty adviser. May be taken for one hour credit in each of two consecutive semesters. Department consent.

418. Missile and Space Dynamics. (2). Fundamentals of space vehicle trajectory and performance analysis. Prerequisite: AE 373.


426. Flight Structures Laboratory. (1). 3L. Special projects in the design and analysis of flight vehicle structures. Prerequisite: AE 425.


433. Advanced Strength of Materials. (3). Limitations and usefulness of basic concepts of resistance of materials. Advanced concepts, including theories of failure and stresses and deformation in thin plates, cylinders, nonsymmetrical and curved flexural members, noncircular bars in torsion, etc. Stress concentrations. Energy methods. Prerequisite: AE 333.


475. Selected Topics in Aeronautical Engineering. (1-3). Prerequisite: Department consent.

476. Selected Topics in Engineering Mechanics. (1-3). Prerequisite: Department consent.

477. Vibrations Analysis. (3). Free, forced, damped and undamped vibrations for one and two degrees of freedom. Classical, numerical and energy solutions for multidegree freedom systems. Introduction to continuous systems. Prerequisite: AE 398.


Graduate Courses in Aeronautical Engineering

There are two separate programs leading to the Master of Science degree—one in aeronautical engineering and the other in engineering mechanics. For details, see the Graduate School Bulletin.

Prerequisite for all graduate courses is department consent.


505. System Optimization. (3). Analytical and numerical techniques for minimizing or maximizing functions and the functionals occurring in engineering problems.


511. Aerodynamics of Nonviscous Fluids. (3). Equations of motion; potential flow, conformal transformations; finite wing theory; nonsteady airfoil theory.
Aerodynamics of Viscous Fluids. (3). Viscous fluid flow theory and boundary layers.


Theory of Elastic Stability. (3). Buckling and bending of columns, beams, plates, and shells. Prerequisite: Consent of instructor.

Finite Element Analysis of Structures I. (3). Development of basic stiffness matrices from elastic consideration. Analysis of statically indeterminate structures by force and displacement methods.

Finite Element Analysis of Structures II. (3). Analysis of structures by the direct stiffness method. Comparison of methods and selected topics in finite element analysis. Prerequisite: AE 521.

Theory of Thermal Stresses. (3). Thermal stress analysis of elastic systems. Prerequisite: AE 530.

Theory of Elasticity. (3). Elements of the common theory of elasticity with emphasis on two-dimensional problems in strain and stress.


Continuum Mechanics. (3). A unified development of the basic theories and equations of solids and fluids in invariant tensor notation. Formulation of problems of elasticity, plasticity and fluid mechanics. Prerequisite: Consent of instructor.

Experimental Stress Analysis. (3). The theoretical bases and techniques of the common method of experimentally determining stress and strain in structural and machine parts. Selected laboratory demonstrations.

Advanced Engineering Dynamics. (3). Kinematics and kinetics of particles and rigid bodies for two and three dimensional motion. Introduction to vibratory motion. Lagrange's equations.

Random Vibration. (3). Characterization, transmission and failure of mechanical systems subjected to random vibration. Analysis and measurement methods for random data. Prerequisite: Consent of instructor.

Energy Methods in Mechanics. (3). The principles of virtual work, potential energy, and potential coenergy applied to static equilibrium of rigid and deformable, discrete, and distributed mass bodies. Also, energy methods extended to the dynamics of discrete mass systems.

Transform Methods in Mechanics. (3). The LaPlace, Hankel, Legendre, Fourier, and Jacobi transform solutions of differential equations arising in engineering mechanics. Prerequisite: Consent of instructor.


Selected Topics in Engineering Mechanics. (1-3). New or special courses are presented under this listing, on sufficient demand. (May be repeated for credit when subject material warrants). Prerequisite: Department consent.
561. Selected Topics in Aerodynamics and Fluid Mechanics. (1-3). New or special courses are presented under this listing on sufficient demand. (May be repeated for credit when subject material warrants.) Prerequisite: Department consent.

562. Selected topics in Propulsion. (1-3). New or special courses are presented under this listing on sufficient demand. (May be repeated for credit when subject material warrants.) Prerequisite: Department consent.

563. Selected Topics in Guidance and Control. (1-3). New or special courses are presented under this listing on sufficient demand. (May be repeated for credit when subject material warrants). Prerequisite: Department consent.


676. Thesis. (1-16). May be repeated to a maximum of 36 hours.

**ELECTRICAL ENGINEERING**

**Upper Division Courses**

382. Electrical Dynamics. (4). 3R; 3L. Electric circuit analysis with emphasis on the time varying case: sinusoidal excitation, frequency response, network theorems, coupled circuits, polyphase circuits. Prerequisite: Math. 244, Physics 244E.

388. Electromechanical Energy Convertors. (4). 3R; 3L. Theory and analysis of electromechanical energy conversion devices. Prerequisite: EE 382 or department consent.

392. Electronic Circuits. (4). 3R; 3L. Physical electronics, electron beams; semiconductor, vacuum, and gaseous devices and their equivalent circuits; application to the field of information processing, power modulation, and simulation. Prerequisite: EE 382, Math. 346.

394. Logic Design and Switching Theory. (3). 2R; 3L. (Same as Computer Science 394.) An introduction to the theory and application of switching devices with particular emphasis on computer applications. Combinatorial, sequential, and threshold logic concepts and realizations; network minimization methods, hazards, codes, computerized logic design. Prerequisite: CS 311 and Physics 124 or equivalent or department consent.

477. Special Topics in Electrical Engineering. (1-4). New or special courses are presented under this listing on sufficient demand. May be repeated for credit. Prerequisite: Department consent.

480. Transient and Frequency Analysis. (4). 3R; 3L. Review of classical transient analysis and Fourier Series. Introduction to LaPlace and Fourier
Transforms with emphasis on network response; complex frequency concepts; signal spectra. Prerequisite: EE 392 or concurrent.

481. Pulse Electronics. (4). 3R; 3L. An investigation of active and passive circuits, including integrated circuits, for the generating and processing of pulse waveforms. Topics covering other nonlinear electronic circuits will be included. (e.g., class C amplifiers; nonlinear feedback; adaptive selection of linear circuits.) Prerequisite: EE 480 or department consent.

482. Energy and Information Transmission. (4). 3R; 3L. Transmission line parameters; power, signal and high frequency transmission lines; wave propagation in free space and bounded media; wave guides and antennas. Prerequisite: Engr. 464, EE 486 or concurrent enrollment.

483. Network Theory. (3). Matrix algebra, generalized theory and analysis of lumped parameter networks; introduction to network synthesis; symmetrical components. Prerequisite: EE 480.


485. Electrical Design Project I. (1). 3L. A design project under faculty supervision chosen according to the student's interest. Prerequisite: Department consent.


494. Digital Computer Design Fundamentals. (3). 3R. An introductory but reasonably detailed study of stored program digital computers from an integrated hardware-software approach. Consideration of computer logical design, arithmetic units and operation, large capacity storage systems, input-output units, and system integration. Prerequisite: CS or EE 394, EE 392 or department consent.

495. Electrical Design Project II. (1). 3L. Prerequisite: EE 485 or department consent.

496. Electron Dynamics. (3). Electron ballistics in static and dynamic fields, electron optics, beam deflection devices, space charge effects, velocity modulation principles and applications. Prerequisite: Physics 311 and Engr. 363.


498. Electric Energy Systems. (4). 3R; 3L. Concepts of electric energy systems; system model representation; high-energy transmission lines and load flow analysis with computer applications stressed. Prerequisite: EE 388 or ME 369.

Graduate Courses

573. Pulse, Digital and Switching Circuits. (3). Investigation of active and passive circuits used for the generation and processing of pulse, digital and switching waveforms. Such circuits are required in computers, control systems, counting and timing, data processing, instrumentation, communications, radar telemetry and television. Prerequisite: EE 481 or department consent.
576. Thesis. (1-3). This course may be repeated for credit toward a thesis option up to six hours. Prerequisite: Prior consent of thesis adviser.

577. Special Topics in Electrical Engineering. (3). New or special courses are presented under this listing on sufficient demand. May be repeated for credit. Prerequisite: Department consent.

578. Directed Studies in Electrical Engineering. (2-4). This course may be repeated toward the directed studies option up to four hours. The student must write a paper and give an oral presentation on the study made. Prerequisite: Department consent.

582. Methods of Systems Analysis. (3). Methods of analysis of both linear and nonlinear systems. Time-domain techniques; singularity functions, resolution of signals from elementary functions, solution of differential and difference equations. Transform techniques, LaPlace, Fourier and Z transforms, frequency spectra, complex frequency, complex integration, significance of singularities. Matrices and vector spaces as used in systems work. Prerequisite: EE 480 or department consent.

583. Electromagnetic Field Theory I. (3). Introduction to advanced mathematical treatment of electric and magnetic fields; boundary value problems; Maxwell's equations and applications to waveguide and cavity resonators. Prerequisite: Engr. 363 or department consent.

584. Electromagnetic Field Theory II. (3). Special topics in static and electrodynamic fields: Special solution techniques; moving reference frames, radiation. Prerequisite: EE 583.

587. Communication Theory. (3). Theory of information and noise; communication of information in presence of noise, channel capacity; modulation and multiplexing, sampling and coding; detection theory including effects of noise and nonlinear circuits, correlation methods. Prerequisite: EE 582.

588. Selected Topics in Antennas and Propagation. (3). Determination of characteristics of practical antenna systems; radiation patterns and antenna impedance; diffraction, horns, slots, etc.; wave propagation in the earth's environment, including tropospheric and ionospheric phenomena. Prerequisite: EE 583.

589. Advanced Electrical Laboratory. (2-6L). Training in fundamental experimental technology in some field of electrical specialization. This course will consist of selected experiments in various areas of electrical engineering. The general subject area will be announced each semester the course is offered. May be taken more than once for credit. Prerequisite: Department consent.

590. Topics in Control Systems. (3). A study of various concepts such as multiloop systems, multivariable systems and decoupling, nonlinear systems and sampled-data systems. Prerequisite: EE 484 or department consent.


593. State-Variable Techniques in Systems II. (3). A continuation of the study of state-space concepts in the areas of nonlinear systems, optimal and sub-optimal control of systems with wide classes of performance measures. Prerequisite: EE 592 or department consent.

596. Passive Network Synthesis. (3). A detailed study of the direct approach to network synthesis from the functional description. Topics include realizability conditions for passive networks, synthesis of LC, RL, RC and RLC driving point impedances, synthesis of LC transfer impedances. Butterworth and Chebyshev filters and time domain synthesis. Prerequisite: EE 582 or consent of instructor.

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597. Special Topics in Physical Electronics. (3). 3R. Special studies selected from the general topics: Electron optics, space-charge waves, plasmas, quantum electronics. Prerequisites: EE 496 and 497.

598. Advanced Energy Systems. 3R. Energy systems in steady-state optimum operating strategies; system steady-state control; surge phenomena; system faults and transient stability analysis. Computer applications are stressed. Prerequisite: EE 498 or department consent.

INDUSTRIAL ENGINEERING

Lower Division Courses

The following courses are devoted to concepts in engineering graphics: 110, 115, 213, 250, 257, and 260.

110. Engineering Graphics I. (2). 4L. Basic spatial relationships involving lines and planes, auxiliary views of solids, and problems in intersections. Prerequisite: Math. 141 with a C or better.

115. Architectural Drawing. (3). 9L. The study of materials and construction details pertaining to the design of simple buildings including preparation of working drawings and specifications. Prerequisite: IE 110 or department consent.

132. Industrial Fire Safety. (3). A study of the causes and effects of industrial fires with special emphasis on: (1) proper housekeeping procedures as a means of fire prevention, (2) criteria related to the handling and storage of flammable materials, (3) the role of fire fighting training in the industrial environment, (4) the analysis of the fire hazards associated with specific manufacturing processes, (5) the organizational concepts related to the development of an industrial fire fighting team, and (6) the control of and reaction to catastrophes. Prerequisite: Department consent.

133. Construction Methods and Materials. (3). The analysis of various building materials relative to their physical properties and their reaction to fire. Includes the study of various building configurations and their applicability to specific hazardous industrial operations. Concepts of fire-resistive enclosures, partitions, fire walls, or cutoffs will be discussed as they pertain to the degree of the fire hazards present. Possible sources of ignition as related to the vulnerability of the structure will also be treated in some detail. Prerequisite: Department consent.

203. Fire Protection Systems. (3). A study of the mechanical and procedural systems of fire protection. Includes an exposure to: (1) fire hydrant operating design criteria as well as location concepts, (2) the basic configuration and design of standpipes, (3) combustible vapor detectors, (4) automatic sprinkler systems, (5) flame arrestors, (6) flame-failure controls for oil- and gas-fired equipment, (7) explosion venting and pressure relief devices, and (8) automatic fire-resistive door and shutter design and operational concepts. Also includes an analysis of automated computer controlled fire detection systems as well as automated emergency fire dispatch systems. Prerequisite: IE 132.

213. Engineering Graphics II. (2). 4L. The application of descriptive geometry, standards in graphical communications and conventions to engineering design and analysis. Prerequisite: IE 110 with a C or better.

250. Topics in Engineering Graphics. (2). 4L. The application of engineering graphics to the study of special problems and to methods of conveying information. Prerequisite: Speech 244 or department consent.

254. Engineering Probability and Statistics. (3). Basic theory of probability and statistics with emphasis on applications to engineering. Prerequisite: Math 244 or concurrent.
257. Tool Design I. (3). 2R; 4L. Design of workholding devices for locating and holding workpieces for metal removal by machining processes, the design of small assembly jigs, and the design for pressworking tools. Prerequisite: Department consent.

260. Production Illustration. (2). 6L. The study of the graphical methods of presenting engineering information in the form of rendered pictorial (three dimensional) drawings. Prerequisite: IE 110 or department consent.

Upper Division Courses

352. Work Measurement. (3). 2R; 3L. Work measurement, motion and time study, biomechanics, work sampling, predetermined time standards and time formula derivation. Prerequisite: Department consent.


356. Introduction to Numerical Control. (2). An introduction to the concepts and techniques of the operation of machine tools from numerical data; including open and closed loop systems, point to point and continuous path processing, and a discussion of the various means of data representation. Prerequisite: Department consent.


435. Project Engineering. (2). Principles and practices of critical path methodology under conditions of certainty and uncertainty. Prerequisite: IE 254.

449. The Human Factor in Engineering Design. (2). The synthesis of human physiological, psychological, sociological and legal limitations and influence on design of consumer, public and experimental products. Prerequisite: Department consent.


453. Production Control. (3). Techniques of production planning, scheduling, and dispatching. Applications to automation and computer control. Prerequisite: Department consent.

454. Statistical Quality Control. (3). A continuation of IE 254 with special emphasis on quality and process control. Prerequisite: IE 254.

455. Numerical Control and Parts Programming I. (3). The study and application of the various parts programming languages with particular emphasis on the APT language. Prerequisite: IE 356 or department consent.
456. Introduction to Information Systems. (3). An introduction to the concepts and techniques of information systems; including open and closed loop systems, conventional control components and a discussion of the various means of data representation. Prerequisite: AE 227.

458. Production Design. (3). A general survey of the manufacturing and fabricating methods employed in industry. Special emphasis is placed on the latest manufacturing techniques.

465. Management Information Systems. (3). The design of systems to collect and display data for use in managerial decision models, production standards, engineering evaluations and reliability predictions, and real time systems. Prerequisite: IE 456 or department consent.

490. Senior Projects in Industrial Engineering. (1-3). Selection and research of a specific industrial engineering topic.

Graduate Courses

530. Advanced Linear Programming. (3). This course covers stochastic programming, integer programming, sensitivity analysis and the application of these techniques to specific problem areas. Numerical technique or geometric programming may also be included. Prerequisite: IE 450 and IE 451 or department consent.

531. Classical Optimization Techniques. (3). An extensive treatment of those optimization techniques which do not require the use of Linear Programming. A development of variational methods, direct search and numerically based techniques will be given. Prerequisite: Department consent.

533. Queuing and Inventory Theory. (3). An analytical analysis of the transient and steady-state behavior of queues and queuing systems. The relationship between queuing and inventory systems will be developed. Optimum inventory policies and optimum queuing system configurations will be discussed. Prerequisite: IE 450 and IE 451 or department consent.

535. Forecasting and Scheduling. (3). Analysis of prediction techniques in forecasting and scheduling by time series and probability models, smoothing techniques, error analysis. Prerequisite: Department consent.

540. Analysis of Decision Processes. (3). Time value of money; economics of equipment selection and replacement; engineering estimates; evaluation of proposals; computer analysis and solution of economic problems. Prerequisite: IE 355 or department consent.

542. System Simulation with Digital Computers. (3). Develops the methods and techniques for simulating large-scale systems with digital computers using Fortran and Gasp programming languages. Prerequisites: AE 227, IE 254, or department consent.

543. Operations Research. (3). A study of the theory and application of model building techniques for the problems found in industry. Linear and dynamic programming; queuing theory; allocation processes, inventory theory; experimental designs; utilization of digital computers. Prerequisite: IE 450 or department consent.

545. Production Engineering. (2). The organization, design and control of production and associated staff functions; formulation of manufacturing policies; case studies in production design.

MECHANICAL ENGINEERING

Lower Division Courses

298. Thermodynamics I. (3). The first and second laws. Thermodynamic analysis as applied to thermal, mechanical and fluid systems. Prerequisites: Math 244, Physics 243E.

Upper Division Courses

301. Mechanical Engineering Measurements. (3). 2R; 3L. An introduction to modern measurement techniques in mechanical engineering. Prerequisites: Math 346, Physics 244E.

369. Energy Conversion. (3). Energy conversion principles and their implementation in engineering devices; consideration of all main areas of converting energy from one form to another. Prerequisites: ME 298, Engr. 361, EE 382.

402. Thermodynamics II. (3). Continuation of ME 298 with emphasis on availability, irreversibility, Maxwell's equations, and thermodynamics property relations. Prerequisite: ME 298.

404. Instrumentation. (3). 2R; 3L. A more complete treatment of the measurement problem. Careful examination of modern instrumentation systems including dynamic behavior and nonlinearities. Criteria for design, synthesis and selection of instrumentation systems. Prerequisites: ME 301.

405. Design of Engineering Experiments. (3). Study of theoretical, analytic and statistical aspects of basic engineering experimentation. Theories of test planning, data checking, analysis and synthesis, and evaluation are considered. Prerequisite: Department consent.


422. Intermediate Heat Transfer. (3). A rigorous treatment of heat transfer including transient and multidimensional conduction, free and forced convection, radiation and combined heat transfer. Various analogies, numerical methods and approximate solutions are considered. Prerequisite: Engr. 361.


441. Mechanical Engineering Design II. (4). 3R; 3L. Continuation of ME 439, with emphasis on kinematic analysis, design of mechanical elements and other advanced topics in mechanical design. Prerequisite: ME 439.

443. Mechanical Engineering Design III. (3). Kinematic synthesis and dynamic analysis as applied to machine design. Introduction to mechanical control theory. Prerequisite: ME 441.

448. Mechanical Engineering Projects. (1 or 2). 3L or 6L. A design, analysis, or research project under faculty supervision. Problems are selected according to the student's interest. Departmental consent is required for students wishing to take both required hours in a single semester. Prerequisites: ME 301 and senior standing.

450. Topics in Mechanical Engineering. (1-3). Investigation of selected phases of mechanical engineering. Prerequisite: Department consent.

456. Analysis in Engineering. (3). Analytical techniques applied to engineering problems. Prerequisite: Math 346.
459. Mechanical Control I. (3). Theory and analysis of the dynamic behavior of mechanical, thermal, fluid and electro mechanical control systems as based on the laws of physics and linear mathematics. Prerequisite: AE 398 or department consent.

Graduate Courses

501. Boundary Layer Theory. (3). Development of the Navier-Stokes Equation, laminar boundary layers, transition to turbulence, turbulent boundary layers, introduction to homogeneous turbulence. Prerequisites: ME 557 and Math. 447, or department consent.

530. Cryogenic Engineering I. (3). Study of cryogenic problems in mechanical engineering involving production of low temperatures; properties of solids and liquids; fluid flow; heat transfer; insulation and applications at low temperatures. Prerequisites: Math. 447, ME 555, or department consent.

546. Fatigue and Wear. (3). A study of the phenomena or fatigue and wear of mechanical engineering design problems which involve high speed, vibrations and design. Prerequisite: Department consent.

549. Advanced Mechanical Engineering Design. (3). Studies of current mechanical engineering design problems which involve high speed, vibrations and dynamic loading. Prerequisites: Math. 447, or department consent.


552. Heat Transfer-Convection. (2). Free and forced convection in laminar and turbulent flow. Analysis and synthesis of heat transfer equipment. Prerequisites: ME 422 or department consent.

553. Heat Transfer-Radiation. (2). Analysis and synthesis of radiant heat transmission systems and components, analogous and approximate method of solutions. Prerequisites: ME 422 or department consent.

555 & 556. Advanced Thermodynamics. (3-3). Laws of thermodynamics, steady and unsteady flow, availability, Maxwell’s relations, kinetic theory, statistical concepts of thermodynamics, introduction to ionized gas theory, Boltzmann statistics, and other selected topics of interest. Neither course is prerequisite for the other. Prerequisites: ME 402 or department consent.

557. Advanced Fluid Dynamics. (2). Steady and transient flow of ideal, real and heterogeneous liquids and gases in simple and complex passages. Prerequisites: ME 421 or department consent.

559. Mechanical Control II. (3). Application of feedback methods to mechanical and combined control systems. Prerequisites: ME 459 or equivalent.

560. Electromechanical Control Systems. (3). Description, analysis, and design of electromechanical control systems with an emphasis on actual devices. Prerequisite: ME 459 or department consent.

561. Similitude in Engineering. (2). Critical analysis of models and analogies as aids to engineering design. Prerequisite: Department consent.

563. Advanced Transport Phenomena. (2). Combination of heat transfer, diffusion, and fluid dynamics theories in the determination of transport of mass, momentum, and energy. Prerequisite: Math. 447 or department consent.

567. Theory of Rational Design. (3). Design decision techniques including: frequency, axiomatic and Bayesian formulation, statistical inference techniques, Jaynes’ maximum entropy principle, error analysis. Prerequisite: Department consent.
568. Rational Design Methods. (3). The principles of creativity, decision theory, modeling, optimization and reliability as applied to problems of engineering design. Prerequisite: Department consent.

570. Special Topics in Mechanical Engineering. (3). New or special courses are presented under this listing on sufficient demand. Prerequisite: Department consent. May be repeated for credit when subject material warrants.

The College of Fine Arts is responsible for the instruction and education, scholarly study and inquiry, performance and practice in music and the visual arts. The College of Fine Arts is receptive to new and challenging concepts and experimental ideas to keep the arts in the forefront of contemporary society. Interdisciplinary cooperation within the various units of the college is encouraged. The College of Fine Arts seeks ways of expanding the overall concept of art in our society and hopes to serve as a laboratory for new artistic ideas, experiences, and philosophies in all art media and in all areas of artistic thought and expression. Students are afforded the opportunity of a complete spectrum of artistic endeavor whether they are interested in professional activities, teaching careers, graduate study, or increased knowledge about the arts. The College of Fine Arts provides for students the opportunity to understand various art forms with an open mind in order that these students will be able to respond to changes, developments, and challenges within the art world of the future. New techniques and historical research and information are necessary to these ends. The College of Fine Arts provides opportunities in order that students be active with the arts of the present time. The College of Fine Arts seeks to make the arts an integral part of the lives of all students and expand the role of the arts in the various communities that are served.

ADMISSION

All entering freshmen will be enrolled in the University College. Upon completing 24 semester hours of specified courses with a minimum grade point average of 2.00 the student is eligible to enroll in the Division of Art or the Division of Music.

Transfer students may enroll in the College of Fine Arts if transcript indicates that the student has completed a minimum of 24 semester hours with a minimum grade point average of 2.00 (C). Students with a grade average of at least 1.70, but less than 2.00, may petition for admittance. Transfer students who do not meet this minimum requirement will be enrolled in the University College until this requirement is met.

Freshmen planning to major in art or music should indicate this on the Application for Admission form by placing a mark opposite the words, “College of Fine Arts” and by writing the word “Art” or “Music” directly below.
PROBATION AND DISMISSAL

It is expected that students will make satisfactory progress in their studies. A student who fails to do so may be placed on probation at any time and ultimately dismissed from the University.

Students will be required to earn a grade point average of at least 2.00 each semester. Students enrolled in either the music education or art education programs must have a cumulative grade point average of 2.25 prior to enrolling in student teaching.

Students who do not achieve the required grade point average of 2.00 will be placed on probation for the following semester. Students on probation are limited to a maximum of 12 credit hours per semester while on probation. A student must maintain an average of 2.00 each semester while on probation. If the student fails to maintain this average each semester while on probation he will be dismissed from the University.

Students on probation who enroll in fewer than seven hours will not be dismissed for failure to raise the grade point average to the required level; however, if such a student has earned 12 or more hours in two or more terms, the grade point average of these hours shall be used to determine whether he is subject to dismissal.

To be removed from probation the accumulative grade point average will be 2.00.

A student who has been dismissed for poor scholarship may be readmitted by permission of his major division curriculum committee in the College of Fine Arts and the University Committee on Admissions, Advanced Standing, and Exceptional Programs.

DEGREE REQUIREMENTS

The College of Fine Arts offers four undergraduate degrees: Bachelor of Fine Arts, Bachelor of Art Education, Bachelor of Music, Bachelor of Music Education. Graduation requirements for each degree are listed in the descriptions of the appropriate division programs.

DIVISION OF ART

The Division of Art forms a portion of the College of Fine Arts. It is divided into four departments: Studio arts with four areas—drawing-painting, printmaking, ceramics, and sculpture; graphic design; art history; and art education. The departments pride themselves in their professional attainment as productive researchers and creative and exhibiting artists.

The departments offer professional courses designed to train and educate art students who are planning careers in the arts and to allow students in other colleges to gain an understanding and appreciation of art.
Two undergraduate degrees are offered by the Division of Art: The Bachelor of Fine Arts with major study in the following areas: Painting, printmaking, ceramics, sculpture, graphic design, and art history. Minor study is available in drawing or fashion illustration; and the Bachelor of Art Education which meets state requirements for teacher certification.

REQUIREMENTS

No student shall be allowed credit toward graduation for D grade work in excess of one-quarter of the total hours. A grade average of 2.00 or better must be earned on all work taken at this University which could be applied to the degree sought.

The division will accept the transfer of only one credit hour per semester of studio work totaling not more than six hours of the last 30 or 10 hours of the total number of hours required for graduation in nonresident work, such as extension or correspondence courses, provided these are from accredited institutions.

GENERAL REQUIREMENTS

The art courses which will fulfill the core curriculum requirements for graduation are: All art history courses except 463.

The division controls all art work or essays submitted for credit by the student and reserves the right to select certain pieces for its permanent collection.

All art materials, with the exception of certain nonexpendable equipment, are furnished by the individual student.

GRADUATE ART STUDIES

The Graduate School offers a program leading to a Master of Fine Arts, or a Master of Arts in art education, in art history, and in graphic design. For information concerning requirements for entrance and curriculum see art section in the Graduate School Bulletin.

ART COLLECTIONS OF THE UNIVERSITY

The Division of Art manages four collections of paintings, drawings, and prints. The art division collection to date, includes works by Albers, Friedlander, Gottlieb, Levine, Piza, Roualt, Trova, as well as graduate and undergraduate student work. The University Collection of American Prints and Drawings, to which acquisitions are added every year, contains a wide range of works of the 19th and 20th century; a few of the artists represented are Calder, Cassatt, Lichtenstein, Motherwell, Reinhart, Sloan, and Whistler. The Vermillion Collection, to date, includes a Krushenick,
Rayo, Summers, Tobey, and a Vasarely. The Bloomfield Collection comprises an important group of paintings from such matters as Sir William Beechy, Thomas Cole, Sir Peter Lely, and examples from the schools of Hubert Robert and Jacob Van Ruisdail.

**ART MAJOR OR MINOR FOR STUDENTS IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES**

**STUDIO—MAJOR:** Students will complete 39 art hours. These hours will be distributed as follows: 101, 102, and nine hours elected from art history courses; and 24 hours elected from studio courses.

**MINOR:** Students will complete 21 art hours. These hours will be distributed as follows: 101, 102, and 15 hours of electives.

**ART HISTORY—MAJOR:** Students will complete 30 art history hours. These hours will be distributed as follows: 101, 102, 463. A minimum of 13 hours in one language is required (German, French, or Italian).

**MINOR:** Students will complete 15 art history hours. These hours will be distributed as follows: 101, 102, and nine hours elected from other art history offerings.

**ART MINOR FOR STUDENTS IN THE COLLEGE OF EDUCATION**

Students will complete 18 art hours. These hours will be distributed as follows: 165, 240, 343, and one elected studio course and six hours of art history: 101, 102.

**GRADUATION REQUIREMENTS**

**BACHELOR OF FINE ARTS DEGREE**

In addition to the scholastic and residence requirements for graduation from this University, candidates for this degree in painting, printmaking, ceramics, sculpture, or graphic design will complete a total of 126 semester hours. These hours will be distributed as follows: 45 core curriculum hours * and 81 art curriculum hours. The student majoring in art history will complete a total of 124 semester hours. These hours will be distributed as follows: 45 core curriculum hours * and 79 art history and elective curriculum hours. Specific programs for each of these areas of the degree are listed on the pages which follow. Electives will be selected in consultation with adviser.

* **CORE CURRICULUM (45 hours recommended for the BFA degree)**

  I. Natural Sciences: 9 hours required
     Elect one course from each area. A minimum of four hours must be a laboratory science.
     Physical
     (1) Geology 111 (5 hours with lab).
     (2) Physical Science 101 (5 hours without lab).

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Biological:
   (1) Biology 100 (4 hours with lab).
   (2) Biological Science 102 (5 hours without lab).

II. Communications: 8 hours required.
   English 111 (3 hours).
   English 211 or 225 (3 hours).
   Speech 111 (2 hours).

III. Humanities: 15 hours required.
   Required:
   History of World Art I 101 (3 hours).
   History of World Art II 102 (3 hours).
   Elect one course in each of the following areas:
   History (3 or 4 hours).
   Literature (3 hours).
   Philosophy or Religion (3 hours).

IV. Social Sciences: 9 hours required.
   Elect one course in three of the following areas:
   Anthropology, all courses (3 hours).
   Economics (3 hours).
   Political Science: (3 hours).
   Psychology 111 (3 hours).
   Sociology (3 hours).

V. Electives: 4 hours required.
   Credit courses offered by any department except the student's major department.

STUDIO ARTS DEPARTMENT—DRAWING AND PAINTING

Based on a thorough preparation in drawing and painting, the major progresses through a structured program leading to the development of a personal style. Museums, galleries, and traveling shows form the basis of environmental exposure.

Requirements:
81 Art curriculum hours
   9 Art history hours
   21 Painting hours
   21 Drawing hours
   6 Printmaking hours
   24 Art elective hours
45 Core curriculum hours

Model Program

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<th>FRESHMAN</th>
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<tr>
<td><strong>FIRST SEMESTER</strong></td>
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<tr>
<td>165 (3) Drawing I</td>
<td>175 (3) Printmaking I</td>
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<td>101 (3) History of World Art I *</td>
<td>102 (3) History of World Art II *</td>
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<tr>
<td>271 (3) Painting I</td>
<td>272 (3) Painting II</td>
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<td>267 (3) Life Drawing I</td>
<td>268 (3) Life Drawing II</td>
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<tr>
<td>275 (3) Printmaking II</td>
<td>(3) Art elective</td>
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<tr>
<td>(3) Humanities *</td>
<td>(3) Social Science *</td>
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<td>111 (2) Speech *</td>
<td>(5) Physical Science *</td>
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<td>(2) Humanities *</td>
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* Satisfies core curriculum requirements.
### Junior

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<td>371 (3) Painting Studio</td>
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<tr>
<td>367 (3) Life Drawing Studio</td>
<td>367 (3) Life Drawing Studio</td>
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<tr>
<td>(3) Art elective</td>
<td>(3) Art elective</td>
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<tr>
<td>(3) Art History elective</td>
<td>(3) Art History elective</td>
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<tr>
<td>(4) Biological Science *</td>
<td>(2) Humanities *</td>
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<td><strong>16 Total hours</strong></td>
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### Senior

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<tr>
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<th>Second Semester</th>
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<tbody>
<tr>
<td>471 (3) Advanced Painting Studio</td>
<td>471 (3) Advanced Painting Studio</td>
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<tr>
<td>467 (3) Advanced Drawing Studio</td>
<td>367 (3) Advanced Drawing Studio</td>
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<td>(3) Art elective</td>
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<td>(3) Art History elective</td>
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<td><strong>15 Total hours</strong></td>
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### Drawing

#### Lower Division Courses


267 and 268. **Life Drawing I & II.** (3-3). Drawing from life with emphasis on figure construction. Anatomy sketchbooks and portfolios required. Prerequisite: Art 165.

#### Upper Division Courses

367. **Life Drawing Studio.** (3). Emphasis on individual development, figurative observation and interpretation. May be repeated for credit. Prerequisite: Art 267 and 268.

467. **Advanced Drawing Studio.** (3). Drawing with a variety of media. Graphic problems relative to individual technical and aesthetic development. Group critiques. May be repeated for credit. Prerequisite: Three semesters of Life Drawing.

#### Graduate Courses

501i. **Seminar in Art.** (3). Supervised study and research in the following art areas: Drawing. Weekly consultation and reports. Individual areas may not be repeated for credit. Prerequisite: Consent of instructor.

521 & 522. **Special Problems in Drawing.** (1 or 3, 1 or 3). Advanced drawing in various media with emphasis on independent work and development of personal expression. May be repeated for credit.

567. **Special Problems in Life Drawing.** (1 or 3). Drawing from life. Sketchbooks and portfolio required. May be repeated for credit.

577-578. **Terminal Project.** (3 or 5, 3-5).

### Painting

#### Lower Division Courses

229. **Introduction to methods and Media of Painting.** (3). Survey of painting methods from the 12th to 20th century. History and nature of materials. Includes encaustic, tempera, oil, oil-resin, synthetic media, groups, supports, and surface protection. Prerequisite: Prior or concurrent enrollment in painting, or art history major.

* Satisfies core curriculum requirements.

272. Painting II. (3). An introduction to watercolor painting in both transparent and opaque media. Prerequisite: Art 165.

Upper Division Courses

371. Painting Studio. (3). Emphasis on individual development, personal interpretation and creativity. May be repeated for credit. Prerequisite: Art 271 and 272.

471. Advanced Painting Studio. (3). For the professionally oriented student. Emphasis on independent achievement and preparation for graduate study. May be repeated for credit. Prerequisite: Art 371 and consent of the painting/drawing faculty.

Graduate Courses

501a. Seminar in Art. (3). Supervised study and research in the following art area: Painting. Weekly consultation and reports. Individual areas may not be repeated for credit. Prerequisite: Consent of instructor.

505 & 506. Special Problems in Painting. (3 or 5, 3 or 5). Professional and experimental painting with emphasis on the development of maturity, ideas, independent thinking, and personal expression. Mediums: oil, watercolor, synthetic media. May be repeated for credit.

561. Methods and Media of Painting. (3). Painting methods from the 12th to 20th century. History and nature of materials. Includes encaustic, tempera, oil, oil-resin, synthetic media, grounds, supports, and surface protection. Prerequisite: Consent of instructor.

577-578. Terminal Project. (3 or 5, 3 or 5).

STUDIO ARTS DEPARTMENT—PRINTMAKING

Exploitation of the etching process and exposure to tools and techniques of the graphic arts. Emphasis is placed on creativity plus encouragement to investigate new and traditional craftsman like techniques and methods.

Requirements:

- 81 Art curriculum hours
- 9 Art history hours
- 21 Printmaking hours
- 3 Design hours
- 15 Drawing hours
- 6 Painting hours
- 27 Art elective hours
- 45 Core curriculum hours

Model Program

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<th>FRESHMAN</th>
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<tr>
<td><strong>FIRST SEMESTER</strong></td>
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<tr>
<td>165 (3) Drawing I</td>
<td>175 (3) Printmaking I</td>
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<tr>
<td>171 (3) Basic two-Dimensional Design</td>
<td>102 (3) History of World Art II *</td>
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<td>101 (3) History of World Art I *</td>
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<td>111 (3) English *</td>
<td>(3) Humanities *</td>
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<td><strong>Total hours</strong> 15</td>
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* Satisfies core curriculum requirements.
## Lower Division Courses

175. **Printmaking I.** (3). An introduction to printmaking. Exploratory work in woodcut, relief, mixed techniques, and college intaglio.

275. **Printmaking I.** (3). Basic intaglio methods (etching, engraving, soft ground, aquatint, and mixed techniques). Prerequisite: Art 165.

## Upper Division Courses

375. **Printmaking III.** (3). Introduction to lithography, printing from the stone in black and white. Prerequisite: Art 175 or 275.

475. **Advanced Printmaking Studio.** (3). For the student interested in professional printmaking. Printmaking from the individual viewpoint with options in technique. Specialization in combined methods in color printing or black and white. May be repeated for credit. Prerequisite: Art 375.

## Graduate Courses

501b. **Seminar in Art.** (3). Supervised study and research in the following art area: Printmaking. Weekly consultation and reports. Individual areas may not be repeated for credit. Prerequisite: Consent of instructor.

507 & 508. **Special Problems in Printmaking.** (3 or 5, 3 or 5). Advanced printmaking on an individual basis; encouragement given to investigation and an experimental attitude combined with a craftsmanlike approach. Techniques include all intaglio methods, lithography and relief, black and white, and color. May be repeated for credit.

577-578. **Terminal Project.** (3 or 5, 3 or 5).

## STUDIO ARTS DEPARTMENT—CERAMICS

The ceramics major is exposed to his materials: building, throwing, clays, and glazes. Students investigate problems of glaze formulation, firing the kiln, and characteristics of clays and production.

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* Satisfies core curriculum requirements.
Requirements:
81 Art curriculum hours
  3 Art history hours
24 Ceramic hours
  6 Sculpture hours
12 Drawing hours
  3 Painting hours
  3 Printmaking hours
30 Art elective hours
45 Core curriculum hours

Model Program

FRESHMAN

First Semester
165 (3) Drawing I
181 (3) Ceramics I
101 (3) History of World Art I *
111 (5) English *
(5) Humanities *
15 Total hours

Second Semester
185 (3) Sculpture I
102 (3) History of World Art II *
(3) English, 211 or 225 *
(3) Social Science *
15 Total hours

SOPHOMORE

First Semester
281 (3) Ceramics II
267 (3) Life Drawing I
(3) Painting (271 or 272)
111 (2) Speech *
(5) Humanities *
(5) Social Science *
17 Total hours

Second Semester
282 (3) Ceramics III
268 (3) Life Drawing II
285 (3) Sculpture II
(3) Social Science *
(5) Physical Science *
17 Total hours

JUNIOR

First Semester
381 (3) Ceramics Studio
(3) Study of Ceramics Materials
(284 or 484)
367 (3) Life Drawing Studio
(3) Art elective
(4) Biological Science *
(2) Humanities *
18 Total hours

Second Semester
381 (3) Ceramics Studio
(3) Art History elective
(3) Art elective
(2) Humanities *
(2) Humanities *
17 Total hours

SENIOR

First Semester
481 (3) Advanced Ceramics Studio
(3) Art elective
(3) Art elective
(3) Art elective
(3) Art elective
15 Total hours

Second Semester
481 (3) Advanced Ceramics Studio
(3) Art elective
(3) Art elective
(3) Art elective
12 Total hours

Lower Division Courses

181. Ceramics I. (3). Introduction to hand building, wheel throwing, and glazing methods. Basic knowledge involving the physical characteristics of clay and glazes. Reading assignments.

281. Ceramics II. (3). Experience in hand building, wheel throwing, glazing methods. Lecture periods involving general knowledge of clays, glazes, kilns, historical and contemporary pottery.

282. Ceramics III. (3). Experience in hand building, wheel throwing, glazing methods and firing procedures. Lecture periods involving special studies of glazes and glaze materials, historical and contemporary pottery. Prerequisite: Art 181 or 281.

* Satisfies core curriculum requirements.
Upper Division Courses

381. Ceramics Studio. (3). Advanced studio problems involving forming methods. Experience in glaze formulation and kiln firing. Lecture periods of advanced studies of ceramic materials, historical and contemporary pottery. May be repeated for credit. Prerequisite: Art 282.

481. Advanced Ceramics Studio. (3). Advanced studio problems involving forming methods, glaze formulation, and firing procedures. Lecture periods involving advanced studies of ceramic materials and glaze formulation. May be repeated for credit. Prerequisite: Art 381.

484. Study of Ceramic Materials I. (3). Lectures and research covering clays, glazes, and refractory materials. Reading assignments concerning physical and chemical characteristics of pottery materials.

Graduate Courses

501c. Seminar in Art. (3). Supervised study and research in the following art area: Ceramics. Weekly consultation and reports. Individual areas may not be repeated for credit. Prerequisite: Consent of instructor.

511 & 512. Special Problems in Ceramics. (3 or 5, 3 or 5). Research in advanced problems in ceramics. May be repeated for credit.

548. Advanced Research of Ceramic Materials. (3). Lectures and advanced research covering clays, glazes, and refractory materials. Reading assignments concerning physical and chemical characteristics of pottery materials. Note-book and outside lab work required.

577-578. Terminal Project. (3 or 5, 3 or 5).

STUDIO ARTS DEPARTMENT—SCULPTURE

The program is designed to provide a solid grounding in basic techniques and materials and to expose students to the past and present directions in sculpture. A professional attitude is emphasized with the exploration of traditional and experimental methods and media.

Requirements:

- 81 Art curriculum hours
- 9 Art history hours
- 21 Sculpture hours
- 3 Ceramic hours
- 15 Drawing hours
- 3 Painting hours
- 3 Printmaking hours
- 24 Art elective hours
- 45 Core curriculum hours *

Model Program

**FRESHMAN**

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<tr>
<td>165 (3) Drawing I</td>
<td>(3) Art elective</td>
</tr>
<tr>
<td>185 (3) Sculpture I</td>
<td>(3) Printmaking (175 or 275)</td>
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<td>101 (3) History of World Art I *</td>
<td>102 (3) History of World Art II *</td>
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<tr>
<td>111 (3) English *</td>
<td>(3) English, 211 or 225 *</td>
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<tr>
<td>(3) Humanities *</td>
<td>(4) Biological Science *</td>
</tr>
<tr>
<td><strong>15 Total hours</strong></td>
<td><strong>16 Total hours</strong></td>
</tr>
</tbody>
</table>

* Satisfies core curriculum requirements.
### Lower Division Courses

185. Sculpture I. (3). An introduction to basic sculpture techniques and materials. Direct work in plaster, clay, wood and metal; casting in plaster and concrete.

285. Sculpture II. (3). An introduction to sculptural techniques in welded steel, assemblage, and vacuum formed plastic. Prerequisite: Art 185.

### Upper Division Courses

385. Sculpture Studio. (3). Special emphasis on the main approaches to sculpture. Stress is placed on the form, concept and construction of sculpture. Carving techniques in wood, stone, and/or plastic. Construction and assemblage techniques selected from wood, plastic, metal (welded, brazed, riveted, etc.) and/or combined materials. May be repeated once for credit. Prerequisite: Art 285.


485. Advanced Sculpture Studio. (3). Sculpture in any medium with an emphasis on personal development and creativity. May be repeated for credit. Prerequisite: Art 385.

### Graduate Courses

501d. Seminar in Art. (3). Supervised study and research in the following art area: Sculpture. Weekly consultation and reports. Individual areas may not be repeated for credit. Prerequisite: Consent of instructor.

509 & 510. Special Problems in Sculpture. (3 or 5, 3 or 5). Advanced sculpture with emphasis on experimentation and high quality work on an individual basis. Special projects in casting, architectural sculpture, mixed media, or new materials and techniques will be stressed. May be repeated for credit.

577-578. Terminal Project. (3 or 5, 3 or 5).

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*Satisfies core curriculum requirements.*
**GRAPHIC DESIGN DEPARTMENT—COMMERCIAL ART**

Professional program for students interested in a career in the field of visual communication. Conceptual and practical problem-solving in various media: photography, typography, design, and drawing directed toward the development of design skills for communication purposes.

**Requirements:**

81 Art curriculum hours  
 3 Philosophy of Art hours  
36 Graphic Design hours  
13 Drawing hours  
3 Basic Design hours  
3 Color hours  
3 Painting hours  
20 Art elective hours (Graphic Design and related areas)

45 Core curriculum hours *

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<tr>
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<tr>
<td><strong>FRESHMAN</strong></td>
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<tr>
<td>165 (3) Drawing I</td>
<td>193 (3) Color</td>
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<tr>
<td>171 (3) Basic Two-dimensional Design</td>
<td>102 (3) History of World Art II *</td>
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<td>101 (3) History of World Art I *</td>
<td>(3) English, 211 or 225 *</td>
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<td>111 (3) English *</td>
<td>(3) Humanities *</td>
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<td><strong>SOPHOMORE</strong></td>
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<td>FIRST SEMESTER</td>
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<tr>
<td>295 (3) Basic Typography</td>
<td>297 (3) Layout &amp; Production Techniques</td>
</tr>
<tr>
<td>287 (3) Life Drawing I</td>
<td>268 (3) Life Drawing II</td>
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<td>288 (3) Design Media I</td>
<td>239 (3) Design Media II</td>
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<tr>
<td>299 (3) Drawing for Commercial Art</td>
<td>272 (3) Painting II</td>
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<td>FIRST SEMESTER</td>
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<tr>
<td>393 (3) Graphic Design I—Theory</td>
<td>394 (3) Graphic Design II</td>
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<td>387 (3) Fashion Illustration I</td>
<td>388 (3) Fashion Illustration II</td>
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<td>399 (1) Drawing for Commercial Art</td>
<td>397 (3) Advertising Illustration</td>
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<td>111 (2) Speech *</td>
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<td>(4) Biological Science *</td>
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<td>SENIOR (Select one area—Graphic Design or Fashion Illustration)</td>
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<td>FIRST SEMESTER—Graphic Design</td>
<td>SECOND SEMESTER—Graphic Design</td>
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<td>493 (3) Graphic Design III—Media</td>
<td>494 (3) Graphic Design IV</td>
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<td>(3) Art 497 or 487</td>
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<td>SECOND SEMESTER—Fashion Illustration</td>
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<tr>
<td>487 (3) Advanced Fashion Illustration</td>
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<td>493 (3) Graphic Design III—Media</td>
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<tr>
<td><strong>15 Total hours</strong></td>
<td><strong>16 Total hours</strong></td>
</tr>
</tbody>
</table>

* Satisfies core curriculum requirements.

282 COLLEGE OF FINE ARTS
Lower Division Courses

171. Design I. (3). Introduction to the principles of design and practice in various media. A study of the two-dimensional surface in relation to the formal elements of space, form, color and consequent structure. (Formerly Art 142.)

172. Design II. (3). Introduction to the principles of three-dimensional design. A study of relationships of mass and space using diverse media.


238. Design Media I. (3). Introductory course in photography and related materials (color-key, ortho film for process and plate-making). Prerequisite: Art 171 and consent of instructor.

239. Design Media II. (3). Introductory course in motion picture photography and television. Prerequisite: Art 238 and consent of instructor.

295. Basic Typography. (3). Lettering as related to type families and applied to advertisements. A study of type and its use. Prerequisite: Art 165 and 171.


299. Drawing for Commercial Art. (3). Directed practice in drawing in various media with emphasis on its application to commercial art. Prerequisite: Graphic design major or consent of instructor.

Upper Division Courses

338. Design Media Studio. (3). Advanced study of photography. May be repeated for credit. Prerequisite: Art 238 and consent of instructor.


388. Fashion Illustration II. (3). Development of the fashion figure. Interpretation of varied textures of furs, fabrics, leathers, etc. Problems in layout peculiar to fashion advertising. Work in media for newspaper and magazine reproduction. Prerequisite: Art 387.

393. Graphic Design I—Theory. (3). Experimentations with visual phenomena and its use in the communication of ideas through visual means. Studio practice coordinated with discussion of art theory, philosophy, and history of design. Prerequisite: Art 297.

394. Graphic Design II. (3). Introduction to printing processes; letterpress, offset printing, and photo-silk screen. Prerequisite: Art 239 and 393.

397. Advertising Illustration. (3). Development of skills in pictorial graphics. Their application to the needs of editorial and advertising illustration. Black and white media. May be repeated for credit. Prerequisite: Art 267, 272 and 299.

399. Advanced Drawing for Commercial Art. (1). Directed practice in drawing for commercial art. Outside assignments with weekly critique. Maximum credit four hours by reenrollment. Prerequisite: Consent of instructor.

455. Color and Design. (3). The psychology and optics of color perception and expression in design. Application of color theory to film making, exhibition design, and advertising.


COLLEGE OF FINE ARTS 283
487. **Advanced Fashion Illustration.** (3). Fashion drawings of costumed models for newspaper and magazine layouts. Merchandising and fashion elements analyzed in black and white and color. Consideration of reproduction requirements. May be repeated for credit. Prerequisite: Art 388.

493. **Graphic Design III—Media.** (3). Application of design media in the applied arts. May be repeated for credit. Prerequisite: Art 394.

494. **Graphic Design IV.** (3). A comprehensive study of the corporate image. Development, coordination, and execution of a corporate design program. This course emphasizes conceptual aspects of graphic design. May be repeated for credit. Prerequisite: Art 394.

497. **Advanced Advertising Illustration.** (3). Continuation of Art 397. Color media. May be repeated for credit. Prerequisite: Art 397.

501j. **Seminar in Art.** (3). Supervised study and research in the following art area: Graphic design. Weekly consultation and reports. Individual areas may not be repeated for credit. Prerequisite: Consent of instructor.

551. **Graphic Design Media.** (3). Application of design media in the applied arts. May be repeated for credit.

553. **Typography.** (3). The study of typography in visual communication and its use in graphic design. Laboratory work in designing, setting, printing and binding original design.

555. **Graphic Design Theory.** (3). Experimentation in visual phenomena and its used in the communication of ideas through visual means. Studio practice coordinated with discussion on design theory, philosophy and history of design. May be repeated for credit.

557. **Production Techniques.** (3). Laboratory problems in planning and executing design work for the various graphic media. A study of office practices related to the operation of a studio and the production of art.

577-578. **Terminal Project.** (3-3).

**ART HISTORY DEPARTMENT**

The program is designed to prepare students for the whole range of activities related to the art of the past: Criticism, both college and secondary level teaching, and conservation. Students are exposed to a view of art from earliest times to the present. The language of art as well as the historical framework is emphasized.

**Requirements:**

79 Art curriculum hours
30 Art history hours
13 Foreign language hours
36 Elective hours
45 Core curriculum hours *

**Model Program**

**FRESHMAN**

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>SECOND SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>101 (3) History of World Art I</td>
<td>102 (3) History of World Art II</td>
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<tr>
<td>111 (3) English *</td>
<td>(3) English 211 or 225 *</td>
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<td>(3) Elective</td>
<td>(3) Elective</td>
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<tr>
<td>15 Total hours</td>
<td>15 Total hours</td>
</tr>
</tbody>
</table>

* Satisfies core curriculum requirements.

284 **COLLEGE OF FINE ARTS**
**Lower Division Courses**


161. Introduction to the Visual Arts. (3). An introduction to the understanding of images and materials in the visual arts in relation to the geographical, historical, religious, social, and economic conditions of the Western world. Designed for the nonart major.

211. Greek Art. (3). An introductory study of Greek art from the Archaic to Hellenistic periods. The course will cover architecture, sculpture and vase painting, with emphasis on the art of Pericles' Athens.

212. Roman Art. (3). An introduction to the art of Rome from the age of Augustus to the age of Constantine.

221. Italian Renaissance. (3). A study of the architecture, sculpture, and painting from the 13th century to the 16th. Emphasis will be given to early developments in Florence and Siena and late developments in Rome.

222. Italian Baroque. (3). A study of Baroque painting, sculpture, and architecture in Rome, Venice and Bologna from 1600 to 1750, with emphasis on the Carracci, Bernini and Tiepolo.

**Upper Division Courses**

302. 18th and 19th Century European Art. (3). A history of European art from Watteau through post-Impressionism.

303. 18th and 19th Century American Art. (3). A history of American art from the colonial period through the 19th century.


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* Satisfies core curriculum requirements.

307. Medieval Art I. (3). A study of the art of Europe and Byzantium from the time of Constantine to Charlemagne. An emphasis will be put on style and iconography as it develops in mosaics and illustrated manuscripts.

308. Medieval Art II. (3). A study of Romanesque and Gothic architecture and sculpture with special attention being given to the developments in France.

313. Art of the Ancient Near East. (3). Survey of the arts of ancient Egypt and Mesopotamia, concluding with a consideration of the interaction between Near Eastern art and Classical art.


421. Northern Renaissance. (3). A study of French, Flemish, and German painting from Parisian illumination in the 14th century to Durer.

422. Northern Baroque. (3). A study of the art of Flanders and Holland during the 17th century. While a variety of artistic expression is shown with examples from a great many artists, the discussion culminates in an extensive study of the two dominant figures, Peter Paul Rubens and Rembrandt Van Rijn.

463. Seminar: Techniques of Art History. (3). A culminating study for seniors majoring in art history in which will be considered the history of the discipline, its research methods and theory. Extensive readings and reports. Prerequisite: Consent of instructor.

Graduate Courses

501g. Seminar in Art. (3). Supervised study and research in the following art area: Art history. Weekly consultation and reports. Individual areas may not be repeated for credit. Prerequisite: Consent of instructor.

531. Seminar: Art of the 18th and 19th Centuries. (3). Selected readings and problems in 18th and 19th century art, emphasizing aesthetic theory and the history of ideas. Prerequisite: Consent of instructor.

532. Seminar: Art since 1945. (3). Selected readings and problems in contemporary art. Prerequisite: Consent of instructor.


BACHELOR OF ART EDUCATION DEGREE

In addition to the scholastic and residence requirements for graduation from this University, candidates for this degree will complete a minimum of 131 semester hours. These hours will be distributed as follows: 51 core curriculum hours, 39 studio art curriculum hours, six art history hours, 16 art education hours, and 19 education hours. Electives will be selected in consultation with adviser.

The following program fulfills both the University general requirements for graduation and the Kansas certification requirements for teaching art at the secondary and elementary levels.
CORE CURRICULUM (51 hours recommended for the BAE degree)

I. Natural Sciences: 12 hours required.
   Elect in at least two areas. A minimum of four hours must be a laboratory science
   Physical:
      (1) Geology 111 (5 hours with lab).
      (2) Physical Science 101 (5 hours without lab).
   Biological:
      (1) Biology 100 (4 hours with lab).
      (2) Biological Science 102 (5 hours without lab).
   Engineering:
      (1) Engineering Science in Society 300 (3 hours).

II. Communications: 8 hours required.
    English 111 (3 hours).
    English 211 or 225 (3 hours).
    Speech 111 (2 hours).

III. Humanities: 15 hours required.
     Required:
        Art History (6 hours).
        Literature (6 hours).
     Elect one course from the following areas:
        History (3 or 4 hours).
        Philosophy or Religion (3 hours).

IV. Social Sciences: 12 hours required.
     Required:
        Psychology 111 (3 hours).
     Elect in two of the following areas:
        Anthropology, all courses (3 hours).
        Economics (3 hours).
        Political Science (3 hours).
        Sociology (3 hours).

V. Electives: 4 hours required.
    Credit courses offered by any department except the student's major department.

STUDENT TEACHING

Admission into the student teaching semester requires senior standing (90 hours—200 credit points); a minimum cumulative grade-point index of 2.25 and 2.50 in art courses at the time of application for student teaching; grade of C or better in English 111 or its equivalent; a grade of C or better in Speech 111; completion of Ed. 232, 333; Art Education 241, 343, 442; satisfactory physical examination; recommendation by the Department of Art Education. Applications for student teaching must be on file with and approved by the chairman of art education by mid-term of the spring semester prior to the academic year in which student teaching is anticipated.

ART EDUCATION DEPARTMENT

A professional program for students interested in art teaching. A structured program preparing majors to teach and supervise at various education levels. All majors are encouraged to specialize in either studio or art history offerings.

COLLEGE OF FINE ARTS 287
**Requirements:**

- 61 Art curriculum hours
- 39 Studio art hours
- 16 Art education hours
- 6 Art history hours (above 100 level)
- 19 Education hours
- 51 Core curriculum hours

**Model Program**

### FRESHMAN

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<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>SECOND SEMESTER</th>
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<tr>
<td>101 (3) History of World Art I</td>
<td>102 (3) History of World Art II</td>
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<tr>
<td>111 (3) English</td>
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### SOPHOMORE

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<tr>
<td>267 (3) Life Drawing I</td>
<td>268 (3) Life Drawing II</td>
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<td>271 (3) Painting I</td>
<td>272 (3) Painting II</td>
</tr>
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<td>232 (4) Intro. Study of Teaching (Ed.)</td>
<td>(3) Art Elective (3-D Area)</td>
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<td>4 (4) Natural Science (Biological)</td>
<td>(3) Art Specialization elective</td>
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<td>445 (3) Devel. Visual Mat. (Art Ed.)</td>
<td>333 (3) Sec. School Student (Ed.)</td>
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<td>3 (3) Social Science</td>
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### SENIOR

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<th>SECOND SEMESTER (Teaching Block)</th>
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<tbody>
<tr>
<td>343 (3) Fiber &amp; Fabric (Art Ed.)</td>
<td>406 (4) Art Curricular (Art Ed.)</td>
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<tr>
<td>5 (5) Natural Science</td>
<td>428 (3) Social Aspects Teaching (Ed.)</td>
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<td>3 (3) Social Science</td>
<td>433 (2) Psych. Aspects Teaching (Ed.)</td>
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<td>2 (2) Humanities</td>
<td>447 (7) Student Teaching (Art Ed.)</td>
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<td>17 Total hours</td>
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</table>

**Lower Division Courses**

**240. Art Fundamentals for the Classroom Teacher.** (3). For students without previous art background who plan to teach in the elementary school classroom. Study of fundamental methods, materials, and concepts used to develop art knowledge and skills in the elementary age levels.

**241. Art Education in the Elementary School.** (3). Study of philosophy, psychology, and sensory growth of the elementary age student with emphasis on the development of the art program for this level. Prerequisite: Art education major, or Art 240, or consent of instructor.

**Upper Division Courses**

**341. Art Education Curriculum in the Elementary School.** (3). Study of developmental characteristics of the elementary age student and the develop-

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* Satisfies core curriculum requirements.
ment of the art program with respect to materials, skills and knowledge content. Prerequisite: Art education major.

343. Fiber and Fabric Processes. (3). Fiber processing and structuring in traditional and experimental processes in woven forms and other structural techniques using natural and man-made fiber. Prerequisite: Art 241 or consent of instructor.

406. Art Curricular and Supervision Method. (4). The construction of curriculum for elementary, junior and senior high levels; techniques of supervision and administration of an art program.

442. Art Education in the Secondary School. (3). The study of philosophy, objectives, and classroom procedures directed toward the development of informational and studio skills at the secondary level.

445. Developing Visual Materials for Art Education. (3). A production laboratory which concentrates on the use of technological/multimedia (films, slides, tapes, projector, etc.) for art education students who will engage in constructing units of visual learning.

450. Art Workshop. (1-3). May be repeated for credit. (The area to be covered will be inserted at the time course is offered.)

Graduate Courses

501f. Seminar in Art. (3). Supervised study and research in the following art area: Art education. Weekly consultation and reports. Individual areas may not be repeated for credit. Prerequisite: Consent of instructor.

517 & 518. Research Problems in Art Education. (3-3). Orientation in research methods, findings and designs related to the analysis of studies and current problems in art education. May be repeated once for credit. Prerequisite: Consent of instructor.

519. Development of Art Understanding in the Educational Program. (3). Readings, observation and evaluative techniques in the development of concepts and materials for art understanding. Prerequisite: Consent of instructor.

523. Fiber and Fabric Processes. (3). Fiber processing and structuring in traditional and experimental processes in woven forms and other structural techniques using natural and man-made fibers. Prerequisite: Consent of instructor.


DIVISION OF MUSIC

The Division of Music, which includes the departments of performance, musicology-composition, and music education, offers courses, programs, and curricula which are designed to train and educate serious music students who are planning careers in the music profession, and to allow students in other colleges to gain an understanding of music as a humanistic study. Recitals, by students, faculty, and guests augment the overall community programs in the fine arts. The Division of Music is an accredited member of the National Association of Schools of Music. Requirements for entrance and graduation are in accordance with its published regulations.

Two undergraduate degrees are offered by the Division of Music: (1) The Bachelor of Music Education—containing a minor in edu-
cation meeting the state requirements for the secondary three-year certificate and degree three-year elementary certificate. There are two options within this degree: (a) The Bachelor of Music Education general degree (instrumental emphasis) which is offered to satisfy the needs of the student whose chief performing medium is instrumental or keyboard, and who plans to enter the field of instrumental music teaching in the public schools; (b) the Bachelor of Music Education degree (vocal emphasis) which is offered to satisfy the needs of the student whose chief performing medium is voice or piano, and who plans to enter the field of vocal music teaching in the public schools.

(2) The Bachelor of Music in performance may emphasize either a performing medium (piano, organ, voice, strings, wind or percussion), or theory-composition as the major area of concentration.

REQUIREMENTS

PROFICIENCY EXAMINATIONS

Majors in music must demonstrate performance ability on one instrument or voice to the satisfaction of the music examining committee following registration. Entering students unable to meet applied music requirements will be enrolled in Applied Music 120. In order to determine the status of all students in applied music, proficiency examinations will be given following the registration period. Thereafter, repertoire cards will be maintained, recording the student's progress each semester.

The piano proficiency examination for all music degree students may be taken by entering students whose background indicates they may pass this requirement without enrolling in class or private piano (nonpiano majors). If the requirement is met, the student may elect other interest areas or additional private study in piano courses designed for the nonpiano major. Transfer students who submit proof, by official transcript or letter from the dean, of completion of a comparable piano proficiency examination, will be exempt.

Proficiency examinations in music theory will also be given to new students. Those deficient will be required to enroll concurrently in remedial work until competency has been attained. All proficiency examinations must be passed before the student will be allowed to student teach.

STUDENT TEACHING

Admission into the student teaching semester requires a minimum cumulative grade-point index of 2.25; a minimum grade-point index of 2.50 in music courses; senior standing (90 hours—200 credit points); a grade of C or better in English 111, or its equivalent;
a grade of C or better in Speech 111; completion of prerequisites in educational psychology, foundations of education and music education methods; must have passed piano proficiency; passed physical examination and been recommended by the music education department.

Transfer students must satisfy education department requirements for prerequisites if not taken at Wichita State University.

All students must have application on file with, and approval of, the Admissions Committee of the College of Education and the Department of Music Education. Application must be filed with the chairman of the music education department by midterm of the spring semester prior to the academic year in which student teaching is requested.

APPLIED MUSIC REGULATIONS

1. A minimum of 10 hours practice per week is required for two semester hour credit for applied music in the student's chief performing medium.

2. A minimum of five hours practice per week is required for one semester hour credit in the student's secondary performing medium.

3. Applied music instruction shall receive academic credit only when provided on the University campus with approved music faculty staff.

4. Applied music students may enroll in the following classifications: Freshman, 120; sophomore, 220; junior, 320; senior, 420; graduate, 520. These applied music courses may be repeated to meet minimum performance requirements. Prior to graduation all music majors must achieve a minimum performance classification which is determined by the faculty according to each student's degree program. Students on secondary instruments will take class or private lessons until proficiency requirements are met.

5. Prior to graduation, candidates for any degree in music must pass an examination in keyboard proficiency.

6. Candidates for any degree must pass an examination on materials in their chief performing medium.

Practice rooms are available to all students in the Division of Music who are enrolled for any phase of applied music.

RECITALS

All music majors are required to enroll in five semesters of recital. Requirements for four of these semesters are fulfilled by attending a minimum of 14 specified recitals and concerts sponsored by the Division of Music. The fifth semester recital requirement is fulfilled by a student's performance of his senior recital and he must be enrolled in recital during that semester.
Each student shall be required to declare a chief performance medium and in this major area shall be required to present a public or jury recital prior to graduation.

The decision as to whether the performance will be jury or public is made by an examining committee. Each student is to present to the examining committee a projected senior recital program. The examining committee shall determine (1) the suitability of the projected program; (2) the capability of the student to perform the program publicly; (3) whether this program should be performed before a faculty jury.

The theory-composition major shall present a selection of compositions representing large and small forms, totaling a minimum of 20 minutes in duration for his senior recital. These compositions are to be performed publicly. In addition the student may elect to present a recital in his chief performing medium with the permission of his applied music instructor and achievement of junior standing in that instrument.

No graduating senior may prepare or perform the graduation recital without the guidance of a full-time staff member. In the event the required credit hours have been earned prior to the recital presentation, the student is expected to elect the applied major during the preparation for recital performance.

**GRADUATE MUSIC STUDIES**

The Graduate School offers programs leading to a Master of Music Education (elementary, instrumental or choral emphasis), or a Master of Music degree in performance, theory-composition or history-literature. These programs may be pursued during the Summer Session or during the regular fall and spring terms.

For information concerning requirements for entrance and curricula consult the *Graduate Bulletin* and/or the coordinator of Graduate Music Studies, Division of Music.

**MUSIC MAJOR IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES**

Students on the College of Liberal Arts and Sciences who wish to major in music are required to elect 41 hours as specified in the following areas and course listings:

**GROUP I**

Music Literature and History .............................................. 8 hours
113, 331-332.

**GROUP II**

Music Theory ........................................................... 16 hours
127-128, 129-130, 227-228, 229, 323.
GROUP III
Counterpoint ...............................................
361. 2 hours

GROUP IV
Conducting, Orchestration and Choral Arranging .............. 4 hours
217 or 218 and 441 or 445.

GROUP V
Applied Music (4 semesters) ...............................................
Voice, Piano, Organ or Orchestral Instrument.

GROUP VI
Ensemble ......... 3 hours
Select in consultation with adviser.

GROUP VII
Electives from the areas of Music Literature, Music Theory, Counter-
point, Conducting, Orchestration, and Choral Literature .... 4 hours

MUSIC MINOR IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES
A music minor in liberal arts consists of 18 hours selected from the
following: Music 127-128, 129-130, 113, 227-228, 229-230, 323, 331, 332, a maximum of four hours of ensembles and a maximum of
two hours (two semesters) in applied music. Students who choose
to utilize two hours of applied music must meet the requirements
of Applied Music 120.

GRADUATION REQUIREMENTS
BACHELOR OF MUSIC DEGREE REQUIREMENTS
(1) General graduation requirements of the University.
(2) Music requirements for Bachelor of Music in theory-com-
position:
Applied Music:
Chief performing medium (piano, organ) .......................... 16 hours
Other performing media ...............................................
4 hours
or
Chief performing medium (nonkeyboard) ................................ 8 hours
Keyboard performing medium ...........................................
8 hours
Other performing media ...............................................
4 hours
Theory and Composition:
Music, 127-128, 129-130, 227-228, 229-230, 323, 359, 360, 361
371, 372, 441, 459-460, and 461 .......................... 36 hours
History and Literature of Music:
Music 113-114 and 331 and 332 ...............................................
10 hours
Conducting:
Music 217 or 218, and 451 or 491 ...............................................
4 hours
Ensembles ...............................................
10 hours
Electives (Music or nonmusic courses) ......................... 7 hours
Recital attendance for four semesters plus senior recital. The
theory-composition major is required to present for public per-
formance a selection of his composition representing large and
small forms, totaling a minimum of 20 minutes. In addition the
student may elect to present a recital in his chief performing medium with the permission of his applied music instructor and achievement of junior standing in that instrument—applied level 320.

(3) Music requirements for Bachelor of Music in performance (instrumental major).

Applied Music:
- Chief performing medium .................................. 24 hours
- Second performing medium (4 semesters) ................. 4 hours

Theory:
- Music 127-128, 129-130, 227-228, 229-230, 323, 361, and 441 .. 22 hours
- History and Literature of Music:
  - Music 113-114 and 331-332 .................................. 10 hours

Conducting:
- Music 217 or 218 and 451 or 491 ............................. 4 hours
- Ensembles .................................................. 12 hours
- Electives (either music or nonmusic courses)* .............. 11 hours
- Senior Recital .............................................. 1 hour

Attendance at specified number of recitals per semester for four semesters plus senior recital.

(4) Requirements for Bachelor of Music performance (vocal major).

Foreign Languages ............................................. 20 hours
- French 111-112
- German 111-112
- Italian 111-112
(10 hours in each of two of the above three languages.)
A student with two units of a foreign language from high school may continue this language for elective credit, but is required to take, in addition to this language, 10 hours in each of two of the three languages listed above.

Applied Music:
- Voice .................................................................. 24 hours
- Piano (2 semesters) ............................................. 2 hours
- Study in another instrument may be substituted if student meets proficiency in Piano 10.

Theory:
- Music 127-128, 129-130, 227-228, 229-230, and 323 .......... 18 hours
- History and Literature of Music:
  - Music 113-114, 331-332 ..................................... 10 hours
  (Above courses count in the core under humanities)

Conducting:
- Music 218 ..................................................... 2 hours

Voice Pedagogy and Repertoire:
- Music 425, 426 ............................................... 5 hours

Ensembles .......................................................... 10 hours

Electives in upper division Theory, Conducting, Choral Materials, or Music Theater Directing .......... 4 hours

Senior Recital ................................................... 1 hour

Attendance at specified number of recitals per semester for seven semesters plus senior recital.

* Music 381 and 382 required of piano majors. Music 397 and 398, 497 and 498 required of organ majors.

BACHELOR OF MUSIC EDUCATION DEGREE REQUIREMENTS

The following program fulfills both the University requirements for graduation and the Kansas State Certification requirements and is required of all Bachelor of Music Education degree candidates:
Mathematics and Natural Sciences ......................................... 12 hours

A minimum of four hours must be a laboratory science. Courses must be taken in at least two of the following three subdivisions: (1) Mathematics; (2) Physical Science; (3) Biological Science.

Oral and Written Communications, Literature and Foreign Languages ............................................. 12 hours
Required: English 111, 211 or equivalent, Speech 111

History, Social and Behavioral Sciences ............................................. 12 hours
Psychology 111, required; courses in two of the following subdivisions: Economics, Sociology, Anthropology, Political Science. History may be used to complete the 12 hours requirement.

Other ................................................................................................. 14 hours
Music 113, 331, 332 required. Any course in Humanities (two subdivisions required), Social Sciences, Mathematics, or Natural Sciences.

Education ......................................................................................... 18 hours
Ed. Psych. 233 or 333 and 433
Ed. Ed. 232 and 427 or 428
Elementary Education 447M
Secondary Education 447M

Bachelor of Music Education—General Degree (Instrumental Emphasis)

The following additional courses are required of all Bachelor of Music Education degree candidates (instrumental emphasis):

Applied Music
Chief performing medium ................................................................. 8 hours
Second performing medium ......................................................... 2 hours
Third performing medium ............................................................ 2 hours

The above must include completion of keyboard proficiency and must include two hours of voice (one semester of applied voice and one semester of Music 142). Keyboard majors with an instrumental background who elect the instrumental emphasis program must include two semesters of one orchestral instrument as the third performing medium.

Theory: Music 127-128, 129-130, 227-228, 229-230, 333, 441 or 445 ............................................. 20 hours
Conducting: Music 217 or 218 and Music 451 or 491 ............................................. 4 hours

Ensembles ......................................................................................... 10 hours

Wind and Percussion majors are required a minimum of six hours in Music B and two hours of Music M. The exceptions are: (1) Two hours of Music B will be waived if the student elects four hours of Music M; (2) Women with elementary instrumental emphasis are not required to elect Music M; and (3) Upperclass transfer students, except women with elementary emphasis, are required only one hour of Music M.

Keyboard Majors following the instrumental emphasis program are required a minimum of four hours instrumental ensembles.

Recital attendance for four semesters plus senior recital.

Music Education:
Music 202, 302 and 402 (elementary instrumental emphasis) or
Music 204, 304 and 404 (secondary instrumental emphasis) ............................................. 7 hours
Music 135, 136, 137, 138, 139 and 140 ............................................. 6 hours

* These courses must be taken during the student teaching semester.
Bachelor of Music Education—General Degree (Vocal Emphasis)

The following additional courses are required of all Bachelor of Music Education degree candidates (vocal emphasis):

**Applied Music**
- Chief performing medium ........................................ 8 hours
- Second performing medium ...................................... 2 hours
- Applied Music Electives ......................................... 2 hours

Keyboard majors must elect two hours of voice (one semester of applied voice and one semester of Music 142) and complete the keyboard proficiency examination.

**Theory:**
- Music 127-128, 129-130, 227-228, 229-230, 323, 445 ............ 20 hours

**Conducting:**
- Music 217 or 218 and 451 or 491 .............................. 4 hours

**Ensembles** ............................................................ 10 hours

Voice majors, secondary emphasis, are required to enroll for two hours of small vocal ensemble and two hours of opera workshop. Keyboard majors are required to enroll for five hours of vocal ensemble; it is recommended that two of the remaining hours be in piano accompaniment or chamber music performance.

**Music Electives (May not be in applied music)**
- Piano majors in vocal emphasis program must elect Music 381.
- Music 142 may apply here.

Recital attendance for four semesters plus senior recital.

**Music Education:**
- Music 201, 301, 401 * (elementary vocal emphasis) or Music 203, 303, 403 * (secondary vocal emphasis) ................. 7 hours
  * These courses must be taken during the student teaching semester.

**PERFORMANCE**

**Lower Division Courses**

107-108, 207-208. Piano Repertoire. (1-1). Designed to give performing and listening experience to piano majors.


121. Italian Diction. (1). A course designed for the vocal performer including a comprehensive study of Italian consonant and vowel sounds.

122. English Diction. (1). A course designed for the vocal performer including a comprehensive study of English consonant and vowel sounds.

148. Double Reed Making and Adjusting. (1). Making and adjusting oboe, English horn and bassoon reeds. Prerequisite: Music 138 or consent of instructor. May be repeated for credit.

217. Instrumental Conducting. (2). Fundamentals of baton technique, elementary score reading, and musical leadership. Practical experience conducting laboratory and classroom groups.

218. Choral Conducting. (2). Fundamentals of conducting, score reading, and rehearsal techniques. Practical experience conducting classroom groups. Prerequisite: Music 128, 130.
221. German Diction. (1) A course designed for the vocal performer including a comprehensive study of German consonant and vowel sounds.

222. French Diction. (1) A course designed for the vocal performer including a comprehensive study of French consonant and vowel sounds.

Upper Division Courses

307-308, 407-408. Piano Repertoire. (1-1). Designed to give performing and listening experience to piano majors.

311-312, 411-412. Ensemble. (1-1). (A) orchestra, (B) band, (C) University Chorus, (F) University Singers and A Cappella Choir, (G) String Ensemble, (H) Brass Ensemble, (J) piano accompaniment, (K) opera theater, (L) small vocal ensemble, (M) football band, (N) Woodwind Ensemble, (O), Saxophone Quartet, (Q) Percussion Ensemble.

381. Piano Materials and Pedagogy. (2). Discussion and analysis of suitable materials and methods for teaching at elementary, intermediate, and early advanced levels.

425. Voice Pedagogy. (2). Designed to acquaint the voice major with vocal techniques, concepts, and materials of private and class instruction.

427. Music Theater Directing. (2). Coaching, mounting, and staging music-drama productions, with emphasis on acting and directing techniques. Prerequisite: Consent of instructor.

448. Double Reed Making and Adjusting. (1). Making and adjusting oboe, English horn and bassoon reeds. Prerequisite: Music 138 or consent of instructor. May be repeated for credit.

451. Advanced Conducting and Score Reading. (2). Baton technique, score reading, musicianship. Prerequisite: Music 217 or 218.

484. String Teaching Seminar. (2). Historical development of string instrument teaching. Problems involving traditional and recent techniques. Private study versus class study. School class methods, studio methods, etc. Prerequisite: Consent of instructor.

491. Advanced Choral Conducting. (2). A comprehensive study of conducting and rehearsal techniques, analysis and ear training, and types of choral composition for the advanced student. Prerequisite: Music 217 or 218.

Graduate Courses

507-508. Piano Repertoire. (1-1). Designed to give performing and listening experience to piano performance majors.


573. Graduate Recital. (2). Performance of a full recital featuring the chief performing medium. Prerequisite: Consent of instructors in applied area.

APPLIED MUSIC (1-2-4 hrs.)

Instruction is given in the applied media as listed below for the purpose of developing musicianship, performance skills, and reading knowledge of music literature. Specific requirements for each level are set by individual applied areas.

COLLEGE OF FINE ARTS 297
For one semester hour credit the student receives one one-half hour lesson each week and is required a minimum of five hours practice per week. For two semester hours of credit the student receives one half-hour private lesson each week and one one-hour class each week. For two semester hours of credit the student is expected to practice a minimum of 10 hours each week. For four semester hours credit the student receives two one-half hour lessons and one one-hour class lesson each week. The student is expected to practice a minimum of 20 hours per week.

The course numbers for the applied media offered by the Division of Music are as follows:

120. Basic instruction, may be repeated for credit, Lower Division.
220. Prerequisite 120, may be repeated for credit, Lower Division.
320. Prerequisite 220, may be repeated for credit, Upper Division.
420. Prerequisite 320, may be repeated for credit, Upper Division.
520. Prerequisite 420, may be repeated for credit, Graduate.

Applied Media
A Bassoon   H Oboe   Q Trumpet
B Cello     J Organ   R Tuba
C Clarinet  K Percussion   S Viola
D Euphonium L Piano    T Violin
E Flute     M Saxophone   V Voice
F French Horn N String Bass
G Harp      P Trombone

MUSICOCYLOGY—COMPOSITION

Lower Division Courses

60. Rudiments of Music. (2). Intensive study of music fundamentals and elementary aural skills. Required of students not achieving a satisfactory score in departmental placement examination for Music 127 or Music 129.

113. Introduction to Music. (2). Development of skills and techniques used in critical analysis and comparison of the contrasting styles of music literature. Designed for music majors or students with advanced musical background. Concurrent enrollment in Music 127 or 128.

114. Music Literature Survey. (2). A survey of representative works from the vocal and instrumental repertaire. Prerequisite: Music 113 or consent of instructor.

127. Theory I. (2). Review of music fundamentals, including notation of pitch, rhythm, scales, intervals and triads; introduction to melodic organization and harmony with emphasis on analysis and creative writing. Prerequisite: Concurrent enrollment in Music 60 or satisfactory score on departmental placement examination, and concurrent enrollment in Music 129.

128. Theory II. (2). Study of diatonic harmony, including cadence and phrase structure, melody harmonization and nonharmonic usage, with emphasis on analysis of related literature and creative writing. Prerequisite: Music 127, and concurrent enrollment in Music 129 or Music 130.

129. Aural Skills I. (2). Recognition, singing, and dictation of rhythms in simple and compound meters, scales, and diatonic melodies. Prerequisite: Concurrent enrollment in Music 60 or satisfactory score on departmental placement examination.

130. Aural Skills II. (2). Continuation of Music 129. Introduction of modulating melodies and elementary harmonic dictation. Prerequisite: Music 129.
161. *Music Appreciation.* (2). Intended to develop a capacity for critical listening and an appreciation for the various musical styles. Special attention given to works from the standard musical repertoire. Designed exclusively for the nonmusic major.


228. *Theory IV.* (2). Introductory study of contemporary musical techniques with emphasis on analysis of related literature and creative writing. Prerequisite: Music 227.

229. *Aural Skills III.* (2). Recognition, singing, and dictation of advanced rhythmic, melodic, and harmonic materials. Prerequisite: Music 130.


245. *Jazz Improvisation.* (2). Melodic, harmonic, and rhythmic creation, with emphasis on the relationship of scale patterns and seventh chords. Prerequisite: Music 128 and Music 130, or consent of the instructor.

**Upper Division Courses**

310. *Interrelated Arts.* (3). Interdepartmental course presenting an aesthetic analysis of three arts. The course will emphasize style in the three arts. (See English 310.)

315. *Music of the 20th Century.* (2). An aesthetic approach to music of this century, its major composers, stylistic and formal characteristics. Designed primarily for the nonmusic major who has musical interest and background. Prerequisite: Music 113, or 161, or Humanities 102, or consent of instructor.

316. *Symphonic Literature.* (2). An advanced course in the great orchestral literature covering the development of the symphony orchestra and its music from the 18th century Mannheim School to the present. Designed primarily for the nonmusic major who has musical interest and background. Prerequisite: Music 113, or 161, or Humanities 102, or consent of instructor.

323. *Form and Analysis.* (2). The elements of structure, form, and design in musical composition. Prerequisite: Music 227.

331. *History of Music from Antiquity through the 18th Century.* (3). An intensive survey of the development and evolution of musical styles and practices in Western Civilization from ancient times to the 18th century. Lectures, reference readings, and the study of representative music of the various periods and composers. (Fall semester only.) Prerequisite: Music 113 and 228 or consent of instructor.

332. *History of Music from the 18th Century to the Present.* (3). A continuation of Music 331. (Spring semester only.) Prerequisite: Music 113 and 228 or consent of instructor.

345. *Jazz Arranging.* (2). Arranging for small and large jazz ensembles with emphasis on current big band styles. Prerequisite: Music 228 and Music 230, or consent of the instructor.

359 & 360. *Applied Composition.* (2-2). Individual study in fundamentals of musical composition with emphasis on the development and expansion of music materials. Prerequisite: Music 323 or instructor's consent.

361. *18th Century Counterpoint.* (2). Contrapuntal devices of the 18th century as found in the works of J. S. Bach. Prerequisite: Music 228.
371. Chromatic Harmony. (2). Advanced study of chromatic harmonic materials of all periods with special attention to the 19th century. Analysis and creative writing will be emphasized. Prerequisite: Music 227.

372. Contemporary Techniques. (2). Advanced study of music from impressionism to the present, with emphasis on related literature and creative writing. Prerequisite: Music 228.

382. Piano Literature. (2). Survey of the historical eras of professional piano repertoire.

397-398. Organ Literature and Practice. (1-1). Performance and discussion of works for the instrument of all periods, study of organ design and construction, practice in aspects of service playing such as hymn playing, modulation, accompanying, and improvisation. Prerequisite: Music 228 and Organ 220 or departmental consent. Required of all Organ majors. May be reenrolled.

423. Opera Literature. (2). A comprehensive survey of Italian, German, French, Russian, English and American opera literature from the 17th century to the present. Not limited to music majors.

424. Oratorio and Cantata Literature. (2). A study of the solo vocal literature of the larger sacred and secular forms from the 17th century to the present. Not limited to music majors.

426. Voice Literature. (3). A comprehensive survey of early Italian arias, French chansons, German lieder, contemporary English songs, and Russian and Spanish literature. Open to nonvoice majors.

441. Orchestration. (2). The study of instrumentation, emphasizing idiomatic scoring for various instrumental combinations, with an approach to the problems of full orchestra and band scores. Prerequisite: Music 227.

445. Choral Arranging. (2). Scoring for women's, men's, and mixed choruses. Performance and analysis of students' arrangements in class. (Fall semester only). Prerequisite: Music 228, 230.

452. Choral Materials. (2). A historical survey of choral literature from the Renaissance to the 20th century with emphasis on availability of editions for performance. (Spring semester only.) Prerequisite: Music 331, 332, or consent of instructor.

459 & 460. Applied Composition. (2-2). Individual study in musical composition with emphasis on writing for both small ensembles and large groups in the larger forms. Prerequisite: Music 360 or instructor's consent.


485. String Literature and Materials. (2). A survey and stylistic analysis of music for solo strings and chamber combinations, beginning with the early Baroque period. Prerequisite: Consent of instructor.


Graduate Courses

530. Seminar in Music Theory. (3). An analytical study of the materials used in musical composition from antiquity to the present. The student will analyze music in his own medium, culminating in a presentation to the class; from these presentations a comprehensive synthesis of the compositional procedures in various style periods will be made. The course is designed to develop analytical perspective rather than compositional skills.

551. Psychology of Music. (2). Adapted to the viewpoint of the music educator. Emphasis on physics of sound, psychology of performance, and teaching. Aesthetic principles of listening. Prerequisite: Consent of instructor.

300 COLLEGE OF FINE ARTS
552. Introduction to Graduate Study. (3). Techniques of research and development of bibliography in music and music education. Must be elected the first available semester of enrollment.

559-560. Advanced Composition. (2-2). Original work in the large forms. Continuation and expansion of 459-460. Prerequisite: Music 460 or equivalent.


591-592. Seminar in Music History. (3-3). Areas of interest in music history will be developed as fully as time permits. No effort at a chronological survey will be made. Ideas evoking the most interest, and considered by the instructor to be of the greatest professional benefit, will be taken when interest warrants. Prerequisite: 331 and 332 or consent of instructor.

593. Music of Antiquity through the Renaissance. (3).


595. Music of the 18th Century. (3).

596. Music of the 19th Century. (3).


MUSIC EDUCATION

Lower Division Courses


139. Methods of Teaching Band and Orchestral Instrument (Brass). (1). Procedures and materials for class and private teaching of all brass instruments, emphasizing tone qualities, differences in embouchure, and necessary technique for performance. Band and orchestra laboratory.


142. Survey of Choral Techniques and Literature. (1). A study of basic techniques of singing and examination of literature for solo voice, large and small ensembles. Prerequisite: One hour of applied voice.

201. Fundamentals of Vocal Music for Elementary School. (2). The teaching of music in the elementary school. Consideration of objectives, examina-
tion of materials. For students primarily interested in teaching music in elementary schools. Includes observation in public schools. Prerequisite: Music education major or consent of instructor.

202. Fundamentals of Instrumental Music for Elementary School. (2). The teaching of music in the elementary school, consideration of objectives, examination of materials. For students primarily interested in teaching music in elementary schools. Includes observation in public schools. Prerequisite: Music education major or consent of instructor.

203. Fundamentals of Vocal Music for Secondary Schools. (2). The teaching of music in the secondary school, consideration of objectives, examination of materials. For students primarily interested in teaching music in secondary schools. Includes observation in public schools. Prerequisite: Music education major or consent of instructor.

204. Fundamentals of Instrumental Music for Secondary Schools. (2). Techniques and materials focused on teaching instrumental music in junior and senior high schools. Emphasis on instrumental organization and administration, pedagogical practices, laboratory experiences, guiding student behavior, evaluation, and professional responsibilities. For students primarily interested in teaching instrumental music in the secondary schools. Prerequisite: Music education major or consent of instructor.

251. Music Fundamentals for the Classroom Teacher. (3). For students planning to teach in the elementary school classroom. Basic fundamentals of music with emphasis upon development of student's musical ability in singing, playing piano and classroom instruments.

252. Music Methods for the Classroom Teacher. (3). For the elementary classroom teacher. Development of children's musical growth through singing, listening, rhythmic and creative activities. Prerequisite: Music 251 or consent of instructor.

Upper Division Courses

301. Survey of Vocal Music for Secondary School. (3). An overview of activities in secondary vocal and general music programs. Includes study of objectives for secondary classes, consideration of materials and methods. For students primarily interested in teaching music in the elementary schools. Prerequisite: Music 201.


303. Survey of Vocal Music for Elementary Schools. (3). An overview of activities in the elementary general music program. Includes study of objectives for elementary classes, consideration of material and methods. For students primarily interested in teaching music in the secondary schools. Prerequisite: Music 203.

304. Survey of Elementary School Music. (3). A survey of activities in the elementary school, including consideration of the general music program and instrumental instruction. For students primarily interested in teaching instrumental music in the secondary schools. Prerequisite: Music 204.

306. Music Methods for Early Childhood Education. (3). Methods and materials for teaching music in the preschool and kindergarten classroom. Development of the child's musical growth through singing, listening, rhythmic and creative activities; survey of available materials; and continuation of playing, singing, and conducting skills. Prerequisite: Music 251 or consent of instructor.

339. Advanced Techniques in Brass Methods. (1). Special problems and techniques in the teaching of brass instruments. Survey of current materials. Prerequisite: Music 139 or equivalent.


402. Advanced Techniques of Elementary School Music. (2). Emphasis on special problems related to preparation for student teaching; consideration of the instrumental and the general music programs at the elementary level. Includes audiovisual instruction and materials. Prerequisite: Music 202 and 302.


406. Comparative Arts for Teachers. (3). Emphasis on the related arts of music, visual art and literature from two approaches; an approach that shows the elements the arts have in common, with an emphasis on creativity; an approach that examines the relationships of the three areas according to basic philosophies. Attention will be given to materials and activities suitable for use in the classroom at various levels.

432. Teaching of Music Literature. (2). Designed for the teacher preparing to teach music literature or appreciation. Aesthetic principles in music listening related to the other fine arts, and their application to various levels of teaching. Prerequisite: Consent of instructor.

450. Music Education Workshop. (1-4). Prerequisite: Consent of instructor. May be repeated for credit.

472. Contemporary Musical Thought in Music Education. (2). A consideration of imaginative and effective techniques of presenting contemporary musical concepts to all age levels in public school music. Prerequisite: Music 323 and consent of instructor.

Graduate Courses

509-510. Contemporary Music Education. (2-2). A consideration of new approaches to the teaching of music with emphasis on expansion of students' concepts and practical knowledge of music. Study of the linear, vertical, durational, textural, and dynamic parameters of music. Experimentation with new ways of involving public school students in similar study.

521. Elementary Music Supervision. (3). Trends in elementary music education; evaluation of various materials and techniques; special projects in planning
and executing a modern program of music supervision. Prerequisite: Music Ed. 531 or consent of instructor.

531. Developing the Child’s Musical Understanding. (3). Definition of understandings necessary for the attainment of musical awareness in the child. Exploration of classroom experiences directed toward the successful development of those understandings through the application of basic learning principles. Prerequisite: Music 401 or consent of instructor.

532. Music in the Junior High School. (3). To include administrative structures, the curriculum, adolescent development, teaching as behavior, and competencies needed for successful teaching.


541-542. Special Project in Music. (1-3, 1-3). Individually supervised study or research with emphasis upon the personal needs of the student. Prerequisite: Consent of instructor.


554. Research Seminar in Music Education. (3). Continued application of techniques of research. Completion of a major research project. Prerequisite: Music 552.

571. Philosophy of Contemporary Music Education. (2). A study of historical trends and contemporary philosophies relevant to music education, behavioral objectives, and curriculum planning. Prerequisite: Music 551.


* To be taken during student teaching semester.
Music classrooms, studios and the Miller Concert Hall are all in the Walter Duerksen Fine Arts Center.
306 HEALTH RELATED PROFESSIONS
The College of Health Related Professions was established in 1970 by action of the Kansas Board of Regents and the Kansas Legislature. There are five programs of study presently offered. Two lead to the Bachelor of Science degree: Nursing and medical technology. The two-year Certificate of Applied Science is awarded in cytotechnology, dental hygiene, and inhalation therapy. Physical therapy is planned for clinical program implementation by the fall of 1973. Other programs of professional study will be added as they are developed, based on student interest, area requirements, faculty availability, funding capabilities, and Board of Regents approval.

All formal health related programs leading to a degree or certificate from Wichita State University are administered through the College of Health Related Professions.

Counseling: Health Related Programs

The dean of the College of Health Related Professions and the staff provide general counseling and help in career planning for all health related professions including medicine, veterinary medicine, dentistry, optometry, pharmacology, osteopathy, physical therapy, occupational therapy, radiologic technology, mortuary science, etc. All premedical and predental students entering this University are required to maintain a transcript in the office of the dean of CHRP. An interview with the dean of the college is also necessary each semester for those contemplating applying to the University of Kansas School of Medicine and those anticipating the need for evaluation letters from the "premed counselor."

Students interested in professional study in the above health related fields will enroll through the University College for their first year, and in most cases will complete undergraduate study in liberal arts. Faculty in University College and the respective departments of liberal arts advise students regarding specific course selection and scheduling to facilitate counseling offered by the College of Health Related Professions pertaining to a specific health related career.
REQUIREMENTS

Admission
A student may be admitted to the College of Health Related Professions after he has completed 24 semester hours at Wichita State University with an overall grade point average of 2.00 or above, preferably after he has been accepted by the chairman of one of the departments.

Students who transfer to Wichita State University from other institutions may enter the College of Health Related Professions if they are not on probation and their academic record meets the above requirements.

Probation and Dismissal Standards
It is expected that students will make satisfactory progress in their studies. A student who fails to do so may be placed on probation at any time and ultimately dismissed from the University.

1. A student will be placed on probation for the next semester in which he enrolls if his cumulative grade point index falls below 2.00.

2. The student remains on probation if he earns at least a 2.00 index in the first semester during which he is on probation even though his cumulative grade point index does not yet meet the minimum standards. If, at the end of the second semester, his cumulative grade point average is 2.00 or better, he will be removed from probation.

3. A student on probation who fails to raise his cumulative grade point average to 2.00 may be allowed a second and final probationary semester.

4. A student is subject to dismissal if he fails to raise his cumulative grade point average to 2.00 by the end of a second probationary semester; and a student on probation will be dismissed for poor scholarship if he fails to earn at least a 2.00 for any semester on probation.

5. A student who has been dismissed for poor scholarship may enroll only with special permission of the Committee on Admission, Advance Standing, and Exceptional Programs following an appeal to the CHRP Record Evaluation Committee.

6. Probation is removed when the cumulative grade point index reaches the required level.

7. A student on probation may not enroll for more than 12 semester hours in an 18 week term or two-thirds as many hours as the number of weeks for which he is enrolled in the summer term, plus one hour of military or air science, physical education, or marching band. Exceptions to this limitation may be made on recommendation of the student's adviser with the approval of
his dean. Such exception is to be recorded by the Committee on Admission, Advanced Standing, and Exceptional Programs.

**Transfer of Credit Within the University**

Hours completed in other colleges at WSU shall be transferred for credit to the College of Health Related Professions under the following general rules:

1. Credit shall transfer when the work offered is applicable to the curriculum as specified and if it constitutes progress toward the student's degree goal.

2. Not more than eight hours maximum credit shall transfer for applied music and/or art.

**Degree Requirements**

The Bachelor of Science degree and Associate of Applied Science Certificates are conferred in this college. The general requirements for graduation listed elsewhere in the Catalog will apply, combined with requirements specified in the curriculums for medical technology and nursing. The certificate is awarded to students who fulfill all of the specific requirements of the curriculums of cytotechnology, dental hygiene and inhalation therapy.

**HEALTH PROFESSIONS**

The survey course 101 is open to anyone interested in the health related fields. This course is structured primarily for freshmen and is especially recommended for all College of Health Related students. Health professions courses 208 and 230 are also open to qualified non-CHRP students when class space is available.

101. Introduction to Health Professions. (1). This course will include an examination of the health care team concept, the role and relationship of the various providers of health care and the criteria for the selection of a health career. Emphasis will be placed on the health team concept.

208. Pharmacology. (2). Therapeutic terms; drug actions; dosage; toxicology; and the application of all drugs used in the treatment of oral disease.

230. Nutrition. (3). Service Course. A study of human nutrition; composition and classification of foods; vitamins and their function; food and public health laws; disaster and space nutrition; detailed application of nutrition knowledge to various conditions (prenatal, child, adult, aged).

250. Workshop in Health Related Professions.

450. Workshop in Health Related Professions.

**DENTAL HYGIENE**

In addition to fulfilling all requirements for admission to the University, students wishing to enroll in the dental hygiene program must apply for and obtain approval of the Admissions Committee of the College of Health Related Professions. An application for
admission must be on file in the college office no later than February 1 on a competitive scholastic basis.

It is desirable for the applicant to have a strong background in the biological and physical sciences.

The dental hygiene curriculum includes the following 36 hours of work plus the 41 hours of dental hygiene clinical courses.

<table>
<thead>
<tr>
<th>Hrs.</th>
<th>Subject</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English</td>
<td>English 111, College English</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Sociology</td>
<td>Sociology 211, Introductory Sociology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>Biology 223, Introductory Anatomy &amp; Physiology</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Health Professions</td>
<td>Health Professions 230, Nutrition</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td>Chemistry 103, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Psychology</td>
<td>Psychology 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>Biology 120, Introduction to Microbiology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Speech</td>
<td>Speech 111, Extemporaneous Speech</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Physical Education</td>
<td>Physical Education 115, Personal &amp; Community Health</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physical Education 117, First Aid</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Welfare 214; Social Psychology 246; Child Psychology 260; Psychology of Personality 275; Educational Psychology 333; or Speech Pathology 111</td>
<td></td>
</tr>
</tbody>
</table>

**DENTAL HYGIENE (Clinical Curriculum)**

100. Oral and Dental Anatomy. (4). 2R; 4L. An introduction to the structure and functions of the head and neck. Included are discussions of individual tooth development, eruption, arrangement, function, morphology, and characteristics. Laboratory and clinical sessions include identification of normal landmarks of the oral cavity, identification of natural specimens of the permanent and deciduous dentitions, examination of root surfaces in relation to scaler adaptation, and reproduction of selected permanent teeth in wax.

101. Introduction to Dental Hygiene. (4) 2R; 6L. The student is presented with the basic philosophy of dentistry, dental hygiene, and their related arts. Consideration is given to measures which can be employed to prevent oral disease and promote the health of the teeth and adjacent tissues. Laboratory instruction is given in instrumentation for removal of accretions from the teeth. The latter part of the semester is devoted to orientation in clinical procedures.

102. Clinical Dental Hygiene I. (3). 1R; 6L. Initial instruction will relate to typical emergency medical problems which might be encountered in the dental office. The student comes in contact with the patient for the first time. Here the principles taught in the laboratory are applied to both children and adults. Emphasis is placed on instrument techniques and overall treatment of the patient. Lectures and demonstrations are designed to augment the student's clinical practice.

104. Dental Roentgenology. (2). 1R; 3L. The theory and practice of exposing, processing and mounting X-ray films is presented. The laboratory periods are used to gain proficiency in X-ray techniques. Care of the equipment is stressed.

106. Oral Pathology. (2). Normal conditions followed by general pathology as an introduction to dental pathology of the teeth, dental pulp, and periodontium. A consideration of the signs, symptoms, and manifestations of oral lesions will be accomplished through lectures and visual aids.

107. Principles of Chairside Assisting. (3). 2R; 2L. Lectures present use and care of dental instruments, and equipment, aseptic and antiseptic techniques. The study of dental materials is included. Instruction is given in practical laboratory phases of modern technique and the manipulation of materials used in dental practice.

310 HEALTH RELATED PROFESSIONS
201-202. Clinical Dental Hygiene II & III. (3-3). 1R; 8L. Students spend three-fifths of their time completing a required amount of work in oral prophylaxis on patients in the dental clinic. The rest of the time is used for (1) field training in hospitals, in public health institutions, and private offices; (2) in the radiographic laboratory until the student has gained proficiency. One lecture a week is devoted to analyzing interesting cases observed in the clinic.

203. Clinical Dental Hygiene IV. (6). 1R; 15L. During the final semester of clinical dental hygiene, the student has opportunity to utilize variations in scaling techniques, and instruments. Technique seminars are scheduled so that instructors and students can discuss rationale behind particular techniques, instrument selection, etc. Students complete a patient education notebook, designed to inform patients of cause of dental disease, its prevention and/or corrective measures which can be implemented.

205. Histology and Embryology. (2). Developmental and microscopic anatomy of the elementary tissues and organs. Comprehensive study of the teeth, their supporting tissues, and adjacent structures.

206. Preventive Dentistry. (2). The preventive aspects of dental caries, its epidemiology and control; the preventive aspects of malocclusion including a description of the development of the dentition and preventive, interceptive, and palliative orthodontic treatment.

207. Dental Ethics. (2). Laws governing the practice of dentistry and dental hygiene; types of professional work for which students may qualify, the economics and ethics of the professions, the essentials of banking, bookkeeping, office and personnel management, and patient records. History of dentistry and the dental hygiene professions.

209. Dental Health Education. (3). 2R; 2L. Methods and materials used in dental health education for children and adults. Lectures in related public health problems. The history of the public health movement is developed and the place of the dental hygienist within this framework is emphasized. The course is a workshop with the student participating in the class activity as various aspects of this service are presented. Field work in connection with the schools.

INHALATION THERAPY

In addition to fulfilling all requirements for admission to the University, students planning to enroll in the Department of Inhalation Therapy should request a personal interview with the hospital's inhalation therapy program director and obtain approval for enrollment in the inhalation therapy courses. Applications for admission to this curriculum must be on file in the hospital director's office no later than March 1, 1973. The hospital school of inhalation therapy requires the student to submit three letters of recommendation. The cooperating hospitals are St. Francis Hospital, St. Joseph Hospital and Rehabilitation Center, and Wesley Medical Center. Students must have one and one-half units high school algebra (or Math 52) and one unit high school geometry (or Math 60) to qualify for admission to this program. Students are assessed regular WSU fees for all academic and clinical courses.

The inhalation therapy curriculum includes the following 40 hours of liberal arts and sciences courses:
Chemistry 103 or 111* ............................................. 5
Physics 103, Introductory Physics ............................................. 5
Biology 100 or 112* ............................................. 4
Biology 120, Microbiology* ............................................. 4
Biology 223, Introductory Anatomy & Physiology* ............. 5
English 111, College English ............................................. 3
Speech 111, Extemporaneous Speech ............................................. 2
Psychology 111, General Psychology* ............................................. 3
Electives, Humanities and Social Sciences .......................... 9

* Requires a C or better.

In addition to successful completion of the above courses, a student must receive a C or better in Health Professions 208 (Pharmacology), and the following 29 hours in the inhalation therapy clinical curriculum:

INHALATION THERAPY (Clinical Curriculum)

111. Introductory Inhalation Therapy Procedures. (4). 3R; 7L. Introduces the student to the hospital environment, basic equipment, and procedures: cylinders, piped systems, humidifying devices, oxygen cannulas, oxygen nasal catheter, oxygen masks and tents, oxygen analyzers, oxygen diluting devices, humidification principles, and administration of gas mixtures, history, ethics, and nursing arts.

112. Advanced Inhalation Therapy Procedures. (6). 3R; 13L. Advanced equipment and procedures: Bennett respirators. PV-3, PR-1, PR-2, and MA-1; Bird respirators, Mark II, Mark III, Mark VII, Mark VIII, Mark X, and Mark XIV; Mørch respirator; Engström respirator; ventilator spirometers; resuscitators, airway management and ultrasonic nebulizer therapy.

122. Introductory Clinical Application. (3). 2R; 6L. Clinically oriented program of ward conferences, lectures, case studies, and clinical practice. This program is designed to familiarize the student with treatment of cardiopulmonary disorders. Includes rotation through: Surgery, pulmonary function, and obstetrics. Prerequisite: Advanced Inhalation Therapy Procedures 112.

202. General Clinical Application. (4). 3R; 5L. Emphasis on pharmacology of aerosolized drugs; includes a rotation through: Pediatrics, emergency areas, and positive pressure equipment. Prerequisite: Introductory Clinical Application 122.

225. Advanced Pulmonary Physiology. (3). 2R. Lectures from Respiratory Physiology, J. Comroe. Lectures and application in the Pulmonary Function Laboratory. Lectures and application of blood gas and acid-base analyzers. Prerequisite: Human Biology 223, Chemistry 103 or 111.


232. Advanced Care of Critically Ill. (4). 3R; 5L. Clinical application for the management of the critical cardiopulmonary patient. Clinical work will be carried out primarily in the intensive care and cardiac care units. The student will also be assigned a research problem in this area. Prerequisites: General Clinical Application 202, Advanced Pulmonary Physiology 225.

261. Inhalation Therapy Ethics and Management. (2). 2R. An opportunity for the student to participate in departmental management and develop inservice training concepts.

Inhalation Therapy Clinical Experience Includes 14 Weeks in an Affiliated Hospital to Complete Accreditation Requirements

312 HEALTH RELATED PROFESSIONS
MEDICAL TECHNOLOGY

The curriculum in this department is designed for men and women who wish to become professional medical technologists.

The first three years of the medical technology curriculum are designed to provide a broadly-based background in chemistry and the biological sciences, as well as opportunity to elect courses in other fields of interest. The fourth academic year is spent in a combined tutorial-didactic experience in an affiliated, approved clinical laboratory.

Upon completion of the academic course work and directed clinical laboratory experience, the student is eligible for a Bachelor of Science degree in medical technology and is eligible to take the qualifying examination of the Registry of Medical Technologists—MT (ASCP).

The general curriculum for this degree is indicated below:

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 141, Algebra and Trigonometry *</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry 111, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Biology 112, Introductory Zoology</td>
<td>4</td>
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<tr>
<td>Speech 111, Extemporaneous Speech</td>
<td>2</td>
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</tbody>
</table>

**SECOND SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 112, General and Inorganic</td>
<td>5</td>
</tr>
<tr>
<td>Biology 201, Introductory Cellular Biology</td>
<td>3</td>
</tr>
<tr>
<td>Biology 223, Introductory Anatomy &amp; Physiology</td>
<td>3</td>
</tr>
<tr>
<td>English 111, College English</td>
<td>3</td>
</tr>
</tbody>
</table>

**SOPHOMORE YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 231, Organic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Biology 301, Bacteriology</td>
<td>5</td>
</tr>
<tr>
<td>English 211, Advanced Writing</td>
<td>3</td>
</tr>
<tr>
<td>Humanities †</td>
<td>3</td>
</tr>
</tbody>
</table>

**SECOND SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 232, Organic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Biology 424, Immunobiology</td>
<td>3</td>
</tr>
<tr>
<td>Humanities †</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences †</td>
<td>6</td>
</tr>
</tbody>
</table>

**JUNIOR YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 323, Introductory Analytical</td>
<td>4</td>
</tr>
<tr>
<td>Biology 302, Pathogenic Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>Biology 401, Genetics</td>
<td>4</td>
</tr>
<tr>
<td>Humanities †</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences †</td>
<td>3</td>
</tr>
</tbody>
</table>

* Or Math 121 (3) and Math 122 (3).
† Electives chosen in the humanities and social sciences must fulfill the University core curriculum.
SECOND SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives ‡</td>
<td></td>
</tr>
<tr>
<td>Humanities †</td>
<td></td>
</tr>
</tbody>
</table>

‡ Electives chosen in the humanities and social sciences must fulfill the University core curriculum.
† May be selected from the areas of biology, chemistry, mathematics, physics, and others as approved by adviser.

SENIOR YEAR

Courses prescribed by the ASCP will be taken in residence in the School of Medical Technology at St. Francis Hospital, St. Joseph Hospital, Wesley Medical Center, Wichita, Kansas; St. Mary's Hospital, Enid, Oklahoma, or Jane Phillips Memorial Hospital, Bartlesville, Oklahoma. The student will enroll at Wichita State University for this work. Effective August 1972, an administrative fee of $15 will be assessed each semester the student enrolls; and effective August 1973, regular academic and general fees will be assessed for the 30 hours of clinical practicum. This fourth year must be completed in one of the five hospital programs of medical technology accredited by the Council on Medical Education of the American Medical Association in collaboration with the Board of Schools of Medical Technology of the American Society of Clinical Pathologists. The student should make application to the hospital of his choice well in advance of the completion of his work at the University. The dean of the College of Health Related Professions must be kept informed by the student where the final 30 credit hours of professional training are taken.

CYTOTECHNOLOGY

The cytotechnologist works in association with the pathologist in the detection of malignancy or cancer cells in various body fluids or in the identification of changes in cast-off body cells. Such specialists become extremely proficient microscopists in the course of screening out slides with normal cells from those with abnormal cells. The cytotechnology student also learns the technique of preparing and staining slides to aid in identification of different forms of malignancy.

Minimal requirements are two years of college or a total of 60 semester credit hours, 12 of which should be in the biological sciences. At least eight hours of those taken in biological sciences should include laboratory experience.

The Wichita State University cytotechnology program is affiliated with St. Francis Hospital and Wesley Medical Center’s cytotechnology programs, which are approved by the Council of Medical Education of the American Medical Association. While not obligatory for admission to an approved school of cytotechnology, the following program sequence is recommended because of the added emphasis on cellular biology and genetics which qualifies the student for a better understanding of the technical and clinical aspects of cytotechnology.
<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 112, Introductory Zoology</td>
<td>4</td>
</tr>
<tr>
<td>Biology 223, Introductory Anatomy &amp; Physiology</td>
<td>5</td>
</tr>
<tr>
<td>Biology 201, Introductory Cellular Biology</td>
<td>3</td>
</tr>
<tr>
<td>Biology 401, Genetics</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 111, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry 112, Gen. and Inorganic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>121, Discrete Math 1 (3) or</td>
<td></td>
</tr>
<tr>
<td>140, Algebra (3) or</td>
<td></td>
</tr>
<tr>
<td>141, Algebra and Trig. (5)</td>
<td>3</td>
</tr>
<tr>
<td>English 111, College English</td>
<td></td>
</tr>
<tr>
<td>English 211, Advanced Writing</td>
<td>3</td>
</tr>
<tr>
<td>Speech 111, Extemporaneous Speech</td>
<td>2</td>
</tr>
<tr>
<td>Psychology 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Sociology 211, Introductory Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Electives, Including Humanities and Social Sciences</td>
<td>18 (PE not to exceed four hours.)</td>
</tr>
</tbody>
</table>

The third year of training is spent in an approved hospital under the supervision of a specially trained pathologist and includes formal lectures and laboratory experience in the field. Following this, the student is awarded a certificate, and is then eligible to take the registry examination in cytotechnology and qualify for certification as a registered cytotechnologist—CT(ASCP).

**NURSING—BACCALAUREATE PROGRAM**

Men and women interested in the baccalaureate nursing program should direct their inquiries to the Chairman, Department of Nursing, Wichita State University.

Wichita State University core curriculum requirements must be satisfactorily completed as well as the following required prenursing courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 103 or 111, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Biology 100 or 112</td>
<td>4</td>
</tr>
<tr>
<td>Biology 223, Introductory Anatomy &amp; Physiology</td>
<td>5</td>
</tr>
<tr>
<td>Biology 120, Introduction to Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>121 or 140 *</td>
<td>3</td>
</tr>
<tr>
<td>Sociology 211, Introductory Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 260, Child Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Anthropology 202, Cultural Anthropology</td>
<td>3</td>
</tr>
</tbody>
</table>

* Or another math course acceptable to the Department of Nursing.

The student may transfer from a junior or senior college to the Department of Nursing if the above requirements are met.

Application for admission to the Department of Nursing may be submitted after satisfactory completion of the first three semesters of college work, but must be received by April 1 of the year in which enrollment is anticipated. In order to be permitted to enroll in the professional nursing curriculum as a generic baccalaureate candidate, the student must fulfill the following requirements:

1. Have completed or be enrolled in the fourth semester completing the required lower division requirements.
(2) Have an overall grade point average of 2.00 or above in all collegiate work completed.

(3) Receive consent of the Admission and Progression Committee of the Department of Nursing.

The registered professional nurse who is interested in completing the baccalaureate degree in nursing must fulfill the following requirements prior to admission to the Department of Nursing:

(1) Must have completed all of the Wichita State University core curriculum requirements and the required prenursing courses.
(2) Must have an overall grade point average of 2.00 or above in all college work completed.
(3) Must submit a photocopy of his or her current license to practice as a registered professional nurse.
(4) Must submit an official transcript from his or her school of nursing.
(5) Must submit references from the last two employers.
(6) Receive consent of the Admission and Progression Committee of the Department of Nursing.

Progression Policy

(1) To progress in the professional sequence, a grade of C or better is required in all nursing courses which constitute the nursing major. These courses are:

301. Core Concepts of Nursing.
312. Nursing Care of the Adult.
314. Pathophysiology.
322. Psychiatric Nursing.
411. Nursing Care of the Child.
413. Nursing Care of the Mother and Infant.
421. Ecology of the Profession.
432. Community Health Nursing.
442. Nursing Leadership.
460. Nursing Research Seminar.

(2) In those courses in which theory and clinical practice are combined, unsatisfactory performance (D or F) in either category will constitute a failure in the course.

(3) Students who receive a D or F in any course in the nursing major may not progress in the professional sequence.

(a) A student who receives a D or F in a course in the nursing major whose overall academic record remains at 2.00 or above, and who desires to continue in the program may petition in writing to the Committee on Admissions and Progression of the Department of Nursing. If reinstated, the course in which a D or F has been received must be repeated satisfactorily (C or better) before progression in the nursing major will be permitted.
Advanced Credit

Registered nurses who have met all of the aforementioned requirements will be allowed to take advanced standing examinations for credit in some of the required nursing courses. In no instance will the candidate be allowed to obtain more than 33 hours in the nursing major by examination. Credit will be granted only if a grade of C or better is obtained in the examination. A fee of $7 per credit hour will be assessed and the fee must be paid before the student will be allowed to obtain study material from the Department of Nursing for the advanced standing examination. A total of 124 hours of credit will be required of all candidates for the degree in nursing.

The Major in Nursing

The baccalaureate degree in nursing is designed to prepare a practitioner for beginning roles in nursing. With additional graduate study the nurse may build upon this basic professional foundation to prepare for clinical specialization, teaching, administration, and/or research. Unless indicated, all courses with a nursing prefix are required. The student in nursing is encouraged to develop a minor in a related field. Recommended minor fields are anthropology, biology, chemistry, psychology, or sociology. A minor usually consists of 15 hours, but requirements for the minor should be checked with the specific department.

Courses Open to Nonnursing Majors

Courses in the Department of Nursing open to nonnursing students are:

- Nursing 250 Workshop in Health Related Professions
- Nursing 311 Community Health Concepts
- Nursing 314 Pathophysiology
- Nursing 318 Human Communication in the Health Disciplines
- Nursing 450 Workshop in Health Related Professions

The following courses from the nursing professional curriculum are required for the BS degree in nursing: Nursing 301, 311, 312, 314, 322, 411, 413, 421, 432, 442, and 460.

NURSING (Professional Curriculum)


301. Core Concepts of Nursing. (6). 3R, 3L.. A combined theory and practice course in which the beginning professional student is provided the opportunity to develop those beginning knowledges, understandings and skills requisite to professional nursing practice. Emphasis will be given to the professional role and responsibilities, technical skills requisite to noncomplex nursing care, communication and interpersonal relationships, the community concept of health care, rehabilitation and health teaching. Prerequisite: Department consent.
311. **Community Health Concepts.** (3). This course provides an introduction to the foundations of public health, biostatistics, epidemiology, ecology, community organizations and organization for health services. Prerequisite: Department consent.

312. **Nursing Care of the Adult.** (6). 3R, 3L. A combined theory and practice course in which the student is assisted in acquiring those knowledges and skills requisite to assessing the nursing needs of adult patients with medical and/or surgical problems and planning for, giving, and evaluating the nursing care based on this assessment. Special consideration is given to prevention of illness, patient teaching, rehabilitation and the effect of individual differences and pathophysiology upon the therapeutic plan of nursing care. Learning experiences will be provided in a variety of health care agencies. Prerequisite: Department consent.

314. **Pathophysiology.** (3). Knowledges gained from the basic sciences are utilized in anticipating the physiologic changes associated with gross pathology. The principles underlying selected therapeutic measures are studied as they relate to various pathologic conditions. The student uses this information in predicting health care needs of patients and in planning to meet these needs. Prerequisite: Department consent.

318. **Human Communication in the Health Disciplines.** (3). Elective. The pragmatics of human communication theories and concepts relevant to providing health care. Verbal and nonverbal aspects of intrapersonal and interpersonal communication. Included are professional-patient relationships, teaching and interviewing techniques, and health team concepts. Prerequisite: Department consent.

320. **Directed Study in Nursing.** (1-3). Elective. Individual study of the various aspects and/or problems of professional nursing. Repeatable. Prerequisite: Department consent.

322. **Psychiatric Nursing.** (6). 3R, 3L. Theories, principles and concepts of psychodynamics are studied in relation to behavioral manifestations of stress involving major and minor emotional illnesses. Emphasis is placed on therapeutic use of self in interpersonal processes. Prerequisite: Department consent.

411. **Nursing Care of the Child.** (6). 3R, 3L. A combined theory and practice course in which the student has opportunity to study the child's growth and development from infancy through adolescence with emphasis on the effects of various health problems on the child and his family. The total family organization is studied in relation to its influence on both the well and ill child. Opportunity for nursing practice is provided in selected hospital or community settings. Prerequisite: Department consent.

413. **Nursing Care of the Mother and Infant.** (6). 3R, 3L. A combined theory and practice course which is designed to present the childbearing continuum as it involves the entire family. Specific emphasis is placed on the mother and newborn including both the normal and deviations from the normal. The student has opportunity to work with families in selected hospital and community settings. Prerequisite: Department consent.

421. **Ecology of the Profession.** (2). The evolution of nursing as a profession and current perspectives appraised historically within the social, cultural, economic and political developments of the times. Prerequisite: Department consent.

432. **Community Health Nursing.** (6). 3R, 3L. A combined theory and practice course in which the student has opportunity to apply concepts and principles of community health previously acquired, utilizing a family centered approach within the framework of both private and public community health care agencies. Emphasis will be given to helping the student develop an understanding and appreciation of an interdisciplinary approach to meeting community health needs. Prerequisite: Nursing 311.
442. Nursing Leadership. (6). 3R, 3L. A combined theory and practice course in which the senior student studies and applies nursing management and leadership principles in a variety of nursing situations. Included in the course are styles of leadership, performance appraisal techniques, and administrative functions necessary to prepare for independent and creative participation in the community's changing health problems.

450. Workshop in Health Related Professions. (1-4). Elective. The course will focus on relevant topics directly and/or indirectly related to the delivery of health care service.

460. Nursing Research Seminar. (2). Introductory research methodology is presented as a basis for investigating special nursing problems. The course also includes critical evaluation of selected nursing studies, and utilizes the research process as a basis for developing a questioning attitude toward nursing practices and implementing change. Prerequisites: Senior standing or consent.
UNIVERSITY FACULTY 1971-1972

(Date or dates following title refer to time of initial and successive appointments to the faculty with rank of assistant instructor or higher.)

Ackerman, Paul D., Assistant Professor of Psychology (1968). BA, University of Kansas, 1964; MA, ibid., 1966; PhD, ibid., 1968.


Ahlberg, Clark D., President and University Professor (1968). BA, Wichita State University, 1939; MA, Syracuse University, 1942; PhD, ibid., 1951; LLD, ibid., 1969.


Allegrucci, Robert L., Assistant Professor of Sociology (1967). BS, Kansas State College of Pittsburg, 1959; MA, ibid., 1960; PhD, University of Missouri, 1969.

Allen, Anneke S., Associate Professor of Chemistry (1964). Candidate Rykuniversiteit Groningen Netherlands, 1952; PhD, Tulane University, 1955.

Allen, Donald R., Adjunct Professor of Chemistry (1971). BS, Wagner College, 1948; MA, University of Texas, 1950; PhD, University of Florida, 1962.

Alley, Robert D., Associate Professor and Chairman of Department of Secondary Education (1967). BS, Iowa State University, 1957; ME, Montana State University, 1960; EdD, Arizona State University, 1967.

Anderson, Robert E., Professor of Educational Administration (1967). BA, University of Iowa, 1952; MA, ibid., 1953; EdD, University of Nebraska, 1963.


Artiaga, Lucio, Professor of Mathematics (1968). BA, University of Zaragoza, Spain, 1942; MS, Dalhousie University, 1959; PhD, University of Saskatchewan, 1964.


Bair, Sue F., Assistant Professor of Physical Education (1966). BA, Wichita State University, 1961; MA, ibid., 1967.

Bajaj, Prem N., Assistant Professor of Mathematics (1968). BA, Punjab University, 1951; MA, ibid., 1954; MS, Case Western Reserve University, 1967; PhD, ibid., 1968.

Baker, Jess, Assistant Instructor in Sociology and Administrative Assistant to the Vice President for Student Affairs (1971). BA, Kansas State University, 1968.
Ballenger, Marcus T., Visiting Assistant Professor of Elementary Education and Director of Early Childhood Education Project (1970). BS in Ed, North Texas State University, 1960; MEd, Texas Tech University, 1963; EdD, ibid., 1970.

Bartel, Peter S., Assistant Professor of Physics (1965). AB, Bethel College, 1943; MA, University of Iowa, 1953.

Bartz, James R., Assistant Professor and Chairman of Department of Art Education (1970). BS, Ohio State University, 1964; MA, ibid., 1970.


Bass, Ronald E., Assistant Professor of Industrial Education (1971). BS, Eastern New Mexico University, 1965; MEd, ibid., 1968; EdD, East Texas State University, 1971.

Bateman, Morita M., Associate Professor of Administration (1966). BSME, University of South Carolina, 1946; MS, University of North Carolina, 1950; PhD, Oklahoma State University, 1967.


Becker, D. Wayne, Associate Professor of Industrial Education (1962). BA, Wichita State University, 1958; MS, Kansas State College of Pittsburg, 1962; EdD, University of Illinois, 1969.

Belt, John A., Assistant Professor of Administration (1971). BA, University of Southern California, 1966; PhD, Texas Tech University, 1971.


Benningfield, Lloyd M., Professor and Chairman of Department of Electrical Engineering (1967). BSEE, Oklahoma State University, 1951; MSEE, University of Missouri, 1957; PhD, Purdue University, 1965.

Berg, J. R., Professor of Geology (1946). BA, Augustana College, 1938; MS, University of Iowa, 1940; PhD, ibid., 1942.

Bernard, David E., Professor of Printmaking and Chairman of Department of Studio Art (1949). BFA, University of Illinois, 1939; MFA, University of Iowa, 1949.

Bernhart, Walter D., Professor of Aeronautical Engineering (1954, 1964). BSCE, Kansas State University, 1950; MS, Wichita State University, 1959; PhD, Oklahoma State University, 1964.

Beshara, Robert J., Assistant Professor of Mechanical Engineering (1968). BSEE, Oklahoma State University, 1958; MSEE, ibid., 1961.

Besser, Milton, Associate Professor of Journalism (1971). BA, University of Colorado, 1933.


Billings, Dorothy, Assistant Professor of Anthropology (1968). BA, University of Wisconsin, 1955.

Bish, John T., Assistant Professor of Biology (1963). BS, Wichita State University, 1962; MS, ibid., 1965.

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Blake, Leslie M., Professor and Chairman of Department of Speech (1940). BS, Kansas State University, 1937; MS, ibid., 1939.

Blake, Rufus W., Jr., Assistant Instructor in Sociology and Administrative Assistant to the Vice President for Student Affairs (1968). AB, Wichita State University, 1966.

Blythe, Jack G., Professor of Geology (1949). BA, Wichita State University, 1947; MS, Northwestern University, 1950; PhD, University of Oklahoma, 1957.


Bontrager, Ralph L., Professor of Educational Administration (1966). BS, University of Kansas, 1951; MS, ibid., 1952; EdD, ibid., 1965.

Born, John D., Jr., Associate Professor of History (1965). BA, University of Texas, 1952; MA, University of Houston, 1958; PhD, University of New Mexico, 1963.

Borresen, C. Robert, Assistant Professor of Psychology (1965). BS, Northwestern University, 1954; AM, University of Missouri, 1959; PhD, ibid., 1968.

Borror, Ronald A., Assistant Professor of Low Brass Instruments (1971). BS in Ed, and BM, The Ohio State University, 1965; MM, Yale University, 1967.


Boushdon, Harrison, Associate Professor of Choral Music and Music Education (1961). BA, University of Northern Iowa, 1956; MA, University of Denver, 1959.


Brady, Stephen W., Assistant Professor of Mathematics (1967). AB, Indiana University, 1963; AM, ibid., 1965; PhD, ibid., 1968.

Brandhorst, Armin L., Assistant Professor of Engineering and Director of Physical Plant (1964). BSME, Kansas State University, 1959. MSME, Oklahoma State University, 1964.

Breazeale, John, Professor of Physics, Academic Vice President, and Dean of Faculties (1959). BS, Millsaps College, 1947; MS, University of Alabama, 1951; PhD, University of Virginia, 1955.

Brewer, Donald D., Assistant Professor of Administration (1966, 1970). BS in CE, Kansas State University, 1964; MS, Wichita State University, 1966.

Brewer, Jeneva J., Associate Professor of Mathematics (1949). AB, Wichita State University, 1946; MA, ibid., 1949.

Brinkman, Sidney E., Assistant Professor of Accounting (1958, 1965). BA, Wichita State University, 1956; MS, ibid., 1966; CPA Certificate, Kansas.

Britton, Clark V., Jr., Associate Professor and Chairman of Department of Graphic Design (1957). BAA, Auburn University, 1952; MAA, ibid., 1955.


Bubieniec, Ernest Julian, Professor of Biology (1961). AB, Harvard University, 1949; MS, University of Wisconsin, 1952; PhD, ibid., 1957.

Buess, Charles M., Professor of Chemistry (1961). BA, Ohio State University, 1942; MS, Case Western Reserve University, 1946; PhD, University of Southern California, 1949.


Burk, Kenneth W., Professor of Logopedics (1971). BA, University of Iowa, 1953; MA, University of Kentucky, 1955; PhD, Purdue University, 1962.

Burnett, Darrell Jack, Instructor in Administration, and Administrative Assistant to the President and Business Manager (1967). BSBA, Wichita State University, 1957; MS, ibid., 1967.


Camin, Kathleen Q., Associate Professor of Economics (1965). AB, Smith College, 1957; PhD, University of Missouri, 1969.

Campbell, James H., Associate Professor of Administration (1964). BA, Miami University, 1956; PhD, Michigan State University, 1966.


Carraway, Edward E., Assistant Professor, Library and Head of Circulation Department (1967). AB, East Carolina University, 1961; MLS, University of Oklahoma, 1967.

Carson, Doris M., Assistant Professor, Library (1957). BA, Kansas Wesleyan University, 1933; MA, University of Kansas, 1941; MS, University of Illinois, 1954.

Cathers, Robert E., Assistant Professor of Chemistry (1965). BS, Wichita State University, 1961; MS, ibid., 1963; PhD, Texas Tech University, 1966.

Cavarozzi, Joyce Pennington, Assistant Professor of Speech and Drama (1965). BS in Ed, Ohio University, 1953; MA, Ohio State University, 1963.

Caesar, James, Professor of Violin (1949). BM, Cleveland Institute of Music, 1940; BS, Case Western Reserve University, 1947; MA, ibid., 1949.
Chaffee, Leonard M., Professor of Education and Dean of the College of Education (1967). BA, Hiram College, 1951; MEd, Kent State University, 1952; PhD, Ohio State University, 1961.


Chopra, Dharam Vir, Associate Professor of Mathematics (1967). BA, Punjab University, India, 1950; MA, ibid., 1953; MS, University of Michigan, 1961; AM, ibid., 1963; PhD, University of Nebraska, 1968.


Christenson, Donald D., Professor of Administration and Dean of the College of Business Administration (1958). BS, Wichita State University, 1955; MS, University of Illinois, 1958; PhD, ibid., 1962.

Christian, Robert V., Jr., Professor and Chairman of Department of Chemistry (1946). BS, Wichita State University, 1940; PhD, Iowa State University, 1946.

Chung, Kae H., Associate Professor of Administration (1970). BA, Seoul National University, Seoul, Korea, 1959; MBA, Louisiana State University, 1965; PhD, ibid., 1968.

Ciboski, Kenneth N., Assistant Professor of Political Science (1968). BA, University of Kansas, 1961; MA, ibid., 1965; PhD, University of Washington, 1971.

Cochran, Corydon E., Assistant Professor of Educational Psychology (1969). BA, University of Oklahoma, 1954; MEd, ibid., 1959; EdD, Oklahoma State University, 1969.

Coin, Herbert H., Assistant Professor of Aeronautical Engineering (1967). BSME, Wichita State University, 1957; MSME, ibid., 1963.

Coleman, Cecil, Professor of Physical Education and Director of Athletics (1971). BA, Arizona State University, 1950; MA, ibid., 1952.

Collins, George W., Associate Professor of History (1968). BS, Northwestern University, 1948; MA, ibid., 1950; PhD, University of Colorado, 1965.

Collins, Janet R., Assistant Professor of Educational Psychology (1969). AB, University of Cincinnati, 1941; MA, Washington University, 1962.

Collins, Marilyn P., Assistant Professor of Nursing (1970). BSN, University of Kansas, 1966; MN, Emory University, 1969.

Collison, Brooke B., Assistant Professor of Student Personnel and Guidance (1969). BS, University of Kansas, 1956; MEd, ibid., 1962; PhD, University of Missouri, Columbia, 1969.


Comstock, George A., Professor of Education and Director of Counseling Services (1953). BA, University of Colorado, 1935; MA, ibid., 1940; EdD, ibid., 1948.
Cook, Everett L., Associate Professor of Aeronautical Engineering (1953, 1969). BSAE, Wichita State University, 1954; MSAE, ibid., 1958; PhD, Oklahoma State University, 1967.

Cook, Sandra L., Instructor in Administration (1968). BBA, Wichita State University, 1966; MS, ibid., 1968.

Corbett, Don, Assistant Professor of Music Education (1971); BME, Wichita State University, 1953; MME, ibid., 1959.

Corbin, Harry F., University Professor (1946). AB, Wichita State University, 1940; BD, University of Chicago, 1943; LLB, University of Kansas, 1949.

Costley, Dan L., Associate Professor of Administration and Associate Dean of the College of Business Administration (1965). BA, University of Oklahoma, 1957; MA, ibid., 1958; PhD, Michigan State University, 1964.


Cowles, Josephine M., Associate Professor, Library, and Head of Cataloging Department (1947). ScB, Ottawa University, 1928; BS in LS, University of Illinois, 1936; MS, ibid., 1949.


Cress, Allan M., Professor and Chairman of Department of German (1953). AB, University of Illinois, 1942; MA, ibid., 1948; PhD, ibid., 1952.

Crockett, Helen, Assistant Professor and Director of Continuing Education (1961). AB, Wichita State University, 1951; MA, ibid., 1955.

Crooms, Gary, Assistant Instructor in Minority Studies and Administrative Assistant in the Department (1972). BS, Southwestern College, 1965; ME, Wichita State University, 1971.

Crown, Gary, Associate Professor of Mathematics (1962, 1968). BA, Wichita State University, 1960; MS, ibid., 1962; PhD, University of New Mexico, 1968.

Crowns, Arthur J., Jr., Professor and Chairman of Department of Administration of Justice (1971). BS, Wisconsin State University at Stevens Point, 1947; JD, University of Wisconsin, 1950; MSSW, ibid., 1958; PhD, Florida State University, 1965.


Cutler, Bruce, Professor of English (1960). BA, University of Iowa, 1951; MS, Kansas State University, 1957.

Daniels, Virginia M., Instructor and Counselor in University College (1971). BA, Northwestern University, 1947; MEd, Wichita State University, 1967.

Darling, John R., Professor of Administration (1971). BS, University of Alabama, 1959; MS, ibid., 1960; PhD, University of Illinois, 1967.


Davison, Ronald G., Assistant Professor of Educational Administration and Director of Title IV Grant (1969). BA, State University of New York at Buffalo, 1959; EdM, ibid., 1964; EdD, ibid., 1969.

Decker, Jay C., Associate Professor of Music and Director of Orchestras (1971). BMEd, Wichita State University, 1956; MS in MusEd, University of Illinois, 1962; DMA, University of Missouri at Kansas City, 1971.


DeFatta, Joseph A., Assistant Professor of Accounting (1970). BS, Centenary College, 1966; MS, Louisiana State University, 1967; PhD, ibid., 1970.

DelCastillo, Rosario E., Instructor and Counselor in University College (1971). BA, Wichita State University, 1970.


Denton, Densil Ray, Jr., Assistant Instructor in Psychology and Administrative Assistant to the Director of Research and Sponsored Programs (1968). BA, Wichita State University, 1963.

Deutsch, Dian R., Instructor in Health Education and Director, Center for Educational Development for the Health Related Professions (1971). BA, University of Kansas, 1970; MS, ibid., 1971.

DeVun, Esmund E., Jr., Assistant Professor of Mathematics (1969). BS, Louisiana State University at New Orleans, 1963; MS, Louisiana State University at Baton Rouge, 1966; PhD, University of Massachusetts, 1969.

Dey, Glen R., Professor of Student Personnel and Guidance (1967). BS, The University of Nebraska, 1954; MEd, ibid, 1959; EdD, ibid., 1961.


Distler, Donald A., Associate Professor of Biology (1963). BA, University of Louisville, 1952; MS, ibid., 1957; PhD, University of Kansas, 1967.


Doig, J. Robert, Jr., Assistant Professor of Aeronautical Engineering (1963). BS, Phys, Union College, 1938; MS, Pennsylvania State University, 1940.


Douglas, Donald M., Assistant Professor of History (1965). AB, Kansas State University, 1961; MA, ibid., 1963; PhD, University of Kansas, 1968.

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Dralle, Lewis A., Professor of History (1969). AB, University of Chicago, 1939; MA, University of California, Los Angeles, 1948; PhD, ibid., 1952.

Dreifort, John E., Assistant Professor of History (1970). BS, Bowling Green State University, 1965; MA, ibid., 1966; PhD, Kent State University, 1970.

Dunn, Colon H., Professor of Electrical Engineering (1959). BS, John Brown University, 1942; MEE, Rensselaer Polytechnic Institute, 1953.

Dunning, Wayne W., Assistant Professor of Chemistry (1961). BS, Iowa State University, 1952; MS, ibid., 1959; PhD, ibid., 1964.

Duram, James C., Associate Professor of History (1968). BA, Western Michigan University, 1961; MA, ibid., 1963; PhD, Wayne State University, 1968.


Echler, Victor B., Associate Professor of Mathematics (1967). BS, University of New Mexico, 1963; MA, Indiana University, 1963; PhD, ibid., 1967.


Ellis, Howard E., Professor of Music Education and Assistant Dean of the College of Fine Arts (1955). AB, Albion College, 1942; MM, University of Michigan, 1947; PhD, ibid., 1957.


Erickson, James, Associate Professor of English (1964). BA, University of Minnesota, 1955; MA, ibid., 1957; PhD, ibid., 1961.

Eversman, Walter, Associate Professor of Aeronautical Engineering and Assistant Dean of the Graduate School (1964). BSAE, Purdue University, 1959; MS, Engineering Mechanics, Stanford University, 1961; PhD, ibid., 1964.

Faires, Wesley L., Assistant Professor of Logopedics (1965). BA, Wichita State University, 1958; MA, ibid., 1962; PhD, ibid., 1965.

Farnsworth, David N., Professor of Political Science (1956). BA, Wichita State University, 1953; AM, University of Illinois, 1955; PhD, ibid., 1959.


Fife, Natasha Matson, Assistant Professor of Physical Education (1959). BS, Texas Woman's University, 1958; MS, Wichita State University, 1967.


Fisher, Glenn W., Regents' Professor of Urban Affairs (1970). BA, University of Iowa, 1948; MA, University of North Carolina, 1950; PhD, University of Wisconsin, 1954.


Floerchinger, Sharon, Instructor in English (1965). BA, University of Nebraska, 1960; MA, Wichita State University, 1966.


Foster, Donald L., Assistant Professor of Physics (1966). BA, Reed College, 1957; PhD, University of Kansas, 1969.

Foster, Mary Sue, Assistant Professor of Art Education (1966). BAE, University of Kansas, 1961; MS, ibid., 1963; MFA, ibid., 1971.

Founds, Jean, Assistant Instructor in Journalism and Supervising Auditor for the Publications Board (1970).

Fremont, Theodore S., Assistant Professor of Educational Psychology (1970). BA, Nebraska Wesleyan University, 1965; MS, Fort Hays Kansas State College, 1966; EdD, Oklahoma State University, 1970.

French, Thomas C., Assistant Professor of Mathematics (1965). BS, Wichita State University, 1962; MS, Colorado State University, 1964.

Friesen, Walter S., Associate Professor of Student Personnel and Guidance and Dean of University College (1969). AB, Tabor College, 1953; MS, Kansas State Teachers College, Emporia, 1957; EdD, University of Northern Colorado, 1963.
Frisbie, David A., Assistant Professor of Educational Psychology (1971). BS, Wisconsin State University, 1966; MA, Michigan State University, 1969; PhD, ibid., 1971.

Funka, Robert L., Assistant Professor of Economics (1965). BS, Southern Methodist University, 1957; PhD, ibid., 1967.

Froning, Dorothy Gardner, Professor of Spanish (1947). AB, Park College, 1936; MA, University of Alabama, 1947; PhD, University of California at Los Angeles, 1961.

Fugate, Josephine B., Professor of Mathematics (1955). AB, University of Kansas, 1924; MA, ibid., 1929.


Gane, Elizabeth Mae, Assistant Professor and Counselor in Student Services (1960). AB, Randolph-Macon Women's College, 1937; MA, Syracuse University, 1959.


Gemma, James L., Assistant Professor of Mathematics (1971). BS, University of Detroit; 1962; MS, The Ohio State University, 1965; PhD, ibid., 1970.

Genova, Anthony C., Jr., Professor and Chairman of Department of Philosophy (1962). AB, University of Chicago, 1957; PhB, ibid., 1958; AM, ibid., 1958; PhD, ibid., 1965.

Gerhard, Armin, Instructor in German (1968). BA, University of Texas, 1966; MA, ibid., 1968.

Gerlach, E. Hugh, Jr., Adjunct Assistant Professor of Biology (1969). BS, University of Kentucky, 1953; PhD, ibid., 1967.

Gerling, Amy G., Professor of Sociology (1947). AB, University of Wisconsin, 1931; AM, ibid., 1933; PhD, Cornell University, 1939.

Gibson, George H., Assistant Professor of Opera Theatre and Voice (1967). BM, University of Miami, 1956; MM, University of Texas, 1959; DMA, University of Southern California, 1971.


Gleason, Kenneth G., Professor and Chairman of Department of Educational Administration (1965). AB, Wichita State University, 1950; MA, Columbia University, 1952; EdD, ibid., 1964.

Gohn, Lyle, Assistant Professor and Associate Dean of Students (1967). BS, Purdue University, 1962; MS, ibid., 1964; PhD, ibid., 1967.


Goodpasture, Carter, Adjunct Associate Professor of Health Education (1970). BS, Princeton University, 1932; MD, University of Chicago, 1936.
Gosman, Albert L., Professor of Mechanical Engineering and Associate Dean of the College of Engineering (1967). BSME, University of Michigan, 1950; MSME, University of Colorado, 1955; PhD, University of Iowa, 1965.

Gottoraburn, Donald W., Assistant Professor of Philosophy (1971). BA, Hofstra University, 1964; MA, University of Rochester, 1970; PhD, ibid., 1971.

Goudie, Andrea, Assistant Professor of English (1968). BA, University of Minnesota, 1962; MA, Indiana University, 1963; PhD, ibid., 1969.

Goudy, Robert S., Assistant Professor of Aeronautical Engineering (1967). BSCE, Duke University, 1957; MSCE, Massachusetts Institute of Technology, 1958; MS Applied Mechanics, Kansas State University, 1963; PhD, ibid., 1967.

Gould, Loyal N., Professor and Chairman of Department of Journalism (1970). BA, Florida State University, 1951; MA, University of North Carolina, 1954; PhD, ibid., 1955.

Graham, Archie Richard, Associate Professor of Mechanical Engineering (1965). BS, Kansas State University, 1957; MSME, ibid., 1960; PhD, University of Iowa, 1968.

Graham, Gerald H., Professor and Chairman of Department of Administration (1967). BS, Northwestern State College, 1959; MSBA, ibid., 1960; PhD, Louisiana State University, 1968.

Graham, J. Keith, Professor and Chairman of Department of Logopedics (1966). BS, Wayne State University, 1948; MA, ibid., 1951; PhD, Northwestern University, 1964.


Gray, James, Associate Professor of History (1963). BA, University of California, Los Angeles, 1954; PhD, ibid., 1966.

Green, Mary, Assistant Professor of Physical Education (1971). BA, West Texas State University, 1957; MEd, ibid., 1959.

Greenberg, Gary, Assistant Professor of Psychology (1966, 1970). BS, Brooklyn College, 1962; MA, Wichita State University, 1964; PhD, Kansas State University, 1970.

Gregg, Alvin, Assistant Professor of English (1968). BA, Texas Tech University, 1956; MA, ibid., 1957; PhD, University of Texas, 1969.

Grewal, Mahesh S., Associate Professor of Mechanical Engineering (1969). BSc, University of Allahabad, India, 1953; BS, University of California, Berkeley, 1957; MS, ibid., 1959; PhD, ibid., 1962.

Gries, John C., Assistant Professor of Geology (1971). BS, University of Wyoming, 1962; MS, ibid., 1965; PhD, University of Texas, 1970.

Griffith, Kathryn, Professor of Political Science (1957). AB, Wichita State University, 1947; MPA, Syracuse University, 1954; PhD, University of Chicago, 1967.


Gundersen, James N., Professor and Chairman of Department of Geology (1970). BS, University of Wisconsin, 1949; MA, University of California at Los Angeles, 1955; PhD, University of Minnesota, 1958.

Gythiel, Anthony P., Assistant Professor of English (1971). Diploma d’Humanités, St. Stanislas, Poperinge, Belgium, 1950; BPh, Maison de Philosophy, Brussels, Belgium, 1953; MA in Theology, Theologicum University de Louvain, 1956; MA, University of Detroit, 1966; PhD, ibid., 1971.


Halsead, Helen L., Assistant Professor of Nursing (1970). BSN, University of Kansas, 1955; MEd, University of Minnesota, 1959.

Hammond, Geraldine, Professor of English (1932). AB, Wichita State University, 1931; MA, University of Kansas, 1932; PhD, University of Colorado, 1944.

Hannon, Floyd B., Adjunct Professor of Administration of Justice (1972).

Hansan, John, Associate Professor of Physical Education (1964). BS, University of Kansas, 1962; MS, ibid, 1963; EdD, University of Oregon, 1969.

Harder, Marvin A., Professor of Political Science (1947). AB, Wichita State University, 1947; AM, Columbia University, 1949; PhD, ibid., 1959.

Hardy, James Lynn, Professor and Chairman of Department of Music Education (1965). BSME, Southwest Missouri State College, 1948; MME, University of Kansas, 1956; EdD, ibid., 1969.

Harnsberger, John L., Professor and Chairman of Department of History (1962). BA, Hamline University, 1948; MA, University of Minnesota, 1950; PhD, ibid., 1956.


Hart, Charles William Merton, Visiting Professor of Anthropology (1971). BA University of Sydney, Australia, 1927; MA ibid., 1929.

Hartman, John J., Professor and Chairman of Department of Sociology (1968). BS, Southwest Missouri State College, 1961; MS, University of Missouri, 1963; PhD, ibid., 1966.

Hay, Bryan S., Assistant Professor of English (1965). BS, University of Rochester, 1958; PhD, ibid., 1969.


Hecht, Sabrina M., Assistant Professor of Mathematics (1950). AB, Kansas State College of Pittsburg, 1939; MS, University of Michigan, 1945.


Heilmann, Charles, Assistant Professor of Sociology (1965). BA, Washburn University, 1936; JD, ibid., 1939; MA, Wichita State University, 1964.


Henningsen, Rodney J., Associate Professor of Administration of Justice (1971). BA, Augustana College, 1962; MA, University of Nebraska, 1966; PhD, ibid., 1971.

Herman, David T., Professor and Chairman of Department of Psychology (1949). AB, Indiana University, 1940; MA, ibid., 1942; PhD, ibid., 1947.

Ho, James C., Associate Professor of Physics (1971). BS, National Taiwan University, 1959; MS, University of California, Berkeley, 1963; PhD, ibid., 1966.

Hoag, Gerald B., Associate Professor of English (1967). AB, Loyola University (New Orleans), 1951; MA, Tulane University, 1955; PhD, ibid., 1965.

Holman, Carol Schowalter, Assistant Professor of Education and Director of Audiovisual Services (1942). BM, Wichita State University, 1935; MME, ibid., 1950.

Holmer, Robert M., Professor and Chairman of Department of Physical Education, Health and Recreation (1955). BS, University of Kansas, 1941; MS, ibid., 1948; PhD, University of Iowa, 1954. (Leave of absence, First Semester, 1971-1972.)

Holmes, Lowell D., Professor of Anthropology (1959). BS, Northwestern University, 1950; PhD, ibid., 1957.

Homburger, Richard H., Professor of Accounting (1956). JD, University of Zurich, 1937; MS, Columbia University, 1946; CPA Certificate, West Virginia.


Houmanidis, Lazaros Th., Clinton Visiting International Professor of Administration (1971). Athens Graduate School of Economic Sciences and Business.

Houston, Martha P., Instructor, Library (1968). BS, Kansas State University, 1945; ML, Kansas State Teachers College, Emporia, 1968.

Hoyer, Elmer A., Associate Professor of Electrical Engineering (1966). BS, EE, Wichita State University, 1962; MSEE, University of Missouri, 1964; PhD, ibid., 1967.

Hudson, Randall O., Associate Professor of History (1964). BS, University of Georgia, 1957; MA, University of North Carolina, 1962; PhD, ibid., 1965.


Humphrey, Bobbye J., Assistant Professor of Social Work (1968). AB, Friends University, 1948; MSW, University of Kansas, 1964.


Jabara, F. D., WSU Endowment Association Professor in Business Administration (1949). BS, Oklahoma State University, 1948; MBA, Northwestern University, 1949; CPA Certificate, Kansas.

Jackson, Bill N., Assistant Professor of Graphic Design and Publications Designer in Office of Information and Public Events (1970). Kansas City Art Institute, 1938.

Jakowatz, Charles V., Professor of Electrical Engineering and Dean of the College of Engineering (1965). BSEE, Kansas State University, 1944; MSEE, ibid., 1947; PhD, University of Illinois, 1953.

Jamison, Ines, Assistant Professor of Voice (1970). BM, University of Kansas, 1926.

Jantze, Margaret L., Associate Professor and Chairman of Department of Business Education (1965). BS, Union College, 1947; MEd, University of Nebraska, 1959; EdD, ibid., 1965.


Johns, Buddy Ava, Jr., Associate Professor of Mathematics (1964). BA, Friends University, 1947; MA, University of Kansas, 1960; PhD, ibid., 1964.

Johnson, Charles E., Assistant Professor of Mathematics (1971). BS, University of Utah, 1961; MS, University of Wisconsin, 1962; PhD, The Ohio State University, 1970.

Johnson, Everett L., Assistant Professor of Electrical Engineering (1971). BSEE, University of Kansas, 1962; MSEE, University of New Mexico, 1964; PhD, University of Kansas, 1969.

Johnson, John W., Jr., Associate Professor of Chemistry (1955). AB, Wichita State University, 1952; MS, ibid., 1953; PhD, University of Illinois, 1958.

Johnston, Clara Frances R., Assistant Professor, Library (1954). AB, Wichita State University, 1950; AMLS, University of Michigan, 1953.


Jones, W. James, Assistant Professor of Clarinet (1969). BM and BSE, Ohio State University, 1960; MA, ibid., 1962; PhD, University of Iowa, 1970.

Jong, Maw-Tsuey, Associate Professor of Electrical Engineering (1967). BSEE, National Taiwan University, 1960; MSEE, South Dakota School of Mines and Technology, 1965; PhD, University of Missouri, 1967.

Jordan, Donald E., Assistant Professor and Counselor and Director of Career Planning and Placement Center (1965). AB, Wichita State University, 1959; MEd, ibid., 1962.

Jovanovic, Milan K., Professor of Mechanical Engineering (1968). Diploma, Ing. (ME,) University of Belgrade, 1938; Diploma, Physics, ibid., 1945; MS, Northwestern University, 1954; PhD, ibid., 1957.

Joyner, H. Sajon, Assistant Professor of Mechanical Engineering (1969). BS in Physics, University of Texas, Austin, 1962; MA in Physics, ibid., 1964; MS, University of Missouri, Rolla, 1967; PhD, ibid., 1970.


Kahn, Melvin A., Professor and Chairman of Department of Political Science (1970). BA, University of Florida, 1932; MA, University of Chicago, 1958; PhD, Indiana University, 1964.

Kasten, Roger N., Associate Professor of Logopedics (1971). BS in Ed, Bowling Green State University, 1955; MA, ibid., 1956; PhD, Northwestern University, 1964.

Katz, Jonathan, Assistant Professor of English (1970). BA, Brooklyn College, City University of New York, 1965; MA, Purdue University, 1967.

Kelly, Francis L., Assistant Professor of Speech (1965), BA, DePaul University, 1954; MT, University of Illinois, 1959.


Kenyon, G. Y., Professor of Psychology (1955). BS, Wichita State University, 1949; MA, ibid., 1951, PhD, University of Rochester, 1957.


Kessinger, Byrl, Assistant Professor and Counselor and Assistant Director of Career Planning and Placement Center (1965). BS and MS, Kansas State College of Pittsburg, 1956.


Killian, Donald C., Assistant Professor of Mathematics (1958). BS, Southeast Missouri State College, 1952; ME, University of Missouri, 1956; AM, ibid., 1958.

Kiskadden, Robert M., Professor of Studio Art and Assistant Dean of the College of Fine Arts (1949). BFA, University of Kansas, 1947; MA, Ohio Wesleyan University, 1949.


Klavins, Andrew, Visiting Assistant Professor of Aeronautical Engineering (1971). BS, University of Illinois, 1963; MS, ibid., 1968; PhD, ibid., 1970.

Klingsporn, M. J., Assistant Professor of Psychology (1965). AB, University of Nebraska, 1957; MA, ibid., 1962; PhD, ibid., 1965.

Klyman, Fred I., Assistant Professor of Administration of Justice (1971). BS, Memphis State University, 1967; MEd, ibid., 1970.

Knapp, Robert K., Associate Professor of Psychology (1961). BA, Kent State University, 1954; MA, ibid., 1956; PhD, Michigan State University, 1960.

Kneil, Thomas R., Assistant Professor of Logopedics (1967). AB, Bowdoin College, 1955; MS, Syracuse University, 1960.

Knight, Dorothy, Assistant Professor, Library (1966). BEd, Illinois State University, 1936; MS, Kansas State Teachers College, Emporia, 1961.

Knight, Kenneth, Assistant Professor, Library (1971). BS, Knox College, 1930; BS in LS, University of Illinois, 1946; MS (LS), ibid., 1947.

Konek, Carol W., Instructor in English (1969). BS, University of Kansas, 1961; MA, Wichita State University, 1968.

Koski, Onnie, Adjunct Assistant Professor of Dental Hygiene (1971). BA, University of Mississippi, 1953; DDS, University of Tennessee, 1956.


Kreps, Donald R., Assistant Professor of Sociology (1970). BA, Western Illinois University, 1966; MA, University of Iowa, 1969.


Lautz, Robert P., Assistant Professor and Director of Testing (1968). BA, Southern Illinois University, 1966; MS, ibid., 1968.


Leidig, Ruth M., Associate Professor of Nursing (1969). BS, Nursing Education, Marymount College, 1956; MS, Nursing Education, Indiana University, 1962.

Leslie, John H., Jr., Assistant Professor and Chairman of Department of Industrial Engineering (1962). BSIE, Wichita State University, 1961; MSME, ibid., 1964; PhD, Oklahoma State University, 1972.

Lewis, George A., Jr., Assistant Professor of Psychology (1965). BA, Wichita State University, 1962; MA, Texas Christian University, 1965; PhD, ibid., 1967.


Lindquist, Emory, University Professor (1953). AB, Bethany College, 1930; BA, Oxford University, 1933; MA, ibid., 1937; PhD, University of Colorado, 1941; LLD, Augustana College, 1952; LHD, Bethany College, 1963.

Lindsley, Sara Rodewald, Instructor in German (1968). BS, Kansas State University, 1963; MA, University of Kansas, 1968.

Lindsted, Robert D., Instructor in Mechanical Engineering (1971). BS in ME, Wichita State University, 1969; MS, University of Vermont, 1971.

Linscheid, Harold W., Associate Professor of Mathematics (1958). BA, Bethel College, 1929; MEd, Phillips University, 1937; MA, University of Oklahoma, 1941; PhD, ibid., 1955.

Lombard, John Larry, Assistant Professor of Accounting (1971). BSBA, University of Tulsa, 1963; MS in Accounting, Oklahoma State University, 1964; PhD, University of Arkansas, 1971; CPA Certificate, Oklahoma.

Loper, Gerald D., Jr., Associate Professor and Chairman of Department of Physics (1964). BA, Wichita State University, 1959; MS, Oklahoma State University, 1962; PhD, ibid., 1964. (Leave of absence-1971-1972.)

Lowe, Roger D., Assistant Professor of Accounting, Assistant to President for Finance, and Business Manager (1964). BSBA, Kansas State College of Pittsburgh, 1960; CPA Certificate, Kansas.


McBride, John, Assistant Professor of Anthropology (1965). AB, University of Kansas, 1953; LLB, ibid., 1955; PhD, Southern Illinois University, 1971.

McCall, Mary Gayle, Assistant Professor of Sociology (1969). BA, Washburn University, 1965; MA, Wichita State University, 1967. (Leave of absence, 1971-1972.)

McCarten, John B., Assistant Professor of Chemistry (1964). BS, Creighton University, 1958; MS, ibid., 1960; PhD, University of Iowa, 1964.

McCroskey, Robert Lee, Professor of Logopedics (1967). BS in Ed, Ohio State University, 1948; MA, ibid., 1952; PhD, ibid., 1956.

McFarland, Burch, Assistant Professor of Elementary Education (1970). BA, Howard Payne College, 1940; ME, University of Texas at El Paso, 1959; EdD, New Mexico State University, 1971.

McFarland, David E., Assistant Professor of Aeronautical Engineering (1967). BS, Wichita State University, 1961; MA, ibid., 1964; PhD, University of Kansas, 1967.

McIntyre, Donald W., Associate Professor of Psychology (1968). AB, University of California at Santa Barbara, 1955; MA, University of Connecticut, 1959; PhD, ibid., 1965.


McKenney, James W., Assistant Professor of Political Science (1966). BA, Willamette University, 1958; MA, University of Oregon, 1964; PhD, ibid., 1969.

McLuen, Peggy, Assistant Professor of Physical Education (1966). AB, Wichita State University, 1947; ME, ibid., 1960.


Magelli, Paul J., University Professor and Dean of Fairmount College of Liberal Arts and Sciences (1969). AB, University of Illinois, 1959; MS, ibid., 1960; PhD, ibid., 1965.

Majors, Troy, Associate Professor of Philosophy (1964). BA, University of Arkansas, 1958; MA, ibid., 1959; PhD, Northwestern University, 1967.

Mallory, William, Assistant Professor of Philosophy (1965). BA, Northwestern University, 1957; MA, ibid., 1962; PhD, ibid., 1970.

Malone, Henry H., Assistant Professor of English, and Associate Dean of Fairmount College of Liberal Arts and Sciences (1948). AB, Wichita State University, 1932; MA, ibid., 1950.

Malone, Marjorie, Instructor in Spanish (1967). BA, Wichita State University, 1932; AM, University of Kansas, 1934.
Marks, Bernard J., Professor of Economics (1969). BSc, Drake University, 1941; MS, Iowa State University, 1949; PhD, University of Minnesota, 1960.


Mathis, William, Associate Professor of Music Education, Coordinator of Graduate Music Studies and Chairman of Performance Department (1969). AB, Brigham Young University, 1957; MS, ibid., 1961; PhD, University of Michigan, 1969.


Meredith, Georgette, Assistant Professor of Anthropology (1967). BA, University of Chicago, 1962; MA, ibid., 1966.

Merriman, James, Professor of English (1966). BA, Texas Tech University, 1947; AM, Columbia University, 1950; PhD, ibid., 1962.

Merriman, Mira P., Associate Professor and Chairman of Department of Art History (1966). BS, Columbia University, 1960; AM, ibid., 1963; PhD, ibid., 1968.


Mickel, Howard A., Assistant Professor of Religion (1965). BA, Nebraska University, 1949; MA, Northwestern University, 1951; BD, Lutheran Theological Seminary, Gettysburg, 1953; PhD, Claremont Graduate School, 1969.

Miller, Glendon R., Assistant Professor of Biology (1968). BA, Southern Illinois University, 1960; MA, ibid., 1962; PhD, University of Missouri, 1966.

Miller, Glenn W., Professor of Economics (1969). BEd, Southern Illinois University, 1934; AM, University of Illinois, 1935; PhD, ibid., 1939.


Miller, William E., Associate Professor of Logopedics (1949). BS, Wichita State University, 1940; MA, ibid., 1947; PhD, Northwestern University, 1950.

Millett, John H., Professor of Political Science (1957). AB, Beloit College, 1940; MA, University of Cincinnati, 1942; PhD, University of Illinois, 1950.

Millett, Nancy C., Assistant Professor of Secondary Education (1968). BA, University of Rochester, 1949; MA, ibid., 1951; EdD, University of Colorado, 1972.

Mills, Everald E., Assistant Professor of Mathematics (1971). BS, University of Nebraska, 1962; MS, Washington State University, 1968; PhD, ibid., 1972.

Mills, Tonk, Adjunct Associate Professor of Dental Hygiene (1968). DDS, University of Missouri at Kansas City, 1955.

Miner, H. Craig, Assistant Professor of History (1969). BA, Wichita State University, 1966; MA, ibid., 1967; PhD, University of Colorado, 1970.
Mittelstaedt, James S., Assistant Professor of Biology (1970). BS, University of Arkansas, 1965; MS, ibid., 1968; PhD, Purdue University, 1970.


Mohr, Phillip J., Associate Professor of Speech (1946, 1950, 1968). BA, Wichita State University, 1946; MA, ibid., 1947; PhD, Ohio State University, 1960.

Moini, Mostafa J., Assistant Professor of Administration (1969). BA, University of Oklahoma, 1964; MA, ibid., 1966; PhD, ibid., 1970.

Moler, Penna R., Assistant Professor of French (1967). BA, University of Kansas, 1964; MA, ibid., 1966.

Moore, James C., Assistant Professor of Art History (1970). BFA, University of New Mexico, 1966; AM, Indiana University, 1968.


Moorhouse, Melvin Paul, Associate Professor of Speech (1957). AB, Westminster College (Pennsylvania), 1935; MA, Ohio State University, 1956.

Mullikin, Margaret D., Assistant Professor of Sociology (1967). BA, Wichita State University, 1954; MA, ibid., 1958.

Murphey, Dwight D., Assistant Professor of Administration (1967). BSL, University of Denver, 1957; LLB, ibid., 1959.

Murphy, James M., Distinguished Professor of Bank Management in Department of Administration (1968). BS, Indiana University, 1943; MBA, ibid., 1948; DBA, ibid., 1959.

Myers, James E., Assistant Professor of Geology (1968). BS, Iowa State University, 1942; MS, Wichita State University, 1956; MS, ibid., 1968.

Myers, Marilyn S., Instructor, Library (1968). BA, Kansas State University, 1966; MS, University of Illinois, 1968.


Nance, Donald W., Assistant Professor and Counseling Psychologist (1968). BA, University of Redlands, 1964; MA, University of Iowa, 1967; PhD, ibid., 1968.

Nasisse, Arline I., Adjunct Associate Professor, Nursing Services (1971). BS, University of Minnesota, 1939; MS in Nursing, Boston University, 1959.

Navrat, Leonard, Adjunct Assistant Professor of Dental Hygiene (1968). BSEd, Kansas State Teachers College, Emporia, 1957; DDS, Loyola University, 1963.

Needles, Audrey, Assistant Professor of Speech and Drama (1965). AB, University of Denver, 1947; MA, ibid., 1948.


Nelson, F. William, Professor of English (1947). AB, University of Texas, 1943; AM, Columbia University, 1949; PhD, University of Oklahoma, 1957.


Newman, Arthur N., Assistant Professor of Voice (1959). St. Louis Opera Company; International Opera Company; NBC Opera Television and New York City Center Opera.


Nickel, James W., Assistant Professor of Philosophy (1968). AB, Tabor College, 1964; MA, University of Kansas, 1966; PhD, ibid., 1968.


Nickel, Kenneth N., Professor of Secondary Education and Associate Dean of the College of Education (1956). BA, Wichita State University, 1936; MA, University of Kansas, 1947; EdD, University of Colorado, 1958.

Nielsen, Carl C., Associate Professor of Administration (1968). BS, Dana College, 1966; MA, University of Nebraska, 1963; PhD, ibid., 1966.


Noah, Calvin, Assistant Professor of Geology (1956, 1963). AB, Fort Hays Kansas State College, 1952; MS, Wichita State University, 1956.


Noel, O. Carroll, Professor of Elementary Education (1950). BS, Kansas State Teachers College, Emporia, 1927; MA, Wichita State University, 1948.

Norris, Roy, Assistant Professor of Electrical Engineering (1961). BSEE, Wichita State University, 1959; MS, ibid., 1962; PhD, Oklahoma State University, 1972.

O'Harra, Downing P., Professor, Library (1935). AB, Southwestern College, 1925; AM, University of Illinois, 1928.

O'Loughlin, John B., Assistant Professor of Electrical Engineering and Director of the Computer Center (1967). BSEE, Massachusetts Institute of Technology, 1954; MSEE, ibid., 1956.


Paddock, Beatrice, Assistant Professor, Library (1962). AB, Friends University, 1926; ABLS, University of Michigan, 1930.

Park, F. Wesley, Adjunct Professor of Dental Hygiene (1968). AB, Wichita State University, 1934; DDS, University of Missouri at Kansas City, 1937.

Park, Jon, Adjunct Professor and Chairman of Department of Dental Hygiene (1968). DDS, University of Missouri at Kansas City, 1964.
Parker, Albert R., Professor of History (1952). BS, Central State College, 1935; EdM, University of Oklahoma, 1942; PhD, ibid., 1950.

Parrish, Wayne L., Associate Professor of Anthropology (1968). AB, McPherson College, 1944; BD, Bethany Theological Seminary, 1947; MA, Wichita State University, 1953; MA, University of Colorado, 1966; PhD, ibid., 1971.


Paske, Gerald H., Associate Professor of Philosophy (1967). BS, University of Wisconsin, 1958; MS, ibid., 1962; PhD, ibid., 1964.

Parris, Wayne J., Associate Professor of Anthropology (1968). AB, McPherson College, 1944; BD, Bethany Theological Seminary, 1947; MA, Wichita State University, 1953; MA, University of Colorado, 1966; PhD, ibid., 1971.


Pate, Robert T., Professor and Chairman of Department of Elementary Education (1967). BA, Central State College, 1958; MEd, University of Oklahoma, 1962; EdD, ibid., 1964.


Payne, Joe Dean, Associate Professor of Elementary Education (1967). BA, Texas Tech University, 1950; MEd, ibid., 1953; EdD, ibid., 1963.


Perel, William M., Professor and Chairman of Department of Mathematics (1966). AB, Indiana University, 1949; AM, ibid., 1950; PhD, ibid., 1955.

Perline, Martin M., Professor of Economics and Associate Dean of the College of Business Administration (1965). BA, Arizona State University, 1960; MA, Ohio State University, 1962; PhD, ibid., 1965.

Pettersen, Kenneth, Assistant Professor of Spanish (1965). BA, Wichita State University, 1964; MA, University of Wisconsin, 1965.

Pfannestiel, Maurice, Associate Professor of Economics (1966). BA, Fort Hays Kansas State College, 1960; MS, Oklahoma State University, 1966; PhD, ibid., 1967.

Pfeffer, Charles B., Assistant Professor of Industrial Engineering (1956). BS, Northeast Missouri State College, 1936; MA, ibid., 1949.


Platt, George M., Associate Professor of Political Science and Director of the Office of Planning (1969). BA, South Dakota State University, 1953; MA, Syracuse University, 1955; PhD, ibid., 1962.

Plett, Sara F., Associate Professor of Nursing (1969). AB, Tabor College, 1947; BS, Nursing Education, University of Minnesota, 1949; MS, University of California, Berkeley, 1955.

Pluckhan, Margaret L., Associate Professor of Nursing (1970). BS in Nursing, University of Wisconsin, 1950; MPS, University of Colorado, 1956; PhD, University of Denver, 1970.


Poland, Leo A., Associate Professor of Accounting (1958). BS, University of Kansas, 1947; MBA, Harvard University, 1948; DBA, University of Indiana, 1962.

Powell, Jackson O., Professor of Psychology (1950). BS, Southeastern State College, Oklahoma, 1941; MS, Syracuse University, 1947; PhD, ibid., 1950.

Pratt, Stephen H., Professor of Psychology (1970). BA, University of California at Los Angeles, 1940; MS, Purdue University, 1950; PhD, ibid., 1952.

Pronko, N. H., Professor of Psychology (1947). AB, George Washington University, 1941; AM, Indiana University, 1941; PhD, ibid., 1944.


Rappaport, Allen, Assistant Professor of Administration (1966). BS, University of South Carolina, 1961; MBA, ibid., 1962; PhD, University of Texas, 1968.

Rector, Larry, Assistant Professor and Associate Director of Financial Aids (1967). BA, Southwestern College, 1962; MEd, Wichita State University, 1967.

Reed, D. Cramer, Dean of the College of Health Related Professions, Associate Dean of University of Kansas Medical Center, and Professor of Health Education (1970). AB, Wichita State University, 1937; MD, Washington University, 1941.


Reed, Paul E., Associate Professor of Piano (1966). BM, Drake University, 1956; MM, ibid., 1957.

Reif, Martin A., Professor of History and Associate Dean of Fairmount College of Liberal Arts and Sciences (1959). AB, University of California, Los Angeles, 1954; PhD, ibid., 1960.

Rensner, Delmar A., Adjunct Associate Professor of Dental Hygiene (1968). BS, University of Illinois, 1945; DDS, ibid., 1947.

Reyes, German, Assistant Instructor in Minority Studies (1972). BA, Wichita State University, 1970.

Rhatigan, James J., Associate Professor, Vice President for Student Affairs and Dean of Students (1965). BA, Coe College, 1957; MA, Syracuse University, 1959; PhD, University of Iowa, 1965.


Richardson, William H., Associate Professor of Mathematics (1962). AB, Chico State College, 1959; MS, Iowa State University, 1961.


Risser, Arthur C., Associate Professor of Industrial Engineering (1951). AB, Grinnell College, 1929.

Ritchie, Gisela, Associate Professor of German (1965). MA, Free University of Berlin, 1952; PhD, University of Michigan, 1965.

Robertson, James P., Distinguished Professor of Orchestra and Conducting (1949). AB, Drury College, 1932; BM, ibid., 1936; MA, Teachers College, Columbia University, 1943.

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Robinson, R. H., Adjunct Associate Professor and Acting Chairman of Department of Inhalation Therapy (1971). BS, Southwestern College, 1947; MD, University of Kansas, 1953.


Rogers, Ben F., Assistant Professor of Philosophy and Director of the Honors Program (1966). BA, University of Tennessee, 1958; MAT, Vanderbilt University, 1961; MA, University of Indiana, 1966; PhD, ibid., 1970.

Rogers, Ethel Elizabeth, Assistant Professor of Mathematics (1958). BS, Kansas State University, 1946; MA, Northwestern University, 1950.

Rogers, George, Associate Professor and Chairman of Department of Minority Studies (1971). BS in Ed, Langston University, 1961; MEd, Central State College, 1969; EdD, University of Kansas, 1971.


Rohn, Arthur H., Associate Professor and Chairman of Department of Anthropology (1970). AB, Harvard University, 1951; PhD, ibid., 1966.

Rounds, Harry D., Professor of Biology (1963). BA, University of Virginia, 1952; MS, University of Pittsburgh, 1960; PhD, ibid., 1962.


Saalmann, Dieter, Assistant Professor of German (1971). BA, Northwestern State University of Louisiana, 1963; MA, The Johns Hopkins University, 1965; PhD, Washington University, 1970.


Sarachek, Alvin, Professor and Chairman of Department of Biology (1958). BA, University of Missouri at Kansas City, 1948; MA, ibid., 1950; PhD, Kansas State University, 1958.

Saricks, Ambrose, Professor of History, Dean of the Graduate School, and Associate Dean of Faculties (1970). BA, Bucknell University, 1937; MA, ibid., 1941; PhD, University of Wisconsin, 1950.

Savaiano, Eugene, Professor of Spanish and Chairman of Department of Romance Languages (1946). BS, Kansas State Teachers College, Emporia, 1936; MS, ibid., 1937; PhD, University of Chicago, 1948.


Schaible, Max A., Assistant Professor of Journalism and Director of Information and Public Events (1970). BA, University of Colorado, 1957.

Schlesier, Karl, Professor of Anthropology (1962). PhD, University of Bonn, 1956.

Schneider, Philip H., Instructor in English (1967). BA, State University of New York, College at Oneonta, 1965; MFA, University of Iowa, 1967.


Schrag, Robert L., Professor of Electrical Engineering (1957). BS in EE, Kansas State University, 1945; MS, California Institute of Technology, 1946; PhD, Pennsylvania State University, 1954.

Schrag, Sam, Assistant Professor, Library (1966). BA, Bethel College, 1961; MS, Kansas State Teachers College, Emporia, 1966.


Schuermann, Allen C., Jr., Assistant Professor of Industrial Engineering (1971). BA, University of Kansas, 1965; MS, Wichita State University, 1968; PhD, University of Arkansas, 1971.


Schule, Donald K., Assistant Professor of Sculpture (1967). BA, University of Minnesota, 1964; MFA, ibid., 1967.

Scriven, Nancy L., Assistant Professor of Music Education (1967). BME, Wichita State University, 1952; MME, ibid., 1966.

Segler, Bert L., Assistant Professor of Administration (1965, 1967). BBA, Wichita State University, 1960; MS, ibid., 1962.

Seng, Jerry T., Assistant Professor of Biology (1970). BS, Purdue University, 1957; MA, Indiana University, 1966; PhD, ibid., 1970.

Sevart, John B., Assistant Professor of Mechanical Engineering (1960). BSME, Wichita State University, 1960; MS, ibid., 1962.


Sherman, Dorothy M., Professor and Chairman of Department of Student Personnel and Guidance (1964). BA, University of Oregon, 1932; MA, ibid., 1934; PhD, Ohio State University, 1945.


Shih, Philip C., Instructor, Library (1969). BA, Tunghai University, Taiwan, China, 1965; MS, Florida State University, 1968.

Shumard, Jack L., Assistant Instructor in Engineering and Assistant Director of Physical Plant (1969). BA, Wichita State University, 1951; BS in ME, ibid., 1958.


WICHITA STATE UNIVERSITY 343
Slingerland, F. Yvonne, Assistant Professor of Physical Education (1967). BS, Fort Hays Kansas State College, 1954; MS, ibid., 1964.


Smith, Bert L., Associate Professor of Aeronautical Engineering (1966). BS, University of Missouri at Rolla, 1953; MS, ibid., 1960; PhD, Kansas State University, 1966.


Smith, L. George, Professor of Administration (1967). AB, Ball State University, 1952; MBA, Indiana University, 1957; DBA, ibid., 1963.


Smith, R. V., Professor and Chairman of Department of Mechanical Engineering (1971). BSME, University of Colorado, 1948; MS, ibid., 1951; MS, University of Utah, 1957; PhD, University of Oxford, 1968.


Snyder, Melvin H., Jr., Professor of Aeronautical Engineering (1947). BSME, Carnegie-Mellon University, 1947; MSAE, Wichita State University, 1950; PhD, Oklahoma State University, 1967.


Soper, Fred J., Associate Professor of Accounting and Director of Center for Management Development (1960, 1963). BS, University of Kansas, 1955; MBA, Wichita State University, 1962; CPA Certificate, Kansas.


Sowards, J. Kelley, Professor of History (1956). AB, Wichita State University, 1947; MA, University of Michigan, 1948; PhD, ibid., 1952.

Spangler, Eugene C., Associate Professor of Speech and Drama and Director of Theater Services (1939). BM, Wichita State University, 1939; MFA, University of Iowa, 1950.

Sparkes, Alan T., Assistant Professor of Sociology (1971). BA, Memorial University of Newfoundland, 1967; MA, University of Missouri, 1969.

Spohn, Charles L., Professor of Music and Dean of the College of Fine Arts (1970). BM, Butler University, 1950; MA, Ohio State University, 1953; PhD, ibid., 1959.


Stanga, John E., Assistant Professor of Political Science (1968). BA, Southeastern Louisiana University, 1961; MA, Louisiana State University, 1963; PhD, University of Wisconsin, 1971.


Stephens, Frances A., Assistant Professor of English (1970). BA, Texas A&I University, 1956; MA, University of Texas, 1967; PhD, ibid., 1970.

St. John, Richard W., Assistant Professor of Ceramics (1969). BFA, Kansas City Art Institute, 1967; MFA, Alfred University, 1969.

Stone, Arthur J., Assistant Instructor in Administration of Justice and Director of Traffic and Security (1972).

Strecker, Joseph L., Associate Professor of Physics (1968). BS, Rockhurst College, 1955; PhD, Johns Hopkins University, 1961.


Sudermann, Federic, Assistant Professor of Political Science, Assistant to the Academic Vice President, and Director of Research and Sponsored Programs (1964). BA, Wichita State University, 1958; MA, ibid., 1960.


Sweet, George H., Associate Professor of Biology (1966). BS, Wichita State University, 1960; MA, University of Kansas, 1962; PhD, ibid., 1965.

Sweney, Arthur B., Professor of Administration (1968). BS, University of Illinois, 1947; MSW, ibid., 1949; PhD, University of Houston, 1958.

Taggart, Thoburn, Jr., Assistant Professor, Library, and Coordinator of Public Services (1962). BA, University of the South, 1953; MA, George Peabody College for Teachers, 1958. (Leave of absence, 1971-1972.)

Talaty, Erach R., Professor of Chemistry (1969). BS, Nagpur University, Nagpur, India, 1948; PhD, ibid., 1954; PhD, Ohio State University, 1957.

Tallarico, P. Thomas, Assistant Professor of Music Education (1971). BSE, Indiana University of Pennsylvania, 1958; MME, Duquesne University, 1963; PhD, West Virginia University, 1972.

Tasch, Paul, Professor of Geology (1955). BS, College of the City of New York, 1948; MS, Pennsylvania State University, 1950; PhD, University of Iowa, 1952.

Taylor, Ross McLaury, Professor and Chairman of Department of American Studies (1939). AB, University of Oklahoma, 1930; MA, ibid., 1933; PhD, University of Iowa, 1938.
Teall, Mary Jane Woodard, Assistant Professor of Speech and Drama (1946). BS, Northwestern University, 1933; MA, ibid., 1937.

TenElshof, Annette R., Assistant Professor of Student Personnel and Guidance and Associate Dean of Students (1970). BS, University of Michigan, 1961; MA, Wheaton College, 1963; EdS, Michigan State University, 1966; PhD, ibid., 1970.


Terflinger, Curtis D., Professor of Administration (1957). BA, University of Kansas, 1953; Juris Doctorate, ibid., 1955.

Terrell, William T., Associate Professor of Economics (1967). BS, Oklahoma State University, 1958; MS, ibid., 1961; PhD, Vanderbilt University, 1970.

Terwilliger, Gordon B., Professor of Music, Associate Dean of the Graduate School, and Director of the Summer Session (1946). BME, Northwestern University, 1942; MA, Columbia University, 1946; EdD, ibid., 1952.

Teufel, Hugo, Jr., Associate Professor of Mathematics (1963). BS, University of Kansas, 1955; MS, University of New Mexico, 1960; PhD, ibid., 1968.

Thiry, Roberta D., Assistant Professor of Nursing (1969). BA, Wichita State University, 1958; MS Nursing, University of Colorado, 1961. (Leave of absence, 1971-1972.)

Thomas, Phillip D., Associate Professor of History (1965). BA, Baylor University, 1960; MA, University of New Mexico, 1964; PhD, ibid., 1965.


Thompson, Norman D., Assistant Instructor and Director of Operations, Digital Computing Center (1967).

Throckmorton, Helen J., Associate Professor of English (1954). AB, Friends University, 1945; MEd, University of Colorado, 1956; PhD, ibid., 1972.


Tilford, Michael, Assistant Professor of Secondary Education (1967). BS, Langston University, 1957; MA, Johns Hopkins University, 1958; EdD, Oklahoma State University, 1970.


Town, Robert, Assistant Professor of Organ (1965). BM, Eastman School of Music, 1960; MM, Syracuse University, 1962.


Traylor, Elwood B., Professor and Chairman of Department of Educational Psychology (1967). AB, Greenville College, 1948; MA, Washington University, 1951; EdD, ibid., 1966.

Tuttle, Edward H., Associate Professor of Social Work (1967). BA, Wichita State University, 1934; AM, University of Chicago, 1949.


Unruh, Henry, Jr., Professor and Acting Chairman of Department of Physics (1961). AB, Wichita State University, 1950; MS, Kansas State University, 1952; PhD, Case Western Reserve University, 1960.

Vahdat, Pari, Associate Professor of Psychology (1967). AB, Indiana University, 1953; AM, ibid., 1957; PhD, ibid., 1964.


Vedder, Charles B., Assistant Professor of Sociology (1970). BA, Lawrence University, 1965; MA, University of Iowa, 1969; PhD, ibid., 1972.


Vickery, W. Dean, Assistant Professor of Administration (1971). BA, Wichita State University, 1954; MS, ibid., 1968.


Vornholt, David, Assistant Professor of Flute (1971). BM, University of Cincinnati, 1949; MM, ibid., 1968.

Waddell, Mina Jean, Assistant Professor, Library and Head of Reference Department (1965). BA, Wichita State University, 1938; MS, Kansas State Teachers College, Emporia, 1965.

Wall, Lillian, Associate Professor of Spanish (1963). BA, Kansas Wesleyan, 1932; MS, Kansas State Teachers College, Emporia, 1953; PhD, University of Wisconsin, 1969.

Wallingford, Frances A., Assistant Professor of Piano (1956). BM, Southwestern College, 1931; AB, ibid., 1933; MM, Wichita State University, 1956; Certificates, American Conservatory in Fontainebleau, France, 1928 and 1963.

Walsh, David A., Assistant Professor of Art History (1971). BA, American University, 1965; MA, University of Minnesota, 1968.

Walters, Dorothy, Associate Professor of English (1967). BA, University of Oklahoma, 1948; BA in LS, ibid., 1951; PhD, ibid., 1960.

Watertor, Jean L., Assistant Professor of Biology (1968). BA, University of Iowa, 1944; MS, University of Wisconsin, 1949; PhD, Iowa State University, 1965.


Watson, Richard L., Associate Professor of Elementary Education and Director of Reading Center (1971). AB, Wabash College, 1955; MSEd, Indiana University, 1959; EdD, ibid., 1964.
Webb, Edgar L., Assistant Professor and Chairman of Department of Industrial Education (1959). BA, Wichita State University, 1959; MS, Kansas State College of Pittsburgh, 1961.

Webb, Samuel C., Associate Professor of Economics (1966). BS, University of Missouri, 1957; MS, ibid., 1959; PhD, University of Kansas, 1968.

Weed, Norman L., Associate Professor of Economics (1971). BS, University of Nebraska, 1959; PhD, Tulane University, 1968.


Welsbacher, Richard C., Professor of Speech and Drama (1958). AB, Denison University, 1948; MA, University of Denver, 1950; PhD, Ohio State University, 1965.

Wentworth, C. Russell, Associate Professor of Administration and Dean of Admissions and Records (1971). BA, Michigan State University, 1949; MA, ibid., 1952; PhD, ibid., 1970.

Wenz, William H., Jr., Associate Professor of Aeronautical Engineering (1957, 1963). BMSE, Wichita State University, 1955; MSAE, ibid., 1961; PhD, University of Kansas, 1969.

West, Elles C., Associate Professor of Physical Education (1965). Physical Therapy, Karolinska University, Stockholm, Sweden, 1950; MA, Stanford University, 1956; PhD, University of Oregon, 1965.

Wherritt, Robert C., Associate Professor of Mathematics (1962). BS, Tulane University, 1955; MS, ibid., 1961; PhD, New Mexico State University, 1971.


Wiebe, Raymond F., Assistant Professor, Assistant to the Dean, and Counselor in University College (1965). AB, Tabor College, 1953; MS, Kansas State University, 1965.

Wiggins, Margaret, Assistant Instructor in Elementary Education (1972). BS, Troy State University; MS, Oklahoma State University, 1970.


Wilkes, Mary Nell, Assistant Professor of Business Education (1956). BS, Texas Woman's University, 1939; MBE, University of Colorado, 1961.


Williams, Richard K., Assistant Professor of Spanish (1971). AB, Grinnell College, 1956; MA, Syracuse University, 1962.

Wilson, Gary D., Instructor in English (1971). AB, McPherson College, 1966; MA, Wichita State University, 1968.

Wilson, Herman, Assistant Professor of Physical Education and Track Coach (1967). BS, Kansas State University, 1952; MS, ibid., 1963.
Wilson, John H., Associate Professor of Elementary Education (1968). BA, Wichita State University, 1958; EdM, ibid., 1964; EdD, University of Oklahoma, 1967.

Wineke, Donald R., Assistant Professor of English (1971). BA, University of Washington, 1960; MA, Pennsylvania State University, 1962; PhD, Indiana University, 1971.

Winget, Lynn, Professor of Spanish (1961). BA, Wichita State University, 1948; MA, University of Wisconsin, 1949; PhD, ibid., 1960.


Wong, John C., Associate Professor of Health Education and Associate Dean of the College of Health Related Professions (1970). AB, Phillips University, 1958; MS, University of Oklahoma, 1967; EdD, University of Missouri, 1971.

Wood, L. Curtise, Professor of Administration (1956). BA, Coe College, 1938; MA, University of Iowa, 1956; PhD, ibid., 1956.

Woodard, Francis O., Professor and Chairman of Department of Economics, and Coordinator of Graduate Studies in Economics (1965). BS, University of Nebraska, 1941; MA, ibid., 1958; PhD, ibid., 1962.

Wu, Dah Cheng, Assistant Professor of Geology (1968). BS, National Taiwan University, 1962; MS, University of Oklahoma, 1966; PhD, ibid., 1969.


Wyatt, P. J., Assistant Professor of English (1964, 1966). AB, University of Arizona, 1951; MA, Indiana University, 1957.


Yeargan, Richard G., Assistant Professor and Director of the Reading Improvement Laboratory (1970). AB, Fort Hays Kansas State College, 1959; MA, University of Northern Colorado, 1963.


Yoon, I. N., Associate Professor of Economics (1968). BA, Lynchburg College, 1955; MA, University of Minnesota, 1958; PhD, ibid., 1967.

Youngman, Arthur L., Assistant Professor of Biology (1965). BA, Montana State University, 1959; MS, Case Western Reserve University, 1961; PhD, University of Texas, 1965.

Zandler, Melvin E., Assistant Professor of Chemistry (1966). BA, Friends University, 1960; MS, Wichita State University, 1963; PhD, Arizona State University, 1965.


Zody, Richard E., Assistant Professor of Political Science (1968). AB, Indiana State University, 1963; MA, ibid., 1965; PhD, Southern Illinois University, 1968.

Zumwalt, Glen W., Distinguished Professor of Aeronautical Engineering (1968). BS, University of Texas, 1948; BSME, ibid., 1949; MSME, ibid., 1953; PhD, University of Illinois, 1959.

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Albright, Penrose S., Professor Emeritus of Physics (1943). BS, Renssalaer Polytechnic Institute, 1922; MS, University of Wisconsin, 1929; PhD, ibid., 1936.

Aldrich, Benjamin M., Professor Emeritus of Mechanical Engineering (1956). BSME, University of Nebraska, 1927; MS, South Dakota College, 1934; Registered Professional Engineer.

Angulo, J. E., Retired Associate Professor of Spanish (1961). BS, Instituto Santiago de Cuba, 1921; AB, Friends University, 1925; MA, University of Kansas, 1931.

Beebe, Viola McKinney, Assistant Professor Emeritus of Classical Languages (1929). AB, Wichita State University, 1909; AM, ibid., 1932.

Branch, Hazel Elisabeth, Professor Emeritus of Zoology (1922). BA, University of Kansas, 1908; AM, ibid., 1912; PhD, Cornell University, 1921.

Downing, Jacquetta, Professor Emeritus of French (1917). AB, Wichita State University, 1921; BM, ibid., 1921; AM, University of Kansas, 1922; L'Institut de Phonétique (Sorbonne), 1929.

Duerksen, George N., Assistant Professor Emeritus of Industrial Education (1967). BS, Kansas State College of Pittsburg, 1929; MS, ibid., 1938.

Fletcher, Worth A., Professor Emeritus of Chemistry (1927). AB, University of Indiana, 1925; MA, ibid., 1926; PhD, ibid., 1927.

Gossett, Lucille, Assistant Professor Emeritus of English (1937). BA, Baker University, 1922; MA, Wichita State University, 1940.

Graham, Marie, Associate Professor Emeritus of History (1917). AB, Wichita State University, 1915; MA, University of Chicago, 1916.

Hanson, Gordon C., Professor Emeritus of Educational Psychology (1938). BA, Augsburg College, 1928; PhD, University of North Dakota, 1937.

Hanson, Loring O., Professor Emeritus of Aeronautical Engineering (1955). BSCE, University of Kansas, 1928; MSCE, University of Wisconsin, 1932.

Haymaker, Mary, Associate Professor Emeritus of English (1925). AB, Wichita State University, 1925; MA, University of Colorado, 1927.

Hekhuis, Lambertus, Dean Emeritus of College of Liberal Arts and Sciences (1926). AB, Hope College, 1913; MA, ibid., 1916; BD, University of Chicago, 1925; PhD, ibid., 1925.

Hinton, Evelyn A., Associate Professor Emeritus of Educational Psychology (1929). Graduate, Columbia Normal School of Physical Education at Chicago, 1924; BA, Wichita State University, 1929; MS, University of Washington, 1938.


Marsh, T. Reese, Professor Emeritus of English (1943). BA, Johns Hopkins University, 1924; PhD, University of Iowa, 1933.

Mood, Robert Gibbs, Professor Emeritus of English (1936). AB, Southwestern University, 1920; AM, Columbia University, 1925; PhD, University of Illinois, 1939.
Ricketts, Faye Margaret, Associate Professor Emeritus of Business Education (1931). AB, Business Administration, Wichita State University, 1927; MBA, University of Texas, 1932.

Ryan, Robert, Associate Professor Emeritus of Economics (1946). BS, Michigan State Normal College, 1934; BCS, Detroit Business University, 1936; MA, Wayne University, 1946.

Rydjord, John, Dean Emeritus of Graduate School (1926). AB, University of Wisconsin, 1922; MA, Northwestern University, 1923; PhD, University of California, Berkeley, 1925.

Schoener, Wilhelmina, Assistant Professor Emeritus of German (1963). AB, Friends University, 1926; MA, University of Kansas, 1962.


Strange, John M., Associate Professor Emeritus of Art (1944). BFA, University of Oklahoma, 1931; MS, Fort Hays Kansas State College, 1938.

Taggart, Gladys Martha, Professor Emeritus of Physical Education (1928). BS, University of Iowa, 1923; MA, Teachers College, Columbia University, 1930; PhD, New York University, 1959.

Van Keuren, Katharine, Associate Professor Emeritus, Library (1945). AB, Wichita State University, 1922; MA, Columbia University, 1938.

Wall, Hugo, Professor Emeritus of Political Science (1929). AB, Stanford University, 1926; PhD, ibid., 1929.

Walker, Margaret L., Assistant Professor Emeritus of English (1947). AB, University of Kansas, 1919; MA, Radcliffe College, 1930.

Watson, Tully F., Professor Emeritus of Physics (1947). BA, University of Oklahoma, 1928; MS, ibid., 1930; PhD, University of Illinois, 1935.

Winer, George D., Professor Emeritus of Speech and Dramatic Art (1923). AB, University of Michigan, 1917; AM, ibid., 1919.

Wrestler, Ferna E., Associate Professor Emeritus of Mathematics (1947). BS, Kansas State College of Pittsburg, 1924; AB, University of Kansas, 1925; MA, ibid., 1926.


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| Adler, Robert G.—Chemistry | Bevis, Clyde E.—Administration of Justice |
| Aguila, Maria A.—Medical Technology | Biles, Karen—Medical Technology |
| Alexander, Vivian R.—Mathematics | Blackwood, Wallace B.—Mathematics |
| Bauman, Alice—Physical Education | Blakemore, Glenn A.—Speech |
Nathan, C. Henry — Speech  
Nathan, Ruth K. — Elementary Education  
Norby, Lorraine B. — Elementary Education  
Oswald, Charles R. — Administration of Justice  
Owen, Dr. Pere — Health Professions  
Oxley, Dr. Dwight — Medical Technology  
Page, Judy D. — Speech  
Paris, Barry — Russian  
Pease, Beatrice S. — Music Education  
Peebles, Carol — Medical Technology  
Phillips, Susan — Romance Languages  
Pierce, Lary E. — Graphic Design  
Pierpont, Pat — Business Education  
Pitts, Dr. Robert — Dental Hygiene  
Pletcher, Sammie — Dental Hygiene  
Pointdexter, Sharon — English  
Price, Rebecca — Dental Hygiene  
Reals, Dr. William J. — Medical Technology  
Reece, Willard T. — Religion  
Rench, Waunita — Medical Technology  
Rhoads, Ellen C. — Anthropology  
Riddell, James V., Jr. — Speech  
Roller, Francis M. — Mathematics  
Ross, Ralph — History  
Ruth, Lonnie R. — Mathematics  
Schmidt, Lewis — Medical Technology  
Schoener, Wilhelmina — German  
Scott, Barbara — English  
Scott, Steven — Studio Arts  
Seibel, Wallace — Mathematics  
Shankar, Shiu P. — Geology  
Silliman, Dr. Y. E. — Medical Technology  
Simpson, Roy M. — Industrial Education  
Smith, Abbie — English  
Smith, Dr. Alvin — Medical Technology  
Smith, Elizabeth R. — Biology  
Smith, John — Medical Technology  
Smith, William H., II — Dental Hygiene  
Stanga, Joyce — English  
Steinberg, Ann — Educational Psychology  
Stewart, James A., Jr. — History  
Swanson, Janis — Medical Technology  
Taylor, Dr. Ruth S. — Medical Technology  
Thiesing, Carol — Elementary Education  
Thomas, Larry Kelso — Mathematics  
Thompson, Nikola — Logopedics  
Troutman, Loretta J. — Mathematics  
Villalpando, Innes J. — Spanish  
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