
Central Missouri State University

1995-96 General Catalog

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Greetings

Welcome to Central Missouri State University. We hope this University catalog will help you become better acquainted with our institution and allow you to learn about the advantages of studying here.

As a major comprehensive university, Central offers over 150 areas of study. But more importantly, we provide an atmosphere of personalized attention and individualized instruction. Our faculty and staff are dedicated to working with you to help you accomplish your career goals while providing a learning environment which is fun and enjoyable.

Your years at Central will be exciting and productive. Students from all over the nation and world help to make the learning environment positive and friendly.

Our University focuses upon strong baccalaureate programs designed to help all students obtain skills which are related to lifelong success. Additionally, Central offers an extensive array of graduate programs. Our graduate offerings aid people who seek greater expertise in a discipline or who are pursuing a career change.

Central has an excellent reputation as a teacher education institution, but we are also widely known for our international education, technology, and professional programs. We have a program to fit your needs.

We hope that you enjoy your time at Central, and we are delighted to be of service to you.

ED ELLIOTT
President

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4 Calendar

CALENDAR 1995-96

SUMMER SESSIONS 1995, MAY 17--AUGUST 10*

May 15	Monday, 4 p.m., payment for all Summer Sessions charges must be received in the Revenue Office for students enrolled in 1ST SIX-WEEK Session. Students who are enrolled in at least one course scheduled during the 1ST SIX-WEEK Session, but are not validated, will have all Summer enrollments CANCELED.
May 16	Tuesday, 8 a.m., residence halls open.
May 17	Wednesday, 1ST SIX-WEEK Session begins.
May 22	Monday, last day for changing 1ST SIX-WEEK class schedules.
May 29	Monday, Memorial Day Holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
June 13	Tuesday, last day to drop classes for 1ST SIX-WEEK Session with a W recorded.
June 15	Thursday, 3 p.m., payment for all Summer Sessions charges must be received in the Revenue Office for students enrolled in EIGHT-WEEK Session. Students who are enrolled in EIGHT-WEEK classes, but are not validated, will have all Summer enrollments CANCELED.
June 18	Sunday, 8 a.m., EIGHT-WEEK students move into residence halls.
June 19	Monday, EIGHT-WEEK Session begins.
June 21	Wednesday, last day for changing EIGHT-WEEK class schedules.
June 26	Monday, 3 p.m., payment of all Summer Sessions charges must be received in the Revenue Office for students enrolled in 2ND SIX-WEEK Session. Students who are enrolled in 2ND SIX-WEEK classes, but are not validated, will have all Summer enrollments CANCELED.
June 27	Tuesday, 1ST SIX-WEEK Session Final Examinations.
June 27	Tuesday, 8 a.m., 2ND SIX-WEEK students move into residence halls.
June 28	Wednesday, 2ND SIX-WEEK Session begins.
July 3	Monday, CLASSES DISMISSED
July 4	Tuesday, Independence Day Holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
July 5	Wednesday, last day for changing 2ND SIX-WEEK class schedules.
July 25	Tuesday, last day to drop classes for EIGHT-WEEK and 2ND SIX-WEEK Sessions with a W recorded.
Aug. 9, 10	Wednesday, Thursday, 2ND SIX-WEEK and EIGHT-WEEK Sessions Final Examinations.
Aug. 10	Thursday, 8 p.m., residence halls close.

FALL SEMESTER 1995, AUGUST 23--DECEMBER 15*

June 1	Thursday, 3 p.m., Fall Semester \$100 prepayment must be received in the Revenue Office. Class schedules are CANCELED for students enrolling through May 12 and not paying \$100 prepayment.
June 5-July 12	Fall Semester class schedules dropped on June 1 may be rebuilt with penalty.
July 14-Aug. 10	Fall Semester enrollment reserved for new and transfer students.
Aug. 10	Thursday, 3 p.m., Fall Semester payment of all charges must be received in the Revenue Office or class schedules are CANCELED.
Aug. 14-22	Fall Semester class schedules canceled on June 1 or August 10 may be rebuilt with penalty. Central Express open.
Aug. 20	Sunday, 8 a.m., residence halls open.
Aug. 21, 22	Monday, Tuesday, Faculty Planning.
Aug. 22	Tuesday, 4 p.m., Fall Semester payment of all charges must be received in the Revenue Office and validation tag set or class schedules are CANCELED.
Aug. 23	Wednesday, 8 a.m., classes begin (including regular 15-week night classes).
Aug. 23-29	Fall Semester enrollment and changing classes through August 29. Payment of all charges must be received in the Revenue Office immediately.
Sept. 4	Monday, Labor Day Holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
Sept. 27	Wednesday, 5 p.m., last day to drop first half semester classes with a W recorded.
Oct. 20	Friday, District Teachers Meeting, CLASSES DISMISSED.
Nov. 2	Thursday, 5 p.m., last day to drop semester classes with a W recorded.
Nov. 10	Friday, 4 p.m., Spring Semester \$100 prepayment must be received in the Revenue Office. Class schedules are CANCELED for students enrolling through October 27 and not paying \$100 prepayment.
Nov. 20	Monday, 5 p.m., last day to drop second half semester classes with a W recorded.
Nov. 22	Wednesday, 6 p.m., residence halls close and classes scheduled after 5 p.m. are dismissed.
Nov. 23, 24	Thursday, Friday, Thanksgiving Holidays, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
Nov. 26	Sunday, noon, residence halls open.
Nov. 27-Dec. 22	Spring Semester class schedules canceled on November 10 may be rebuilt with penalty.
Dec. 11, 12, 13, 14, 15	Monday, Tuesday, Wednesday, Thursday, Friday, Fall Semester Final Examinations (includes second half semester classes).
Dec. 15	Friday, 4 p.m., Spring Semester payment of all charges must be received in the Revenue Office or class schedules are CANCELED.
Dec. 15	Friday, 8 p.m., residence halls close.
Dec. 16	Saturday, Commencement
Dec. 25-Jan. 1	Winter Holidays, UNIVERSITY OFFICES CLOSED.

SPRING SEMESTER 1996, JANUARY 10--MAY 10*

Dec. 15	Friday, 4 p.m., Spring Semester payment of all charges must be received in the Revenue Office or class schedules are CANCELED.
Jan. 7	Sunday, 8 a.m., residence halls open.
Jan. 8-9	Spring Semester class schedules canceled on November 10 or December 15 may be rebuilt with penalty. Central Express open.
Jan. 10	Wednesday, 8 a.m., classes begin (including regular 15-Week night classes).
Jan. 10-17	Spring Semester enrollment and changing classes through January 17. Payment of all charges must be received in the Revenue Office immediately.
Jan. 15	Monday, Martin Luther King Holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED
Feb. 14	Wednesday, 5 p.m., last day to drop first half semester classes with a W recorded.
Mar. 1	Friday, application priority date for students to mail 1996-97 Federal financial aid application to the National Processor (pre-addressed envelope with application).
Mar. 15	Friday, 6 p.m., residence halls close.
Mar. 18-22	Monday through Friday, Spring Break, CLASSES DISMISSED.
Mar. 24	Sunday, noon, residence halls open.
Mar. 27	Wednesday, 5 p.m., last day to drop Semester classes with a W recorded.
Apr. 5	Friday, Spring Holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
Apr. 15	Monday, 5 p.m., last day to drop second half semester classes with a W recorded.
May 6, 7, 8, 9, 10	Monday, Tuesday, Wednesday, Thursday, Friday, Spring Semester Final Examinations (includes second half semester classes).
May 10	Friday, 8 p.m., residence halls close.
May 11	Saturday, Commencement.

SUMMER SESSIONS 1996, MAY 15--AUGUST 7*

May 13	Monday, 4 p.m., payment for all Summer Sessions charges must be received in the Revenue Office for students enrolled in 1ST SIX-WEEK Session. Students who are enrolled in at least one course scheduled during the 1ST SIX-WEEK Session, but are not validated, will have all Summer enrollments CANCELED.
May 14	Tuesday, 8 a.m., residence halls open.
May 15	Wednesday, 1ST SIX-WEEK Session begins.
May 20	Monday, last day for changing 1ST SIX-WEEK class schedules.
May 27	Monday, Memorial Day Holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
June 11	Tuesday, last day to drop classes for 1ST SIX-WEEK Session with a W recorded.
June 13	Thursday, 3 p.m., payment for all Summer Sessions charges must be received in the Revenue Office for students enrolled in EIGHT-WEEK Session. Students who are enrolled in EIGHT-WEEK classes, but are not validated, will have all Summer enrollments CANCELED.
June 16	Sunday, 8 a.m., EIGHT-WEEK students move into residence halls.
June 17	Monday, EIGHT-WEEK Session begins.
June 19	Wednesday, last day for changing EIGHT-WEEK class schedules.
June 24	Monday, 3 p.m., payment of all Summer Sessions charges must be received in the Revenue Office for students enrolled in 2ND SIX-WEEK Session. Students who are enrolled in 2ND SIX-WEEK classes, but are not validated, will have all Summer enrollments CANCELED.
June 25	Tuesday, 1ST SIX-WEEK Session Final Examinations.
June 25	Tuesday, 8 a.m., 2ND SIX-WEEK students move into residence halls.
June 26	Wednesday, 2ND SIX-WEEK Session begins.
July 1	Monday, last day for changing 2ND SIX-WEEK class schedules.
July 4	Thursday, Independence Day Holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
July 22	Monday, last day to drop classes for EIGHT-WEEK and 2ND SIX-WEEK Sessions with a W recorded.
Aug. 6, 7	Tuesday, Wednesday, 2ND SIX-WEEK and EIGHT-WEEK Sessions Final Examinations.
Aug. 7	Wednesday, 8 p.m., residence halls close.

To Call the University Operator Dial

816-543-4111

SECTION I

GENERAL INFORMATION, SERVICES, FACILITIES

Introduction

Your Catalog

Your Central Missouri State University catalog contains a wealth of information for students and faculty members. Examine it carefully. Organized for your convenience, it has four main sections: I, General Information, Services and Facilities; II, Academic Programs and Courses; III, Policies and Regulations; and IV, University Personnel.

This book is a reliable guide for entering the University, reviewing available programs of study, planning a program, selecting courses, and meeting graduation requirements. If you are a student entering the University, keep this catalog. To the extent possible, the University will accept the degree requirements in it for a five-year period. (See Section III, Date of Catalog for Checking Degree Requirements.)

Since the policies and programs of the University are constantly changing, no catalog can be completely up to date, even when it is published. Students, therefore, should review their programs periodically with an academic advisor and with departmental advisors to allow for necessary changes.

The University

Central Missouri State University is located in Warrensburg, a west central Missouri community of 15,300, fifty miles southeast of Kansas City at the junction of Highways 50 and 13. It is easily reached by automobile, Trailways Bus, or AMTRAK.

Central has provided more than a century of service, having been founded in 1871 as the State Normal School for the Second Normal District of Missouri. Formal accreditation and continued growth led the campus to be recognized as Central Missouri State Teachers College in 1919, Central Missouri State College in 1946, and Central Missouri State University in 1972. The University's statement of Mission and Goals may be found in Section III. Central is an Affirmative Action EEO/ADA institution. (See Section III.)

Including its airport and other special facilities, the University occupies more than a thousand acres. It offers over 150 under-graduate and graduate programs for its approximately 12,000 students. Its facilities are exceptional--not only its modern classrooms, laboratories, technical developments, and residence halls, but also its airport, Pertle Springs park, and recreational and sports areas. (See Services for Students and Other Services and Facilities.)

With a University motto of "Education for Service," it is not surprising that the University's faculty members have earned a reputation for teaching excellence, on and off campus. They have also distinguished themselves as scholars, achieving recognition in academic and professional organizations, in addressing learned societies, in performing in music and the arts, and in writing many books and journal articles.

Accreditations

Central is accredited by the North Central Association of Colleges and Schools. In addition, it has the following specialized accreditations: Art baccalaureate and graduate programs, National Association of Schools of Art and Design; Graphics baccalaureate programs, American Design Drafting Association; Human Environmental Sciences baccalaureate programs, American Home Economics Association and American Dietetics Association; Manufacturing and Construction baccalaureate programs, National Association for Industrial Technology; Safety Science and Technology baccalaureate programs, American Society of Safety Engineers; Music baccalaureate and graduate programs, National Association of Schools of Music; Nursing baccalaureate program, National League for Nursing and the Missouri State Board of Nursing; Social Work baccalaureate program, Council on Social Work Education; Speech Pathology and Audiology masters program, American Speech-Language-Hearing Association; Teacher Education baccalaureate and graduate programs, National Council for Accreditation of Teacher Education and the Missouri Department of Elementary and Secondary Education.

The University has institutional membership in

- ! American Assembly of Collegiate Schools of Business
- ! American Association of Colleges for Teacher Education
- ! American Association of State Colleges and Universities
- ! AACSC Office of Federal Programs
- ! American Association of University Women
- ! American Council on Education
- ! Association for Gerontology in Higher Education
- ! Association of Governing Boards of Universities
- ! Council for the Advancement and Support of Education
- ! Council for Public Higher Education for Missouri
- ! Council of Graduate Schools
- ! Council of Social Work Education
- ! International Technology Education Association
- ! Midwest Association of Graduate Schools
- ! Missouri Association of Colleges for Teacher Education
- ! Missouri State Board of Nursing
- ! National Association of Industrial Technology
- ! National Center for Higher Education Management Systems
- ! National Council of University Research Administrators
- ! North American Association of Summer Sessions
- ! North Central Conference of Summer Schools
- ! Society of Research Administrators
- ! Teacher Education Council of State Colleges and Universities.

Graduate Studies

Central offers graduate study toward Master of Arts, Master of Business Administration, Master of Science, Master of Science in Education, and Education Specialist degrees. Students may pursue non-degree graduate study, also.

Applicants must hold a bachelor's degree from an accredited college or university recognized by Central, and qualified Central seniors may take graduate work by special arrangement. (See Undergraduate Enrollment in Graduate Courses.)

Students may obtain applications in the Office of Graduate Studies. For more information, contact the Dean of Graduate Studies, Humphreys 410, 816-543-4621.

Unless indicated otherwise, 4000-level courses are offered for either graduate or undergraduate credit.

Following is a list of graduate degree programs offered at Central:

- Master of Arts
 - Art
 - Communication
 - Economics
 - English
 - History
 - Music
 - Sociology
 - Teaching English as a Second Language
 - Theatre

- Master of Business Administration
 - General Concentration
 - Accounting Concentration
- Master of Science
 - Agricultural Technology
 - Aviation Safety
 - Biology
 - Criminal Justice
 - Industrial Hygiene
 - Industrial Management
 - Industrial Safety Management
 - Industrial Technology
 - Industrial Vocational Technical Education
 - Library Science and Information Services
 - Mathematics
 - Physical Education: Exercise and Sport Science
 - Psychology
 - Public Services Administration
 - School Counseling
 - Security
 - Social Gerontology
 - Speech Pathology and Audiology
 - Student Personnel Administration
 - Transportation Safety
- Master of Science in Education
 - Adult Education
 - Elementary Education
 - K-12 Education
 - Secondary Education
- Education Specialist
 - Administration
 - Curriculum and Instruction
 - Human Services

Enrolling at Central

Admission

From High School. High school seniors graduating from accredited high schools are considered for early admission based on their rank in class and academic preparation. Applicants may expect favorable consideration under these circumstances:

- ! Missouri residents who complete CORE requirements and who rank in the upper two-thirds of their high school classes.
- ! Out-of-state students who rank in the upper two-thirds of their classes and whose ACT scores fall in the upper two-thirds of scores for college-bound students.

The University also considers, on an individual basis, students who do not meet these standards. These applications may require additional information, such as final transcripts, ACT scores, personal interviews, and other supporting data.

Under special circumstances, high school juniors and seniors may enroll in Central classes. (See Enrollment of High School Students.)

8 Admissions

From Other Colleges and Universities.

Students who are in good standing at other accredited colleges and universities may apply for admission and transfer appropriate credit. (See Transfer of Credit.)

GED Applicants. General Education Development (GED) test scores may be used as a basis for admission to the University. (See GED Applications.)

Application Fee. Beginning with applications for Fall of 1996, a non-refundable application fee of \$25 must accompany the application. International students should remit \$50.

Academic Preparation

Years of experience reveal that students who select college preparatory coursework in high school enhance their potential for academic success in college. Students who meet the following criteria are academically prepared and better able to take advantage of the opportunities available at Central.

1. High school class rank in the upper half.
2. An ACT score of 20 or above.
3. At least 16 units of college preparatory work, including these courses:
 - a. Four units of English with an emphasis on writing skills.
 - b. Three units of mathematics (algebra and beyond).
 - c. Two units of science (one a laboratory course in biology, physics, or chemistry).
 - d. Three units of social science.
 - e. One unit of visual/performing arts.
 - f. Three units selected from foreign language, mathematics beyond algebra, science, social science, English (language arts), speech, or debate.

How to Apply

During High School. Graduating high school students who wish to enter Central Missouri State University should apply for admission early in their senior year so that the admissions process may be completed well in advance of enrollment. Each student should

submit the following credentials to the Office of Admissions:

1. A completed application for admission, including verification of class rank by counselor or principal.
2. An official transcript mailed directly from the high school to the University Office of Admissions.
3. American College Test (ACT) scores, including subscores and composite, prior to enrollment.

After High School. Other students who have graduated from high school but have not attended a college/university should apply as early as possible. They should submit an application and a completed high school transcript.

From Other Colleges and Universities.

Students who wish to transfer to Central from other accredited colleges and universities should (1) submit a completed application form and (2) arrange to have an official transcript sent to the Office of Admissions from each college or university previously attended.

GED Applications. Applicants should submit a completed application form and a copy of the GED test scores. As soon as both documents are on file in the Office of Admissions, the University considers the applications on an individual basis.

How to Enroll

Beginning Freshmen. Students entering the University from high school attend one of the orientation sessions offered during the summer. At these sessions, students receive information about life on the Central campus and complete their enrollment for fall.

Other Entering Students. All students go first to the Office of Admissions. When students have been notified that admission to the University has been granted, an appointment should be made at the Office of Academic Advisement to enroll for classes.

Readmission. Returning students who have been out of school less than a year complete an application for readmission and follow the procedure noted above for other entering students. Students who have been out of school a year or more fill out a new application form at the Office of Admissions. After review of their academic records to verify eligibility, they may proceed with enrollment.

Courses Taken for Transfer. Students who plan to transfer credit to another university should be careful to check that university's program requirements. Each institution sets its own requirements, and students are wise to choose transferable courses.

Undergraduate Enrollment in Graduate Courses

Graduating Central seniors may arrange, in their final semester of undergraduate study, to take courses for graduate credit, as long as their total load does not exceed 16 hours. To do so, each student submits an application for admission to Graduate School in advance of enrollment. Upon notification of admission to Graduate School, students enroll in the usual way for either undergraduate or graduate courses.

Senior-level Federal financial aid recipients should be aware that only those classes taken for **undergraduate** credit can be considered when determining the student's enrollment status (full-time, half-time, etc.) for disbursing Federal assistance.

Transfer of Credit to Central

Transfer From Other Colleges. In general, the University accepts transfer students from other accredited colleges/universities and evaluates their credit on the same bases used for Central students. Thus, admission requires students to be in good standing and to have a grade-point average of C (2.00) or better, computed by Central methods. With a GPA of less than 2.00, students may be considered on an individual basis.

Appeal of Transfer Credit. If, on admission to the University, a student wants to appeal the decision of Central Missouri State University in accepting the transfer of credit from another accredited Missouri institution of higher education, an established appeal process exists. This appeal process is articulated in the publication, Transfer of Credit From Accredited Missouri Institutions of Higher Education and can be obtained through the Office of Admissions.

Graduates of Two-Year Colleges.

Graduates of two-year colleges may transfer up to 64 semester hours of credit. Applicants who hold an Associate in Arts degree from an accredited two-year college may transfer full credit up to that limit and are considered to have met Central graduation requirements in General Education. Note however that the State of Missouri requires certain general education courses of teacher candidates that may need to be added for certification. For those with degrees other than the AA, the University reviews transcripts and accepts applicable credit toward Central graduation requirements. Courses taken at a two-year college will not be applicable toward senior-hour requirements.

Financial Aid. A student transferring to Central who wishes to receive Federal financial aid must request that a Financial Aid Transcript be sent to the Office of Financial Aid and Veteran Services from **each** college, university, and technical/trade school attended. This is a Federal requirement even though no financial aid may have been received at the previous school(s) and there is no charge to comply. All required Financial Aid Transcripts must be received before any Federal aid can be processed for a transfer student.

Special Credit. Students may receive a maximum of 30 hours of special credit earned through examination or experience for a bachelor's degree or 15 hours for an associate degree. Included in special credit possibilities are Advanced Placement Examination (AP), International Baccalaureate (IB), College Level Examination Program (CLEP), Defense Activity for Non-Traditional Education Support (DANTES), official certifications and military service or training programs. (See Section III, Special Credit Assessments.)

International Student Admission

The Application Process. To apply for admission, international students file the following credentials with the Office of Admissions. Applicants sending applications from another country submit credentials at least three months before enrollment; those transferring from another institution in the United

States, submit credentials at least one month before enrollment.

1. A completed application form.
2. Official (or notarized) transcripts in English from each high school or college previously attended.
3. Evidence of financial resources to attend a university in the U.S.
4. A brief statement describing educational objectives and career plans.
5. Evidence of proficiency in the English language.

Demonstrating English Proficiency. For admission purposes, international students who use English as a second language may present any one of the following three alternatives as evidence of proficiency:

1. A Test of English as a Foreign Language (TOEFL) score of 500 or better.
2. Completion of 60 semester hours of satisfactory academic work in an accredited U.S. college or university.
3. Acceptable level of completion of program at Intensive English Language School.

During the orientation session, any student who has not received a baccalaureate from an accredited United States college is evaluated for oral and written proficiency and may be required to take special classes designed to improve communication skills.

Orientation. All international students admitted to Central for the first time are required to arrive on campus on a set date (five days prior to the first day of classes) for orientation and evaluation sessions.

Health Insurance. All international students are required to participate in the Student Health Insurance Program.

Financial Aid. An international student may apply for Federal financial aid if he/she is classified by the Immigration and Naturalization Service as an "eligible non-citizen" or "permanent resident." Documentation must be provided to the Office of Financial Aid and Veteran Services.

Enrollment of High School Students

Students Who Have Completed Graduation Requirements. High school students who have completed graduation requirements may apply for full-time admission to Central Missouri State University prior to high school graduation. In addition to all regular application requirements (See How to Apply), these students submit a letter of recommendation from a counselor or principal.

Seniors. High school seniors who can meet graduation requirements with less than a full load of classes may apply for admission to take one or more courses at Central if they can meet the following requirements:

1. Class rank in the upper half.
2. Recommendation from counselor or principal.
3. A plan for total class work not to exceed a full-time load.
4. Released time to take university classes.

The application process is the same as that for a full-time university student (See How to Apply).

Juniors. High school juniors may apply to take Central classes during the summer before their senior year if (1) they rank in the upper half of their classes and (2) are recommended by a counselor or principal.

Financial Aid High School students are not eligible to receive Federal financial aid until all high school graduation requirements have been met and they have been accepted for admission at Central.

Servicemembers Opportunity Enrollment

Central Missouri State University is a Servicemembers Opportunity College (SOC) member. Once admitted to Central, active duty members of the military may earn an Associate degree or a Bachelor's degree on a contract basis, as follows:

1. Thirty semester hours are completed at Central.
2. All Central degree requirements are met.
3. Acceptable credits from other accredited colleges and universities are posted on the Central transcript as they are earned during the student's active tour of duty.
4. Up to 30 hours may be earned through CLEP, DANTES and/or military experience for bachelor's degrees, 15 hours for associate degrees.

Places to Live

Central Missouri State University requires first-year students to reside in University housing. For housing purposes, upperclass status is determined by the completion of 30 credit hours of course work or on-campus residence at Central for one academic year.

On-Campus Housing

Central Missouri State University provides a variety of on-campus housing opportunities. Except for freshmen, who must request permission to live in locations other than residence halls, on-campus housing is optional, but the accommodations attract a substantial number of upperclass students. Early application for housing is wise.

Residence Halls. Residence halls are located on the east and west sides of the campus. Students may choose from a variety of living options. Some halls are air conditioned.

Freshmen (under 21 years) are assigned to First-Year halls. These environments are carefully designed to help acclimate the new student to the Central campus. Special staffing, educational and social activities, faculty involvement, student governments, and access to a variety of campus resources create an environment where student success is emphasized.

Students with 30 or more credit hours or those over 21 years old may live in Upperclass housing. Residence hall accommodations offer the student convenience, opportunities for involvement and a variety of choices. A limited number of single rooms are available for the room cost plus one-third of the room rate. Meal plans for upperclass students are available, but optional.

In the residence halls, students in each pair (suite) of rooms share a private bath. Each student room has a phone jack and cable television capability. All rooms are comfortably furnished with individual beds, mattresses, chairs, desks, draperies, a chest of drawers and mirror. However, residents may bring additional items to make their rooms more homelike. Residents have ready access to coin-operated washers and dryers, but they furnish their own irons and fireproof ironing boards. Mail is

delivered regularly to the main desk at each residence hall. Lounge areas and recreation facilities are open to all residents. Residence hall libraries and study areas provide a quiet place for reading and study.

Residence hall life gives students valuable experience in the "give-and-take" necessary for comfortable group living. Democratic participation offers opportunities for personal involvement. Cultural and recreational activities are open to all.

Meals. Students in First-Year halls must be on a meal plan. Students may choose from a variety of meal plan options, including a flexible point system which has proved to be quite popular. In various residence hall locations, full-meal service is available daily. In the residence halls, there are also snack bars and convenience stores. The University Union provides additional on-campus dining alternatives. The food service accommodates students with special dietary needs. This service requires a doctor's request and clearance through the University Health Service.

Fraternities and Sororities. Members of eight sororities live in Panhellenic Hall. Similarly, the Fraternity Complex accommodates eight fraternities. Other sororities and fraternities are housed or provided Chapter Room space in South Todd Hall.

Graduate/Upperclass Residence. Special accommodations have been designated for students 22 years of age or older or for those enrolled in graduate school.

Twelve-Month Accommodations. Students seeking year-round residence hall accommodations can live on the Twelve-Month floor in the University Conference Center.

Guaranteed Rate. Students living in the residence halls are guaranteed the room rate they originally pay as long as they continuously live in a residence hall. Returning students who sign a residence hall agreement by the end of spring semester will pay the same room rate the following academic year as they paid the previous year.

Arranging for Single-Student Housing

The Office of University Housing, located in Ellis Complex, provides information and application forms for single-student housing. Applications are considered on a first-come, first-served basis. Contact 816-543-4515 for more information.

To apply for housing, a student completes an application form and files it with the office with a \$100 deposit. This deposit does not apply to the housing account; rather, it is held by the University and credited upon satisfactory completion of the agreement. The deposit may be forfeited for late cancellation (within 30 days before the start of a semester), damage to university property, outstanding account, or other agreement violations.

The University tries to honor student preferences in housing assignments. Room changes will be permitted on designated dates during the first part of each semester. Reservations which have not been used are canceled after 5 P.M. on the first day of classes, unless students have made arrangements to arrive late.

At the end of each semester, students are to vacate (except for personal property) rooms by 8 P.M. on the last day of final examinations. All personal possessions are to be moved out at the close of spring semester or whenever a student's housing agreement is canceled.

The Department of Public Safety and the Office of University Housing work together to provide a safe campus environment. However, the University is not responsible for loss of, or damage to, personal property. Parents and students are urged to arrange privately for insurance coverage of personal property.

University Apartments

Comfortable and convenient living accommodations contribute to good study conditions and study habits. Recognizing this need as well as the need for opportunities in personal growth and development for all family members, non-traditional students, and upperclass students, the University has made every effort to provide a wide variety of facilities for students and their families. Comfortable accommodations with proximity to the campus are offered in the university apartments.

Residents may participate in a variety of educational, cultural and recreational programming while living in the apartments. A Community Action Board meets monthly for residents to discuss concerns and to suggest various programs which they would like to plan and have presented. Some activities have included pot-luck dinners, picnics, hayrides, wiener roasts, parents' night out, various intramural teams, holiday parties, and educational programs in resume writing, stress management, and others. In all aspects of apartment living, the goal is to provide the residents a place to live which contributes to their total development and to the success of their academic lives.

Eligibility

! Students who are married and accompanied by their spouses or single student parents who have their children living with them full-time are eligible to reside in Central Village and Greenwood Park.

! Non-traditional students who are single and at least 22 years of age are eligible to live in Hawkins Hall.

! Juniors, Seniors and Graduate students who are not on any form of probation are eligible to live in Foster/Knox and Nickerson apartments.

Apartments and Townhouses for Families

One-, two- and three-bedroom apartments and two-bedroom townhouses are available for families at Central Village and Greenwood Park. A licensed child care is located on-site. Each unit is air conditioned, carpeted, and is furnished with a stove and refrigerator. A limited amount of rental furniture is also available. Rent includes local telephone service, basic cable, water, sewer, and trash service. Community buildings house computers, typewriters, copy machines, coin-operated washers and dryers, and libraries, all for resident's use. Children's playgrounds are located at each complex.

Apartments for Non-Traditional and Upperclass Single Students

Hawkins Hall offers one- and two-bedroom furnished apartments with all utilities included (local cable and local phone service are

included). A community room, computers, typewriters, and a coin-operated laundry are all located in the building. Recreational areas and parking are adjacent to the apartments. A parking permit must be purchased through the Parking Office.

Foster/Knox and Nickerson provide one-bedroom apartments with all utilities (including local telephone and basic cable) covered by the rent. Juniors, Seniors, and Graduate students may rent the apartment as a single or with a roommate. A coin-operated laundry and other special features are located in the apartment complexes.

Arranging for Apartment Living

Contact University Housing, Ellis Complex, at 816-543-4852 for application materials. Assignments are made according to application date.

To apply for housing, students complete an application and file it with the office with a \$100 deposit per student. This deposit does not apply to the housing account; rather, it is held by the University and credited upon satisfactory completion of the agreement. The deposit may be forfeited for late cancellation (prior to 30 days before the start of a semester), damage to university property, outstanding account, or other agreement violations. An additional \$200 is required for Central Village and Greenwood Park apartments at the time of signing an agreement for a specific assignment. Residents, if enrolled for Fall/Spring of the following year or are taking Summer classes, may remain in the apartments during the summer. Apartments are open over all break periods.

Costs, Scholarships, and Financial Aid

Fees and Expenses

All housing, food service, and instructional fees are assessed as advance payments for the semester. Payments on any other basis must be approved in advance by the Revenue Office.

The following rates were effective beginning Fall Semester 1994. Current fees are available from the Revenue Office.

Housing and Food Service Fees, 1994-95 Residence Halls

Basic Rate	\$1039/semester
Air Conditioned Room	\$1069/semester
Single Room Surcharge	\$356-361/semester
Additional Fee for Fraternity/Sorority Housing	\$15/semester

Apartments

(all utilities included)

Foster/Knox	
Air-Conditioned	\$207.00/month*
Non-Air-Conditioned	\$199.50/month*
Hawkins Hall	
One Bedroom	\$199.50/month**
	\$399.00/month***
Two Bedrooms	\$209.50/month*
Nickerson	\$200.00/month*
*Per Person - must have roommate	
**Per Person - may have roommate	
***Private - no roommate	
(resident pays gas and electricity)	
Central Village	
One Bedroom	\$330/month
Two Bedrooms	\$370/month
Three Bedrooms	\$425/month
Greenwood Park	\$420/month

Instructional Fees, 1994-95 On Campus

Undergraduate	
Missouri Resident	\$ 77 per hour
Out-of-State Resident	\$154 per hour
Graduate	
Missouri Resident	\$116 per hour
Out-of-State Resident	\$232 per hour

Off Campus

General	
Undergraduate	\$ 91 per hour
Graduate	\$116 per hour
St. Louis-based programs	\$144 per hour
Albuquerque-based programs	\$195 per hour
Joplin/St. Joseph based programs	\$126 per hour

Textbook Rental Fees, 1994-95

The fees indicated above do not include the cost of the textbook rental system which supplies students with required texts in many undergraduate courses. Students

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enrolled in courses numbered 5000-6000 or in off-campus courses do not receive rental books from the textbook department and are not assessed a fee. Graduate students normally will purchase textbooks; however, if available, some texts may be rented on a charge per book.

1. Student rental charge per semester per textbook \$15.50
2. Textbook late fee per book
(assessed following last day of finals) \$ 5.00
3. Textbook damage fees assessed by University Store

Note: Failure to return a book after dropping a class will result in the late fee being assessed.

Special Fees, 1994-95

The following fees are paid only for special purposes or because of certain conditions.

- | | |
|--|---------------------|
| Graduation Fee | \$ 30 |
| (\$25 for those who have previously received a degree or certificate from Central) | |
| Preliminary examination fee (graduates) | fixed by publishers |
| Early or late examination fee per final (by permission) | \$ 10 |
| Service fee for credit earned through advanced placement, ROTC summer camp, and certain professional schools and experiences (per semester hour) | |
| | \$ 5 |

Supplemental Course Costs

Certain specific courses and programs require supplementary fees, materials, supplies, and activities at additional expense to the student.

***FEES MAY BE ALTERED AT ANY TIME
BY ACTION OF THE BOARD OF REGENTS***

Enrollment Validation - Payment of Fees

All undergraduate class enrollments, except under extraordinary circumstances, must be made in person in the Office of Academic Advisement. Graduate Students enroll at the Office of Graduate Studies. Registration for classes is done, in consultation with an Academic Advisor, during the semester preceding that for which schedules are planned. A prepayment is due to retain class schedules. (Refer to the Calendar for dates.)

The student is responsible for enrollment in classes and payment of fees. Students who are not enrolled and not validated (that is not paid/having arranged payment for fees) will not be added to class rolls after enrollment deadlines, and credit will not be recorded for classes in which they have not been enrolled.

Students who do not meet instructional fee prepayment deadlines will have their schedules canceled. **Those students who wish to rebuild class schedules will be assessed \$10 per class (maximum of \$50 per student**

schedule) to have class schedules rebuilt. Each time a student's schedule is rebuilt the above assessment charge will be made. Scheduling will be based on course availability.

All students (including those who have scholarships, financial aid, or other credits) must contact the Revenue Office after enrollment and prior to the announced deadline for full payment of all charges (**enrollment validation**). Refer to the Calendar for dates. All charges must be paid, or have aid available and posted, prior to this deadline. Otherwise, the class schedules of students who have not had their enrollments validated will be canceled. Students may reschedule through the first week of classes as detailed above.

Courses that meet for the full semester may be added during the first five days of the semester. Students adding credit hours will pay per established credit hour rate. (See reduced load refund policy under Refund Policy for information on a student-initiated reduction in class load after a semester has begun.)

Credit Policy

Complete Withdrawal. Students who leave the University must withdraw officially through the Office of Student Affairs. Upon completion of withdrawal, the following credit schedule for **instructional fees** will apply:

Withdrawal prior to the start of the current semester: full credit.

Withdrawal during first week of classes: 75%

Withdrawal during second week of classes: 50%

Withdrawal during third week of classes: 25%

No instructional fees are credited when the student withdraws after the third week.

Complete Withdrawal Credit Appeal. A student who believes that a credit greater than the established schedule should be issued may submit a written request to the Office of Student Affairs. The reasons and unusual circumstances believed to justify a larger credit must be outlined in the written request. All requests for credit must be submitted within two weeks of the end of the semester for which the fees were paid. Decisions made by the Office of Student Affairs shall be final.

Federal Financial Aid. Federal Financial aid recipients who withdraw from the University should be aware that any credit of charges will be returned to the Federal programs from which the aid was disbursed.

Reduced Load. Credit of **instructional fees** for a student-initiated reduction in class load will not be processed until after the fourth week of classes. The following schedule for such credit will apply for semester hours dropped:

Prior to beginning of semester: full credit.

First week of classes: 75%

Second week of classes: 50%

Third week of classes: 25%.

No credit of instructional fees for student-initiated reduction in class load after the third week. If a fee amount would be reduced due to load changes caused by failure of classes to materialize or class cancellation by the University, a full credit for that class will be made.

Reduced Load Credit Appeal. A student who believes that a credit greater than the established schedule should be issued may submit a written request to the Office of Academic Advisement. The reasons and unusual circumstances believed to justify a larger credit must be outlined in the written request. All requests for credits must be submitted within two weeks of the end of the semester for which the fees were paid. Decisions made by the Fee Payment Appeal Committee in the Office of Academic Advisement shall be final.

Federal Financial Aid. Federal Financial aid recipients who drop classes should be aware that any credit of charges will be returned to the Federal programs from which the aid was disbursed.

Scholarships and Awards

For undergraduate scholarship applications and information, contact the Scholarships and Awards Officer, Administration 104. For graduate scholarship applications, contact the Office of Graduate Studies, Humphreys 410.

Undergraduate Scholarships and Awards

The **Distinguished Scholar Award** is one of the University's most prestigious scholarships for incoming freshmen. It provides the total cost of in-state/out-of-state fees, an air-conditioned double room, board (19 meals a week), and a book allowance. To be eligible to compete for this award, students must (1) achieve a minimum ACT composite score of 28 and (2) either rank in the upper 5 percent of the high school graduating class or achieve a 3.75

cumulative grade-point average while in high school. Distinguished Scholar Awards are presented to 15 freshmen each year by the Scholarship Committee. The scholarship may become a nine-semester award for those students who meet continuation requirements.

Katzentine, Carswell, Cheatham Scholarship for National Merit Finalists is a scholarship provided by the Central Missouri State University Foundation for students designated as National Merit Finalists by the National Merit Scholarship Corporation. This award provides in-state/out-of-state fees, an air-conditioned double room, board (19 meals a week), and a book allowance for up to nine semesters of undergraduate study.

University Scholar Awards provide full in-state/out-of-state fees. This award may become a nine-semester award for those students who meet continuation requirements.

Regents Scholarships are awarded to (1) valedictorians and salutatorians, (2) to high school seniors who graduate in the top 10 percent of their class and achieve a minimum ACT composite score of 25, and (3) to persons with a minimum GED score of 310. The scholarship may become a nine-semester award for those students who meet continuation requirements.

Academic Award for Out-of-State Scholars is a competitive award for incoming freshmen who are recipients of the Regents Scholarship and who reside outside the state of Missouri. The award provides out-of-state fees and may be received for a maximum of nine semesters of undergraduate study by students who meet continuation requirements. To be eligible to apply, a student must be an incoming freshman who is a current recipient of a Regents Scholarship and not receiving a non-resident fee credit or a Second Generation Grant.

Leadership Award for Missouri Boys State and Girls State Citizens is a competitive award for incoming freshmen which may be received for a maximum of two semesters. It may be combined with other University scholarships not to exceed the cost of education. To be eligible to apply, a student must have been a Missouri Boys State or Girls State participant.

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President's Scholarships are presented to incoming freshmen who rank in the top 25 percent of their high school class and achieve a minimum ACT composite score of 22. The President's Scholarship may be received for a maximum of two semesters; thereafter, a student may earn a Regents Scholarship each succeeding semester of undergraduate study by meeting Regents Scholarship criteria.

High School Recognition Awards are presented to entering freshmen who rank in the upper 25 percent of their high school graduating class. The award may be received for a maximum of two semesters; thereafter, a student may earn a Regents Scholarship each succeeding semester of undergraduate study by meeting Regents Scholarship criteria.

Achievement Awards are granted by academic departments in recognition of a student's potential or outstanding performance. Each department determines the criteria and selects the recipients. Award values may vary. An Achievement Award may be combined with a University Scholar Award, a Regents Scholarship, President's Scholarship, or High School Recognition Award; the total amount not to exceed the cost of education at Central.

Transfer Student Scholarships are available. **University Scholar Awards** for transfer students are designed to recognize outstanding academic achievement. These awards provide full in-state/out-of-state fees for one year. To compete, a transfer student must have achieved a minimum cumulative grade point average of 3.6 and completed 60 hours or an AA/AS degree at the time of matriculation. **Regents Scholarships** are available to transfer students with a minimum of 24 semester hours and a cumulative grade point average of 3.5. Recipients must earn 12 hours per semester. The Regents Scholarship for transfer students may be received for a maximum of seven semesters of undergraduate study. All transfer students are eligible to apply for an **Achievement Award** from an academic department. (See explanation above for additional information.)

Special Alumni Awards are available to sons and daughters of graduates of Central. The **Second Generation Grant**, which covers out-

of-state fees, is provided to children of alumni residing outside the State of Missouri. The **Alumni Reunion Award** is a competitive award for entering freshmen. The recipients are selected by the Alumni Scholarship Committee. For additional information and an application, contact the Scholarships and Awards Officer.

The Missouri Teacher Education Scholarship is a one-time non-renewable award for students interested in a career in teaching. The State of Missouri provides \$1,000 and Central provides \$1,000 for recipients. The recipients are selected by a state committee. Applications are available through the Missouri Department of Elementary and Secondary Education, P.O. Box 480, Jefferson City, Missouri 65102.

General Undergraduate Scholarship Guidelines. Recipients of all University-funded undergraduate scholarships must (1) maintain full-time status, and (2) earn a minimum of 12 hours per semester, and (3) not be on academic probation.

Graduate Scholarships

Graduate Regents Scholarships and several other scholarships are available to qualified graduate students. The amounts of the awards vary. Information and applications may be obtained from the Office of Graduate Studies.

Other Scholarships

The Central Missouri State University Foundation, Inc., through the generosity of alumni, organizations, corporations, and friends of the University, provides a variety of other special scholarships. Recipients are selected by the Scholarship Selection Committee in the appropriate academic department or by the Foundation Scholarship Selection Committee.

Other Scholarships from over 800 private organizations are available to students attending Central. Information regarding these awards is available through a high school counselor, parents' employers, religious affiliations, and service organizations.

Federal Financial Aid. Federal financial aid recipients should be aware that the total dollar amount of all academic and other scholarships

received is taken into consideration when determining a student's eligibility for Federal grant, loan, and employment assistance.

Financial Aid and Veteran Services

There is no better investment in a person's future than a good education. At Central, reasonable charges for fees, books/supplies, and room/board are a major benefit to our students, even though the cost of obtaining a university education has risen somewhat in recent years. To help an individual attain his or her educational goals, Central Missouri State University offers a variety of Federal grant, loan, and employment assistance, most of which is awarded on the basis of a student's calculated financial need.

The Office of Financial Aid and Veteran Services annually processes nearly \$26 million in assistance to almost one-half of the student body. Each student's family and economic situation is recognized as unique, and every financial aid application is examined on an individual and personal basis. The amount of requests for financial aid, however, almost always exceeds the total amount of assistance available. Therefore, it is important for each applicant to:

- ! apply early (by March 1 each year)
- ! comply with all financial aid instructions, policies, and requests for clarifying information and documents
- ! contact the Office of Financial Aid and Veteran Services if there are any questions or concerns:
 - In person - Administration 316
 - Telephone - 816-543-4040
 - FAX - 816-543-8080

Federal financial assistance can be used to help pay direct educational expenses, such as fees, books and supplies, and residence hall charges, as well as variable living costs, such as off-campus housing, food, transportation, child care, and other personal costs associated with attending Central. Although the responsibility for meeting these costs primarily lies with the student and his or her family, financial aid from one or more of the following Federal programs can often be awarded to supplement the family's contribution.

Types of Financial Aid

Grants (Pell Grant and Supplemental Educational Opportunity Grant) are free gift assistance that do not have to be repaid.

Loans (Direct Loan and Perkins Loan) are types of aid that must be repaid, but usually after the student graduates, withdraws, or drops to less than half-time enrollment.

Employment (College Work-Study) assistance enables a student to earn a portion of his or her educational resources through part-time work on-campus. Available College Work-Study positions are posted in the Office of Financial Aid and Veteran Services. Regular student part-time employment positions are posted in the Office of Career Services, Union 302.

How to Apply

To apply for these types of Federal financial aid, a student must obtain, complete, and mail a **Free Application for Federal Student Aid (FAFSA)**, preferably **by March 1** each year. The FAFSA may be obtained from any high school guidance counselor, from the Office of Financial Aid and Veteran Services at Central, or from any college or university.

In addition to the FAFSA, certain financial aid applicants may be required by Federal law to provide supporting documents or clarifying information to the Office of Financial Aid and Veteran Services. If required to do so, the applicant will be contacted by mail, and should then respond as quickly as possible, preferably **by May 1**.

Financial Need

A student's calculated need for Federal financial assistance is determined by careful examination of the results of the applicant's FAFSA. Once the calculation has been completed, one or more types of financial aid may be awarded to help meet that need. The student is notified of the award "package" by way of a Financial Aid Notification, which outlines the type(s) and amount(s) of aid offered. The notification process begins each April for Central's earliest applicants and continues throughout the year.

Other Assistance

Additional forms of financial assistance, other than the Federal aid programs, are available from Central Missouri State University. Many academic scholarships are awarded each year to undergraduate and graduate students.

Information and applications may be obtained from the Office of Admissions. The State of Missouri also offers grants to undergraduate Missouri students with extremely high levels of calculated financial need. Students can apply for these grants by completing the FAFSA. Financial aid recipients should be aware, however, that receipt of other types of financial aid can mean an adjustment in the Federal aid that may have already been awarded.

Transfer Students

A student transferring to Central must request that a Financial Aid Transcript be sent to the Office of Financial Aid and Veteran Services from **each** college or university previously attended, even if no financial aid was received. This is a Federal requirement, and there is no charge to comply. All required Financial Aid Transcripts must be on file before any Federal financial aid can be processed.

Satisfactory Academic Progress

Federal law requires each student who wishes to **continue** receiving Federal financial aid to maintain "satisfactory academic progress" toward the completion of his or her degree or certification program. Satisfactory academic progress is defined as successfully completing at least two-thirds of the credit hours attempted during an academic year (in order to be considered eligible for financial aid for the subsequent year). In addition, undergraduate students with 60 or more credit hours must maintain at least a 2.0 cumulative grade-point average (GPA) to remain eligible for Federal assistance. Graduate students must maintain a 3.0 GPA.

Short-Term Loans

Many students are dependent upon Federal financial assistance to help pay the total costs of attending Central. However, it is always important to plan to have money on hand when

starting classes each semester to pay for incidental costs during the first few weeks. If an emergency arises, a student can apply at the Office of Financial Aid and Veteran Services for short-term loan funds, which must be repaid in 30-60 days. A small service charge is levied to borrow from the short-term loan fund.

Veteran Services

The Central Missouri State University Veteran Services Office assists over 450 students annually. The office, in Administration 316, acts as a liaison between students requiring Veteran services and the Veterans Administration Offices in St. Louis and Kansas City.

Support is provided to students enrolled at Central who are in the Military Reserve/National Guard (Chapter 106), on active duty, or no longer in the military but eligible for VA educational benefits (Chapter 30), Veterans Vocational Rehabilitation students (Chapter 31), dependents of military personnel (Chapter 35), and personnel who contributed to the Veterans Educational Assistance Program (Chapter 32).

For information or assistance in completing and maintaining the proper documentation to ensure that earned VA benefits are received, please contact the Veteran Services Office at 816-543-4983.

Graduate Assistantships

Graduate students may apply for assistantships for teaching, laboratory supervision, research and administrative, or student affairs assignments. Applications are available in the Office of Graduate Studies, Humphreys 410.

ACADEMIC AND SOCIAL RESPONSIBILITIES

Summary of "Standards and Regulations Concerning Undergraduate Students"

By enrolling in the University, students become entitled to the benefits of instruction and the many academic and social opportunities the University offers. They also assume certain responsibilities for themselves--responsibilities to approach their class work and their social activities in a mature way. These few paragraphs summarize policies and regulations affecting student life. Full details

appear in Section III of this catalog. Since this is only a summary, the full text governs if any question of rights arises.

Student Responsibility. University staff members will help, but you are responsible for meeting your own degree requirements.

Academic Load. A normal semester load for undergraduates is 15 or 16 semester hours. Freshmen and sophomores need special approval for more than 18; upperclass students in good standing may take 19.

Academic Standards. The University uses a five-letter marking system, ranging from an A (high) through F (low). NC indicates no credit; U means course not completed; W shows withdrawal during the first ten weeks; during the last five weeks, WP shows withdrawal with passing work, WF with failing work.

Unfinished Work. A U may be removed by finishing the work during the next term of enrollment; otherwise, the U becomes an F. Do not retake the course while you have a U; rather, see the instructor and arrange to finish the work.

Qualitative Standards. You are responsible to know and meet specific GPA levels and other requirements for your degree.

Acceptance Into Programs. You need to know specific entry requirements for degree programs; these are explained in the major program listings in Section II of this catalog.

Pass-Fail. You may take up to eight hours of work pass-fail. However, none of this work may be a part of your major, minor, professional certification, or General Education requirements.

Audit Courses. If you wish, you may audit a class for no grade and no credit. You pay regular fees and enroll in the usual way. Audited classes cannot be considered when determining a student's enrollment status (full-time, half-time, etc.) for disbursing Federal assistance or V.A. educational benefits.

Grade Average. To compute your cumulative grade-point average (GPA), divide honor points earned by credit hours attempted. Each semester hour of A earns 4 honor points; B, 3; C, 2; D, 1; F, 0; and WF, 0.

Repeating Courses. If you have a grade lower than C, you may take the class again at Central. The higher grade is then used to compute your GPA; the lower grade, however, remains on your transcript. (See Section III for transfer courses and other details.)

Dean's List. You earn this honor with a semester GPA of 3.50 or better.

Good Standing. You are in good standing if you are eligible to enroll in classes.

Academic Probation. If your Central or overall GPA drops below 2.00, you are placed on probation and are limited to a load of 15 hours or fewer.

Removal From Probation. You are removed from probation when your Central GPA, as well as your overall GPA, equal at least 2.00.

Academic Suspension. If you are a student on probation and do not achieve at least a 2.00 GPA each subsequent semester, you will be suspended. (See Section III.)

Academic Dismissal. If you return from suspension and do not achieve at least a 2.00 GPA each subsequent semester, you will be dismissed.

Readmission. Returning after suspension or dismissal is not automatic. You reapply for admission. If you have good reasons for your poor work, you may petition to continue in school by writing a letter to the University Committee on Undergraduate Exceptions, c/o Director of Admissions. (See Section III.)

Course Prerequisites. Look at course descriptions in Section II of this catalog. You are expected to have met all prerequisites when you enroll for a class.

Class Attendance. You are responsible to attend all classes and lab sessions and to do all the assigned work. If you must be out, let your instructor know in advance if you can. See your instructor on the first day you return to class to arrange make-up work. (See Section III.)

Schedule Changes. During the Drop and Add period (first five days of the semester), you may go the Office of Academic Advisement and change your schedule. During weeks two through ten, you may see an academic advisor and fill out a form to withdraw from any class. After ten weeks, you are expected to finish your courses.

Regulations Applying to Undergraduate Degrees and Certificates. These regulations are set forth in Section III. Take time to read through them carefully since they give you important information about your degree program.

20 Social Opportunities

Conduct

Students, faculty, and administrators work together to write and keep up-to-date social and scholastic standards for Central. Students are expected to have the qualities of character, scholarship, and conduct to live up to these standards. See the [Student Calendar/ Handbook](#) for rules and regulations.

Motor Vehicles on Campus

Because parking space is limited, the University asks that students who can arrange other transportation not bring vehicles to campus.

To park in zoned lots (CS and RS), students may buy parking permits at Parking Services (306 Broad Street). However, parking spaces are limited in number.

Students may get complete information on parking and operating motor vehicles on campus by picking up a copy of [Central Missouri State University Parking and Traffic Regulations](#) at Parking Services.

Unauthorized Persons in Classrooms

Persons who are not officially enrolled in a course may not attend a class session without the prior consent of the instructor. Persons bringing children on campus are responsible for any inappropriate supervision and behavior.

Social Opportunities

Everyone knows the value of a university education in terms of general knowledge and preparation for a specific career. Perhaps less well understood is the personal development gained from campus social life--taking part in recreation, cultural events, athletics, and self-governance in the company of other individuals from elsewhere in the U.S. and, indeed, the world. Students gain the most from college if they participate fully in both academic and social opportunities.

Student Activities

Central invites students to share in a wide variety of recreational, social, and cultural activities. These include clubs, dances, plays, films, concerts, bowling, outdoor recreational activities, athletics, intramurals, publications,

student government, and academic groups. (See the Office of Student Development Programs and Activities, Union 217, for information.)

Student Organizations

Many organizations respond to student interests on the Central campus. These groups have a variety of purposes: academic honors, service, academic specialty, governance, and general/social. Governance, for example, includes the Student Government Association, the Residence Hall Association, the Interfraternity Council, the Panhellenic Council, the Association of Black Collegiates, the Association of Student Leaders, the International Student Organization, and the University Program Council. (See the Office of Student Development Programs and Activities, Union 217, for information.)

Intercollegiate Athletics and Organized Sports

Central offers three general classes of organized activities in athletics and sports: intercollegiate athletics, intramural sports, and sports clubs.

Intercollegiate Athletics. Central belongs to the twelve-member Mid-America Intercollegiate Athletic Association (MIAA) and the National Collegiate Athletic Association (NCAA), Division II.

Varsity sports for women are basketball, cross-country, indoor track, outdoor track, softball, and volleyball. For men, they are baseball, basketball, cross-country, football, golf, indoor track, outdoor track, and wrestling. (See the Office of Intercollegiate Athletics, Multipurpose 203, for information.)

The Athletic Committee, composed of faculty and students from all parts of the University, advises the intercollegiate athletics program.

Intramural Sports. An extensive intramural program gives University students, faculty, and staff many opportunities to take part in competitive and non-competitive activities at low cost. Team and individual activities are available for men, women, and co-recreational groups. Among these are archery, badminton, basketball, billiards, bowling, golf, handball,

racketball, rifle and pistol shooting, soccer, softball, swimming, table tennis, tennis, touch football, track, volleyball, wrestling, and many others. (See the Office of Student Development Programs and Activities, Union 216, for information.)

Sports Clubs. Sports clubs give students an opportunity to participate in sports which are not included in the University's intercollegiate program. Club activities may be intramural (all participants being Central students) or extra-mural (competition with teams from outside the University). The University does not fund club sports and assumes no liability for them. Thus, clubs do not represent the University or use its name in competitive events. (See the Office of Student Development Programs and Activities, Union 216, for information.)

Recreation Facilities

Multipurpose Building. The "Multi," located just west of the stadium, seats up to 10,000 in its arena and provides recreational facilities for students, faculty, and community. Its basketball area accommodates four courts, five volleyball courts, and a six-lane, 220-yard indoor track. It also has nine handball/ racketball courts, two weight rooms, a six-lane, 25-meter pool with two one-meter diving boards, conference rooms, and an activity area.

Pertle Springs. Located at the end of Holden Street one mile south of campus, Pertle Springs is a 300-acre recreational, instructional, biological research area. Popular activities on the wooded grounds are boating, fishing, hiking, and picnicking. Especially popular are the eighteen-hole golf course with its air-conditioned golf shop and fleet of golf carts, an olympic-size swimming pool with separate diving well for the one-meter and three-meter diving boards, and a wading pool for the younger set.

The **Recreation Center** is located in the University Union and provides 10 bowling lanes, pool tables, video games, a pro shop, and facilities for birthday parties. The Corner Pocket is located here providing drinks, pastries, popcorn, sandwiches, nachos, and pretzels.

Rifle and Pistol Range. Located in the basement of Humphreys at the southwest corner, the Rifle and Pistol Range is open from 6:30 to 9 P.M., Monday through Thursday. Range attendants supervise and instruct shooters at 12 stations on the 50-foot range. Firearms, ammunition, targets, ear protection, etc., are available for nominal fees. The range has .22, .38, .45, and 9 MM pistols and .22 caliber rifles for your recreational shooting.

Other Facilities. Other campus facilities include eleven all-weather tennis courts, a play field east of the Morrow Building, eight acres of recreational and practice fields west of the stadium, a 400-meter track in the stadium, and a play field southeast of Diemer Hall. Five city parks are located within easy walking distance of campus. Knob Noster State Park, 10 miles east of the campus, offers group and family picnic grounds, hiking trails, and a swimming pool.

Religious Life

The churches of Warrensburg have a long tradition of welcoming participation in their services and activities by members of the University community. Many students are active in local churches of their choice and in campus denominational groups. Many religious groups have "campus ministers" located near campus who offer assistance to individuals and campus religious associations.

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Services for Students

Academic Advisement

The Office of Academic Advisement, Administration 102, provides assistance to Central students. Academic Advisors, specializing by college, help undergraduates plan career opportunities, determine degree programs, select courses, register for classes, and coordinate their academic progress.

Faculty and Staff Resource Advisors are available to counsel students who are considering their programs or who have selected majors/minors within their departments. The Director of Clinical Services and Certification prepares programs for post-baccalaureate teacher certification candidates and candidates for the Alternative Teacher Certification program.

Members of the Student Academic Advising Association are available to assist students as they plan their schedules, check availability of classes, etc.

Accessibility Services

The Office of Accessibility Services provides assistance to students with disabilities who require reasonable accommodations. Accommodations are unique to each individual and should be discussed with the Coordinator of Accessibility Services upon enrollment at Central. To ensure that accommodations can be achieved, a minimum notice of 48 hours is requested for programs, events, and general services. Notice of six to eight weeks is requested for special accommodations regarding university housing, location of classrooms, and other services. The office is located in Union 220 and is open from 8 A.M. to 5 P.M., Monday through Friday. Stop by or call 816-543-4421 to schedule an appointment or to request more information regarding the services available. In addition, Central's ADA Coordinator may be contacted at 816-543-4730 or Administration 201. Relay Missouri number for TDD callers is 800-735-2966 or for voice callers is 800-735-2466.

Campus Advocate

The Campus Advocate serves as a support office for students with questions, concerns

and/or problems. The Advocate's role is to facilitate communication between students and others (faculty, administration, other students) and to assist students in knowing how to address/resolve problems within the framework of the University's organizational structure.

Campus Diversity

The Campus Diversity Office provides leadership and direction for the University's development and support efforts with minority students. Working within the broader University mission of "unity through diversity," the office promotes the recognition of and appreciation for individual differences. Recognizing the diverse interests and needs of Central's minority students, the office offers programs to assist students academically, socially, and culturally. The Office also promotes involvement in campus activities and consults with minority student clubs and organizations.

Chapel

The Alumni Memorial Chapel was built in 1956 in memory of Central students who served in World War II and the Korean War. Funds were donated by private individuals and organizations. The Alumni Chapel seats 200 in the sanctuary, has a meeting room for twenty people, and contains a complete kitchen and dining area in the undercroft. The Danforth Foundation funded the attached Danforth Chapel which contains six kneeling benches and is open to the public during the day. In the Fall of 1994 a bronze sculpture entitled "Guardian," which is a memorial to all men and women who have served our country, was placed near the entrance of the Danforth Chapel. The Chapel is used by Central students as a meeting place for social and religious organizations, choir practice, initiation ceremonies, group testing, parties, and weddings. Students also use it for individual or group meditation and communion.

Computer Source

Computer Source sells educationally priced computer hardware and software and is located in Union 125.

Counseling and Psychological Services

Located in Humphreys 131, Counseling and Psychological Services offers CONFIDENTIAL counseling for Central students concerned about educational, career, and personal issues. Doctoral level psychologists provide individual and group counseling, psychological assessment and referral, outreach programming on psychological issues, consultation, and crisis intervention. Call 816-543-4060 for an appointment.

Educational Development Center

The Educational Development Center (EDC), Humphreys 120, helps students improve any of the learning skills needed for success in college studies. EDC courses and services are appropriate for both beginning and advanced students. The EDC offers both credit classes and non-credit labs with all services free except for the regular fees for credit classes.

College Skills Classes. Students may choose the course or courses which would give them the best preparation for future classes. Courses include: (1) Introduction to College Writing [Pers 1000] (2) Textbook Reading Techniques [Pers 1010] (3) Speed Reading [Pers 1012] (4) College Study Skills [Pers 1020], and (5) Introductory Algebra [Pers 1030].

Learning Lab. Individualized programs for self-paced academic improvement are offered free of charge to Central students through the EDC Learning Lab. Topics include speed reading, reading comprehension, critical and logical reasoning, vocabulary, lecture note-taking, test-taking (classroom or standardized tests such as GRE, TOEFL, C-BASE, Nelson-Denny, etc.), time management, math, listening, spoken English, and other skills valuable to university-level studies. With staff assistance, students work with computers, learning activity packets, programmed texts, and video or cassette tapes to develop or enhance their academic learning skills. To begin a program, come to Humphreys 110 any weekday of the semester. The Learning Lab is open from 9 A.M. to 4 P.M., Monday through Friday.

Writing Lab. One-to-one, Writing Lab instructors assist writers--beginners and experts--at all stages in the writing process from brainstorming to polishing. All writers profit from a professional response to their texts, and Lab staff members are experienced in critiquing a wide variety of written work. In a non-threatening setting, students learn such diverse skills as analyzing attractive resumes. The Lab also offers several types of resources such as handbooks, style models, and instructional handouts related to special concerns. Instructors are available from 8 A.M. to 5 P.M., Monday through Friday, with word processing assistance available all day and during evening hours. The Lab is located in Humphreys 116.

McNair Central Achievers Program (McCAP). Designed primarily for juniors and seniors, McCAP offers preparation for doctoral study for U.S. citizens and permanent residents who meet the U.S. Department of Education eligibility requirements. Activities include information seminars, faculty mentoring, and a paid summer research internship. Interested students should stop by the Educational Development Center for further information.

Student Support Services (Advance Program). Funded by a grant from the U.S. Department of Education, The Advance Program offers specialized developmental courses in mathematics, reading, and writing. These courses differ from the College Skills classes in restricted participation, smaller class sizes, individualized learning methods, required tutorials and advisement sessions, enhanced academic support, etc. The Advance Program also offers extra advisement opportunities as well as free tutoring in a variety of high-risk courses. Because of federal restrictions, this program is open only to U.S. citizens and permanent residents who meet the eligibility criteria. Before enrolling in Advance Program courses, students must obtain permission through the Educational Development Center.

University 1000. This course, Student Development Seminar, orients new students to Central Missouri State University through discussion of the University environment, study skills, University services, personal resources, and personal goals. Students enroll for this

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one-credit-hour course through the Office of Academic Advisement, Administration 102.

Faculty and Staff Resource Advisors

Each academic department which offers major or minor programs has identified faculty and staff members as Resource Advisors. Advisors confer with students interested in those fields of study and help those who plan to major or minor in them with their individual programs. Inquire at the Office of Academic Advisement, Administration 102, for names and offices of Resource Advisors.

Food Service

In addition to regular meal service in residence halls, food service is also available in the University Union. Food service in the Union is located on the first floor which includes: **Union Station** which features an ice cream and convenience shop; **Express Window 1** which features pastries, coffee, drinks, popcorn, and other food items; **Central Courte** features Pizza Hut pan pizza, Peppers, Subbies, Burger King, TCBY, hot breakfast bar, pastries, salads, daily specials, desserts, and other food items; **Central Courte Cafe** features daily entrees and soups. Located in the Recreation Center is **Corner Pocket** which features drinks, pastries, popcorn, sandwiches, nachos, and pretzels.

Both on- and off-campus groups and organizations may arrange for catered refreshments and full meals through the Union Catering Office, Union 120.

Student Health Service

Clinical Services. The Student Health Center is located just south of the Union. Staffed by a physician, nurses, registered pharmacists, laboratory technician, and other trained personnel, it is open from 8 A.M. to 5 P.M. Monday through Friday during Fall and Spring semesters. Summer hours are posted. The clinic operates primarily on an appointment system; however, severe illnesses and emergencies are given priority. For an appointment, call 543-4770 or inquire at the reception desk.

Emergencies. In the event of a severe accident of an emergency nature occurring on campus, call for assistance as follows:

1. Residence hall or adjacent areas: Call 911.
2. Main campus: Call 911.
3. Outlying campuses: Call 911.

Group Insurance. All students attending Central and carrying five or more hours of class work may purchase group health insurance covering themselves and their dependents. Applications may be obtained at the Student Health Center. International students, as well as those from Puerto Rico and the Canal Zone, are required to enroll in the insurance program.

The plan provides benefits to insured students and their insured dependents on or away from campus 24 hours a day for one full year (August through August), provided the insured student has attended the University for a period of 30 days. It does cover emergencies.

The Health Center provides information brochures, applications, claim forms, and any other needed assistance.

University Health Policies. Students are required to be vaccinated against measles/mumps/rubella and have a current booster administered after January 1, 1980. Proof of these vaccinations from a physician, a school health nurse, or a community health department is required. A current medical history is requested. (Forms are available from the Student Health Center.) Accident and Illness Provisions are included in Section III of this catalog.

International Center

The International Center, Union 224, provides service to all international students through orientation and advocacy for all international student concerns. Other areas of service include immigration and student status certification matters, coordinating and sponsoring campus and community multicultural activities, sponsorship of the International Student Organization, and promoting the role of international education within Central.

Students interested in attending school or traveling in another country are encouraged to

visit the International Center and inquire about Central's study abroad programs. Placement opportunities exist in approximately 100 schools in over 40 countries.

KMOS-TV and KCMW-FM

KMOS-TV is a non-commercial public broadcasting station operating on Channel 6 with 100,000 watts of power. Studios are located on campus in the Martin Building. The station can be received by 1.26 million residents in mid-Missouri. A satellite receiving dish on campus permits direct reception of TV programs from the main PBS transmitting station in Washington, D.C., and from other producers around the country. The station airs a full range of programs, including instructional courses at the elementary, secondary, and post-secondary level, PBS programs, and locally produced shows.

KCMW-FM 90.9, the radio voice of Central, is a 100,000 watt stereo operation. The station broadcasts to a potential listening audience of one million people. Studios and offices are located in the Martin Building. KCMW broadcasts a full range of National Public Radio programs. The station also produces and airs a number of local programs.

Both KMOS and KCMW are managed by professional core staffs with most of the actual operations carried on by volunteer and paid students.

Library Services

Central's Library Services supports the instructional, research, and public service programs of the University. Library Services includes Ward Edwards Library, University Media Services, and the Department of Library Science and Information Services. Ward Edwards Library has a centralized reference area, periodicals area, curriculum area, and Special Collections. The Government Documents area houses the depository collections for federal and Missouri documents. Library holdings include approximately 805,263 books and bound volumes, 790,425 pieces of microform, and 2,890 periodical subscriptions.

The library faculty and staff provide reference and bibliographic services, teach library skills and research techniques, lecture to classes, and conduct library orientation tours.

Library Users Information Service (LUIS), a computerized catalog, provides on-line access to library collections. The library also provides access to external library databases and collections via computerized information retrieval and interlibrary loan services. Library Services is committed to providing quality services using a variety of information resources and technologies.

Non-Traditional Student Services

Non-Traditional Student Services is a resource office for Central's adult learners, providing information, support advocacy, and referrals to campus and community support services. The office has information on non-traditional scholarships, commuter ride-sharing network, housing, child care, and tutoring or other skill enhancers. Non-Traditional Student Services is located in Union 217, or call 816-543-4517.

Office of Career Services

The Office of Career Services helps students identify their career paths and begin preparation for the job search process. Its services include career counseling; SIGI PLUS (computerized career guidance system); Holland's Self Directed Search - SDS (vocational evaluation tool); information on employment opportunities for graduates of various programs; a career library; career information speakers; career seminars and workshops; assistance with resume writing, interviewing (via videotaped mock interviews), and other job search skills; credential services; vacancy bulletins; part-time employment board; employment referrals; career fair and teacher placement day; and on-campus interviews.

These services are optional, but students are encouraged to use them for selecting careers and for help in finding positions. Degree candidates should register and begin building a personnel file during their senior year, preferably in the first semester. After they leave campus, they should notify the office of their employment status and any changes in address or phone number.

Employers may send representatives to review files and to interview candidates. Both employers and candidates may call or write the Director of Career Services about their needs.

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Please note that no course, program, certificate, and/or degree available at Central carries with it a promise, real or implied, of immediate or eventual employment within the specific areas covered or in any other specific or general areas. Although Central offers its services to those seeking jobs, employment is the responsibility of the student.

Office of Financial Aid and Veteran Services

The Office of Financial Aid and Veteran Services administers a variety of Federal grant, loan, and employment programs designed to provide funds to help eligible students with the educational and living expenses of attending Central. Staff members are available to assist students and their parents with all aspects of applying for Federal financial aid and V.A. educational benefits. The office is located within Administration 316 and may be contacted by telephone 816-543-4040 or by FAX 816-543-8080.

Speech and Hearing Clinic

Central has a modern Speech-Language and Hearing Clinic (Martin 41) where undergraduate and graduate student clinicians, supervised by faculty of the Department of Speech Pathology and Audiology, provide assessment and therapy to students, faculty members, and other Missouri citizens with speech, language, or hearing problems.

The Clinic also offers the Early Childhood Communication Program and Preschool for language delayed children, ages 2 1/2 to 5. This program utilizes a cognitively based preschool, comprehensive parent training, individual speech and language therapy, and transdisciplinary training to meet the special needs of these children and their families.

Students, faculty, staff, and their dependents may use the services of the Clinic for one semester free of charge and at reduced fees after that. The Clinic accepts referrals from University faculty and staff, Student Health Service, and community health and education agencies.

Testing Center

The University Testing Center serves as a repository for test scores and administers the following standardized examinations:

- ! American College Testing Program (ACT)
- ! College Basic Academic Subject Examination (C-BASE)
- ! College-Level Examination Program (CLEP)
- ! General Education Development (GED)
- ! Graduate Management Admission Test (GMAT)
- ! Graduate Record Examinations (GRE)
- ! Law School Admissions Test (LSAT)
- ! Leadership Academy Test for Principals (LAPT)
- ! Major Field Achievement Test (LAPT)
- ! Miller Analogies Test (MAT)
- ! National Engineering Aptitude Search (NEAS)
- ! National League of Nursing Achievement Tests (NLN)
- ! PRAXIS Series (previously National Teacher Exams)
- ! Test of English as a Foreign Language (TOEFL)
- ! Test of Spoken English (TSE).

The Testing Center will administer correspondence course exams upon request.

The Center consults on test selection, design, use, analysis, and interpretation. The Center also provides logistics and support for the University's assessment program. For further information, examination dates and registration materials, inquire at the Testing Center, Humphreys 223, or by phone at 816-543-4919.

Union Station

Union Station is Central's version of the old ice cream shop. We feature frozen yogurt, Edy's Grand and Ben & Jerry's ice creams, Price's Fine Chocolates, a variety of ice cream treats, soft drinks and juices, and assorted pastries and cookies. Gourmet coffees are served daily. Other gourmet foods are also offered. Union Station is located on the lower level of the University Union.

University Store

The University Store sells graduate texts, supplementary texts and workbooks for undergraduates, university supplies, popular books and magazines, and Central apparel and gifts. Services include photo development, U.S. Postal Service, and check cashing. A drop-off photocopy service is available at the customer service desk. Additionally, the University Store has a textbook rental system for most texts needed in undergraduate classes. "The Store with the Collegian in Mind" is located on the lower level of the University Union.

University Union

The University Union is centrally located on the main campus, serving as the "living room" for the campus community. The Union provides facilities for dining, meetings, conferences, student activities and programs, a computer lab, student organization offices, social functions, study lounges, and quiet areas. The Union also houses student services offices which include: Department of Student Life, Office of Campus Activities, Office of Campus Diversity, Office of Career Services, Office of Campus Advocate, International Student Center, Student Government Association and the Office of Facility Coordination. The Union also features an Information Desk that provides campus-wide information to students, staff, faculty, and guests.

Other Services and Facilities

Academic Professional Development Office

The Academic Professional Development Office assists faculty by organizing professional development activities and providing information on seminars and workshops held in this region. Activities include in-service programs, Professional Enhancement Committee programs, faculty exchange programs, and the faculty Speaker's Bureau.

Airport

Central owns and operates Skyhaven Airport, located three miles west of Warrensburg on Highway 50. It includes 375 acres of land; a 4,200-foot runway, with a full-length parallel taxiway; a 2,200-foot runway (under reconstruction); and buildings for administration, maintenance, and other uses. The airport is a teaching laboratory for the University and a community airport serving the Warrensburg area.

Alumni Relations

The mission of the Office of Alumni Relations is to build loyalty and support among graduates and former students. This is done by promoting a positive image of Central Missouri State University, strengthening feelings of identity with Central and offering opportunities

for alumni to serve the University. The purpose of the Office of Alumni Relations is to develop a spirit of loyalty and friendship among the alumni and to provide vehicles of communication and information among alumni and friends of the University.

Center for Family Studies

Faculty, students, and community agency representatives committed to strengthening the family are brought together by the Center for Family Studies located in the Department of Human Environmental Sciences. Their efforts include education, research, public service, and technical assistance related to individual, family, and community challenges and needs.

Center for Fitness

The Center for Fitness is an educational facility developed to provide Fitness/Wellness and Physical Education majors with a laboratory for research, internships, testing, and rehabilitation activities. The facility is operated by the Department of Physical Education and is located in the Morrow building. The Center houses computerized fitness equipment and Cybex weight equipment. Students, staff, and faculty are encouraged to inquire at the Physical Education Office, Morrow 101, about usage.

Center for Technology and Small Business Development

The Center for Technology and Small Business Development offers consulting, training, and research services for business and industry. Students from all colleges work with faculty members to collect and evaluate data and offer counsel on problems in today's marketplace.

Child Care Center

The Campus Child Care Centers include the Foster-Knox Center and the Central Village Center. They are open on a first-come first-served basis to children of students, faculty, and staff and offer an infant/toddler program for children ages six weeks through two years, a preschool program for children three through six years, and an after school and summer program for ages six to ten years. The centers

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are licensed with the Missouri Department of Social Services and follow their guidelines. Both centers offer full-day care, Monday through Friday. The Central Village Center offers the option of attending Monday, Wednesday, and Friday or Tuesday and Thursday only. For information on enrolling in either center, call 543-4605.

Farm

The 188-acre University Farm, a teaching unit of the Agriculture Department, provides laboratory experience for students in agriculture classes and work opportunities for students who need additional acquaintance with a variety of phases of agriculture. Agricultural research, funded by the University and private industry, is carried on by faculty and graduate students.

Gerontology Institute

The Gerontology Institute provides research, service, and training resources to agencies and individuals working in the field of aging. It convenes scholars, practitioners, and policymakers for workshops and seminars. It promotes research in the field of aging and disseminates recent scholarly findings. In addition, it provides public service to those serving in the field of gerontology.

INFORM - Information Network for Missouri's Children With Special Needs

INFORM maintains an up-to-date listing of all agencies, services, and programs within the state of Missouri which serve young children and families with special needs. A computerized networking system allows INFORM's information specialists to access information on services available statewide. The Network's toll-free number (800-873-6623) with voice/TDD access ensures that this valuable information will be available to all residents of Missouri.

Information Services

With the Director and most offices located in the Humphreys building, this major campus organization provides computing and communications services for the entire University. Its **Computer Support Services** unit

operates, on a near around-the-clock basis, the two central IBM mainframe academic and administrative computer systems which house the various databases critical to the University's operations. It also provides instructional and research computing support for students and faculty. Access to the computers is provided through over 500 terminals and micros and via dial-in service. The **Management Information Systems** staff designs, develops, and maintains administrative software systems to support financial, student affairs, development, and other activities of the University. The **Client Services** unit provides campus-wide microcomputer and data network support, operates a central "Help-Desk" function, and has academic consultants available for package software assistance and training. The **Office of Telecommunications** administers and maintains the University fiber-optic and copper wire cabling system that provides voice, data, and video support and manages the campus telephone and voice mail systems.

Missouri Safety Center

Staffed by safety professionals dedicated to injury prevention, the Center serves as a national leader in the field of traffic/transportation safety. Center activities include programs of instruction for a diverse clientele, including law enforcement officers, beginning drivers of passenger vehicles and motorcycles, pupil transportation personnel, commercial drivers, and conservation agents. Other initiatives involve conference development, research, publications as well as providing information and service to the general public. The Center also serves as a secretariat for some professional organizations and helps them develop programs in special need areas.

The Highway Safety Instructional Park, located on Holden south of the main campus, is the primary training facility for the Missouri Safety Center. This 14-acre facility contains an extensive off-street driving facility including a skid pan and maneuvering area. The staff maintains a fleet of special training vehicles ranging from 100cc motorcycles to tractor trailer units. The building houses a simulator laboratory, classrooms, garage area, and one of the nation's foremost breath alcohol instrument training laboratories.

Missouri Schools Service Center

The Missouri Schools Service Center (MSSC) provides and facilitates consulting and other services to the public schools from Central Missouri State University and provides various support services to other individuals, agencies, and organizations as they seek to improve public education in Missouri.

The MSSC is operated by the College of Education and Human Services. It serves as the central office for three associations: MARE (Missouri Association of Rural Education), PUEBLO (Pueblo Unidad para la Educación del Barrio Latino), and MAECT (Missouri Association of Educational Technology).

Several projects and grants connecting Central with the public schools in Missouri are administered through the Missouri Schools Service Center including the Dimensions in Teaching project involving nine metropolitan Kansas City high schools.

National Police Institute

The National Police Institute serves municipal, county, state, federal, and foreign law enforcement agencies by developing programs of technical assistance on request and conducting these wherever they are needed. Its offerings include police traffic operations, criminal investigation, police administration, and specialized courses in other police service areas.

The Institute is also a certified police academy offering basic police training to new officers as prescribed by the state's Peace Officer Standards Training Act.

Office of Extended Campus

With the cooperation of Central academic departments, the Office of Extended Campus administers courses and programs off campus and special workshops and seminars, both on and off campus. The Office also coordinates telecourses and Weekend College. Students are afforded the opportunity to enroll for credit, non-credit, or for continuing education units.

Planning Center

The Planning Center in Humphreys, offers facilities materials and equipment for every level

of University planning activities. Its resources include (1) two IBM-compatible PCs, 386 and 486 with 3½", 5¼" and hard disk storage attached to an HP Laserjet II printer, an HP Scan Jet IIc, and a CD-ROM unit; (2) two IBM-compatible laptop PCs; (3) Macintosh IIsi with full-page monitor attached to a CD-ROM unit (4) two Macintosh notebook computers; (5) a mainframe terminal; (6) software including WordPerfect 5.1 and 6.0, dBase III and IV, Microsoft PowerPoint, PageMaker 4.0, McPaint, Microsoft Works, MS Word, ClarisWorks, EXCEL, Hypercard, Multimedia Make Your Point, Aldus Persuasion 2.1, etc.; (7) FAX machine; (8) overhead and sound/slide projectors with screen; (9) Proxima Desktop Projector 2800 with Cyclops 2060 Camera Eye and wand; (10) InFocus computer projection panel; (11) conference room for a ten-member group including a Soundstation for conference calls; (12) VCR with color monitor; (13) dry erase marker board; and (14) planning resource library.

Publications

The following publications are produced and distributed by Central Missouri State:

Alumni Today. A quarterly newspaper for alumni and friends of the University published by the Central Missouri State University Alumni Association and the Central Missouri State University Foundation.

Central Missouri State University News. A weekly newsletter for faculty and staff published by the Office of Public Relations.

The Muleskinner. A weekly campus newspaper published by a Communication Department student staff.

Rhetor. The University yearbook published each year by an Office of Public Relations student staff.

Public Safety

The Department of Public Safety includes the areas of University Police, Key Control, Environmental Health and Safety and Parking Services. It is located at 306 Broad Street and is open twenty-four hours daily, 365 days per year. Call 543-4123.

Research

The Office of Graduate Studies and the Office of Sponsored Research and Projects help faculty, staff, and students develop, coordinate, negotiate, and administer all types of research and sponsored projects. These services are free.

The Office of Sponsored Research and Projects maintains a library of funding opportunities from government and private sources. It also subscribes to newsletters and bulletins and has electronic access to the Office of Federal Programs (OFP) in Washington, D.C.

Through this office, Central administers a grant program for graduate student research (funded by the Central Missouri State University Foundation). Students work closely with an advisor to design studies and secure funding for proposals.

University Conference Center

Located on Anderson Street, east of the main campus, the University Conference Center accommodates over 300 guests in 152 air-conditioned rooms. Meeting rooms include the Ozark Room (seating 250); the Kansas City Room (12); and the St. Louis, Independence, and Jefferson City Rooms (30 each). A variety of suites and rooms are available for guests of the University. For reservations, call the Facilities Coordinator at 816-543-4342.

University Media Services

University Media Services, housed in the Ward Edwards Library, provides the following services to support and enhance the University's instructional, research, and service programs.

Audiovisual Campus Services (AV) provides classroom instruction support through audiovisual equipment and a 16mm film/videotape library. Other services include checkout of equipment for university functions, overnight checkout of videotapes by students and non-teaching staff, overhead transparencies made for minimum charge and (through an instructor's request) student check-out of equipment and/or a film/videotape for class presentations. Faculty may reserve films/videotapes, and they may request the rental of films/videotapes.

Engineering Services (ES) maintains electronic equipment used on campus. Staff members design, modify, and install electronic systems. ES is an authorized Apple and Zenith microcomputer service center for the University. Audio technicians are responsible for the operation of all campus sound systems.

Instructional Development & Design (IDD) produces instructional materials such as transparencies, slides, and charts. It designs, develops, and produces learning packages and slide/tape programs. It also offers assistance in the development of course presentations, individual learning activities, and media-related courseware.

Instructional Television (ITV) provides non-broadcast video support services to the University. Services include studio and location videotaping of lectures and presentations, original video program design and production, and videotape duplication. ITV also consults in media facility design and video equipment purchases and provides training in the operation of video technologies as an educational tool.

Self Instruction/Microcomputer Center (SIC/MC), affords access to audiovisual equipment and curriculum materials for student, faculty, and staff use. The Center has a fully equipped microcomputer center containing Apple II, MS/DOS, and Macintosh computers. Student study aids such as audio recordings, videotapes, 35mm slide sets, 16mm films, and the microcomputer center are available. The Center houses microcomputer software, multimedia, audiotape, audio CD, videodisc, and slide tape collections. The Center assists faculty, staff, and students in the selection and use of microcomputer hardware, software, and peripherals. It offers non-credit seminars in computer use, demonstrating new hardware and software.

Work and Family Institute

By encouraging the business community to recognize and respond to the need for parent and family educational programs, the Work and Family Institute strengthens the family and individual employees through on-site seminars on resource management, family issues, parenting, and health awareness. Seminars

result in enhanced worker productivity in business, industrial, or governmental sectors through better balance between work and family issues. The institute is located in the Department of Human Environmental Sciences.

Workshop on Wheels

The Workshop on Wheels is an in-service training project for child care providers, early childhood professionals, and parents affiliated with the Department of Human Environmental Sciences. Its purpose is to provide programs and services throughout central Missouri which will improve and enhance the quality of child care offered to young children while they are away from their homes. The Workshop on Wheels is funded by grants from the Missouri Department of Elementary and Secondary Education - Division of Adult and Vocational Education (Home Economics), the Division of Community Education and the Division of Early Childhood Education, the Missouri Department of Health, and the Children's Trust Fund.

SECTION II

BACHELOR'S DEGREES

Central offers the following baccalaureates:

Bachelor of Arts
 Bachelor of Fine Arts
 Bachelor of Music
 Bachelor of Music Education
 Bachelor of Science
 Bachelor of Science in Business Administration
 Bachelor of Science in Education

The following policies apply to the undergraduate degrees offered by the University:

GENERAL REQUIREMENTS FOR A BACCALAUREATE

1. A baccalaureate shall total a minimum of 124 semester hours.
2. A baccalaureate shall include 39-43 semester hours of General Education as prescribed by the University. See "General Education" in this section.
3. A baccalaureate shall include a major and a minor or a functional major.
4. A baccalaureate shall include a minimum of 35 semester hours of upper-level credit, 12 of which must be part of a major or of a functional major.

SPECIFIC REQUIREMENTS FOR THE BACCALAUREATE--BACHELOR OF ARTS

1. All General Requirements shall be met.
2. A major for this degree normally shall be 30-35 semester hours.
3. A minor for this degree normally shall be 20-25 semester hours.
4. A modern language requirement shall be 9 semester hours and may be met as follows:

The modern language requirement is fulfilled by successfully completing 9 semester hours of one modern language, or completing 6 hours of one modern language and 3 hours of modern literature in translation (ENGL 2220), or completing 3 hours of an upper-level modern language course.

One unit (one year) of modern language in high school will substitute for the first three semester hours of the language. Two units (two years) or more of one modern language in high school will substitute for six semester hours.

SPECIFIC REQUIREMENTS FOR THE BACCALAUREATE--BACHELOR OF FINE ARTS

This is a professional performance degree available through the Departments of Art and Theatre.

1. All General Requirements shall be met.
2. A functional major for this degree normally shall be 60-80 semester hours.

SPECIFIC REQUIREMENTS FOR THE BACCALAUREATE--BACHELOR OF MUSIC

This is a professional performance degree available through the Department of Music.

1. All General Requirements shall be met.
2. A functional major for this degree normally shall be 80-82 semester hours.

SPECIFIC REQUIREMENTS FOR THE BACCALAUREATE--BACHELOR OF MUSIC EDUCATION

This is a professional education degree available through the Department of Music. Students planning to obtain teacher certification should see "Teacher Education Policies and Procedures."

1. All General Requirements shall be met.
2. A functional major normally shall total 60-66 semester hours.
3. Professional education courses for this degree shall be 25-35 semester hours.
4. A candidate for this degree must have a minimum cumulative grade-point average of 2.50 based upon total hours attempted.
5. All students receiving this degree must obtain minimum scores on the area specialty test in music of the National Teacher Examination to be eligible for teacher certification (HB463). See "Teacher Education Policies and Procedures."

SPECIFIC REQUIREMENTS FOR THE BACCALAUREATE--BACHELOR OF SCIENCE

1. All General Requirements shall be met.
2. A major for this degree normally shall be 40-45 semester hours.
3. A minor for this degree normally shall be 20-25 semester hours.
4. A functional major for this degree normally shall be 60-70 semester hours.
5. Candidates for this degree who are seeking teacher certification must satisfy teacher education certification standards. See BSE degree requirements below.

SPECIFIC REQUIREMENTS FOR THE BACCALAUREATE--BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

1. All General Requirements shall be met.
2. A functional major in this degree normally shall be 60-70 semester hours.

**SPECIFIC REQUIREMENTS FOR THE BACCALAUREATE--
BACHELOR OF SCIENCE IN EDUCATION**

Students planning to obtain teacher certification should see "Teacher Education Policies and Procedures."

1. All general requirements shall be met.
2. A major for this degree shall be in a certifiable area and normally shall be 30-36 semester hours except in those instances where certification requirements exceed this amount.
3. A minor for this degree normally shall be 18-24 semester hours.
4. The semester hours required for a functional major for this degree normally shall be 50-60 semester hours.
5. Professional education courses for this degree shall be 25-35 semester hours.
6. A candidate for this degree must have a minimum cumulative grade-point average of 2.50 based upon total hours attempted.
7. All students receiving this degree must obtain a minimum score on the appropriate exit test, generally the major area specialty test of the National Teacher Examination, to be eligible for teacher certification (HB463). Not obtaining the prescribed minimum score does not preclude receiving the degree. Students with double majors in education normally must plan to take tests in both areas, over a two-semester time period.

ASSOCIATE DEGREES

Central offers an Associate in Science degree.

GENERAL REQUIREMENTS FOR ASSOCIATE DEGREES

1. An associate degree consists of a minimum of 60 semester hours. For an associate degree, the student must earn at least 20 semester hours in residence at Central. The final 10 semester hours must be earned at Central.
2. An associate degree candidate must have a minimum cumulative GPA of 2.0 (C), based upon total hours attempted. In the case of a transfer student, a cumulative GPA of 2.0 must be earned at Central as well as an overall cumulative average of 2.0.
3. All associate degree candidates are required to satisfy Missouri State requirements in regard to the Federal and State Constitutions. This requirement is filled by taking Hist 1321 or Hist 1351.
4. In those cases involving two-year college transfer students, career-level courses may be counted toward the major requirement as determined by departmental evaluation.

MAJORS AND MINORS

Central requires that candidates for bachelor's degrees provide evidence of depth of study through the completion of majors and minors. This requirement can be met by one of three options: (1) completion of a major and a minor, (2) completion of a functional major, or (3) completion of a double major.* The double major and the major-minor combination allow for preparation in two fields. The functional major is a comprehensive program which integrates, with the primary field, fields which are closely related. (*NOTE: If a course used to meet a major or minor requirement also meets a requirement of another major or minor, then a departmentally approved course substitution must be made for the duplicate course in one of the major/minor programs.)

GENERAL EDUCATION PROGRAM

The General Education Program introduces students to areas of skill and knowledge that will equip them to function and contribute as educated citizens in a free society. The Program, or its equivalent, is a requirement for all degree candidates. (The General Education Program is currently under review.)

The University Studies Committee is charged with the interpretation of policies concerning the General Education Program.

**POLICIES CONCERNING THE
GENERAL EDUCATION PROGRAM**

1. General Education courses are introductory in nature and generally available for credit in major or minor programs.
2. All sections of General Education courses shall be open to all students regardless of their major or minor fields.
3. In any section of the General Education Program where a requirement may be met in a variety of ways, Colleges and Departments may specify the course(s) meeting that requirement for any or all of their degree programs. Colleges and Departments shall allow students maximum freedom of choice where possible.
4. Students must meet state law requirements, Section 170.011 RSMo Supp (1988), that mandate specific instruction in State and Federal constitutions and American history and institutions by the successful completion of a course in American history such as Hist 1321, America and the Modern World II or Hist 1351, History of the United States.

34 General Education Requirements

Group A: English/Grammar 6 Sem. Hours

Engl	1020	Rhetorical Writing	3
Engl	1030	Composition	3

Group B: Oral Communication 3 Sem. Hours

SpCm	1000	Public Speaking	3
SpCm	3000	Interpersonal Communication	3

Group C: Mathematics 3 Sem. Hours

Math	1111	College Algebra	3
Math	1150	Pre-Calculus Mathematics	4
Math	1151	Calculus and Analytic Geometry I	5
Math	1620	Contemporary Mathematics	3

Group D: Social Sciences

Students must choose 3-4 hours from the following laboratory science courses:

Biol	1013	General Ecology	4
Chem	1110	Elementary Chemistry	4
Chem	1131	General Chemistry I	5
EaSc	1110	Introduction to Geology	4
Phys	1100	Survey of Physics	4
Phys	1101	College Physics I	4
Phys	2121	University Physics I	5
Phys	1611	Physics of Sound	3

Group E: Humanities 6 Sem. Hours

Students must choose 3 hours from the following courses:

Engl	2200	American Literature to 1865	3
Engl	2205	American Lit. 1865 to Present	3
Engl	2210	British Literature to 1750	3
Engl	2215	British Literature 1750 to Present	3
Engl	2220	World Masterpieces	3

Students must choose 3 additional hours from the following courses:

Art	1800	Ideas and the Visual Arts	3
Mus	1111	Theory I	3
Mus	1200	Music Appreciation	3
Phil	1000	Introduction to Philosophy	3
Thea	2400	Theatre in Western Civilization	3

Group F: History/Government/ Social Science 9 Sem. Hours

Hist	1321	America and the Modern World II	OR
Hist	1351	History of the United States	3

Students must choose 6 hours from the following courses:

CJ	1000	Introduction to Criminal Justice	3
Econ	1010	Principles of Economics	3
Geog	2212	World Geography	3
PolS	1510	National Government	3
PolS	2511	State Government	3
Psy	1100	General Psychology	3
Soc	1800	General Sociology	3

Group G: Multicultural Studies 3 Sem. Hours

Any foreign language		3	
Anth	1820	Introduction to Anthropology II	3
Geog	3201	The Cultural Landscape	3
Hist	2451	Modern World Civilization	3
IndS	2340	Introduction to Asian Societies and Civilization	3
Rel	3210	Comparative World Religions	3

Group H: Technology 2-3 Sem. Hours

Agri	1010	Urban Life and Agriculture	3
CIS	1600	Principles of Computer Information Systems	3
Grap	2500	Communication Technology	3
MCom	1000	Introduction to Mass Communication	3
Mf&C	1012	Production Technology	3
Mf&C	2500	Applied Computer Technology	2
Pr&T	3010	Transportation Systems	3
SS&T	3040	Energy Resource Management	3

Group I: Individual Development 4-6 Sem. Hours

Students must choose 2 to 3 hours from the following courses:

Physical Education Activities		1-3	
Military Science		2-3	
Marching Band		1.5-3	
HEd	1100	Personal Health	3
PE	1206	Lifetime Fitness	3

Students must choose 2 to 3 additional hours from the following courses:

Fin	1820	Personal Finance	3
HES	1010	Family Living	3
LIS	1100	Library and Information Resources	2
Psy	1320	Psychology of Personal Adjustment	3
Rec	2150	Leisure Enhancement	2
SpCm	2125	Improving Listening Abilities	2
SS&T	2010	Safety: A Personal & Societal Focus	3

Total 39-43 Sem. Hours

HONORS PROGRAM

The Honors Program is an academic program specifically designed to enhance the educational experience of highly able and/or exceptionally motivated undergraduate students. The Honors Program is flexibly structured to enable students to realize their full potential by providing them with opportunities for learning and development which may not be available otherwise. The Program provides a stimulating academic environment within which gifted students can nurture their talents.

The Honors Program Committee will consider applications for admission to the Honors Program from high school seniors, high school graduates, transfer students, and Central students who have strong academic records.

All applicants must prepare an application form and arrange to have college and high school transcripts forwarded. For application material and information regarding admission requirements, financial aid, and other benefits, interested students should contact the Honors Program Director, Library 214, 816-543-4633.

Some of the present features of the Honors Program include:

- Early enrollment
- Financial assistance
- Course overload privilege
- Undergraduate credit for certain graduate-level courses
- Transcript recognition
- Foundation Studies replacement for the General Education curriculum

Honors Program Foundation Studies

The following Foundation Studies provisions are designed to replace the General Education requirements for those students who seek to graduate from Central with recognition for completing the Honors Program. The flexibility of Foundation Studies allows Program members to explore a wide variety of subject areas--from the introductory level courses to those requiring advanced standing.

- | | | |
|----|---|----|
| 1. | Foundation Studies Core (Required Courses) | 9 |
| | Honors English (Engl 1040) | 3 |
| | Honors Am. and the Mod. World II (Hist 1323) | 3 |
| | Mathematical Science (Math 1111 or any other mathematical science course with a prerequisite of at least Math 1101 or equivalent) | 3 |
| 2. | Foundation Studies Electives | 30 |
| | Modern Language (French, German, Spanish) | 6 |
| | All hours are to be presented from the same language area. | |
| | Natural Science (Biology, Chemistry, Earth Science, and Physics) | 6 |
| | At least one course (three or more hours) must be a laboratory course. | |

- | | | |
|----|---|---|
| | Social Science (Anthropology, History, Political Science, Economics, Geography, Sociology, and Psychology) | 6 |
| | Courses must be elected from at least two of the above areas. | |
| | Humanities (Art, Music, Theatre, Philosophy, English, and Literature) | 6 |
| | Courses must be elected from at least two of the above areas, and at least one course must be a literature course. | |
| | Social and Individual Development (Applied Science, Technology, Business, Education, Communication, and Human Services) | 6 |
| | Courses must be elected from at least two of the above areas. | |
| 3. | Foundation Studies Junior/Senior Component (Required) | 6 |
| | Honr 3000 Honors Colloquium | 2 |
| | Honr 4000 Honors Project | 4 |

TOTAL SEMESTER HOURS FOR FOUNDATION STUDIES 45

Honr 3000 Honors Colloquium (2) A multidimensional course, the content of which may vary with each offering; required of and open only to members of the University Honors Program. *May be repeated for a maximum of 6 semester hours.* Prerequisite: junior standing or approval.
Honr 4000 Honors Project* (4) A research study or creative project entailing independent work, which is required of and open only to members of the University Honors Program. Prerequisite: senior standing or approval.

*Not available for graduate credit.

Policies Governing Foundation Studies

1. Each participant in the Honors Program will be required to conform to the guidelines for Foundation Studies. Suitable Foundation Studies electives consist of those courses permitted on major/minor programs or in the University General Education requirements. Any exceptions or departures will require the approval of the Honors Program Committee.
2. A student's major and/or minor requirements can be used to excuse him/her from 6 hours in the applicable category of the Foundation Studies Electives.
3. No more than 6 hours of CLEP credit may be used to meet Foundation Studies Electives. CLEP credit may not be used to meet Foundation Studies core requirements.
4. Pass/Fail credit may not be used to meet Foundation Studies core requirements, or electives; however, some Honors Colloquia may be offered pass/fail.
5. Elementary education majors and elementary special education majors must include Engl 1040, another English composition course (or substitution), Hist 1323, Modern Languages, Honr 3000, and Honr 4000 in the Honors Foundation Studies program. All other portions of the Foundation Studies are fulfilled by the requirements of those majors.

36 Options

PRE-PROFESSIONAL TRAINING

Students who wish to prepare for entrance to professional schools such as Dentistry, Law, Medicine, Optometry, Osteopathy, Pharmacy, Physical Therapy, Veterinary Medicine, or Wildlife Biology and Forestry may take pre-professional work at Central. The student should contact the Office of Academic Advisement for additional information.

INDIVIDUALIZED PROGRAMS

Before 72 semester hours are earned, a student pursuing a baccalaureate degree may request an undergraduate major or minor concentration not listed in the Catalog, but consisting of courses offered herein. Such a major or minor may be across various disciplines; however, all General Education and other degree requirements must be met. The student must select a faculty member to serve as an advisor. Together they will develop a proposed plan of study which must receive the written approval of the student, faculty advisor, appropriate department chair(s), dean(s), and the Provost and Vice President for Academic Affairs. The student must include a signed statement indicating he/she accepts full responsibility for the proposal. Upon final approval of the individualized major or minor, the student is notified and a copy of the proposal is filed with the Registrar and the Office of Academic Advisement.

OFF-CAMPUS STUDY, EVENING, AND WEEKEND CLASSES

Central has an extensive offering of late afternoon, evening, and weekend classes. These courses provide educational opportunity at the graduate and undergraduate level, both on campus and throughout the state. Most courses are credit bearing, directly applicable to accredited degree programs, and are described in official University publications. Admission requirements are identical to those established for traditional students. Specific inquiries or requests for a class schedule should be directed to the Office of Extended Campus.

INTERNATIONAL STUDY

Central Missouri State University believes strongly in the development of an international perspective among its students and faculty. One of the most exciting educational experiences available is the opportunity for students to spend a semester or year abroad. The following programs are available through the Office of International Programs.

Missouri London Program. Central participates with nine other Missouri universities in teaching an academic program in London, using their own faculty, curriculum, standards, and style. Courses are structured so that academic credits earned are part of the regular authorized offerings which allow Central students to make normal progress toward their undergraduate degrees while utilizing London and other European resources and cross-cultural experiences.

Växjö University, Växjö, Sweden. Three basic programs are available in courses taught in English by Swedish professors. During the fall semester, social science options are available for upper-level students in economics, political science, or sociology. A spring semester course is available in intercultural studies which provides an opportunity to study cultural and international subjects through a mix of sociological, anthropological, and communication theory. During the spring semester, Scandinavian business and international education are also offered.

Budapest University, Budapest, Hungary. Agreements have been signed which will allow Central students to attend one of Eastern Europe's finest universities. Courses taught in English are available in Economics and History, with additional options being developed.

International Student Exchange Program (ISEP). This organization, of which Central is a member, allows its members to participate in balanced, one-to-one exchanges of students between institutions in the United States and those in other countries. Students pay normal tuition, fees, and room and board. The students attend the foreign university free of charge.

Denmark International Study Program is taught in English by Danish professors at the University of Copenhagen. Students in this program are given the option of living with a Danish family or with Danish students. A large selection of upper-division undergraduate courses are offered in Liberal Arts (Arts, Humanities, Social Sciences, International Relations, Education), International Business, and Architecture and Design.

Örebro University, Örebro, Sweden. This program is designed as an exchange for business, economics, communications, law, and social work students.

Kansai Gaidai University, Osaka, Japan. Programs offered include Asian studies, business, political science, and art. The exchange is designed so that students pay room, board, and tuition at Central without additional fees in Japan.

University of Glamorgan, outside Cardiff, South Wales. Exchanges are primarily for communications, social sciences, and humanities but are available for other academic areas, as well.

University of Helsinki, Helsinki, Finland. Central's Department of Speech Pathology and Audiology and the Department of Phonetics in Helsinki signed agreements to facilitate this exchange of students and faculty.

Summer Language Programs. Summer study programs in French, Spanish, and German are offered on a periodic basis by the Department of Modern Languages.

Other International Study. In addition to the programs available at Central, it is possible to make other study arrangements in most European countries, Latin America, and Japan.

COURSE AND DEGREE PROGRAM REQUIREMENTS--COLLEGES AND DEPARTMENTS

Course and degree program requirements are arranged according to college and department or area as indicated in the following outline:

COLLEGE OF APPLIED SCIENCES AND TECHNOLOGY

Agriculture (Agri)
Electronics Technology (ET, ACR)
Industrial Management (IndM)
Graphics (Grap)
Human Environmental Sciences (HES)
Manufacturing and Construction (Mf&C)
Industrial Arts and Technology (IA&T)
Military Science (MS)
Nursing (Nur)
Power and Transportation (Pr&T)
Safety Science and Technology (SS&T, DrEd)

COLLEGE OF ARTS AND SCIENCES

Art (Art)
Biology and Earth Science (Biol, EaSc)
Chemistry and Physics (Chem, Phys)
Communication (Comm)
Mass Communication (MCom)
Speech Communication (SpCm)
English and Philosophy (Engl, Phil)
History and Anthropology (Hist, Anth)
Social Science (SoSc)
Women's Studies (WS)
Mathematics and Computer Science (Math)
Modern Languages (ML)
French (Fren)
German (Ger)
Spanish (Span)
Chinese (Chin)
Music (Mus)
Political Science and Geography (PoIS, Geog)
Religious Studies (Rel)
Theatre (Thea)

COLLEGE OF BUSINESS AND ECONOMICS

Accounting (Acct)
Computer and Office Information Systems (CIS, BE&O)
Economics and Finance (Econ, Fin)
Management (Mgt, HRM)
Marketing and Legal Studies (Mkt, BLaw)

COLLEGE OF EDUCATION AND HUMAN SERVICES

Criminal Justice (CJ)
Curriculum and Instruction (EdCI)
Science Education (ScEd)
Physical Education (PE)
Psychology and Counselor Education (Psy, Coun)
Sociology and Social Work (Soc, SoWk)
Special Services
School Administration and Higher Education (EdAd)
Health Education (HEd)
Instructional Technology (InsT)
Recreation (Rec)
Special Education (EdSp)
Speech Pathology and Audiology (SP&A)

EDUCATIONAL DEVELOPMENT CENTER

Personal Skills Development (Pers)
University Orientation (Univ)

INTERDISCIPLINARY STUDIES (IndS)

INTERNATIONAL STUDIES (ISP)

LIBRARY SERVICES

Library Science and Information Services (LIS)

Program codes are listed in parentheses below the program title. The listing of courses does not constitute a contract that they will be offered. All credits offered at Central Missouri State University are on the semester-hour basis.

College of Applied Sciences and Technology

Agriculture

In the Department of Agriculture, the second digit in the course number stands for the following: 0-7--Agriculture Business, Agriculture Economics and Agriculture Technology, 8-9--Professional and Agriculture Education.

AGRICULTURAL ECONOMICS Functional Major, B.S. Degree

(43 000101)

					Sem. Hours		
FUNCTIONAL MAJOR REQUIREMENTS					72		
Agri	1100	Introduction to Agriculture	1	Agri	4820	Agricultural Safety	3
Agri	2120	Agricultural Cooperatives	1	IA&T	3060	Technical Report Writing	2
Agri	3110	Agri-Business Management	3	Math	1131	Calculus for Business & Econ.	3
Agri	3120	Dist. & Mktg. Agri. Products	3	Acct	2101	Principles of Financial Acct.	3
Agri	3140	Agri. Analysis & Statistics	3	Acct	2102	Principles of Managerial Acct.	3
Agri	4110	Agricultural Futures Trading	3	Econ	1011	Principles of Economics	3
Agri	4120	International Agriculture	3	Econ	3010	Intermediate Macroeconomics	3
Agri	4130	Agricultural Prices	3	Econ	3020	Money & Banking	3
Agri	4140	Agricultural Policy	3	Econ	3030	Intermediate Microeconomics	3
Agri	3210	Soil & Water Management	3	Mkt	3400	Principles of Marketing	3
Agri	1310	Field Crops	3	BLaw	2720	Legal Environment of Business	3
Agri	2315	Field Crops	2	Agri	4340	Agri. Sprays & Chemicals, 3 or	
Agri	2330	Introduction to Soil Science	3	Agri	3610	Agricultural Insect Control, 3	3
Agri	1420	Animal Husbandry	3				
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS					41-43		
SpCm	1000	Group B (required)	3	Econ	1010	Group F (required)	3
Math	1111	Group C (required)	3	CIS	1600	Group H (required)	3
Chem	1110	Group D (required)	4				
FREE ELECTIVES					9-11		
MINIMUM TOTAL					124		

AGRICULTURAL TECHNOLOGY Functional Major, B.S. Degree

(43 000209)

					Sem. Hours		
FUNCTIONAL MAJOR REQUIREMENTS					72-73		
Agri	1100	Introduction to Agriculture	1	Chem	2650	Elem. Organic & Biochemistry	5
Agri	3100	Agri. Bus. Leadership Dev.	1	Econ	1011	Principles of Economics	3
Agri	3140	Agri. Analysis & Statistics	3	Agri	1310	Field Crops, 3 or	
Agri	1200	Agriculture Mechanics	3	Agri	2315	Field Crops, 2	2-3
Agri	2330	Introduction to Soil Science	3	Agri	3110	Agri-Business Management, 3 or	
Agri	4300	Soil Fertility & Fertilizers	3	Agri	3120	Dist. & Mktg. Agri. Products, 3	3
Agri	4310	Plant Improvement	3	Departmentally approved electives from			
Agri	1420	Animal Husbandry	3	one of the following areas			
Agri	2425	Livestock Evaluation	3	Area 1 Animal Technology			
Agri	4410	General Veterinary Science	3	Area 2 Agronomic Technology			
Agri	1600	General Horticulture	3	Area 3 Horticultural Technology			
Agri	1610	Establishment & Care of		Area 4 Agricultural Mechanization			
		Greenhouse Plants	3	List of electives available from Chair,			
Agri	3610	Agricultural Insect Control	3	Department of Agriculture.			
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS					41-43		
SpCm	1000	Group B (required)	3	Chem	1110	Group D (required)	4
Math	1111	Group C (required)	3	CIS	1600	Group H (required)	3
FREE ELECTIVES					8-11		
MINIMUM TOTAL					124		

AGRICULTURE Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000110)

						Sem. Hours
MINOR REQUIREMENTS						25
Agri	3120	Dist. & Mkt. Agri. Products	3	Agri	1200	Agriculture Mechanics, 3 or
Agri	1310	Field Crops	3	Agri	3200	Farm Power & Machinery, 3
Agri	2330	Introduction to Soil Science	3	Agri	1600	Gen. Horticulture, 3 or
Agri	1420	Animal Husbandry	3	Agri	1610	Establishment & Care of
Chem	1110	Elementary Chemistry	4			Greenhouse Plants, 3
Econ	1011	Principles of Economics	3			
GENERAL EDUCATION REQUIREMENTS (In the minor, Chem 1110 fulfills 4 s.h. of Group D)						

AGRICULTURE-BUSINESS Functional Major, B.S. Degree

(43 000111)

						Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS						70-72
Agri	1100	Introduction to Agriculture	1	Agri	2425	Livestock Evaluation
Agri	2110	Agricultural Records	3	Agri	3420	Animal Nutrition
Agri	2120	Agricultural Cooperatives	1	Acct	2101	Principles of Financial Acct.
Agri	3100	Agri. Bus. Leadership Dev.	1	Econ	1011	Principles of Economics
Agri	3110	Agri-Business Management	3	Econ	3030	Intermediate Microeconomics
Agri	3120	Dist. & Mktg. Agri. Products	3	Mgt	3325	Business Communications
Agri	3130	Social Issues in Technology	3	Agri	1310	Field Crops, 3 or
Agri	3140	Agri. Analysis & Statistics	3	Agri	2315	Field Crops, 2
Agri	4110	Agricultural Futures Trading	3	Agri	3200	Farm Power & Machinery, 3 or
Agri	4120	International Agriculture	3	Agri	1200	Agriculture Mechanics, 3
Agri	4130	Agricultural Prices	3	Agri	4320	Agricultural Plant Diseases, 3 or
Agri	4140	Agricultural Policy	3	Agri	4340	Agri. Sprays & Chemicals, 3
Agri	4150	Natural Resource Econ. for Agri.	3	Agri	3210	Soil & Water Management, 3 or
Agri	2330	Introduction to Soil Science	3	Agri	4230	Mechanized Feed Handling, 2 ...
Agri	2331	Soils	3			
Agri	1420	Animal Husbandry	3			
MINOR NOT REQUIRED						
GENERAL EDUCATION REQUIREMENTS						42-43
SpCm	1000	Group B (required)	3	Econ	1010	Group F (required)
Math	1111	Group C (required)	3	CIS	1600	Group H (required)
Chem	1110	Group D (required)	4	Fin	1820	Group I (required)
FREE ELECTIVES						9-12
MINIMUM TOTAL						124

VOCATIONAL AGRICULTURE EDUCATION Functional Major, B.S. in Ed. Degree

(Certification to teach vocational agriculture education in grades 9-12)

(41 000112)

						Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS						59
Agri	1100	Introduction to Agriculture	1	Agri	1510	The Elements of Dairying
Agri	3110	Agri-Business Management	3	Agri	1600	General Horticulture
Agri	3120	Dist. & Mktg. Agri. Products	3	Agri	3900	Found. of Agri. Education
Agri	1200	Agriculture Mechanics	3	Agri	4910	Agri. Occupations Exper. Prog.
Agri	3200	Farm Power & Machinery	3	Agri	4920	Agri. Mechanics in Agri. Ed.
Agri	1310	Field Crops	3	Econ	1011	Principles of Economics
Agri	2315	Field Crops	2	Biol	1011	General Botany, 4 or
Agri	2330	Introduction to Soil Science	3	Biol	3712	Field Natural History, 4
Agri	3410	Animal Breeding	3			Electives in agriculture
Agri	3420	Animal Nutrition	3			
MINOR NOT REQUIRED						
GENERAL EDUCATION REQUIREMENTS						41-43
Math	1111	Group C (required)	3	Agri	1010	Group H (required)
Chem	1110	Group D (required)	4	Psy	4230	Psy. of Adolescence
PolS	1510	Group F (required)	3			
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.						
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)						27
Students shall substitute Agri 4900 for EdCI 4500.						
MINIMUM TOTAL						127

40 Agriculture

Agriculture Business, Agriculture Economics and Agriculture Technology

Agri 1010 Urban Life and Agriculture (3) Human and natural resources used in agriculture and production. Interdependence of rural and urban people as they live in a modern society.

Agri 4000 Special Projects in Agriculture (1-3) Investigation of contemporary problems and issues in agriculture by selected individuals or groups. *May be repeated for a maximum of 9 semester hours.*

Agri 1100 Introduction to Agriculture (1) Orientation to the philosophy, development and current trends in the professional preparation for careers in agriculture. Prerequisite: must be taken during the first year of the agriculture program.

Agri 2110 Agricultural Records (3) Fundamental principles and practices of record buyers as applied to the organization and operation of agricultural enterprises.

Agri 2120 Agricultural Cooperatives (1) Environment, organization and business function of modern agricultural cooperatives.

Agri 3100 Agricultural Business Leadership Development (1) Development of self-marketing skills needed for employment in agribusiness. Students will be required to demonstrate competency in both written and spoken English. Prerequisites: completion of 60 semester hours including Engl 1030 and SpCm 1000.

Agri 3110 Agri-Business Management (3) Management functions and economics of agricultural organizations and operations, including input-output analysis, efficient allocations of resources, enterprise combinations, and budgeting analysis. Prerequisite: Econ 1011.

Agri 3120 Distribution and Marketing Agriculture Products (3) Principles governing the distribution, prices, and marketing of agriculture products. Prerequisite: Econ 1011.

Agri 3130 Social Issues in Technology (3) An in-depth consideration of the effects of technological transformations and innovations on society.

Agri 3140 Agricultural Analysis and Statistics (3) Statistical analysis and experimental designs as applied to agriculture. Prerequisites: Math 1111 and CIS 1600.

Agri 4110 Agricultural Futures Trading (3) Examination of techniques used in pricing products in the agricultural commodities futures market. Emphasis on futures trading as a marketing tool with some consideration of alternative speculating techniques. Prerequisites: Agri 3120 and Econ 1011, or equivalent.

Agri 4120 International Agriculture (3) Economic, cultural, governmental and environmental factors which influence agricultural production and trade among countries. Prerequisites: Econ 1010, Agri 2330 and Agri 3120.

Agri 4130 Agricultural Prices (3) The factors affecting agricultural commodity prices and related nonagricultural prices; factors affecting prices of individual farm products, their importance and behavior; analysis of price trends and seasonal variation; parity prices; methods of forecasting demand and prices. Prerequisites: Agri 3120, Agri 3140 and Econ 3030.

Agri 4140 Agricultural Policy (3) History, principles, settings, objectives, and methods of policy development as applied to agriculture in our society. Prerequisites: Agri 3110 and Agri 3120.

Agri 4150 Natural Resource Economics for Agriculture (3) Nature of natural resources; economic efficiency as basis for natural resource use; externalities in natural resource use; factors influencing environmental quality; alternate public policy tools for influencing natural resource use. Prerequisite: Econ 3030.

Agri 5120 Agriculture in Developing Countries (3) Examination of agricultural and rural development issues in less developed countries. Alternative agricultural production systems are compared, development theories are examined, and consideration is given to the planning and implementation of development programs. Prerequisites: Econ 1010, Agri 3110 and Agri 3120.

Agri 5160 Statistical Analysis of Agriculture (3) The role of statistics in agriculture research. Statistical concepts include randomized complete blocks, factorials, latin squares, split-plot designs, time series, discriminant analysis, and various multiple regression analyses techniques. Prerequisite: Agri 3140.

Agri 5170 Linear Programming for Agricultural Management (3) Principles and applications of linear programming methods applied to problem solving in agricultural production, marketing and management. Prerequisites: Math 1131, Agri 3140 and 15 semester hours of agriculture courses.

Agri 1200 Agriculture Mechanics (3) Selection and use of hand and power tools for the farm shop. Basic processes and procedures in hot metal work and elements of woodworking used in the repair and maintenance of the farm.

Agri 3200 Farm Power and Machinery (3) Mechanical work on the farm, including selection, cost, and care of farm machinery. Includes laboratory practices on tractors, gas engines, plows, mowers, and other farm machinery.

Agri 3210 Soil and Water Management (3) Soil and water conservation. Use of farm level, laying out and establishing terraces, water ways, diversion channels, and farm ponds. Prerequisite: Agri 2330.

Agri 4200 Advanced Agriculture Mechanics (3) Application of shop principles to the design and construction of farm mechanical projects. Prerequisite: Agri 1200.

Agri 4230 Mechanized Feed Handling (2) Modern feed handling systems for beef cattle, dairy, swine, and poultry. Application of automatic feeders, waterers, augers, mixers, and other mechanical devices for handling feed will be tested on the University Farm.

Agri 5230 Agricultural Machinery Management (3) The capacities, costs, and practicalities of various mechanical systems used in the agricultural industry. Prerequisite: 15 semester hours of agriculture courses.

Agri 1310 Field Crops (3) Principles and practices in cereal crop production.

Agri 2315 Field Crops (2) Principles and practices of forage crop production.

Agri 2330 Introduction to Soil Science (3) Chemical and physical properties of soils. Prerequisite: Chem 1110.

Agri 2331 Soils (3) Emphasis on soil formation, classification, and fertility. Prerequisite: Agri 2330.

Agri 3320 Field Crop Management (3) Management of crops, crop rotation, and crop utilization. Prerequisites: Agri 1310 or Agri 2315, and Agri 2330.

Agri 3332 Soils (2) Emphasis on the soil conservation and field plot techniques. Prerequisite: Agri 2330.

Agri 4300 Soil Fertility and Fertilizers (3) Theory and practice of utilizing agricultural fertilizers to maximize soil productivity. Prerequisite: Agri 2330.

Agri 4310 Plant Improvement (3) The principles and practices involved in the selection and breeding of farm crops. Prerequisites: Agri 1600 and Agri 3140.

Agri 4320 Agricultural Plant Diseases (3) Agricultural plant diseases with emphasis on recognition and control. Prerequisites: Chem 1110 and Agri 1310 or Agri 2315.

Agri 4330 Soils Management (3) Principles of soils management as applied to physical improvement and fertility maintenance of soils. Prerequisite: Agri 2330.

Agri 4340 Agricultural Sprays and Chemicals (3) Types of agricultural chemicals and their application in control of insects, parasites, and weeds. Prerequisite: Agri 2330.

Agri 4350 Soil Taxonomy (3) An in-depth study of soil taxonomy using comprehensive soil classification systems. Prerequisite: Agri 2330.

Agri 5310 Pasture Management (3) Maintenance and uses of grasses and legumes for pastures. Prerequisites: Agri 2330 and Agri 2315.

Agri 5330 Soil Chemistry (3) The theory and application of soil chemistry as it is used in today's agriculture. Prerequisites: Agri 2331 and Agri 3140.

Agri 1420 Animal Husbandry (3) A comprehensive view of the industry and the science of biology as utilized in modern livestock management.

Agri 2425 Livestock Evaluation (3) An advanced study of livestock evaluation with emphasis in selection of breeding and market animals. The evaluation of beef cattle, dairy cattle, and swine will be emphasized. Prerequisite: Agri 1420.

Agri 3410 Animal Breeding (3) Breeding methods and principles of animal reproduction in the improvement of livestock. Prerequisite: Biol 1012.

Agri 3420 Animal Nutrition (3) Basic principles of animal nutrition--including classification and composition of feedstuffs, factors that affect feed utilization by animals, feed formulation and a study of the basic nutrients and their use in the body. Prerequisite: Chem 1110.

Agri 4410 General Veterinary Science (3) Anatomy, physiology, disease control, parasitic control, and sanitation of farm animals.

Agri 4415 Reproduction of Farm Animals (3) Reproductive physiology of farm animals with practice in evaluation of semen, artificial insemination, and methods of pregnancy diagnosis. Prerequisites: Agri 1420 and Agri 3410.

Agri 4430 Animal Science: Beef (3) Systems of beef production. Includes breeding, feeding, and management of commercial and purebred beef. Prerequisites: Agri 1420, Agri 3410 and Agri 3420.

Agri 4435 Animal Science: Pork (3) Systems of pork production. Includes breeding, feeding, and management of commercial and purebred swine. Prerequisites: Agri 1420, Agri 3410 and Agri 3420.

Agri 4440 Animal Science: Sheep (3) Breeding, feeding, managing, and marketing of commercial and purebred sheep. Prerequisites: Agri 1420, Agri 3410 and Agri 3420.

Agri 5410 Advanced Animal Breeding (3) An in-depth study of methods of livestock selection utilizing genetic variation. Prerequisite: Agri 3410.

Agri 1510 The Elements of Dairying (3) The dairy industry including the composition of milk, its food value, Babcock test, quality testing, and problems in feeding and health.

Agri 1600 General Horticulture (3) A general survey dealing with the home garden and orchard; principles of landscape art and plant propagation.

Agri 1610 Establishment and Care of Greenhouse Plants (3) Identifying, establishing, maintaining, harvesting and displaying greenhouse plants.

Agri 3610 Agricultural Insect Control (3) Insect control with emphasis on recognition of destructive forms, general principles of insect habits and classification.

Agri 3620 Residential Landscape Design (3) Theory and practice of landscaping the home, farmstead, and small properties, including elementary design, soil preparation, selection of plant material, and cultural practices.

Agri 3640 Horticultural Propagation Materials (3) Includes materials, types of plants, structure of plants, and methods used in propagation. Prerequisite: Agri 1600.

Agri 4600 Horticultural Plants (3) Identification, description, adaptation, and classification of horticultural species. Prerequisites: Biol 1011, Chem 1110 and Agri 1600.

Agri 4610 Turfgrasses (3) Selection, identification, establishment and maintenance of turfgrasses. Prerequisites: Biol 1011, Chem 1110, Agri 1600 and Agri 1310 or Agri 2315.

Professional and Agriculture Education

Agri 3810 Internship in Agriculture (1-3) Provides experiences for students in cooperating agricultural businesses, agencies and other organizations. *May be repeated for a maximum of 3 semester hours.* Prerequisite: consent.

Agri 4800 Topics in Agriculture (1-3) Individual investigation of a special problem in agriculture in the student's major field not available under regular classes. May be accomplished by reports, surveys, discussions, bibliographies, experiments, and library research. *May be repeated for a maximum of 3 semester hours.* Prerequisite: consent.

Agri 4820 Agricultural Safety (3) The history of and need for agricultural safety, operating guidelines for machines and chemical handling and application. A review of occupational health laws and how they relate to the agricultural workforce.

Agri 5800 Research Problems in Agriculture (1-3) Meets individual student needs for additional experience in selected areas of agricultural research. Requires the completion of an original research project, presentation of the results in a public forum, and the completion of a formal, bound research paper. *May be repeated for a maximum of 6 semester hours.* Prerequisites: Agri 5160 and IA&T 5130.

Agri 5830 Seminar in Modern Agricultural Research (1-3) A critical analysis of current research in agriculture allowing for independent study, oral reporting, personal interpretation, and defense of interpretation. *May be repeated for a maximum of 6 semester hours.* Prerequisites: Agri 5160 and IA&T 5130.

Agri 5850 Research and Thesis (2-4) Designed to give experience in executing research and analyzing agricultural data. Required for collecting data to complete a thesis. *May be repeated for a maximum of 6 semester hours.* Prerequisites: Agri 5160 and IA&T 5130.

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Agri 3900 Foundations of Agriculture Education (3)

Objectives, organization, and purpose of vocational agricultural education in the secondary and post-secondary school systems.

Agri 4900 Planning Community Programs in Agriculture Education (2)

Development of the vocational agriculture programs on the secondary level to meet the needs of the local community. Responsibilities of the teacher advisory council, school administration, and career centers will be studied. Prerequisite: Agri 3900.

Agri 4910 Agricultural Occupations Experience Programs (2)

Understandings and competencies required to establish, administer, and evaluate supervised agricultural occupational experience programs. Prerequisite: Agri 3900.

Agri 4920 Agricultural Mechanics in Agriculture Education (2)

The selection and organization of teaching materials; planning shop facilities and selection of equipment, hand tools, and shop supplies essential in establishing and teaching the agricultural mechanics program. Prerequisite: Agri 3900.

Electronics Technology

ELECTRONICS TECHNOLOGY Functional Major, B.S. Degree (43 000221)

				Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS				76
ET	1026	DC Circuit Analysis	4	
ET	1027	AC Circuit Analysis	4	
ET	2048	Active Electronic Devices	4	
ET	2050	Digital Principles & Applications	3	
ET	3000	Operational Amplifiers--Theory & Applications	3	
ET	3014	Analog-Digital Circuitry	3	
ET	3015	Microprocessors: Theory & Appl.	3	
ET	3017	Industrial Electronics	2	
ET	3020	Electronic Circuit Design & Analysis	3	
ET	3034	Elec. Instr. & Measurements	3	
ET	3041	Communication Systems	4	
ET	4010	Computer Programming for Electronics Technology	8	
ET	4036	Microprocessor & Microcomputer Interfacing	3	
IndM	4210	Industrial Management	3	
IA&T	2040	Calculus for Technology	3	
IA&T	3060	Technical Report Writing	2	
Phys	1101	College Physics I	4	
Math	1112	College Trigonometry	2	
Electives in electronics technology				15
MINOR NOT REQUIRED				
GENERAL EDUCATION REQUIREMENTS				41-43
Math	1111	Group C (required)	3	
Chem	1110	Group D (required)	4	
FREE ELECTIVES				5-7
MINIMUM TOTAL				124

ELECTRONICS TECHNOLOGY Minor for a Bachelor's Degree (Central does not confer teacher certification for this minor) (000220)

				Sem. Hours
MINOR REQUIREMENTS				23-24
ET	1026	DC Circuit Analysis	4	
ET	1027	AC Circuit Analysis	4	
ET	2048	Active Electronic Devices	4	
ET	2050	Digital Principles & Applications	3	
ET	3000	Operational Amplifiers--Theory & Applications	3	
ET	3015	Microprocessors: Theory & Appl.	3	
Electives in ET, ACR, or IndM				2-3

ELECTRONICS TECHNOLOGY, Associate in Science Degree

ELECTRICAL Option, Associate in Science Degree (22 000222)

				Sem. Hours
FIRST YEAR REQUIREMENTS				32
ET	1026	DC Circuit Analysis	4	
ET	1027	AC Circuit Analysis	4	
ET	2048	Active Electronic Devices	4	
ET	2050	Digital Principles & Applications	3	
Grap	1110	Fundamentals of Drafting	3	
IA&T	1040	Technical Mathematics I	3	
IA&T	1042	Technical Mathematics II	3	
IA&T	3060	Technical Report Writing	2	
Engl	1020	Rhetorical Writing	3	
Hist	1321	America & Modern World II, 3 or	3	
Hist	1351	History of the United States, 3	3	
SECOND YEAR REQUIREMENTS				31
ET	2020	Industrial Electricity	3	
ET	2030	Intro. to Programmable Controllers	3	
ET	3000	Operational Amplifiers--Theory & Applications	3	
ET	3022	AC & DC Machines	3	
ET	3030	Elec. Drawing & Computation	2	
ET	3034	Elec. Instr. & Measurements	3	
ET	3048	Control & Maint. of Elec. Mach.	3	
*ET	3015	Microprocessors: Theory & Appl.	3	
ET	3017	Industrial Electronics	2	
Electives				6
*Students should plan to enroll in ET 3015 during the summer session between the first and second year.				
MINIMUM TOTAL				63

ELECTRONICS Option, Associate in Science Degree (22 000223)

FIRST YEAR						32	
ET	1026	DC Circuit Analysis	4	IA&T	1042	Technical Mathematics II	3
ET	1027	AC Circuit Analysis	4	IA&T	3060	Technical Report Writing	2
ET	2048	Active Electronic Devices	4	Engl	1020	Rhetorical Writing	3
ET	2050	Digital Principles & Applications	3	Hist	1321	America & Modern World II, 3 or	
Grap	1110	Fundamentals of Drafting	3	Hist	1351	History of the United States, 3	3
IA&T	1040	Technical Mathematics I	3				
SECOND YEAR REQUIREMENTS						31	
ET	3000	Operational Amplifiers--Theory & Applications	3	ET	3038	Audio Systems	2
ET	3014	Analog-Digital Circuitry	3	ET	3041	Communication Systems	4
*ET	3015	Microprocessors: Theory & Appl.	3	ET	4044	Video Systems	3
ET	3017	Industrial Electronics	2	ET	3032	Drafting for Electronics, 3 or	
ET	3020	Electronic Circuit Design & Analysis	3	Grap	2170	Intro. to Computer-Aided Drafting, 3	3
ET	3034	Elec. Instr. & Measurements	3			Elective in Electronics Technology	2
*Students should plan to enroll in ET 3015 during the summer session between the first and second year.							
MINIMUM TOTAL						63	

COMPUTER ELECTRONICS Option, Associate in Science Degree (22 000224)

						Sem. Hours	
FIRST YEAR REQUIREMENTS						32	
ET	1026	DC Circuit Analysis	4	IA&T	3060	Technical Report Writing	2
ET	1027	AC Circuit Analysis	4	Engl	1020	Rhetorical Writing	3
ET	2048	Active Elec. Devices	4	CIS	1600	Prin. of Computer Infor. Systems	3
ET	2050	Digital Principles & Applications	3	Hist	1321	America & Modern World II, 3 or	
IA&T	1040	Technical Mathematics I	3	Hist	1351	History of the United States, 3	3
IA&T	1042	Technical Mathematics II	3				
SECOND YEAR REQUIREMENTS						31	
ET	3000	Operational Amplifiers--Theory & Applications	3	ET	4036	Microprocessor & Microcomputer Interfacing	3
ET	3014	Analog-Digital Circuitry	3	ET	4038	Microcomputer Sys. Arch. & Des.	3
*ET	3015	Microprocessors: Theory & Appl.	3	ET	4040	Telecommunications	3
ET	4010	Computer Programming for Electronics Technology	4	ET	4041	Adv. Microcomputer Sys. Arch.	3
				ET	4042	Advanced Telecommunications	3
				ET	4046	Digital Signal Processing	3
*Students should plan to enroll in ET 3015 during the summer session between the first and second year.							
MINIMUM TOTAL						63	

Electronics Technology

Most ET and ACR courses have a zero-credit laboratory requirement. Labs are scheduled for ET 1026, ET 1027, ET 2048, and ET 4010. All remaining ET and/or ACR courses utilize an open lab system (where the student is expected to complete laboratory work by the instructor's due date on his/her own time, as class schedules and lab equipment availability permit).

ET 1010 Applied Electricity (3) Provides basic theory together with appropriate shop experiences for introductory technical training in electrical principles. Includes basic circuits, Ohm's Law, A.C. and D.C. theory, as well as generation and application of electrical energy.

ET 1020 General Electronics (3) A general overview of several areas of electronics including the study of electronic measurements, active and passive devices, receiver and transmitter theory, basic digital theory, and electronic controls. Prerequisite: Not open to electricity and electronics majors or minors except air conditioning and refrigeration technology.

ET 1026 DC Circuit Analysis (4) Analysis and application of D.C. principles to passive networks. Laboratory experience in the use of basic test instruments. Prerequisite: IA&T 1040 or Math 1111 may be taken concurrently.

ET 1027 AC Circuit Analysis (4) Application of alternating current principles to resistive, capacitive, and inductive circuits. Phasor analysis of series-parallel impedance. Resonance and filters are covered. Laboratory experiments using typical test instruments. Prerequisites: Math 1112 or IA&T 1042 or either concurrently and ET 1026.

ET 2020 Industrial Electricity (3) Electrical practices as applied to modern industrial applications with an emphasis on the National Electrical Code, wiring diagrams, electrical distribution, and electrical/electronic control devices. Prerequisite: ET 1010 or ET 1027 or prior experience and consent of the instructor.

ET 2030 Introduction to Programmable Controllers (3) Installation, operation, and programming of programmable controllers/Programmable Logic Controllers (PLCs) with an emphasis upon laboratory activities. This course features both Allen-Bradley and Gould Modicon controllers. Prerequisite: ET 1010 or ET 1027, may be taken concurrently or with consent of instructor.

ET 2048 Active Electronic Devices (4) Theory of vacuum tube and semi-conductor operation and their application in selected circuits. Laboratory experiences include device testing, observation of characteristics, and circuit analysis techniques. Prerequisite: ET 1027 or concurrently.

ET 2050 Digital Principles and Applications (3) Binary numbers, logic gates, Boolean algebra, parity generation and detection, arithmetic circuits, flip-flops and latches, and troubleshooting digital circuits using current industry standard techniques. Prerequisite: ET 2048 or concurrently.

ET 3000 Operational Amplifiers--Theory and Applications (3) A study of integrated circuit operational amplifiers, their characteristics and a wide range of applications. Construction and testing of numerous circuits. Prerequisite: ET 2048.

ET 3014 Analog-Digital Circuitry (3) Counters, shift registers, monostable multivibrators, memories, A/D and D/A converters, phase-locked loops, digital simulation software, and troubleshooting digital circuits using current industry standard techniques. Prerequisite: ET 2050.

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ET 3015 Microprocessors: Theory and Application (3) The fundamental concepts of microprocessors including software development and hardware design. Design of input/output interface circuits together with numerous applications to industrial controls. Prerequisite: ET 2050.

ET 3017 Industrial Electronics (2) Analysis of selected industrial controls and components to include transducers, sensors, time delay circuits, motor controls, and thyristors. Emphasis on commercial programmable logic controller installation and programming. Practical applications of industrial electronic devices and systems and further development of troubleshooting skills. Prerequisite: ET 3000.

ET 3020 Electronic Circuit Design and Analysis (3) Design of basic power supply and power amplifier circuits. Use of vendor catalogs for selection and pricing of electronic component parts. Design and analysis of selected circuits with the aid of manufacturer's schematics and technical information. Prerequisite: ET 3000.

ET 3022 AC and DC Machines (3) Basic principles of alternating and direct current motors and generators including construction, theory of operation, industrial uses and maintenance considerations. Prerequisite: ET 2020 or consent of instructor.

ET 3030 Electrical Drawing and Computation (2) Planning and drawing of circuits; estimating and computing circuits, loads, materials, and costs. Prerequisites: ET 1010 or ET 2020 or either concurrently and Grap 1110.

ET 3032 Drafting for Electronics (3) Representation of block, schematic and wiring diagrams. Printed circuit board layout, assembly, drill and contour, and master artwork drawings. Problems involved in critical electronic component placement. Concepts of computer-aided drafting (CAD) as related to circuit design. Prerequisite: Grap 1110 and ET 3000.

ET 3034 Electrical Instruments and Measurements (3) Design, operation and calibration of multimeters, oscilloscopes, spectrum analyzers, and signal generators. Measurement of voltage, current, resistance, frequency and time. Prerequisite: ET 2050 and ET 3000 or concurrently.

ET 3038 Audio Systems (2) Principles of sound and acoustics: audio amplifiers, microphones, speakers, mixers, and equalizers; magnetic tape and disc recording; audio measurement techniques. Prerequisite: ET 3000 or concurrently.

ET 3040 Receiver Theory (3) HF, VHF, and UHF superheterodyne receiver design, alignment and troubleshooting. AM, FM, SSB, and digital receivers for commercial and military applications. Spread spectrum technology. Signal propagation methods. Prerequisite: ET 3000 or concurrently.

ET 3041 Communication Systems (4) A study of receiver and transmitter circuits and systems. Modulation methods, signal propagation, and antenna design. Practical alignment methods, measurement techniques, and troubleshooting procedures. Preparation for the F.C.C. commercial license. Prerequisite: ET 3000.

ET 3042 Transmitter Theory (3) Amplitude, frequency and pulse modulation techniques. Radio frequency oscillators, frequency synthesizers, multipliers and amplifiers. Antennas, transmission lines, and RF measurements. Preparation for the general commercial license. Prerequisite: ET 3000 or concurrently.

ET 3044 Ultra-High Frequencies and Microwaves (2) Principles and applications of line sections, wave guides and cavities; UHF tubes and oscillators; Klystrons, magnetrons, and traveling-wave tubes; microwave antennas; and radar and microwave systems. Prerequisite: ET 3000 or concurrently.

ET 3048 Control and Maintenance of Electrical Machinery (3) Analysis and application of electrical and electronic controls for industrial equipment.

Programmable Logic Controllers are emphasized.

Organization of an electrical maintenance group to perform the basic analysis of electrical malfunctions. Prerequisites: ET 2020 and ET 2030 or consent of instructor.

ET 4000 Special Projects in Electronics Technology (1-3) Investigation of contemporary problems and issues in electronics technology by selected individuals or groups. *May be repeated for a maximum of 6 semester hours.*

ET 4010 Computer Programming for Electronics Technology* (4) Contemporary computer programming languages for electronics technology. Programming techniques and skills as applied to troubleshooting industry standard computer hardware. *May be repeated. If repeated, a different programming language must be studied.* Prerequisite: ET 3015.

ET 4031 Introduction to Process Control* (3) Implementation, evaluation, tuning and troubleshooting of process control systems. Selection of sensing devices and final control elements. Emphasis on laboratory activities. Application of microprocessor-based systems including programmable controllers. Prerequisites: IA&T 2040 or concurrently, ET 2030 and ET 3015.

ET 4036 Microprocessor and Microcomputer Interfacing* (3) Input/output interfacing concepts as related to microprocessor and microcomputer systems. Hardware analysis of standard peripheral device operation and application including multiplexing, I/O control, A/D interfacing, and data communications. The development of test software and its application to industry standard systems troubleshooting. Prerequisites: ET 3014 or concurrently and ET 4010.

ET 4038 Microcomputer Systems Architecture and Design* (3) An in-depth study of the digital circuitry, systems design, and troubleshooting techniques used in selected microcomputers. Prerequisites: ET 3014 or concurrently and ET 3015.

ET 4040 Telecommunications* (3) An in-depth study of voice and data communications related to digital systems. Emphasis is placed on the detailed operation of current hardware and the development of troubleshooting skills. Prerequisites: ET 3014 or concurrently and ET 3015.

ET 4041 Advanced Microcomputer Systems Architecture* (3) Microprocessor, embedded controller, and embedded processor based systems. Emphasis is placed upon detailed circuit analysis of hardware currently used in industry and the development of troubleshooting software for these systems. Prerequisite: ET 4038.

ET 4042 Advanced Telecommunications* (3) A detailed examination of local and wide area networking concepts. Emphasis is placed on the analysis of current hardware circuitry and the development of up-to-date troubleshooting techniques. Prerequisite: ET 4040.

ET 4044 Video Systems* (3) Television cameras and the composite video signal. VHF, UHF, cable, and satellite TV distribution systems. Television receiver and monitor circuitry and troubleshooting techniques. Prerequisite: ET 3000.

ET 4046 Digital Signal Processing* (3) Principles of digital signal processing, operation and applications of digital signal processors, DSP programming, design and testing of digital filters, and use of commercial DSP software packages. Emphasis is placed upon developing system troubleshooting skills. Prerequisite: ET 4038.

*Not available for graduate credit.

ET 5010 Special Problems in Electronics Technology (2-6) Meets individual student needs for additional research and/or laboratory experiences in the development of technical knowledge and skills in electronics technology. *May be repeated for a maximum of 6 semester hours.*

Air Conditioning and Refrigeration

AIR CONDITIONING AND REFRIGERATION TECHNOLOGY, Associate in Science Degree

(22 000134)

						Sem. Hours	
FIRST YEAR REQUIREMENTS						31	
ACR	1111	Fund. of Air Conditioning	3	Grap	1110	Fundamentals of Drafting	3
ACR	2103	Principles of Refrigeration	3	IA&T	1040	Technical Mathematics I	3
ACR	2105	Prin. of Commercial Refrigeration	3	Engl	1020	Rhetorical Writing	3
ET	1010	Applied Electricity	3	Hist	1321	America & the Modern World II, 3 or	
ET	1026	DC Circuit Analysis	4	Hist	1351	History of the United States, 3	3
ET	2030	Intro. to Programmable Controllers	3				
SECOND YEAR REQUIREMENTS						33	
ACR	3101	Appl. Air Cond. & Refrigeration	3	ET	3022	AC & DC Machines	3
ACR	3105	Planning & Est. Environmental & Refrigeration Systems	2	ET	3030	Elec. Drawing & Computation	2
ACR	3107	Winter Envir. Comfort Systems	3	ET	3048	Control & Maint. of Elec. Mach.	3
ET	2020	Industrial Electricity	3	IA&T	3060	Technical Report Writing	2
						Departmentally approved electives	12
MINIMUM TOTAL						64	

ACR 1111 Fundamentals of Air Conditioning (3) The psychometrics of air, calculations of heat loads and conditioned air supply. Fundamentals of engineering as applied to the design of air conditioning systems.

ACR 2103 Principles of Refrigeration (3) Fundamental principles and their application to major refrigeration system components including tools, accessories and the refrigeration cycle. Emphasis on laboratory experiences.

ACR 2105 Principles of Commercial Refrigeration (3) Theory of operation of commercial equipment, construction, technical characteristics, and service problems in the refrigeration industry. Prerequisite: ACR 2103.

ACR 3101 Applied Air Conditioning and Refrigeration (3) Installation, operation, balancing, and troubleshooting refrigeration and air conditioning equipment with actual and simulated problems. Prerequisite: ACR 2103.

ACR 3105 Planning and Estimating Environmental and Refrigeration Systems (2) Principles of job planning, estimating, and contracting with related information on public and labor relations and business management in the field of refrigeration and air conditioning.

ACR 3107 Winter Environmental Comfort Systems (3) Engineering, installation, operation, and adjustment of residential and commercial winter indoor comfort systems. Actual and simulated service problems provided.

Industrial Management

IndM 4210 Industrial Management (3) A survey of operations management in industry today. Industrial management principles and applications, management science, operations analysis and design, manufacturing processes, process life cycle, production inventory, and quality control are emphasized.

IndM 4220 Work Design and Measurement (3) Design methods and work measurement in business and industry. Techniques of setting up time standards, time study, work sampling and simplification, and effect of automation on production.

IndM 4230 Quality Control Management (3) Overall approach to quality and the control activities of management. Technical aspects of management control systems, statistical analysis, statistical quality control, and management concepts are emphasized. Prerequisite: background statistics course.

IndM 4240 Plant Layout and Materials Handling (3) Principles and procedures of effective industrial plant layout, plant location and design, materials handling, and equipment installation.

IndM 4260 Industrial Supervision (3) Various types and styles of supervisory leadership in the industrial setting. Emphasis is placed on human relations aspects of leadership in the line and staff organizational structure.

IndM 5210 Human Factors in Engineering Design (3) Development of understanding of the design of systems so that human tasks and working environment are compatible with the capabilities and limitations of people. Attention is given to the systems approach in accident prevention, and methods engineering problems for optimum integration of

men and machine components.

IndM 5212 Production and Operations Management (3) Production/operations concepts with emphasis upon systems, systems design and analysis, strategies, productivity, planning, forecasting, deterministic and stochastic inventory control, MRP scheduling, and project planning.

IndM 5220 Applied Operations Research (3) Systems and modeling in industrial management situations. General models, and models such as linear programming, transportation assignment, dynamic programming, and queuing theory are discussed.

IndM 5230 Seminar in Industrial Management (1-3) To provide individual research and experimentation opportunities for industrial management majors. *May be repeated for a maximum of 3 semester hours.* Prerequisite: 10 semester hours of graduate study in industrial management.

IndM 5240 Engineering Economy (3) Principles and techniques needed for making decisions about the acquisition and retirement of capital goods by industry. Emphasis on techniques which produce long-run economy in industrial operations.

IndM 5260 Systems Analysis and Management Information Systems (3) Development of material requirements planning within the context of management information systems.

Graphics

In the Department of Graphics, the second digit in the course number stands for the following: 0--Graphic Arts, 1--Drafting, 2--Photography, 5--General.

DRAFTING TECHNOLOGY Functional Major, B.S. Degree

(43 000142)

		Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS		62
Grap 1100	Orientation to Drafting	1
Grap 1110	Fundamentals of Drafting	3
Grap 1120	Machine Drafting	3
Grap 2130	Technical Illustration	3
Grap 2150	Descriptive Geometry	3
Grap 2160	Structural Drafting	3
Grap 2170	Intro. to Computer Aided Drafting	3
Grap 3150	Civil Drafting	3
Grap 4180	Industrial Design	2
IndM 4210	Industrial Management	3
Mf&C 2020	Mechanics of Materials	3
Mf&C 2040	Materials Testing	2
Mf&C 4550	Principles of Numerical Control	3
IA&T 3060	Technical Report Writing	2
Math 1112	College Trigonometry	2
HRM 3920	Human Resource Management	3
MINOR NOT REQUIRED		
GENERAL EDUCATION REQUIREMENTS		40-43
Math 1111	Group C (required)	3
Phys 1101	Group D (required)	4
FREE ELECTIVES		19-22
MINIMUM TOTAL		124

DRAFTING TECHNOLOGY, Associate in Science Degree

ARCHITECTURAL DRAFTING Option, Associate in Science Degree (22 000215)

		Sem. Hours
FIRST YEAR REQUIREMENTS		30-31
Grap 1100	Orientation to Drafting	1
*Grap 1110	Fundamentals of Drafting	3
Grap 2150	Descriptive Geometry	3
Grap 2160	Structural Drafting	3
Grap 2170	Intro. to Computer Aided Drafting	3
ET 1010	Applied Electricity	3
Mf&C 1010	Materials for Mfg. & Construction	3
Engl 1020	Rhetorical Writing	3
*Grap 1110 must be taken first semester of enrollment or graduation will be delayed.		
SECOND YEAR REQUIREMENTS		31-32
Grap 2130	Technical Illustration	3
Grap 3150	Civil Drafting	3
*Grap 3160	Residential Arch. Drawing	3
Grap 4162	Commercial Arch. Drawing	3
IA&T 3060	Technical Report Writing	2
*Grap 3160 must be taken before or during fall semester or graduation will be delayed.		
MINIMUM TOTAL		62

COMPUTER-AIDED INDUSTRIAL DESIGN Option, Associate in Science Degree (22 000216)

		Sem. Hours
FIRST YEAR REQUIREMENTS		31-32
Grap 1100	Orientation to Drafting	1
*Grap 1110	Fundamentals of Drafting	3
*Grap 1120	Machine Drafting	3
*Grap 2150	Descriptive Geometry	3
Grap 2170	Intro. to Computer-Aided Drafting	3
Engl 1020	Rhetorical Writing	3
Phys 1101	College Physics I	4
Hist 1321	America & Modern World II, 3 or	3
Hist 1351	History of the United States, 3	3
*IA&T 1040 or Math 1111 and Grap 1110 must be taken the first semester of enrollment or graduation may be delayed. Grap 1120, Grap 2150, and IA&T 1042 or Math 1112 must be taken the second semester of enrollment or graduation will be delayed.		
MINIMUM TOTAL		62

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SECOND YEAR REQUIREMENTS						30-31
Grap	2130	Technical Illustration	3	*Grap	3175	Managing Computer & Reprod.
*Grap	3124	Production Design Drafting	3			Applications for Drafting
Grap	3126	Machine Design	3	Mf&C	3130	Machine Tool Technology
Grap	3170	Computer Drafting Systems	3	IA&T	3060	Technical Report Writing
						Departmentally approved electives
						Elective
						7-8
						3
*Grap 3124, and Grap 3175 must be taken before or during fall semester or graduation will be delayed.						
MINIMUM TOTAL						62

GRAPHIC ARTS TECHNOLOGY, Associate in Science Degree
(22 000145)

FIRST YEAR REQUIREMENTS						Sem. Hours
						30-31
*Grap	1010	Introduction to Graphic Arts	3	Math	1111	College Algebra, 3 or
*Grap	2022	Electronic Composition Systems	3	IA&T	1040	Technical Mathematics I, 3
*Grap	2030	Desktop Technology	3	Mf&C	2500	Applied Computer Technology, 2 or
*Grap	2032	Film Imaging Technology	3	CIS	1600	Principles of Computer
*Grap	2035	Image Assembly	3			Information Systems, 3
Engl	1020	Rhetorical Writing	3	Hist	1321	America & the Modern World II, 3 or
Chem	1110	Elementary Chemistry, 4 or		Hist	1351	History of the United States, 3
Phys	1100	Survey of Physics, 4	4			
*Grap 1010 must be taken during the first semester of enrollment or graduation will be delayed. Grap 2022, Grap 2030, Grap 2032, and Grap 2035 should be taken the second semester of enrollment or graduation may be delayed.						
SECOND YEAR REQUIREMENTS						32
Grap	3024	Flexographic Technology	3	Grap	3051	Graphic Arts Management
*Grap	3034	Lithographic Press Technology	3	*Grap	3016	Graphic Arts Practicum, 3 or
Grap	3040	Screen Printing	3	*IA&T	3022	Internship in Technology, 3
*Grap	3043	Binding & Finishing	3			Departmentally approved electives
Grap	3045	Substrates & Inks	3			11
*Grap 3043 and Grap 3034 must be taken during the fall semester of the second year or graduation will be delayed. Grap 3016 or IA&T 3022 should be taken during the final semester of enrollment.						
MINIMUM TOTAL						62

GRAPHIC ARTS TECHNOLOGY-MANAGEMENT Functional Major, B.S. Degree
(43 000146)

FUNCTIONAL MAJOR REQUIREMENTS						Sem. Hours
						65
Grap	1010	Introduction to Graphic Arts	3	Grap	3016	Graphic Arts Practicum, 3 or
Grap	2022	Electronic Composition Systems	3	IA&T	3022	Internship in Technology, 3
Grap	2030	Desktop Technology	3	IndM	4210	Industrial Management, 3 or
Grap	2032	Film Imaging Technology	3	Mgt	3310	Principles of Management, 3
Grap	2035	Image Assembly	3			Electives from one of the following areas
Grap	3034	Lithographic Press Technology	3			Area 1 Cost Analysis
Grap	3045	Substrates & Inks	3			Area 2 Graphic Design
Grap	3051	Graphic Arts Management	3			Area 3 Industrial Safety & Hygiene
Grap	3057	Graphic Arts Quality Assurance	3			Area 4 Industrial Training
Grap	4038	Principles of Color Reproduction	3			Area 5 Production Management & Supervision
Grap	4053	Graphic Arts Production Analysis	3			Area 6 Customer Service & Sales
Grap	4055	Printing Estimating	2			Area 7 Technical Application
Acct	2101	Principles of Financial Accounting	3			Area 8 Administration
Mgt	3325	Business Communications	3			List of courses available from Department of Graphics.
MINOR NOT REQUIRED						
GENERAL EDUCATION REQUIREMENTS						40-43
Chem	1110	Group D or		Mf&C	2500	Group H or
Phys	1100	Group D (required)	4	CIS	1600	Group H (required)
FREE ELECTIVES						16-19
MINIMUM TOTAL						124

GRAPHICS Minor for a Bachelor's Degree
(Central does not confer teacher certification for this minor)
(000147)

MINOR REQUIREMENTS						Sem. Hours
						20
Electives from the following						6
Grap	1010	Introduction to Graphic Arts	3	Electives (continued)		
Grap	1110	Fundamentals of Drafting	3	Grap	1210	Elementary Photography
						14
						Departmentally approved electives in graphics

PHOTOGRAPHY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)
(000148)

						Sem. Hours	
MINOR REQUIREMENTS						20-21	
Grap	1210	Elementary Photography	3	Grap	3250	Portrait Photography	3
Grap	2200	Color Transparency Photography	3	Grap	4260	Advertising Photography	3
Grap	2210	Appl. Photography	3	Elective in graphics			2-3
Grap	3200	Color Negative Photography	3				

Graphic Arts

Grap 1000 Orientation to Graphic Arts (1) Orientation to the philosophy, development, and current trends in the professional preparation for careers in graphic arts.

Grap 1010 Introduction to Graphic Arts (3) Study and application of the current graphic arts industrial processes, products, materials, tools and equipment. Laboratory experiences support lecture/theory content.

Grap 2022 Electronic Composition Systems (3) Typography, legibility, and type design as applied to high quality image output. Coordinating and interfacing of client generated type and graphics with professional level systems. Laboratory experiences support lecture/theory content. Prerequisites: Grap 1010 and keyboarding ability.

Grap 2030 Desktop Technology (3) Fundamentals of electronic copy preparation and comparison to manual methods of preparing camera ready copy. Emphasis on the application of desktop hardware and software for electronic page layout and image generation. Laboratory experiences support lecture/theory content. Prerequisite: Grap 1010.

Grap 2032 Film Imaging Technology (3) Investigation of photographic and electronic technology used to produce line, halftone and color separation negatives/positives for printing processes. Laboratory experiences support lecture/theory content. Prerequisite: Grap 1010.

Grap 2035 Image Assembly (3) Industrial techniques for assembling films for platemaking. Imposition methods, film contacting, image distortion, film compositing, prepress proofing, electronic masking, step and repeat, electronic prepress and lithographic platemaking are studied. Laboratory experiences support lecture/theory content. Prerequisite: Grap 1010.

Grap 3016 Graphic Arts Practicum (3) Supervised work on selected aspects of producing the printed product and/or managing a printing plant. *May be repeated for a maximum of 6 semester hours.* Prerequisite: 2.0 grade-point average overall; application approved by the Chair of the Department of Graphics.

Grap 3024 Flexographic Technology (3) Flexographic printing technology from prepress through postpress operations for both wide and narrow web applications. Instruction on rotary letterpress will also be included. Laboratory experiences support lecture/theory content. Prerequisite: Grap 1010.

Grap 3034 Lithographic Press Technology (3) Lithographic sheet fed and web press operation and maintenance with emphasis on sources of image problems. Solutions for interrelated substrate, ink, and plate problems. In-line finishing and image carrier technology as they relate to quality image transfer. Laboratory experiences support lecture/theory content. Prerequisite: Grap 1010.

Grap 3036 Offset Lithography (3) General photo-offset lithography from copy preparation through post-press operations. Laboratory experiences support lecture/theory content. Prerequisites: Grap 2022, Grap 2030, Grap 2032, Grap 2035 and Grap 3034.

Grap 3040 Screen Printing (3) Screen printing copy preparation, photographic and nonphotographic plates, emphasizing industrial methods and equipment. Laboratory experiences support lecture/theory content. Prerequisite: Grap 1010.

Grap 3043 Binding and Finishing (3) A survey of binding and finishing operations. Policies, techniques, operations, and equipment for cutting, folding, assembling, case binding, perfect binding, shipping, mailing, and numerous specialty finishing operations are included. Prerequisite: Grap 1010.

Grap 3045 Substrates and Inks (3) Properties, specification, pricing and procurement of ink and printing substrates (especially paper) relative to commercial printing with emphasis on offset lithography. Prerequisite: Grap 1010.

Grap 3051 Graphic Arts Management (3) Principles and practical application of management functions as related to the production of printed materials. Instruction includes classroom simulation of management roles. Prerequisite: 12 semester hours of graphic arts.

Grap 3057 Graphic Arts Quality Assurance (3) Application of statistical quality control as it relates to graphic arts production; includes material acceptance, process control, product evaluation, and problem solving techniques for management. Prerequisite: Grap 2032 or Grap 3034 or Grap 3045.

Grap 4014 Advanced Technical Problems in Graphic Arts (1-3) Individual/group work on recent developments and advanced technical concepts. Experimentation and technical exploration of content not available through formal course offerings in the department. By arrangement for qualified students. *May be repeated for a maximum of 6 semester hours.* Prerequisite: written contract/proposal with objectives and written department consent.

Grap 4038 Principles of Color Reproduction (3) Technical aspects of process color reproduction; includes color theory, ink evaluation, densitometry, tone reproduction, printing characteristics, color correction, gray balance, color separation, and proofing. Laboratory experiences support lecture/theory content. Prerequisite: Grap 2032.

Grap 4045 Color Electronic Prepress Systems (3) Study of color electronic prepress systems used in the graphic arts to manipulate and modify images for graphic design, photographic illustration, page layout, prepress assembly, and printing. Activities using computer application software are included. Laboratory experiences support lecture/theory content. Prerequisites: Grap 2022 or Grap 2030.

Grap 4053 Graphic Arts Production Analysis (3) A variety of printing requests are analyzed to determine printing specifications, production sequence, cost factors, material ordering, and technical problems that may arise during the actual printing. Course emphasis utilizes this analysis into a planning sequence of communications, scheduling, routing, dispatching, and work and material flow required for printing production. Prerequisites: Grap 2035, Grap 3034 and Grap 3045.

Grap 4055 Printing Estimating (2) Identification and determination of costs relative to materials, operations, and factors involved in the production of printed matter. Prerequisites: Grap 3051 and Grap 4053.

Drafting

Grap 1100 Orientation to Drafting (1) Orientation to the philosophy, development, and current trends in the professional preparation for careers in drafting.

Grap 1110 Fundamentals of Drafting (3) Multiview and pictorial technical drawing using freehand, manual and computer-aided drafting techniques. Drafting majors should take Grap 1100 concurrently.

Grap 1120 Machine Drafting (3) Working drawings of machine parts, using tables, tolerancing, sheet metal and welding drawings. Prerequisite: Grap 1110.

Grap 2130 Technical Illustration (3) Pictorial representation using various illustrative media. Prerequisite: Grap 1110.

Grap 2150 Descriptive Geometry (3) A basic course in graphic science for engineers, drafters or drafting teachers. Prerequisite: Grap 1110.

Grap 2160 Structural Drafting (3) A study of structural systems utilizing metal, concrete, masonry and wood, and including the development of appropriate engineering calculations and working drawings. Prerequisite: Grap 1110.

Grap 2170 Introduction to Computer-Aided Drafting (3) Fundamental applications of computer-aided drafting to the solution of two-dimensional drawing problems for industry. Prerequisite: Grap 1110.

Grap 3124 Production Design Drafting (3) Tool and die, jig and fixture, casting, weldment, and hydraulic/pneumatic plumbing design problems are studied and drawings are developed using manual and computer-aided drafting techniques. Prerequisite: Grap 1120.

Grap 3126 Machine Design (3) Drafting problems involving the elements of the designing and/or redesigning of mechanisms and machines. Prerequisites: Grap 1120 and Grap 2150.

Grap 3150 Civil Drafting (3) Civil drafting problems using survey data applicable to grading cuts and fills, drainage systems, municipal utilities, plotting and zoning are studied. Drawings are developed using manual and computer-aided drafting techniques. Prerequisite: Grap 1110.

Grap 3160 Residential Architectural Drawing (3) Principles of planning residential structures including selection of materials, methods of construction, and development of detailed working drawings. Prerequisite: Grap 1110.

Grap 3170 Computer Drafting Systems (3) Computer-aided drafting involving operating systems, programming languages, macros, networks, and customization of software. Prerequisite: Grap 2170.

Grap 3175 Managing Computer and Reproduction Applications for Drafting (3) Management of computer-aided drafting and design hardware, applications software, laboratories, and the media and methods of reproducing engineering documents. Prerequisite: Grap 2170.

Grap 4162 Commercial Architectural Drawing* (3) Light commercial architectural plans and problems are studied and drawings are developed using manual and computer-aided drafting techniques. Prerequisite: Grap 3160.

*Not available for graduate credit.

Grap 4170 Computer-Aided Drafting and Design (3) Advanced industrial applications of computer-aided drafting systems. Three dimensional modeling and design using interactive graphics techniques and standard design elements. Prerequisite: Grap 2170.

Grap 4180 Industrial Design (2) Study and application of the design process and design principles related to industrial products. Prerequisite: Grap 1110.

Photography

Grap 1210 Elementary Photography (3) Picture taking, film developing and making enlargements. Discussion of equipment and materials, composition and history of photography. (Student must furnish a focusing camera with adjustable f-stops and shutter speeds. Automatic cameras must have manual override. A light meter which is integrated, or separate from the camera, must be furnished.)

Grap 2200 Color Transparency Photography (3) In-depth experience in exposing and processing color transparency materials. Prerequisite: Grap 1210.

Grap 2210 Applied Photography (3) Theory and laboratory experiences involving problems associated with a variety of photographic situations applicable to commercial photography. Prerequisite: Grap 1210.

Grap 2220 Photographic Materials and Processes (3) Properties of photographic materials, processes and systems will be studied. Laboratory experiences include process control, masking, copying, duplicating, and processing positive and negative photographic materials. Prerequisite: Grap 1210.

Grap 2270 Zone System of Photography (3) Techniques for controlling tonal values in the black and white photographic process. Emphasis is on production and enhancement of photographic control through the acquisition and refinement of personal technique. Prerequisite: Grap 1210.

Grap 2280 Creative Photography (3) Analysis of a variety of processes and influences upon which the student can draw to develop their photographic sensibilities of creative self-expression. Prerequisite: Grap 1210.

Grap 3200 Color Negative Photography (3) In-depth experiences in exposing and printing color negatives to produce color prints. Prerequisites: Grap 1210 and 3 semester hours of photography.

Grap 3210 Law Enforcement Photography (3) Exploratory experiences in the accepted photographic techniques of law enforcement agencies. Prerequisite: Grap 1210.

Grap 3215 Photographer's Forum (0.5) Seminar for student portfolio presentation and for study of current events in photography through open discussions, activities, and outside speakers. *May be repeated for a maximum of 3 semester hours.* Prerequisite: Grap 1210 and 6 semester hours of photography coursework.

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Grap 3240 Nature and Scenic Photography (3)

Photographic techniques used to illustrate the natural features of plants, animals, and the landscape. The student must furnish a focusing 35mm or larger format camera with adjustable f-stops and shutter speeds and a macro lens, diopters, or other close-up equipment. Prerequisite: Grap 1210.

Grap 3250 Portrait Photography (3) Experiences in portrait photography with an emphasis on professional techniques, and the operation of specialized equipment utilized in the field. Prerequisite: Grap 1210.

Grap 3260 Slide Show Production (3) Provide knowledge and develop skill in planning, researching, photographing, sequencing, and producing slide presentations. Prerequisite: Grap 2200.

Grap 4222 Scientific and Technical Photography (3)

Theories and practices used in scientific and technical photography with emphasis on close-up, photomacrography, and photomicrography. Prerequisite: Grap 1210.

Grap 4250 Advanced Color Portraiture (3) Commercial photography providing experiences in posing, exposure, and composition for a color portrait. Precise camera room techniques will be emphasized to ensure the most salable product from machine proofing. Prerequisites: Grap 1210 and Grap 3250.

Grap 4252 Portfolio Photography (3)

Culminating experience in photography providing for the creation of a successful interview strategy and the production of a portfolio to reflect personal career goals. Prerequisite: 9 semester hours of photography.

Grap 4260 Advertising Photography (3) Theories and practices of advertising photography as a marketing medium with in-depth experience in procedures and techniques. Prerequisite: Grap 2210.

General

Grap 2500 Communication Technology (3) Technological concepts fundamental to the operation of common static, mechanical, electrical, and electromagnetic communication systems and their impact on individuals and groups.

Grap 4500 Special Projects in Graphics (1-3) Investigation of contemporary problems and issues in graphics by selected individuals or groups. *May be repeated for a maximum of 6 semester hours.*

Grap 4570 Computer Graphics (3) Computer generated presentation graphics utilizing a variety of software programs on numerous hardware configurations. Experiences will include production of laser prints, ink-jet prints, transparencies, color slides, and plots.

Grap 5500 Special Problems in Graphics (2-6) Meets individual student needs for additional research and/or laboratory experiences in the development of technical knowledge and skills in the areas of graphics. *May be repeated for a maximum of 6 semester hours.*

Human Environmental Sciences

In the Department of Human Environmental Sciences, the second digit in the course number stands for the following: 0--General, 1--Family Economics and Management, 2--Family and Individual Development, 3--Foods and Nutrition, 4--Textiles and Clothing, 5--Housing, Home Furnishings and Equipment, 6--Family Health, 7--Professional, 8--Hospitality.

Department of Human Environmental Sciences Statement of Policy

A grade of "C" or above required of all courses listed as curriculum requirements of all majors/minors.

CHILD DEVELOPMENT, Associate in Science Degree

(22 000115)

						Sem. Hours
FIRST YEAR REQUIREMENTS						32
HES	1220	Child Development	3	EdCI	2850	Creative Exp. for Young Children .. 3
HES	1230	Observation of Children	2	PE	2410	Movement Skills & Activities for Primary Grades
HES	1240	Prac. in Child Development	3			..... 2
HES	2310	Early Childhood Nutr. & Health	2	EdSp	2100	Ed. of the Exceptional Child
HES	3610	Family & Individual Health	2	SP&A	2000	Bases of Speech & Language
HES	1700	Introduction to Home Economics	3	Hist	1321	Am. & Modern World II, 3 or
IA&T	3060	Technical Report Writing	2	Hist	1351	History of the United States, 3
Art	3910	Art for Elementary Schools	3			..... 3
SECOND YEAR REQUIREMENTS						30
HES	2240	Field Exp. in Early Childhood	3	HES	3250	Org. & Adm. of Programs for Young Children
HES	3222	Early Childhood	3			..... 3
HES	3230	Family Syst. & Lifespan Dev.	3	Mus	3301	Music for Elementary Schools
HES	3240	Parent-Child Interaction	3	EdCI	3410	Children's Literature
				EdCI	4830	Early Childhood Education
						..... 3
						Departmentally approved electives
						..... 6
MINIMUM TOTAL						62

CLOTHING Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)
(000123)

				Sem. Hours	
MINOR REQUIREMENTS					24
HES	1020	Appl. Design in Home Economics	2	HES	2430 Fashion in Dress
HES	2110	Consumer Problems	3	HES	2442 Textiles
					13
				Departmentally approved electives	

DIETETICS Functional Major, B.S. Degree

(Registration as a dietitian requires internship beyond B.S. degree. Fulfills the "Didactic Program in Dietetics Academic Requirements" of the American Dietetic Association.)
(43 000116)

				Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS					68
HES	2110	Consumer Problems	3	HES	1700 Introduction to Home Economics
HES	2322	Food Preparation	3	Biol	2401 Anatomy & Physiology I
HES	3332	Quantity Food Prod. & Service	3	Biol	2402 Anatomy & Physiology II
HES	3333	Food Systems Management	3	Biol	3611 Microbiology
HES	3334	Food Service Equip. & Purch.	3	Chem	2651 Elementary Organic Chemistry
HES	3340	Nutrition	3	Chem	2652 Elementary Biochemistry
HES	3350	Community Nutrition	3	Acct	2101 Principles of Financial Acct.
HES	4326	Experimental Foods	3	Mgt	3310 Principles of Management
HES	4340	Advanced Nutrition	3	HRM	3920 Human Resource Management
HES	4342	Diet Therapy	3	Psy	4520 Statistics for the Behavioral Sciences
HES	4343	Medical Nutrition	3		
HES	4345	Senior Dietetics Seminar	3		
MINOR NOT REQUIRED					
GENERAL EDUCATION REQUIREMENTS					40-43
Chem	1110	Group D (required)	4	Soc	1800 Group F (required)
Psy	1100	Group F (required)	3		
FREE ELECTIVES					13-16
MINIMUM TOTAL					124

EARLY CHILDHOOD EDUCATION Minor, B.S. in Ed. Degree

See requirements as outlined in the Department of Curriculum and Instruction.

FASHION MERCHANDISING, Associate in Science Degree

(22 000508)

				Sem. Hours	
FIRST YEAR REQUIREMENTS					31
HES	1020	Appl. Design in Home Economics	2	Econ	1010 Principles of Economics
HES	1400	Intro. to Fashion Merchandising	3	Mkt	3400 Principles of Marketing
HES	1700	Introduction to Home Economics	3	Psy	1100 General Psychology
Mf&C	2500	Applied Computer Technology	2	Hist	1321 Am. & Modern World II, 3 or
SpCm	1000	Public Speaking	3	Hist	1351 History of the United States, 3
Engl	1020	Rhetorical Writing	3	Elective in math	
SECOND YEAR REQUIREMENTS					33
HES	2424	Clothing Construction	3	HES	3444 Fashion Products
HES	2430	Fashion in Dress	3	Acct	2101 Principles of Financial Acct.
HES	2440	Fashion Merchandising Practicum	3	Mkt	3410 Retail Management
HES	2442	Textiles	3	Mkt	3420 Principles of Advertising
HES	3425	Apparel Performance Evaluation	3	Mkt	3430 Personal Selling
HES	3440	Fashion Promotion	3		
MINIMUM TOTAL					64

52 Human Environmental Sciences

FASHION: TEXTILES AND CLOTHING IN BUSINESS
Functional Major, B.S. Degree
 (43 000118)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						70	
HES	1020	Appl. Design in Home Economics	2	HES	3510	Housing & Home Furnishings	3
HES	2110	Consumer Problems	3	HES	1700	Introduction to Home Economics	3
HES	1400	Intro. to Fashion Merchandising	3	HES	4710	Internship in Home Economics	3
HES	2424	Clothing Construction	3	HES	4720	Demonstration Techniques	2
HES	2430	Fashion in Dress	3	HES	4745	Senior Seminar	3
HES	2442	Textiles	3	Acct	2101	Principles of Financial Acct.	3
HES	3425	Apparel Performance Evaluation	3	Mgt	3310	Principles of Management	3
HES	3440	Fashion Promotion	3	Mkt	3400	Principles of Marketing	3
HES	3444	Fashion Products	3	Mkt	3410	Retail Management	3
HES	4434	Fashion History	3	Mkt	3420	Principles of Advertising	3
HES	4442	Advanced Textiles	3	Mkt	3430	Personal Selling	3
HES	4444	Fashion Merchandising	3	Mkt	3480	Consumer Behavior	3
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS						41-43	
Chem	1110	Group D (required)	4	CIS	1600	Group H (required)	3
Econ	1010	Group F (required)	3				
FREE ELECTIVES						11-13	
MINIMUM TOTAL						124	

FOODS Minor for a Bachelor's Degree
 (Central does not confer teacher certification for this minor)
 (000124)

						Sem. Hours	
MINOR REQUIREMENTS						24	
HES	2110	Consumer Problems	3	HES	3333	Food Systems Management	3
HES	2322	Food Preparation	3	HES	3334	Food Service Equip. & Purch.	3
HES	3324	Marketing & Serving	3	HES	3340	Nutrition	3
HES	3332	Quantity Food Prod. & Service	3	Acct	2101	Principles of Financial Acct.	3
GENERAL EDUCATION REQUIREMENTS (Chem 1110 Group D is required)							

GENERAL HOME ECONOMICS Major, B.S. Degree
 (43 000121)

						Sem. Hours
MAJOR REQUIREMENTS						47
HES	1020	Appl. Design in Home Economics	2	Departmentally approved electives from one		
HES	2110	Consumer Problems	3	of the following areas		
HES	1220	Child Development	3	Area 1	Family Economics & Management	
HES	3230	Family Sys. & Lifespan Development	3	*Area 2	Foods & Nutrition	
HES	1700	Introduction to Home Economics	3	**Area 3	Textiles & Clothing	
*HES	1310	Intro. to Foods & Nutrition	3	Area 4	Family Dev. & Comm. Services	
**HES	2410	Textiles & Clothing Fund.	3	Area 5	Child Development	
MINOR REQUIREMENTS						18-25
GENERAL EDUCATION REQUIREMENTS						39-43
FREE ELECTIVES						9-20
MINIMUM TOTAL						124

*HES 1310 is not available for credit to students choosing Area 2, Foods & Nutrition.
 **HES 2410 is not available for credit to students choosing Area 3, Textiles & Clothing.

HOME ECONOMICS Minor, B.S. in Ed. Degree
 (Certification to teach general home economics in grades 5-9 available with
 middle school-junior high school functional major. Elementary education functional majors
 may use this as an area of concentration.)
 (000122)

						Sem. Hours	
MINOR REQUIREMENTS						25	
HES	1020	Appl. Design in Home Economics	2	HES	1310	Intro. to Foods & Nutrition	3
HES	2110	Consumer Problems	3	HES	2424	Clothing Construction	3
HES	1220	Child Development	3	HES	2442	Textiles	3
HES	1240	Prac. in Child Development	2	HES	3510	Housing & Home Furnishings	3
HES	3230	Family Syst. & Lifespan Development	3				

HOME ECONOMICS Minor for a Bachelor's Degree(Except for a B.S. in Ed. Degree)
(000225)

						Sem. Hours	
MINOR REQUIREMENTS						20-21	
HES	2110	Consumer Problems	3	HES	1310	Intro. to Foods & Nutrition	3
HES	1220	Child Development	3	HES	2410	Text. & Clothing Fund.	3
HES	3230	Family Sys. & Lifespan Development	3	HES	3510	Housing & Home Furnishings	3
				Elective in human environmental sciences		2-3	

HOTEL AND RESTAURANT ADMINISTRATION Functional Major, B.S. Degree

(43 000205)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						68	
HES	2110	Consumer Problems	3	HES	3860	Beverage Mgt. & Marketing	3
HES	2322	Food Preparation	3	HES	4800	Hotel & Restaurant Management	3
HES	3332	Quantity Food Prod. & Service	3	HES	4830	Hotel-Res. Sanitation & Safety	2
HES	3333	Food Systems Management	3	HES	4840	Legal Asp. of Hotel & Res. Mgt.	3
HES	3334	Food Service Equip. & Purch.	3	HES	4850	Hotel & Res. Equip. & Furn.	3
HES	1700	Introduction to Home Economics	3	Acct	2101	Principles of Financial Acct.	3
HES	4710	Internship in Home Economics	5	Acct	2102	Principles of Managerial Acct.	3
HES	4720	Demonstration Techniques	2	Mgt	3310	Principles of Management	3
HES	4745	Senior Seminar	3	Mgt	3325	Business Communications	3
HES	3800	Front Office Oper. & Management	3	HRM	3920	Human Resource Management	3
HES	3844	Dining Room Management	3	Mkt	3400	Principles of Marketing	3
HES	3850	Plant Operation & Maint. Mgt.	2				
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS						41-43	
Chem	1110	Group D (required)	4	CIS	1600	Group H (required)	3
Econ	1010	Group F (required)	3				
FREE ELECTIVES						13-15	
MINIMUM TOTAL						124	

VOCATIONAL HOME ECONOMICS Functional Major, B.S. in Ed. Degree

(Certification to teach vocational home economics in grades 9-12)

(41 000132)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						57	
HES	1020	Appl. Design in Home Economics	2	HES	2424	Clothing Construction	3
HES	2110	Consumer Problems	3	HES	2430	Fashion in Dress	3
HES	3120	Family Resource Management	3	HES	2442	Textiles	3
HES	1220	Child Development	3	HES	2520	Household Equipment	3
HES	1240	Prac. in Child Development	3	HES	3510	Housing & Home Furnishings	3
HES	3230	Family Sys. & Lifespan Dev.	3	HES	3610	Family & Individual Health	2
HES	3240	Parent-Child Interaction	3	HES	1700	Introduction to Home Economics	3
HES	2322	Food Preparation	3	HES	3710	Org. of Voc. Home Econ. Ed.	2
HES	3324	Marketing & Serving	3	HES	3750	Coordination of Occupational	
HES	3340	Nutrition	3	Home Economics Prog.		2	
				Biol	2401	Anatomy & Physiology I	4
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS						40-42	
Chem	1110	Group D (required)	4	PolS	1510	Group F (required)	3
Mf&C	2500	Group H (required)	2	Psy	4230	Psy. of Adolescence	3
				Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.			
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)						26	
				This includes 3 s.h. of "special methods in major field" required for certification. Students shall substitute			
				HES 3710 for EdCI 4500.			
FREE ELECTIVES						0-1	
MINIMUM TOTAL						124	

General

HES 1010 Family Living (3) Development of individual's awareness of attitudes and practices that contribute to effective family living.

HES 1020 Applied Design in Home Economics (2) Application of design elements and principles to clothing, foods, and home interiors.

HES 4000 Special Projects in Home Economics (1-3) Investigation of contemporary problems and issues in

home economics. *May be repeated for a maximum of 6 semester hours.*

HES 6080 Research in Home Economics (2-3) Independent investigation of a specific problem. *May be repeated for a maximum of 6 semester hours.* Prerequisite: IA&T 5130 or EdCI 5900 or equivalent.

HES 6090 Thesis (6) Special investigation of an approved problem based on a prospectus in the area of home economics resulting in a formal thesis. Prerequisites: consent and IA&T 5130 or EdCI 5900 or equivalent.

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Family Economics and Management

HES 2110 Consumer Problems (3) Assists students in becoming aware of the rights and responsibilities of the consumer in the economy and the resulting relationship to market operations.

HES 3120 Family Resource Management (3) Effective and efficient management of family resources to maximize personal and family satisfactions. Prerequisite: HES 2110.

HES 4150 Special Problems in Family Economics and Management (2-3) Recent trends. Group and individual problems which will include reports, discussions, bibliographies, research, and experiments. Prerequisite: HES 3120.

HES 5160 Seminar in Family Economics and Management (2-3) Intensive investigation and discussion of specific problems in family economics or management. Research problems may lead to a thesis. Prerequisite: consent of instructor.

Family and Individual Development

HES 1220 Child Development (3) An introduction to the field of child development. Emphasis is on dynamic forces underlying growth and change. Techniques in the study and observation of children.

HES 1230 Observation of Children (2) Techniques of observation and actual observation of children.

HES 1240 Practicum in Child Development (1-3) Student observation and participation with preschool children. Students have the option of working with 2, 3 or 4 year old children. *May be repeated for a maximum of 6 semester hours.* Prerequisite: HES 1220.

HES 2240 Field Experience in Early Childhood (3) Supervised training and work experience in an approved child care establishment with emphasis on guiding young children in all aspects of development within the group setting. Prerequisites: consent of instructor and 30 semester hours completed in program.

HES 3222 Early Childhood (3) The physical, motor, intellectual, social, and emotional development of the child. Development of an intelligent philosophy of adult-child relationships. Prerequisite: HES 1240.

HES 3230 Family Systems and Lifespan Development (3) Family relationships and human development with focus on change over the course of the family life cycle.

HES 3240 Parent-Child Interaction (3) Development and understanding of adult-child interaction in the family setting.

HES 3250 Organization and Administration of Programs for Young Children (3) Methods and procedures for setting up and administering a variety of programs for young children. Includes study of state licensing. Prerequisite: HES 1240 or consent of instructor.

HES 4250 Special Problems in Family and Individual Development (2-3) A supervised individual study or group examination of selected recent trends in family or individual development. May include reports, discussions, bibliographies, research, and experiments. *May be repeated for a maximum of 6 semester hours.* Prerequisite: HES 1240 or equivalent.

HES 5236 Current Issues in Family Development (2) Study of current issues to assist in understanding family development. *May be repeated for a total of 4 semester hours.* Prerequisite: HES 3230 or equivalent.

HES 5250 Special Problems in Lifespan of the Family (2) Study of a variety of topics dealing with the development of families through the life cycle. *May be repeated for a maximum of 6 semester hours.* Prerequisite: 6 semester hours in family/individual development or consent.

HES 5280 Professional Issues in Sexuality Education (3) Examination of issues related to sexuality education including program models, role of parents, research, and resource development with an emphasis on preparation for certification by the American Association of Sex Educators, Counselors and Therapists. Prerequisite: Nur 4030 or departmental approval.

HES 6260 Seminar in Family and Individual Development (2-3) Intensive investigation and discussion of particular problems with family and individual development. Students may carry on minor research studies of a professional nature which may lead to a thesis. *May be repeated for a maximum of 6 semester hours.* Prerequisite: background in child development and family living.

Foods and Nutrition

HES 1310 Introduction to Foods and Nutrition (3) A composite course including selection, planning, and nutritional content of food. Not open to foods and nutrition or dietetics majors.

HES 2310 Early Childhood Nutrition and Health (2) Application of principles of nutrition, significance of food habits, including the influences of family living, cultural patterns, and commercialization in relation to the health of young children.

HES 2322 Food Preparation (3) Properties and preparation of grains, fruits, vegetables, milk products, protein foods, fats, sugar products, and flour mixtures through demonstrations and laboratory experiences. Prerequisite: Chem 1110 or Chem 1131.

HES 3324 Marketing and Serving (3) Consumer-producer problems related to purchasing and serving of meals for different occasions and budgets. Prerequisite: HES 1310 or HES 2322.

HES 3332 Quantity Food Production and Service (3) Principles and standard methods of quality food

production, menus, and service in institutions and their application in work experience. Prerequisite: HES 2322.

HES 3333 Food Systems Management (3) Organization and management in food service areas including administrative responsibilities, qualifications, personnel management, and cost control. Prerequisite: HES 3332 or concurrently and Acct 2101.

HES 3334 Food Service Equipment and Purchasing (3) Selection, layout and maintenance of equipment in large quantity food service areas. Also a study of food purchasing for institutions. Prerequisite: HES 3332 or concurrently.

HES 3340 Nutrition (3) Digestive process and fundamental principles of nutrition and their application to the feeding of individuals. Prerequisite: Chem 1110 or Chem 1131.

HES 3350 Community Nutrition (3) Public health nutrition and nutrition care delivery in community programs. Prerequisite: HES 3340.

HES 4326 Experimental Foods (3) An experimental approach to the study of factors which influence the behavior of foods. Group and individual experiments. Prerequisite: HES 2322 or equivalent.

HES 4340 Advanced Nutrition (3) An in-depth study of human nutrition and the evaluation of nutritional status. Prerequisites: Biol 2402, HES 3340 and Chem 2652 or Chem 4421.

HES 4341 Child Nutrition (2) Nutritive requirements of mothers during pregnancy and lactation and of children during early childhood. Bases of determining reliability of nutrition information. Prerequisite: HES 1310 or HES 3340.

HES 4342 Diet Therapy (3) Role of nutrition in the prevention and dietary treatment of disease. Prerequisites: Biol 2402, HES 3340 and Chem 2652 or Chem 4421.

HES 4343 Medical Nutrition* (3) A case study oriented approach to nutritional medicine with an in-depth emphasis on pathophysiology and the nutritional care plan in the prevention and treatment of disease. Prerequisite: HES 4342 or concurrently.

HES 4345 Senior Dietetics Seminar* (3) Philosophy and current issues and trends in dietetics. Group and individual problems which will lead to investigation of individual research problem. Prerequisites: Psy 4520 or equivalent and senior class standing.

*Not available for graduate credit.

HES 4350 Special Problems in Foods and Nutrition (2-3) An in-depth study of human nutrition; some foods emphasis. Group and/or individual problems including reports, discussion, bibliographies, research, and experiments. *May be repeated for a maximum of 6 semester hours.* Prerequisites: HES 3340 and Biol 2402.

HES 4351 Geriatric Nutrition (2) Dietary needs and feeding of the elderly. Prerequisite: HES 3340 or consent.

HES 5360 Seminar in Foods and Nutrition (3) Intensive investigation and discussion of specific problems in foods and nutrition. Minor professional research problems may lead to a thesis. *May be repeated for a maximum of 6 semester hours.* Prerequisite: HES 3340.

Textiles and Clothing

HES 1400 Introduction to Fashion Merchandising (3) Survey of the field of fashion merchandising. Emphasis on trends and developments of fashion marketing operations.

HES 2410 Textiles and Clothing Fundamentals (3) Application of clothing selection and design principles to career apparel. Business applications of textile selections made in the food service and hospitality industry and child care centers. Prerequisite: HES 1700 for human environmental sciences majors.

HES 2424 Clothing Construction (3) Principles and techniques of making alterations in commercial patterns, clothing construction, and care and use of the sewing machine.

HES 2430 Fashion in Dress (3) Wardrobe planning from aesthetic, social, psychological, and economic viewpoints. Prerequisite: HES 1020 or equivalent.

HES 2440 Fashion Merchandising Practicum (3) Supervised fashion merchandising--training and experience in an approved retail establishment with emphasis on apparel selection, merchandise sales, and floor management. Prerequisites: 30 hours completed in program and consent of instructor.

HES 2442 Textiles (3) Characteristics of fibers, yarns, finishes and consideration of fabric construction, color application. Textile behavior, performance, maintenance

and legislative developments pertaining to textiles.

Prerequisite: sophomore standing.

HES 3425 Apparel Performance Evaluation (3) Principles and techniques of fitting and evaluating material, construction, finishes, and quality of ready-to-wear garments. Prerequisite: HES 2424 and HES 2442.

HES 3440 Fashion Promotion (3) Researching, planning, and presenting fashion promotion activities appropriate for the apparel and textile industries, including fashion show production.

HES 3444 Fashion Products (3) Production and merchandising of fashion products, their relationship to industrial trends and the economy. Prerequisites: 3 semester hours of clothing construction, HES 2442 and Econ 1010.

HES 4422 Tailoring (3) Construction of custom tailored garment; comparison of tailoring methods, fitting problems and their treatment. Prerequisite: 3 semester hours of clothing construction.

HES 4424 Pattern Design (3) The design and construction of garments from a basic pattern, using the principles of art as applied to dress design. Prerequisites: HES 2430 and 3 semester hours of clothing construction.

HES 4427 Dressmaking (2) Advanced clothing construction with emphasis on custom dressmaking techniques. Analyzes and compares home sewing, couture design, and quantity production.

HES 4434 Fashion History (3) Analysis of the evolution of fashion in Western civilization. Prerequisite: HES 2430.

HES 4442 Advanced Textiles (3) Comparative study of factors influencing the properties of fibers and fabrics as well as the performance of textile and apparel products. Lab period is used to test textile performance with standardized test procedures. Prerequisites: Chem 1110 or equivalent and HES 2442.

HES 4444 Fashion Merchandising (3) Principles and practices of fashion manufacturing and merchandising. Prerequisites: HES 3444 and Mkt 3410.

HES 4450 Special Problems in Textiles and Clothing (2-3) Recent trends. Group and individual problems which will include reports, discussions, bibliographies, research, and experiments. *May be repeated for a maximum of 6 semester hours.* Prerequisite: HES 2442.

HES 5460 Seminar in Textiles and Clothing (2-3) Investigation and discussion of particular problems in human environmental sciences. Students may carry on minor research studies of a professional nature which may lead to a thesis.

Housing, Home Furnishings and Equipment

HES 2520 Household Equipment (3) Selection, use and care of major equipment and small appliance products found in the residential unit. Technical aspects of energy, decision-making and consumer rights and responsibilities.

HES 3510 Housing and Home Furnishings (3) Housing and home furnishing problems in relation to family living. Application of art principles to selecting, decorating, and furnishing the home. Prerequisite: HES 1020.

HES 4510 Home Interiors (3) Applications of textile and design principles to selecting, decorating, and furnishing the home. Study of the relationship of architectural and furniture styles to contemporary home furnishings. Prerequisites: HES 1020 and HES 2442 or equivalent.

HES 5510 Family Housing (2) Social, psychological, economic, and design aspects of American family housing.

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Needs, conditions, types of dwellings. Role of local, state, and federal governments in housing.

Family Health

HES 3610 Family and Individual Health (2) Concepts of family health maintenance and practical knowledge of care for illness in the home not requiring professional skill.

Professional

HES 1700 Introduction to Home Economics (3) Philosophy and current issues relative to areas of specialization and career opportunities in home economics. Overview of individuals and their interaction with the human and physical environment related to human growth and development, society, the economy, and technology. Must be taken first year in human environmental sciences program.

HES 3710 Organization of Vocational Home Economics Education (2)

Preparation to teach vocational home economics. The organization and philosophy of vocational education and related legislation, home economics program planning, lesson planning and resource selection. Prerequisites: EdCI 2100 and 10 semester hours of human environmental sciences courses including HES 1700.

HES 3750 Coordination of Occupational Home Economics Programs (2) Development of home economics occupational programs on the secondary level.

Responsibilities of the teacher, student, coordinator, advisory council, school, and employer will be studied. Prerequisite: HES 3710.

HES 4710 Internship in Home Economics (3-6) Provides experience for students in cooperating businesses and agencies/organizations. *May be repeated for a maximum of 12 semester hours with no more than 6 semester hours graduate credit.* Prerequisites: 20 semester hours of major course offerings; undergraduate grade-point average of C or above; departmental approval.

HES 4720 Demonstration Techniques (2) Objectives and basic techniques in planning and presenting classroom and commercial demonstrations, including television programs. Prerequisite: basic human environmental sciences courses.

HES 4745 Senior Seminar* (3) Philosophy, current issues and trends in human environmental sciences related occupations. Focus on problem-solving styles leading to group and individual research problems. Prerequisite: senior standing and approval of Department Advisor.

*Not available for graduate credit.

HES 4750 Curriculum in Home Economics Education (2) Design of programs and courses for consumer homemaking or occupational home economics education including theory, principles, development and implementation, federal and state guidelines, trends and issues. Prerequisite: EdCI 4740 or equivalent.

HES 5740 Current Topics in Home Economics Education (2) Changes evolving in our society which affect the teaching of home economics. *May be repeated for a maximum of 6 semester hours.* Prerequisite: B.S. in Ed. degree in home economics.

HES 5760 Seminar in Home Economics (2-3) Studies in specialized area problems in home economics with emphasis on individual investigation. *May be repeated for a maximum of 6 semester hours.*

Hospitality

HES 3800 Front Office Operation and Management (3) Function, procedures, systems and management of the front office within the lodging industry. Delineation of relationships between front office and other hotel department functions.

HES 3850 Plant Operation and Maintenance Management (2) Problems relating to building and plant maintenance. Maintenance and engineering management, organization problems, physical plant maintenance and mechanical maintenance topics as they relate to institutional management are developed.

HES 3844 Dining Room Management (3) Develop knowledge and skills necessary for managing the front-of-house areas of food service operations. Prerequisite: HES 2322.

HES 3860 Beverage Management and Marketing (3) An historic perspective of alcoholic beverages and operations. Management's rights, obligations and duties to guests, employees and the public. Merchandising techniques, target marketing and point of sale opportunities for the beverage operation.

HES 4800 Hotel and Restaurant Management (3) Specialized managerial functions involved in operation of hotels, restaurants, and other facilities in the hospitality industry.

HES 4830 Hotel-Restaurant Sanitation and Safety (2) Sanitation and safety procedures, laws and policies for operations in the hotel-restaurant industry. Prerequisites: HES 2322 and HES 2410.

HES 4840 Legal Aspects of Hotel and Restaurant Management (3) Examination of federal and state laws, including judicial interpretations relevant to hotel and restaurant operations, as well as tort, negligence and criminal liability. Methods for prevention of legal action will be investigated.

HES 4850 Hotel and Restaurant Equipment and Furnishings (3) Selection, layout, furnishing and operations of equipment in hotel and restaurant facilities. Design and decor of interiors and exteriors.

Manufacturing and Construction

In the Department of Manufacturing and Construction, the second digit in the course number stands for the following:
 0--General, 1--Metals, 2--Woods, 3--Building Construction, 4--Plastics, 5--Manufacturing.

Construction

CONSTRUCTION SCIENCE-MANAGEMENT TECHNOLOGY Functional Major, B.S. Degree (43 000217)

					Sem. Hours		
FUNCTIONAL MAJOR REQUIREMENTS					77		
Mf&C	1010	Materials for Mfg. & Construction	3	Grap	1110	Fundamentals of Drafting	3
Mf&C	2020	Mechanics of Materials	3	IA&T	3022	Internship in Technology	1
Mf&C	2040	Materials Testing	2	Math	1112	College Trigonometry	2
Mf&C	2050	Applied Strength of Materials	2	Math	1131	Calculus for Business & Econ.	3
Mf&C	1300	Construction Practices	2	Math	3311	Statistics I	3
Mf&C	1301	Sem. in Construction Mgt.	2	Acct	2101	Principles of Financial Acct.	3
Mf&C	2310	Construction Techniques	2	Mgt	3310	Principles of Management	3
Mf&C	2320	Heavy Equipment	3	Grap	3160	Residential Arch. Drawing, 3 or	
Mf&C	3310	Construction Estimating	3	Grap	2160	Structural Drafting, 3 or	
Mf&C	3320	Prin. of Construction Management	3	Grap	3150	Civil Drafting, 3	3
Mf&C	3330	Building Codes & Code Admin.	3	Phys	1102	College Physics II, 4 or	
Mf&C	3340	Surveying & Const. Layout	3	Chem	1110	Elementary Chemistry, 4	4
Mf&C	3350	Wood Structures	2	Acct	2102	Principles of Managerial Acct. 3, or	
Mf&C	3360	Concrete Structures	2	Mkt	3400	Principles of Marketing, 3	3
Mf&C	3370	Steel Structures	2	HRM	3920	Human Resource Management, 3 or	
Mf&C	4310	Construction Safety	3	Fin	3805	Real Estate Prin. & Practices, 3 or	
Mf&C	4330	Mechanical Systems for Buildings	3	Fin	4803	Risk Management--Property &	
Mf&C	4350	Scheduling for Mfg. & Const.	3			Liability Insurance, 3	3
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS							41-43
Math	1111	Group C (required)	3	Econ	1010	Group F (required)	3
Phys	1101	Group D (required)	4	CIS	1600	Group H (required)	3
FREE ELECTIVES							4-6
MINIMUM TOTAL							124

CONSTRUCTION TECHNOLOGY, Associate in Science Degree (22 000150)

					Sem. Hours		
FIRST YEAR REQUIREMENTS					30		
Mf&C	1010	Mat. for Mfg. & Construction	3	Engl	1020	Rhetorical Writing	3
Mf&C	1300	Construction Practices	2	Math	1111	College Algebra	3
ET	1010	Applied Electricity	3	Math	1112	College Trigonometry	2
ACR	1111	Fund. of Air Conditioning	3	Hist	1321	Am. & Modern World II, 3, or	
Grap	1110	Fundamentals of Drafting	3	Hist	1351	History of the United States, 3	3
Phys	1101	College Physics I	4			Applied Phys. Ed.	1
SECOND YEAR REQUIREMENTS							33
Mf&C	2020	Mechanics of Materials	3	ET	3030	Electrical Drawing & Computation	2
Mf&C	2310	Construction Techniques	2	Grap	3160	Residential Arch. Drawing	3
Mf&C	3310	Construction Estimating	3	IA&T	3060	Technical Report Writing	2
Mf&C	3320	Prin. of Construction Mgt.	3	Grap	2160	Structural Drafting, 3 or	
Mf&C	3340	Surveying & Construction Layout	3	Grap	3150	Civil Drafting, 3	3
Mf&C	3350	Wood Structures	2	Grap	4162	Commercial Arch. Draw., 3 or	
Mf&C	3360	Concrete Structures	2	Mf&C	3330	Bldg. Codes & Code Adm., 3	3
Mf&C	3370	Steel Structures	2				
MINIMUM TOTAL							63

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Manufacturing

INDUSTRIAL SCIENCE Functional Major, B.S. Degree

						Sem. Hours	
CORE REQUIREMENTS						40	
Mf&C	1010	Materials for Mfg. & Construction	3	Mf&C	4562	Computer Numerical Control	3
Mf&C	1510	Intro. to Manufacturing Processes	3	Grap	1110	Fundamentals of Drafting	3
Mf&C	2020	Mechanics of Materials	3	Grap	1120	Machine Drafting	3
Mf&C	2040	Materials Testing	2	IA&T	3060	Technical Report Writing	2
Mf&C	3130	Machine Tool Technology	3	Math	1112	College Trigonometry	2
Mf&C	3510	Production Planning & Analysis	3	Math	1412	Intro. to BASIC Programming	1
Mf&C	4520	Robotics	3	Math	1131	Calculus for Bus. & Econ., 3 or	
Mf&C	4550	Principles of Numerical Control	3	Math	2221	Foundations of Geometry, 3	3

Select one of the following options:

MANAGEMENT TECHNOLOGY Functional Major Option, B.S. Degree (43 000218)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						70	
Core Requirements						40	
Mf&C	1501	Sem. in Mfg. Engineering Tech.	2	SS&T	3430	Industrial Hazard Control	3
Mf&C	3410	Plastics Technology	3	Chem	1110	Elementary Chemistry, 4 or	
Mf&C	3520	Manufacturing Cost Estimating	3	Phys	1102	College Physics II, 4	4
Mf&C	3530	Prod. Insp. & Quality Assurance	3	Electives from the following			3
Mf&C	4350	Scheduling for Mfg.& Const.	3	Mf&C	4000	Special Projects in Mf&C	2
Mf&C	4570	Industrial Production	3	IndM	4220	Work Design & Measurement	3
IndM	4260	Industrial Supervision	3	IndM	4240	Plant Layout & Mat. Handling	3
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS						40-42	
Math	1111	Group C (required)	3	Econ	1010	Group F (required)	3
Phys	1101	Group D (required)	4	Mf&C	2500	Group H (required)	2
FREE ELECTIVES						12-14	
MINIMUM TOTAL						124	

MECHANICAL TECHNOLOGY Functional Major Option, B.S. Degree (43 000219)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						71-72	
Core Requirements						40	
Mf&C	1501	Sem. in Mfg. Engineering Tech.	2	Chem	1110	Elementary Chemistry	4
Mf&C	2050	Applied Strength of Materials	2	Chem	1131	General Chemistry I, 5 or	
ET	1010	Applied Electricity	3	Phys	1102	College Physics II, 4	4-5
ET	2030	Intro. to Programmable Controllers	3	BLaw	2720	Legal Environment of Bus., 3 or	
Grap	3124	Production Design Drafting	3	Acct	2101	Prin. of Financial Acct., 3	3
Pr&T	4032	Hydraulics & Pneumatics	3	Mf&C	4000	Special Proj. in Mf&C, 1 or	
SS&T	3430	Industrial Hazard Control	3	IA&T	3022	Internship in Technology, 1	1
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS						40-42	
Math	1111	Group C (required)	3	Econ	1010	Group F (required)	3
Phys	1101	Group D (required)	4	Mf&C	2500	Group H (required)	2
FREE ELECTIVES						11-13	
MINIMUM TOTAL						124	

INDUSTRIAL TECHNOLOGY Functional Major, B.S. Degree

(43 000211)

						Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS						64
ET	1020	General Electronics	3	ET	1010	Applied Electricity, 3 or
Grap	1010	Introduction to Graphic Arts	3	ET	2020	Industrial Electricity, 3
Grap	1110	Fundamentals of Drafting	3	Mf&C	3210	Machine Woodwork, 3 or
Grap	1120	Machine Drafting	3	Mf&C	4570	Industrial Production, 3
Mf&C	1110	Metals Technology	3	Math	1111	College Algebra
Mf&C	3130	Machine Tool Technology	3	Math	1112	College Trigonometry
Mf&C	1210	Wood Technology	3			Elective in drafting
Pr&T	1010	Power Mechanics	3			Elective in electronics technology
Pr&T	1020	Aeronautics	2			Elective in manufacturing & construction
IA&T	3060	Technical Report Writing	2			Elective in power & transportation
IndM	4210	Industrial Management	3			Upper level electives in ET, Grap, Mf&C, Pr&T,
Math	1411	Intro. to FORTRAN Programming	1			IA&T, or IndM
CIS	4630	Data Processing in Business	3			
MINOR NOT REQUIRED						
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, Math 1111 fulfills 3 s.h. of Group C)						37-40
Phys 1101 Group D (required)						4
FREE ELECTIVES						20-23
MINIMUM TOTAL						124

INDUSTRIAL TECHNOLOGY Major, B.S. Degree

(43 000210)

						Sem. Hours
MAJOR REQUIREMENTS						43
ET	1020	General Electronics	3	Pr&T	1010	Power Mechanics
IndM	4210	Industrial Management	3	ET	1010	Applied Electricity, 3 or
Grap	1010	Introduction to Graphic Arts	3	ET	2020	Industrial Electricity, 3
Grap	1110	Fundamentals of Drafting	3	Mf&C	3210	Machine Woodwork, 3 or
Grap	1120	Machine Drafting	3	Mf&C	4570	Industrial Production, 3
Mf&C	1110	Metals Technology	3			Electives in Math and/or Phys
Mf&C	1210	Wood Technology	3			Upper level electives in ET, IndM, Grap, Mf&C,
Mf&C	3130	Machine Tool Technology	3			Pr&T, or IA&T
MINOR REQUIREMENTS						18-25
GENERAL EDUCATION REQUIREMENTS						39-43
FREE ELECTIVES						13-24
MINIMUM TOTAL						124

MANUFACTURING TECHNOLOGY, Associate in Science Degree

(22 000154)

						Sem. Hours
FIRST YEAR REQUIREMENTS						33
Mf&C	1010	Mat. for Mfg. & Construction	3	Grap	1110	Fundamentals of Drafting
Mf&C	1120	Welding	2	Grap	1120	Machine Drafting
Mf&C	1510	Intro. to Manufacturing Processes	3	IA&T	1040	Technical Mathematics I
ET	1010	Applied Electricity	3	IA&T	1042	Technical Mathematics II
ET	2030	Intro. to Programmable Controllers	3	Engl	1020	Rhetorical Writing
				Phys	1101	College Physics I
SECOND YEAR REQUIREMENTS						30
Mf&C	2020	Mechanics of Materials	3	IA&T	3060	Technical Report Writing
Mf&C	2040	Materials Testing	2	Math	1412	Intro. to BASIC Programming
Mf&C	3130	Machine Tool Technology	3	Hist	1321	America & Modern World II, 3, or
Mf&C	3410	Plastics Technology	3	Hist	1351	History of the United States, 3
Mf&C	3510	Production Planning & Analysis	3	Mgt	3310	Principles of Management
Mf&C	3530	Prod. Insp. & Quality Assurance	3			Applied Physical Education
Grap	2170	Intro. to Computer-Aided Drafting	3			
MINIMUM TOTAL						63

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MANUFACTURING AND CONSTRUCTION Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000153)

MINOR REQUIREMENTS				Sem. Hours
				20-21
Mf&C	2020	Mechanics of Materials	3	
Mf&C	2040	Materials Testing	2	
Mf&C	3130	Machine Tool Technology	3	
Mf&C	2210	Finishing & Upholstering	3	
Mf&C	1510	Intro. to Manufacturing Processes	3	
Mf&C	3210	Machine Woodwork, 3 or		
Mf&C	4570	Industrial Production, 3	3	
		Electives from the following		3-4
		ACR 1111 Fund. of Air Conditioning	3	
		IndM 4210 Industrial Management	3	
		*Grap 3160 Residential Arch. Drawing	3	
		Grap 4162 Commercial Arch. Drawing	3	
		*Grap 4180 Industrial Design	2	
		Mf&C 4050 Equipment Installation & Maintenance	2	
		IA&T 4010 Experimental Crafts	3	

*Course has prerequisite(s) not listed in the program.

General

Mf&C 1010 Materials for Manufacturing and Construction (3) Construction materials, including sources, characteristics, uses, and standard sizes and packaging, with relative values of different grades.

Mf&C 1012 Production Technology (3) A study of the tools, machines, materials, techniques, and implications of production as technology has evolved to its current level.

Mf&C 2020 Mechanics of Materials (3) An introduction to the basic concepts of strengths of materials, statics and dynamics as they relate to the design and analysis of materials, machines, and structures. Prerequisite: Math 1101 or one unit of high school algebra.

Mf&C 2040 Materials Testing (2) Theoretical and practical applications of measuring, inspecting, and testing industrial materials and products, with special attention to current industrial measuring and testing techniques.

Mf&C 2050 Applied Strength of Materials (2) Selection and application of sizes, shapes, and materials required for the construction of a member of a machine or structure in order to resist an applied load in a safe and economical manner. Prerequisites: Mf&C 2020 and Mf&C 2040.

Mf&C 3010 Man and Construction (2) A look at the construction industry as it relates to the consumer.

Mf&C 4000 Special Projects in Manufacturing and Construction (1-3) Investigation of contemporary problems and issues in manufacturing and construction by selected individuals or groups. *May be repeated for a maximum of 6 semester hours.*

Mf&C 4020 Industrial Energy Management (3) Energy efficient techniques in a variety of industrial settings.

Mf&C 4050 Equipment Installation and Maintenance (2) Technical problems in the installation of power equipment; care and maintenance of tools and machines; servicing school equipment; safety.

Mf&C 4070 The World of Construction (3) To acquaint the industrial arts teachers with a philosophy and method for teaching about the construction industry through working with the tools, materials and processes related to the various trades and professional activities in construction.

Mf&C 4071 The World of Manufacturing (3) To acquaint industrial arts teachers with a philosophy and method for teaching about industrial production by simulating some of the manufacturing activities which relate to both the tradesmen and professional in a laboratory setting.

Mf&C 5000 Special Problems in Manufacturing and Construction (2-6) Meets individual student needs for additional research and/or laboratory experiences in the development of technical knowledge and skills in the areas of manufacturing and construction. *May be repeated for a maximum of 6 semester hours.*

Mf&C 5010 Applied Research for Industrial Technology (3) Research investigation of a technical problem. The course will culminate in a research report. *May be repeated to a maximum of 6 semester hours per degree program.*
Prerequisite: IA&T 5130.

Metals

Mf&C 1110 Metals Technology (3) Introductory laboratory experiences and study of metalworking materials, processes, tools, and machines.

Mf&C 1120 Welding (2) Study and practice of four basic welding processes: oxyacetylene, metallic arc, MIG, and TIG.

Mf&C 3120 Jewelry Making (2) Introductory laboratory experiences and study of the forming and decorating of jewelry metals and the cutting and setting of gem stones.

Mf&C 3130 Machine Tool Technology (3) An introduction to machine tools with experiences in turning, drilling, milling, grinding, and related bench work. Assigned projects.

Woods

Mf&C 1210 Wood Technology (3) Study and application of wood materials, basic tool processes, and finishing materials and products related to wood industries within manufacturing and construction.

Mf&C 2210 Finishing and Upholstering (3) Finishing materials, their application and treatment on various woods and metals; refinishing and upholstering.

Mf&C 3210 Machine Woodwork (3) Wood and related materials, furniture design and construction, and commercial use of woodworking machines. Prerequisite: Mf&C 1210.

Building Construction

Mf&C 1300 Construction Practices (2) General survey of the organization and functioning of the construction industry: legal, ethical, business, and management aspects.

Manufacturing

Mf&C 1301 Seminar in Construction Management (0.5)

Forum to provide students an opportunity to learn about current events in the construction industry through the use of guest speakers, open discussions and informative field trips. Students should expect to share cost of field trips and professional materials. *May be repeated.*

Mf&C 2310 Construction Techniques (2) Interpretation of architectural and engineering drawings and specifications as they relate to construction methods. Efficiency of construction procedures is given prime consideration. Prerequisite: Mf&C 1010.

Mf&C 2320 Heavy Equipment (3) Survey of the types, uses, and economics of heavy equipment utilized in the construction industry.

Mf&C 3310 Construction Estimating (3) A quantitative survey of the materials and labor pricing for construction jobs will be made as the materials take-off and computation by several methods are performed.

Mf&C 3320 Principles of Construction Management (3) Principles of construction contracting with related information on forms of business ownership, management, land development, labor relations, and project safety.

Mf&C 3330 Building Codes and Code Administration (3) In-depth study of national, state, and local regulations applicable to specification and performance of building construction standards.

Mf&C 3340 Surveying and Construction Layout (3) Theory and practice of plane, topographic, and construction surveying and layout including care and use of instruments, note taking and computations. Prerequisite: Math 1112.

Mf&C 3350 Wood Structures (2) Theory and application of wood construction materials.

Mf&C 3360 Concrete Structures (2) Theory and applications of reinforced concrete and masonry construction materials.

Mf&C 3370 Steel Structures (2) Theory and application of structural metals and their uses in the construction industry.

Mf&C 4310 Construction Safety (3) Construction safety and health conditions on the job as they relate to workers, supervisors, inspectors, and the public.

Mf&C 4330 Mechanical Systems for Buildings (3) Mechanical systems integrated with buildings and other equipment.

Mf&C 4340 Solar Energy for Building Construction (3) An analysis of solar energy systems and components as they apply to types of structure, sites, and climate regions.

Mf&C 4350 Scheduling for Manufacturing and Construction (3) Theory and use of construction and production scheduling to control the acquisition, movement, storage, and utilization of workers and/or material with emphasis given to the Critical Path Method (CPM). Computer programming background recommended.

Plastics

Mf&C 3410 Plastics Technology (3) Theory and selected laboratory experiences in the study of plastics and their industrial processing and application.

Mf&C 1501 Seminar in Manufacturing Engineering Technology (0.5)

Forum to provide students an opportunity to learn about current events in the manufacturing industry through the use of guest speakers, open discussions, and informative field trips. Students should expect to share cost of field trips and professional materials. *May be repeated for a maximum of 2 semester hours.*

Mf&C 1510 Introduction to Manufacturing Processes (3) An overview of the primary processes and a basic knowledge of secondary manufacturing processes which are classified as separating, casting, forming, conditioning, assembling, and finishing.

Mf&C 2500 Applied Computer Technology (2) Fundamental computer literacy through a study of microcomputers, peripherals, software, and programming languages and their practical applications to technological settings. Opportunity to gain hands-on experience with computers.

Mf&C 3510 Production Planning and Analysis (3) Analyzing, planning, organizing and coordinating manufacturing activities for economical, efficient production.

Mf&C 3520 Manufacturing Cost Estimating (3) Estimating procedures for the cost of manufacturing.

Mf&C 3530 Production Inspection and Quality Assurance (3) Principles and methods of controlling the quality of manufactured products. Emphasis will be on gauging and inspection.

Mf&C 4520 Robotics (3) Automated manufacturing equipment, computer integrated manufacturing systems, and the use of industrial robots. Computer programming background recommended.

Mf&C 4550 Principles of Numerical Control (3) Introduction to N/C Machining Operations. Includes laboratory work in writing and executing manual program on N/C Machine Tools.

Mf&C 4562 Computer Numerical Control (3) Computerized numerical control programming of machine tools. Writing, debugging, and verifying part programs using the UNIAPT part programming language will be an integral part of the course. Prerequisite: Mf&C 4550 or experience in manual programming numerical control machine tools.

Mf&C 4570 Industrial Production (3) An applied study of industrial production techniques which emphasizes hands-on experiences in organizing, setting up, and implementing production run for an industrial product.

Mf&C 5520 Computer Integrating Manufacturing (3) Utilization of the computer in factory automation, engineering design, manufacturing control and manufacturing planning leading to the factory of the future. Prerequisite: general knowledge of the microcomputer and its use or Mf&C 2500 or CIS 1600 or Math 1414.

Mf&C 5562 UNIAPT Computer Part Programming for Numerical Control (3) Advanced study of UNIAPT computer programming for numerical control applications. Prerequisite: Mf&C 4562.

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Industrial Arts and Technology

In Industrial Arts and Technology, the second digit in the course number stands for the following: 0--General, 1--Professional.

INDUSTRIAL ARTS AND TECHNOLOGY Major, B.S. in Ed. Degree

(Certification to teach industrial arts in grades 9-12)

(41 000170)

						Sem. Hours	
MAJOR REQUIREMENTS						36	
Graphic Communications			Industrial Materials and Processes				
Grap	1010	Introduction to Graphic Arts	3	Mf&C	1110	Metals Technology	3
Grap	1110	Fundamentals of Drafting	3	Mf&C	3130	Machine Tool Technology	3
Grap	1120	Machine Drafting, 3 or		Mf&C	1210	Wood Technology	3
Grap	2150	Descriptive Geometry, 3	3	Mf&C	3410	Plastics Technology	3
Energy and Power				Mf&C	3210	Machine Woodwork, 3 or	
ET	1020	General Electronics	3	Mf&C	4570	Industrial Production, 3	3
ET	1010	Applied Electricity, 3 or		Shop Organization and Administration			
ET	2020	Industrial Electricity, 3	3	IA&T	3110	Selection & Org. of Subject	
Pr&T	1010	Power Mechanics, 3 or				Matter for Ind. Voc. Tech. Ed.	3
Pr&T	4030	Power Technology, 3	3				
MINOR REQUIREMENTS						18-24	
GENERAL EDUCATION REQUIREMENTS						39-43	
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.							
PolS	1510	Group F (required)	3	Psy	4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.							
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)						28	
FREE ELECTIVES						0-3	
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.							
MINIMUM TOTAL						124	

General

IA&T 1040 Technical Mathematics I (3) Application of the principles of algebra, geometry, and the fundamental concepts of trigonometry to technical work. Designed for associate degree technical programs. Prerequisite: Pers 1030 or one unit of high school algebra.

IA&T 1042 Technical Mathematics II (3) Application of the principles of numerical and analytical trigonometry, complex numbers, vector algebra and position vectors, graphical methods of calculus, differentiation, and integration to technical work. Designed for associate degree technical programs. Prerequisite: IA&T 1040.

IA&T 2040 Calculus for Technology (3) Application of the fundamental concepts of differential and integral calculus to technology. Prerequisites: Math 1111 and Math 1112.

IA&T 3022 Internship in Technology (1-9) Provides practical application and experience in cooperating industry and business. Students submit written reports. Evaluation by on-job supervisor and internship coordinator. *May be repeated for a maximum of 12 semester hours.* Prerequisites: 20 semester hours of program offerings, minimum undergraduate GPA 2.0 and permission of department chair.

IA&T 3060 Technical Report Writing (2) Techniques of collecting and presenting scientific data for formal and informal reports and technical papers.

IA&T 4000 Special Projects in Industrial Arts and Technology (1-3) Investigation of contemporary problems and issues in industrial arts and technology by selected individuals or groups. *May be repeated for a maximum of 6 semester hours.*

IA&T 4010 Experimental Crafts (3) Variety of materials for those who want to teach or do creative crafts.

IA&T 4020 Crafts for Elementary Schools (3) Students will design, construct, and finish inexpensive three-dimensional projects for the purpose of developing skills and understandings in the use of tools, materials and processes as they relate to the integration of constructional activities in the elementary school.

IA&T 4050 Creative Problem Solving (3) A broad approach to formal techniques in creative problem solving applicable to any field of endeavor and interest.

IA&T 4090 Special Problems in Industrial Arts and Technology (1-3) Meets student needs for additional research and/or laboratory experience in the development of technical knowledge and skills in the areas of industrial arts and technology. *May be repeated for a maximum of 6 semester hours.*

IA&T 5022 Internship in Applied Sciences (1-6) Provides experience for students in cooperating industries. Students rotate assignment. Written reports are required. *May be repeated for a maximum of 6 semester hours.* Prerequisites: approval of graduate advisor and Technology Internship Coordinator; graduate GPA 3.0 or above; minimum of one semester graduate work completed.

Professional

IA&T 3110 Selection and Organization of Subject Matter for Industrial Vocational Technical Education (3) Selecting and organizing subject matter for teaching industrial and technical education.

IA&T 4110 Philosophy of Occupational Education and Training (3) Study of social, economic, and political structures which form the philosophical basis for occupational education and training programs.

IA&T 4180 Adult Programs in Practical Arts, Vocational and Technical Education (3) Principles, objectives, philosophies, organization, administration, and supervision of adult health, agricultural, industrial, and homemaking occupations.

IA&T 5110 Development of the Industrial Education Program (3) Objectives and changes in philosophy and their significance; interpretation of industrial arts, vocational industrial and technical education in the modern school.

IA&T 5120 Preparation of Instructional Materials (3) Organization of instructional materials including outlines, courses of study, and visual aids.

IA&T 5130 Research Methods in Applied Sciences and Technology (3) Research methodology with emphasis on research design, data interpretation and techniques of developing research proposals, and report writing.

IA&T 5140 Organization and Administration of Industrial Education (3) Organizing and administering various types of industrial schools and classes. Federal laws, state administration and local practices will be considered.

IA&T 5150 Introduction to Vocational Administration (3) Role, responsibilities, and activities associated with the administration of secondary and post-secondary vocational programs.

IA&T 5160 Legal Issues in Vocational Education (2) Current and existing legislation which form the statutory basis of school law affecting vocational education through a study of case law and the Carl Perkins Reauthorization Act.

IA&T 5170 Financing Vocational Education (2) Analyze and develop a financial plan for obtaining, managing and administering vocational resources.

IA&T 6120 Current Issues and Topics in Industrial Arts and Technology (3) A seminar type course dealing with philosophy, new issues and recent literature, and research in the field.

IA&T 6130 Special Investigations in Industrial Arts and Technology (2-3) Advanced and specialized problems in industrial arts and technology selected with approval of department advisers and graduate committees. *May be repeated for a maximum of 8 semester hours.* Prerequisite: 5 semester hours in the area concerned.

IA&T 6132 Research in Industrial Arts and Technology (2-3) Special investigations and the completion of a major research problem or thesis in industrial arts and technology. *May be repeated for a maximum of 6 semester hours.*

Military Science

In the Department of Military Science, the second digit in the course number stands for the following: 1--Freshman year, 2--Sophomore year, 3--Junior year, 4--Senior year, 5--Summer Camp.

Department of Military Science Statement of Policy

The Army Reserve Officers' Training Corps (ROTC) develops college-educated officers for the active Army and reserve components. It provides young men and women the opportunity to earn commissions as Army officers and at the same time work toward an academic degree.

There are two programs available, a four-year program and a two-year program, both culminating in a United States Army commission.

The **four-year program** is divided into two phases, Basic Military Science and Advanced Military Science. Basic Military Science is normally taken by students in their freshman and sophomore years. It provides instruction in the basic subject areas needed to establish a firm foundation in military skills. This foundation provides for continued professional development in the areas of leadership and management.

Advanced Military Science is normally taken during the junior and senior years. The program develops the student's ability to express himself/herself clearly and accurately. It teaches leadership by both classroom theory and the practical application of directing individuals and small units in the execution of simulated tactical missions. While enrolled in Advanced Military Science, the student is paid a monthly financial allowance by the U.S. Army.

Freshmen and sophomores who are veterans with a minimum of four months active service, or reserve/national guard personnel who have completed basic training in any of the armed services, may be granted advanced ROTC placement, not to exceed two years, at the discretion of the Professor of Military Science.

The **two-year program** is offered for students who have completed two years of college but have not completed a basic military science program or served on active duty with any of the armed services. Students attend a basic six-week summer training program at Fort Knox, Kentucky, at the end of their sophomore year. After successful completion of the basic camp, students will start Advanced Military Science with all the pay and entitlements of the four-year program cadet.

The **U.S. Army Scholarship program** provides an excellent way for young men and women to obtain assistance in financing a college education. All scholarships cover the cost of tuition, books, certain fees and educational supplies, as well as a monthly financial allowance. Additional scholarship information is available from the Department of Military Science.

To qualify for a commission as a Second Lieutenant, a student must comply with all terms of his/her contract; successfully complete Basic Military Science or equivalent; successfully complete MS 3310, MS 3320, MS 4410, MS 4420 and MS 4510; complete all University requirements for a bachelor's degree; meet the physical standards of current U.S. Army regulations and agree to accept an Active Army, Army National Guard or Army Reserve duty assignment. Additionally, candidates for a commission must complete at least one course from each of the following Professional Education subject areas: Written Communications, Human Behavior, Computer Literacy and Military History. A list of approved courses for each of the Professional Education subject areas may be obtained from the Department of Military Science.

MILITARY SCIENCE Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000201)

				Sem. Hours
MINOR REQUIREMENTS				21-23
MS	3310	Officership As a Profession	3	Electives (continued)
MS	3320	Military Operations & Techniques	3	MS 2220 Basic Military
MS	4410	Adv. Military Management Systems I ...	3	Tactics & Leadership
MS	4420	Adv. Military Management Systems II ..	3	or
MS	4510	Advanced Summer Camp	3	MS 2510 Basic Summer Camp
Electives from the following				3
MS 1110 Intro. to Military Science				2
MS 1120 Basic Military Skills				2
MS 2210 Basic Mil. Skills & Leadership				2
GENERAL EDUCATION REQUIREMENTS (In the minor, 2-3 s.h. of Group I is fulfilled)				

Freshman Year

MS 1110 Introduction to Military Science (2) An introduction to military mountaineering, basic first aid, and fundamentals of leadership. Laboratory is required.
MS 1120 Basic Military Skills (2) An introduction to basic rifle marksmanship, land navigation skills, use of a compass, orienteering, and an overview of the organization of the Armed Forces which includes military traditions and courtesy. Laboratory is required.

Sophomore Year

MS 2210 Basic Military Skills and Leadership (2) Branches of the Army, customs and traditions, intermediate first aid and basic pistol marksmanship. Laboratory is required. Prerequisite: MS 1120 or equivalent or permission of the Professor of Military Science.
MS 2220 Basic Military Tactics and Leadership (2) A continuation of MS 2210 with emphasis on small unit tactics and small unit management skills. An introduction to military operations, squad tactics and survival training. Laboratory is required. Prerequisite: MS 2210 or equivalent or permission of the Professor of Military Science.

Junior Year

MS 3310 Officership as a Profession (3) Professionalism and the military with emphasis on the role and responsibilities of the officer corps and leadership development. Prerequisite: MS 2220 or equivalent.
MS 3320 Military Operations and Techniques (3) Designed to give experience in basic military skills common to new lieutenants, regardless of specialty. Emphasis on tactics and techniques. Prerequisite: MS 3310.

Senior Year

MS 4410 Advanced Military Management Systems I* (3) Principles of management and applications in a military organizational environment. Functional processes within resource systems. Interpersonal relationships and small group dynamics. Prerequisite: MS 3320.
MS 4420 Advanced Military Management Systems II* (3) In-depth study of principles and law of warfare with emphasis on the Military Justice System (process of the Uniform Code of Military Justice), personnel and organizational support systems. Prerequisite: MS 4410.

Summer Camp

MS 2510 Basic Summer Camp (3) Substitutes for the first two years of military science courses. Course is conducted at Fort Knox, Kentucky, during the summer for a period of six weeks. Transportation, room, board, military clothing and a salary are provided. Interested students should contact the Professor of Military Science between January and March of their sophomore year. Prerequisite: departmental consent.
MS 4510 Advanced Summer Camp* (3) Six weeks of advanced summer camp experience for advanced military science students. Required for completion of military science program and commissioning. Students receive financial assistance. Prerequisite: MS 3320 and departmental consent.

*Not available for graduate credit.

Nursing

In the Department of Nursing, the second digit in the course number stands for the following: 0--General Theory, 1--Fundamentals of Nursing, 2--Maternal and Child Health, 3--Medical-Surgical Nursing, 4--Community and Mental Health Nursing, 6--Professional Theory.

Department of Nursing Statement of Policy

Program

Central's Department of Nursing offers a baccalaureate in nursing. The program is accredited by the Missouri State Board of Nursing and the National League for Nursing.

Admission

Students entering Central as freshmen or by transfer should indicate a pre-nursing major. Admission to the nursing program is conditional upon completion of a minimum of sixty semester hours, completion of all prerequisites necessary for admission to the first nursing

course and the requirements for admission listed below. Admission to the nursing program involves competition between all eligible candidates. The Department of Nursing reserves the right to select among all qualified candidates. Students are admitted in April for Fall semester nursing classes and in November for Spring. The necessary application and physical examination forms may be obtained from the Department of Nursing.

Students Meeting the Following Requirements Are Eligible to Apply for Admission to the Nursing Program:

1. Evidence of good moral character as determined by the Missouri State Board of Nursing in the Nurse Practice Act (1993) and by the American Nurses' Association Code for Nurses (1985).
2. All nursing prerequisites must be completed at the time of admission. Computer literacy is required to be admitted to the nursing program as evidenced by a grade of at least a C in a basic computer literacy course.
3. A minimum of a 2.5 cumulative grade-point average is required at the time of application. Because admission into the nursing major is competitive, contact the Department of Nursing for more information.
4. Minimum grade of **C** in all nursing prerequisites and nursing courses. A student receiving a grade lower than **C** in any nursing prerequisite may repeat that course only one time.
5. Students will not be permitted to withdraw more than one time from a nursing prerequisite course without permission of the Department of Nursing.
6. Science prerequisites, as identified in NURSING Functional Major, B.S. Degree, must have been taken within 10 years of requested semester admission. Students will be categorized in two classifications for consideration for admission to the nursing program:
 - a. Students who have taken all nursing prerequisite courses at Central; and
 - b. Students who have transferred credit for one or more nursing prerequisite course(s) from another institution.

Nursing prerequisite courses are Chem 1110, Soc 1800, Biol 2401, Biol 2402, Biol 3611, Psy 1100, HES 3340, Nur 1600, Nur 2000. Grade point averages are a determining factor in selection. Different cutoff scores for the different classifications of students may be established.
7. Completion of the American College Test (ACT) and the Nelson-Denny Reading Tests prior to admission to the nursing program. Information about the ACT may be obtained from the Testing Center (Humphreys 223). Information about the Nelson-Denny may be obtained from the EDC Learning Lab in Humphreys 110. Students must obtain a minimum score of 12 on the Nelson-Denny to be considered for admission.
8. Completed application and examination forms are to be in the office of the Department of Nursing by February 1 for admission to Fall semester nursing classes and August 1 for admission to Spring semester nursing classes.
 - a. Application for admission to nursing program.
 - b. Physical examination, including laboratory

- tests and chest x-rays.
- c. Required immunizations that will carry student through graduation.
- d. Nelson-Denny exam.
- e. Speech and hearing exam.
- f. ACT scores.
- g. Official transcripts--it is the student's responsibility to request ALL official transcripts from other universities and colleges be submitted to the Admissions Department of the University to be posted as part of the student's official transcript by 5 p.m., January 31 for Fall admission and July 31 for Spring admission.
9. Students may be interviewed in groups.
10. Approval of Nursing Faculty based on recommendation of Admissions and Progression Committee.
11. English as second language students (any student whose primary and secondary education was in a country where the native and official language was not English excluding native American citizens who attended American high schools in another country) must successfully complete the following requirements:
 - a. TOEFL - A score of 600 with a minimum of 55 on each sub-score.
 - b. Test of Spoken English - A minimum score of 250.
 - c. Test of Written English - A minimum score of 5.

Any student not obtaining these scores can receive assistance in the English Department through the English Language Institute.

Requirements for Progression in the Nursing Program:

1. A student who receives a **D** or **F** in a nursing course will be suspended from the program and is required to seek readmission in order to repeat the course. If a student is not readmitted within a year, that student may be required to repeat all courses within the nursing major.
2. Students may be readmitted only once if prior withdrawal or suspension was for academic reasons.
3. A student receiving more than one **D** or **F** in a course or courses with a nursing prefix will not be allowed to apply, reapply, or progress in the nursing program.
4. Requirements for readmission to the program are all those set forth in this policy as well as those contained in the current Student Handbook for the Department of Nursing.

Transfer Into the Nursing Major:

Transfer of upper level nursing credit will be considered according to the following procedure:

1. Students will meet the General Education requirements as listed in the current University Catalog.
2. Credits from an accredited baccalaureate nursing program will be evaluated and allowed in accordance with current Central and Department of Nursing policy.
3. Evaluation of each transfer student will be made within the Department of Nursing on an individual basis.

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4. Students will take a minimum of 35 semester hours of upper level courses, with a minimum of 20 semester hours in nursing. Those courses required in the nursing major are Nur 4420, Nur 4421, Nur 4620, Nur 4621, Nur 4010 and Nur 4011.
5. Students will apply for admission to the Department of Nursing and be subject to the regular program admission policy. In addition, the following evaluation process will be followed:
 - a) Credit for nursing courses will be based on a review of content, course description, syllabi, and catalog description.
 - (1) If content is basically the same, nursing faculty may approve the course for nursing credit. The credit hours approved may be at the maximum credit hour allocation for the Central nursing course.
 - (2) If the content is fairly similar, the nursing faculty may approve credit and in addition require Nur 4000, Special Projects (2-6 credits).
 - (3) Only discrete courses in the content areas of research and ethics, pharmacology and observation and assessment will be considered for transfer as meeting the departmental required courses in these areas.
 - (4) The nursing faculty may require additional information from previous institutions.

Special Expenses

1. Additional expenses for nursing majors include: uniforms, caps, shoes, name pin, watch with second hand, stethoscope, professional student liability insurance and health insurance, hepatitis B vaccination and other vaccinations and blood tests, and selected books.
2. Nursing students must have access to transportation upon admission to the nursing program and be certified in cardiopulmonary resuscitation.

3. During the senior year certain standardized tests are required and paid for by the student. During the semester of anticipated graduation, the nursing school pin and graduation pictures are an additional expense.

Kansas City Experience

Theory and clinical learning occur in Kansas City during the last year. These experiences make possible exposure to nursing practice in both rural and urban settings.

Degree Program for Students Holding the R.N.

1. Credits from accredited nursing programs will be evaluated and allowed in accordance with current Central policy.
2. Students will meet the General Education requirements as listed in the current University Catalog for nursing majors.
3. Evaluation of each R.N. student will be made within the Department of Nursing to determine placement in the program.
4. Students will take a minimum of 35 semester hours of upper level courses, with a minimum of 30 semester hours in nursing. Those required are Nur 3312, Nur 4010, Nur 4011, Nur 4050, Nur 4420, Nur 4421, Nur 4620, Nur 4621, and one nursing elective.
5. Students will apply for admission to the Department of Nursing and be subject to the regular program admission policy. In addition, the following criteria will be followed:
 - a. Applicants must have a current license to practice nursing in Missouri.
 - b. Credit for noncollege nursing courses may be applied to the nursing major upon successful performance on challenge examinations. A maximum of 30 credits can be awarded by challenge.
 - c. A maximum of 64 semester hours can be transferred from a community college.

NURSING Functional Major, B.S. Degree

(43 000133)

					Sem. Hours		
FUNCTIONAL MAJOR REQUIREMENTS					79		
Nur	2000	Nursing Concepts for Health Promotion & Maintenance	3	Nur	4420	Advanced Concepts of Nursing II	5
Nur	3010	Pharmacology	3	Nur	4421	Adv. Concepts of Nursing II Pract.	5
Nur	4010	Research in Nursing	2	Nur	1600	Intro. to Professional Nursing	1
Nur	4011	Professional Issues & Ethics in Nursing	2	Nur	4620	Nursing Management	3
Nur	3110	Concepts of Nursing I	6	Nur	4621	Nursing Management Practicum	3
Nur	3111	Concepts of Nursing I Practicum	2	HES	3340	Nutrition	3
Nur	3300	Concepts of Altered Health	5	Biol	2401	Anatomy & Physiology I	4
Nur	3312	Observ. & Assess. in Nursing	2	Biol	2402	Anatomy & Physiology II	4
Nur	3320	Concepts of Nursing II	4	Biol	3611	Microbiology	4
Nur	3321	Concepts of Nursing II Practicum	4	Electives from the following			2
Nur	3322	Technology Applications in Nursing	2	Nur	2020	Health: Women's Perspective	2
Nur	4310	Advanced Concepts of Nursing	4	Nur	4020	Grief & Loss	2
Nur	4311	Adv. Concepts of Nursing I Practicum	6	Nur	4030	Human Sexuality	2
				Nur	4405	Aging of Self & Others	2
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS					40-42		
Chem	1110	Group D (required)	4	Soc	1800	Group F (required)	3
Psy	1100	Group F (required)	3	Mf&C	2500	Group H (required)	2
FREE ELECTIVES					3-5		
MINIMUM TOTAL					124		

General Theory

Nur 2000 Nursing Concepts for Health Promotion and Maintenance (3)

Overview of nursing concepts essential for promoting and maintaining health from birth to death. Physiological and psychosocial changes necessary for the promotion and maintenance of health will be explored and observed. Open to nonnursing majors. Prerequisites: Psy 1100, Biol 2402 and HES 3340.

Nur 2020 Health: The Women's Perspective (2)

An introduction to the physiological, psychosocial, and economic factors that historically have impacted upon the health of women from selected cultural backgrounds with emphasis upon major health care issues currently affecting women. Open to nursing and nonnursing majors.

Nur 3010 Pharmacology (3) Effect of chemicals used in the prevention, diagnosis and treatment of disease; with consideration of the interaction between these pharmaceuticals and the chemical components of the human body. Prerequisites: Chem 1110, Biol 2402 and may be taken concurrently with Nur 3320.

Nur 4000 Special Projects in Nursing (1-3) Investigation of contemporary problems and issues in nursing by selected individuals or groups. *May be repeated for a maximum of 6 semester hours.*

Nur 4010 Research in Nursing* (2) An overview of the research process designed to introduce the student to the intellectual skills needed to identify, conduct, report, and critique nursing research studies. Basic statistical processes are included. Prerequisites: Nur 3321 and Nur 3322.

Nur 4011 Professional Issues and Ethics in Nursing* (2) An overview of professional issues and ethics in nursing. Special emphasis on trends in health related legislation, credentialing, and economics and their impact on the nursing profession. Prerequisites: Nur 4311 and Nur 4010 or concurrently.

Nur 4020 Grief and Loss (2) A seminar designed to assist various pre-professionals to understand and deal with loss and death either in a professional capacity or on a personal basis. Open to nursing and nonnursing majors.

Nur 4030 Human Sexuality (2) Current theory regarding the biological, cultural, and behavioral parameters of human sexuality. Open to nursing and nonnursing majors.

Nur 4050 Concepts and Theories for Role Transition* (6) Nursing concepts and theories for role transition and outcomes-based learning for the returning registered nurse. Prerequisite: Registered Nurse License and admission to the nursing program.

Fundamentals of Nursing

Nur 3110 Concepts of Nursing I (6) An introduction to the basic concepts and principles of nursing with emphasis on nursing process and communication. Prerequisites: admission into the nursing program, Nur 3300 and Nur 3312 or concurrently; may be taken concurrently with Nur 3111.

Nur 3111 Concepts of Nursing I Practicum (2) Application of the basic concepts and principles of nursing with emphasis on nursing process and communication in health care settings. Prerequisite: Nur 3110 or concurrently.

Medical-Surgical Nursing

Nur 3300 Concepts of Altered Health (5) An examination of common pathophysiological alterations in human structure and function across the lifespan. Prerequisites: Biol 2402 and Biol 3611.

Nur 3312 Observation and Assessment in Nursing (2) Professional nursing observation and physical assessment of the individual in the health care delivery system. Concurrent arranged lab is required. Prerequisite: Biol 2402 or consent of instructor.

Nur 3320 Concepts of Nursing II (4) Continuation of nursing process with emphasis on nursing science applicable to individuals experiencing chronic alterations in health.

Prerequisites: Nur 3111; may be taken concurrently with Nur 3321 and Nur 3322.

Nur 3321 Concepts of Nursing II Practicum (4) Continued application of nursing process with emphasis on nursing science applicable to individuals experiencing chronic alterations in health. Prerequisite: Nur 3320 or concurrently; must be taken concurrently with Nur 3322.

Nur 3322 Technology Applications in Nursing (2) A performance based course focusing upon current clinical technology applications and their theoretical rationales in nursing. Prerequisite: Nur 3320 or concurrently; must be taken concurrently with Nur 3321.

Nur 4310 Advanced Concepts of Nursing I* (4) Continuation of nursing process with emphasis on nursing science applicable to the childbearing family and to acutely and critically ill adults and children. Prerequisites: Nur 3321 and Nur 3322; may be taken concurrently with Nur 4311.

Nur 4311 Advanced Concepts of Nursing I Practicum (6) Continued application of nursing process with emphasis on nursing science applicable to the childbearing family and to acutely and critically ill adults and children. Prerequisite: Nur 4310 or concurrently.

Community and Mental Health Nursing

Nur 4405 Aging of Self and Others (2) Seminar concerning an individual's aging in our society. Focus is on how one perceives and adapts to the aging of self and others. Open to nonnursing majors.

Nur 4420 Advanced Concepts of Nursing II* (5) Continuation of nursing process with emphasis on nursing science applicable to individuals, families, groups, and communities experiencing physical and psychosocial alterations or potential alterations in health. Prerequisites: Soc 1800 and Nur 4311; may be taken concurrently with Nur 4421, Nur 4620 and Nur 4621; Nur 4050 for RN's only.

Nur 4421 Advanced Concepts of Nursing II Practicum (5) Continued application of nursing process with emphasis on nursing science applicable to individuals, families, groups, and communities experiencing physical and psychosocial alterations or potential alterations in health. Prerequisite: Nur 4420 or concurrently; may be taken concurrently with Nur 4620 and Nur 4621.

Professional Theory

Nur 1600 Introduction to Professional Nursing (1) Introduces the learner to the outcomes assessment curriculum utilized by the Department of Nursing.

Nur 4620 Nursing Management* (3) Overview of the functions of management necessary for assuming management roles in health care settings. Prerequisites: Nur 4421 or concurrently; may be taken concurrently with Nur 4621; Nur 4050 for RN's only.

Nur 4621 Nursing Management Practicum (3) Application of the management process to groups of clients and health care providers with integration of the nursing process. Prerequisite: Nur 4620 or concurrently.

*Not available for graduate credit.

Power and Transportation

In the Department of Power and Transportation, the second digit in the course number stands for the following: 0--General and Professional, 1--Automotive, 2--Aviation Maintenance, 3--Aviation Flight, 4--Transportation.

Department of Power and Transportation Statement of Policy

A Pr&T prefix course with a grade lower than a "C" will not be allowed to fulfill a major or minor requirement in any program offered by the Department of Power and Transportation.

AUTOMOTIVE TECHNOLOGY, Associate in Science Degree

(22 000156)

						Sem. Hours	
FIRST YEAR REQUIREMENTS						31	
Pr&T	1010	Power Mechanics	3	Mf&C	2500	Applied Computer Technology	2
Pr&T	2110	Engine Theory & Maintenance	3	IA&T	1040	Technical Mathematics I	3
Pr&T	2130	Automotive Electrical Systems	3	Engl	1020	Rhetorical Writing	3
Pr&T	2132	Fuel Systems & Emission Controls	3	Hist	1321	Am. & Modern World II, 3 or	
Grap	1110	Fundamentals of Drafting	3	Hist	1351	History of the United States, 3	3
Mf&C	1120	Welding	2	Mgt	1300	Introduction to Business	3
SECOND YEAR REQUIREMENTS						33	
Pr&T	3110	Automotive Engine Overhaul	3	Mf&C	2020	Mechanics of Materials	3
Pr&T	3120	Steering, Suspension & Brakes	3	Mf&C	3130	Machine Tool Technology	3
Pr&T	3130	Computerized Engine Diag.	3	IA&T	3060	Technical Report Writing	2
Pr&T	3140	Transmissions & Drivelines	3	Electives		.....	5
Pr&T	3150	Diesel Technology	3	Applied Phys. Ed.		.....	1
ET	1026	DC Circuit Analysis	4				
MINIMUM TOTAL						64	

AVIATION Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000157)

						Sem. Hours
MINOR REQUIREMENTS						20-21
Pr&T	1020	Aeronautics	2	Electives in aviation		15-16
Pr&T	3340	Aircraft Systems & Components	3			

AVIATION TECHNOLOGY, Associate in Science Degree

AVIONICS Option, Associate in Science Degree (22 000136)

						Sem. Hours	
FIRST YEAR REQUIREMENTS						31	
ET	1026	DC Circuit Analysis	4	Engl	1020	Rhetorical Writing	3
ET	1027	AC Circuit Analysis	4	Math	1111	College Algebra	3
ET	2048	Active Electronic Devices	4	Math	1112	College Trigonometry	2
ET	2050	Digital Principles & Applications	3	Hist	1321	America & Modern World II, 3 or	
Grap	1110	Fundamentals of Drafting	3	Hist	1351	History of the United States, 3	3
IA&T	3060	Technical Report Writing	2				
SECOND YEAR REQUIREMENTS						31	
Pr&T	2230	Aircraft Electrical Systems	3	ET	3015	Microprocessors: Theory & Appl.	3
Pr&T	3260	Aircraft Radio Installation & Oper.	1	ET	4010	Computer Programming for	
Pr&T	3262	Aircraft Com./Navigation Sys.	4			Electronics Technology	4
Pr&T	3264	Aircraft Pulse & Related Systems	4	ET	4036	Microprocessor & Microcomputer	
ET	3000	Operational Amplifiers--Theory				Interfacing	3
		& Applications	3	ET	4038	Microcomputer Sys. Arch. & Des. ...	3
ET	3014	Analog-Digital Circuitry	3				
Students should plan to enroll in ET 3015 during the summer session between the first and second year.							
MINIMUM TOTAL						62	

FLIGHT Option, Associate in Science Degree (22 000160)

						Sem. Hours	
FIRST YEAR REQUIREMENTS						34	
Pr&T	1010	Power Mechanics	3	ET	1010	Applied Electricity	3
Pr&T	1020	Aeronautics	2	Grap	1110	Fundamentals of Drafting	3
Pr&T	1210	Aircraft Recip. Power Plants	3	Psy	1320	Psy. of Personal Adjustment	3
Pr&T	1310	FAA Private Requirements	3	SpCm	1000	Public Speaking, 3 or	
Pr&T	1320	Private Flight A	1	SpCm	3000	Interpersonal Comm., 3	3
Pr&T	1321	Private Flight B	1	Hist	1321	Am. & Modern World II, 3 or	
Pr&T	3305	FAA Commercial Requirements	3	Hist	1351	History of the United States, 3	3
Pr&T	3310	Commercial Flight A	1	Applied Physical Education			1
Pr&T	3311	Commercial Flight B	1				
SECOND YEAR REQUIREMENTS						31	
Pr&T	4010	Aerodynamics	3	Pr&T	3325	FAA Instrument Requirements	3
Pr&T	3215	Gas Turbine Engines	3	Pr&T	3340	Aircraft Systems & Components	3
Pr&T	3312	Commercial Flight C	1	Pr&T	4320	Physiology & Flying	2
Pr&T	3313	Instrument Flight A	1	IA&T	1040	Technical Mathematics I	3
Pr&T	3314	Instrument Flight B	1	IA&T	3060	Technical Report Writing	2
Pr&T	3315	Commercial Flight D	1	Engl	1020	Rhetorical Writing	3
Pr&T	3316	Commercial Flight E	1	EaSc	3114	Meteorology	3
Pr&T	3317	Commercial Flight F	1				
MINIMUM TOTAL						65	

MAINTENANCE Option, Associate in Science Degree (22 000161)

						Sem. Hours	
FIRST YEAR REQUIREMENTS						35-36	
*Pr&T	1200	General Mechanics	3	*ET	1010	Applied Electricity	3
*Pr&T	1210	Aircraft Recip. Power Plants	3	*Grap	1110	Fundamentals of Drafting	3
*Pr&T	1255	Basic Airframe Maintenance	3	*Mf&C	1120	Welding	2
*Pr&T	2230	Aircraft Electrical Systems	3	*Pr&T	4240	Aircraft Engine Instr. & Syst., 4 or	
*Pr&T	3220	Aircraft Engine Testing	3	Pr&T	4010	Aerodynamics, 3	3-4
*Pr&T	3230	Aircraft Ignition-Starting Systems	3	Engl	1020	Rhetorical Writing	3
*Pr&T	3255	Metal Airframe Processing	3				
SECOND YEAR REQUIREMENTS						34-37	
*Pr&T	2220	Aircraft Carburetion & Lubrication Systems	4	*Pr&T	4230	Aircraft Instrument Systems	3
*Pr&T	3210	Aircraft Hydraulic Systems	3	*IA&T	1040	Technical Mathematics I	3
*Pr&T	3215	Gas Turbine Engines	3	IA&T	3060	Technical Report Writing	2
*Pr&T	3225	Propellers & Components	3	Pr&T	4220	Transport Aircraft Systems, 2 or	
*Pr&T	3240	Aircraft Air Conditioning & Pressurization Systems	2	*Pr&T	3250	Complex Aircraft Systems, 4	2-4
*Pr&T	3260	Aircraft Radio Installation & Oper.	1	*Pr&T	4080	Nondestructive Insp. & Test., 3 or	
*Pr&T	4210	Aircraft Insp., Weight & Balancing	3	Mf&C	2040	Materials Testing, 2	2-3
				Hist	1321	Am. & the Modern World II, 3 or	
				Hist	1351	History of the United States, 3	3
MINIMUM TOTAL						69-73	

*Courses comprise the FAA-certified Airframe and Powerplant (A&P) curriculum. Students electing to enroll in the A&P curriculum who also wish to complete the associate degree in two years should plan to enroll in the general education courses during the summer sessions.

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AVIATION TECHNOLOGY Functional Major, B.S. Degree

(43 000159)

						Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS						75-77
Pr&T	4010	Aerodynamics	3	IA&T	2040	Calculus for Technology, 3 or
Pr&T	4040	Aviation Management	3	Math	1131	Calculus for Business & Econ., 3 ... 3
Pr&T	4050	Aviation Safety	3	Departmentally approved electives from one of the six		
Pr&T	4090	Aviation Law	3	areas listed below. A listing of courses is available		
Pr&T	4420	Air Transportation	3	from the Chair of the Department 48-49		
IA&T	3060	Technical Report Writing	2	Area 1 Professional Pilot		
Math	1112	College Trigonometry	2	*Area 2 Maintenance Management		
Pr&T	1020	Aeronautics, 2 or		Area 3 Aviation Management		
Pr&T	1310	FAA Private Requirements, 3	2-3	Area 4 Avionics Management		
IndM	4210	Industrial Management, 3 or		Area 5 Agricultural Aviation		
Mgt	3310	Principles of Management, 3	3	Area 6 Systems Design Technology		
MINOR NOT REQUIRED						
GENERAL EDUCATION REQUIREMENTS						40-43
Phys	1100	Group D (required)	4	Mf&C	2500	Group H or
Econ	1010	Group F (required)	3	CIS	1600	Group H (required) 2-3
FREE ELECTIVES						4-9
*Students choosing Area 2 will not take FREE ELECTIVES of 4-9, but will take 17 additional semester hours for Airframe and Powerplant certification. This brings the MINIMUM TOTAL to 132-136 hours.						
MINIMUM TOTAL						124
NOTE: Students interested in courses related to Airway Science should contact the Chairperson of the Department of Power and Transportation for additional details.						

POWER AND TRANSPORTATION Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000162)

						Sem. Hours
MINOR REQUIREMENTS						21
Pr&T	1010	Power Mechanics	3	Automotive		
Pr&T	4030	Power Technology	3	Pr&T	2110	Eng. Theory & Maintenance ... 3
Elect one of the following groups			15	Pr&T	2130	Auto. Electrical Systems 3
General						
Pr&T	1020	Aeronautics	2	Pr&T	2132	Fuel Sys. & Emission Control . 3
Pr&T	4020	Automotive Systems	3	Pr&T	3120	Steering, Susp. & Brakes 3
Pr&T	4410	Intermodal Surface Trans.	3	Pr&T	3130	Computerized Engine Diag. ... 3
Electives in power & transportation						7

AUTOMOTIVE/POWER TECHNOLOGY Functional Major, B.S. Degree

(43 000838)

						Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS						66
Pr&T	1010	Power Mechanics	3	Mf&C	3130	Machine Tool Technology 3
Pr&T	3020	Digital Control of Power Systems	3	IA&T	3060	Technical Report Writing 2
Pr&T	4032	Hydraulics & Pneumatics	3	Mgt	3310	Prin. of Management, 3 or
Pr&T	2110	Engine Theory & Maintenance	3	IndM	4210	Industrial Management, 3 3
Pr&T	2130	Auto. Electrical Systems	3	Departmentally approved electives from one of		
Pr&T	2132	Fuel Systems & Emission Controls	3	the three areas listed below. A listing of courses		
Pr&T	3150	Diesel Technology	3	is available from the Chair of the Department 27		
Pr&T	4410	Intermodal Surface Transportation	3	Area 1 Automotive Technology		
ET	1026	DC Circuit Analysis	4	Area 2 Engineering Technology		
Grap	1110	Fundamentals of Drafting	3	Area 3 Management Technology		
MINOR NOT REQUIRED						
GENERAL EDUCATION REQUIREMENTS						40-43
Math	1111	Group C (required)	3	Mf&C	2500	Group H or
Phys	1101	Group D (required)	4	CIS	1600	Group H (required) 2-3
FREE ELECTIVES						15-18
MINIMUM TOTAL						124

General and Professional

Pr&T 1010 Power Mechanics (3) Power sources and methods of transferring power. Theory of internal combustion engines. Laboratory experiences with emphasis on small gasoline engines. Each student must disassemble and overhaul at least one engine.

Pr&T 1020 Aeronautics (2) An overview of aviation and aerospace related industries. Consideration is given to the development of aviation and resulting social and economic factors, theory of flight, problems of weather and navigation, occupational opportunities, and government interest, promotion and regulation.

Pr&T 3010 Transportation Systems (3) Characteristics and significance of transportation technology as applied to people, their society and economic systems, analyzed through a review of water, highway, rail, air and pipeline transport.

Pr&T 3020 Digital Control of Power Systems (3) The impact of digital technology on aircraft and automotive power systems. Emphasis will be placed on the methods of controlling these systems. Prerequisite: ET 1010 or ET 1026.

Pr&T 4000 Special Projects in Power and Transportation (1-3) Investigation of contemporary problems and issues in power and transportation by selected individuals or groups. *May be repeated for a maximum of 6 semester hours.*

Pr&T 4010 Aerodynamics* (3) Theories of flight and factors affecting aircraft in flight, including drag, velocity, lift, thrust and wing loading. Comparative analysis of design features in modern aircraft.

*Not available for graduate credit.

Pr&T 4020 Automotive Systems (3) Serves driver and safety education needs concerning theory and operation of the ignition, cooling, fuel, electrical, steering and braking systems of the automobile.

Pr&T 4025 Motorcycle Systems Maintenance (3) Theory, maintenance and repair of motorcycles and systems. Special emphasis on diagnostics, repair, and adjustment procedures. Students will need to provide a motorcycle.

Pr&T 4030 Power Technology (3) Transmission of power by mechanical, hydraulic and pneumatic means. Power sources considered include internal combustion, gasoline and diesel engines, gas and steam turbines, and atomic solar energy. Prerequisite: background knowledge of internal combustion engine or Pr&T 1010.

Pr&T 4032 Hydraulics and Pneumatics (3) Fluid power principles with practical application of hydraulics, pneumatics, and fluidics. Prerequisite: Math 1111.

Pr&T 4034 Mechanical Power Systems (3) Analysis of mechanical devices, their theory, applications, and design.

Pr&T 4036 Pneumatic and Fluidic Control Systems (3) Design, construction, and operation of complex pneumatic control systems. Prerequisites: Pr&T 3020 or concurrently and Pr&T 4032.

Pr&T 4038 Advanced Hydraulics (3) Hydraulic system analysis and troubleshooting along with servo and electronic control theory and application. Prerequisites: Pr&T 3020 or concurrently and Pr&T 4032.

Pr&T 4040 Aviation Management (3) Aviation/airport management and administrative functions, issues, and problems involving both large and small airports, heliports, sea plane bases and related fixed base operations.

Pr&T 4050 Aviation Safety (3) To develop a knowledge of contributing factors affecting aviation safety and fostering

control methods and techniques to reduce accidents related to aircraft and the aviation field.

Pr&T 4060 Aerospace Education (2-3) Basic aerospace information dealing with the social, scientific, and technological importance of aviation and space with special applications for teachers who desire to utilize such information in the elementary and secondary school.

Pr&T 4070 Aviation History (3) Major events, people, and changing technologies in the development of the present day air transportation system.

Pr&T 4080 Nondestructive Inspection and Testing (3) Magnetic particle, eddy current, dye penetrant, ultrasonic vibration analysis, acoustics, radiographic, infrared, and liquid crystal methods of nondestructive inspection.

Prerequisites: Phys 1101 or Pr&T 1200; and ET 1010; or either/both concurrently.

Pr&T 4090 Aviation Law (3) Legal foundations and the federal and state regulatory functions which influence aviation and those who work in the industry.

Pr&T 5010 Special Problems in Power and Transportation (2-6) Meets individual student needs for additional research and/or laboratory experiences in the development of technical knowledge and skills in the areas of power and transportation. *May be repeated for a maximum of 6 semester hours.*

Pr&T 5020 Aircraft Accident Investigation (3) Principles and procedures for investigating aircraft accidents to determine probable causes and to make recommendations which will prevent the reoccurrence of accidents and factors which led to them.

Pr&T 5030 Airport Planning and Design (3) Criteria involved in the planning, design, development, and improvement of airports. Includes planning for normal operating procedures of modern airport facilities.

Automotive

Each student enrolled in an automotive course is expected to pay a shop fee to cover the cost of consumable supplies which cannot be conveniently charged to a particular project. In addition, each student will provide appropriate vehicle(s) with necessary materials and replacement parts for assigned laboratory experiences.

Pr&T 2110 Engine Theory and Maintenance (3) Examines through practical application the theories of operation, construction, maintenance, disassembly, and assembly of motor vehicle engines and their supporting systems. Emphasis on operating principles and maintenance procedures. Prerequisite: Pr&T 1010 or background experience.

Pr&T 2130 Automotive Electrical Systems (3) Procedures for testing, adjusting, repairing, and servicing of electrical components in automotive charging, starting, ignition, and accessory systems. Prerequisite: Pr&T 1010.

Pr&T 2132 Fuel Systems and Emission Controls (3) Fuel and related emission control systems. Basic carburetion, fuel injection, and emission control devices. Prerequisite: Pr&T 2130.

Pr&T 3110 Automotive Engine Overhaul (3) Theory and practice of disassembling, cleaning, inspecting, and repairing automotive engines. Removal and overhaul of engine according to accepted industry practice is a required activity for each student in the course. Prerequisite: Pr&T 2110.

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Pr&T 3120 Steering, Suspension and Brakes (3) Classroom and laboratory activity in the diagnosis, service and repair of steering, suspension and braking systems. Prerequisite: Pr&T 1010 or background experience.

Pr&T 3130 Computerized Engine Diagnostics (3) Utilization of computerized diagnostic methods and equipment in testing and servicing computerized engines in conjunction with automotive tune-up. Prerequisite: Pr&T 2132.

Pr&T 3140 Transmissions and Drivelines (3) In-depth classroom and laboratory experiences in the diagnosis, service and repair of transmissions and drivelines. Prerequisite: Pr&T 1010 or background experience.

Pr&T 3150 Diesel Technology (3) Survey of diesel engine theory, diagnosis, service and maintenance with emphasis in diesel fuel systems, injection pump designs, construction, operation, and maintenance. Prerequisite: Pr&T 2110.

Aviation Maintenance

Pr&T 1200 General Mechanics (3) Power mechanics, measurement and transmission. Theory of internal combustion engines. Principles of simple machines, sound, fluid and heat dynamics. Fabrication of fluid lines and fittings. Disassembly, repair and reassembly of a small reciprocating engine.

Pr&T 1210 Aircraft Reciprocating Power Plants (3) Aircraft reciprocating power plants, construction, operation, overhaul, and engine logs. Laboratory experience in disassembling, cleaning, inspection, and assembling.

Pr&T 1215 General A&P Applications (3) General A&P related course and laboratory material necessary to transition from military to civilian applications. Prerequisite: Release from the Federal Aviation Administration (FAA sign-off) for General, Airframe, and Powerplant or permission of instructor.

Pr&T 1216 Airframe Applications (3) Airframe related course and laboratory material necessary to transition from military to civilian applications. Prerequisite: Release from the Federal Aviation Administration (FAA sign-off) for General, Airframe, and Powerplant or permission of instructor.

Pr&T 1217 Powerplant Applications (3) Powerplant related course and laboratory material necessary to transition from military to civilian applications. Prerequisite: Release from the Federal Aviation Administration (FAA sign-off) for General, Airframe, and Powerplant or permission of instructor.

Pr&T 1218 Federal Aviation Regulations & Records Keeping Applications (3) Federal aviation regulations and records keeping related course and laboratory material necessary to transition from military to civilian applications. Prerequisite: Release from the Federal Aviation Administration (FAA sign-off) for General, Airframe, and Powerplant or permission of instructor.

Pr&T 1255 Basic Airframe Maintenance (3) Selecting airframe materials, repairing, rigging, and caring for fabric covered airframes. Prerequisite: Mf&C 1120.

Pr&T 2220 Aircraft Carburetion and Lubrication Systems (4) Operation of fuel, induction and lubrication systems. Type, composition and characteristics of various fuels and oils. Inspection, maintenance, and overhaul of fuel, induction and lubrication systems' components.

Pr&T 2230 Aircraft Electrical Systems (3) The theory, operation, and repair of aircraft electrical systems and components. Prerequisite: ET 1010 or ET 1027.

Pr&T 3210 Aircraft Hydraulic Systems (3) Theory and practice in the operation, maintenance, and overhaul of hydraulic systems and components.

Pr&T 3215 Gas Turbine Engines (3) Application, design, construction, operation, and overhaul of gas turbine power plants. Laboratory experiences in disassembling, inspection and assembling.

Pr&T 3220 Aircraft Engine Testing (3) Theory and practice in installing, trouble shooting, testing, and repairing of aircraft engines.

Pr&T 3225 Propellers and Components (3) Propellers, governors, and de-icing systems. Inspection, servicing, and overhaul of propellers.

Pr&T 3230 Aircraft Ignition-Starting Systems (3) Theory and practice in the operation, maintenance, and overhaul of ignition and starting systems and their components.

Pr&T 3240 Aircraft Air Conditioning and Pressurization Systems (2) Theory and practice with pneumatic, anti-icing, cabin pressurization, and air conditioning systems.

Pr&T 3250 Complex Aircraft Systems (4) Theory, operation and repair of complex aircraft fuel systems, position and warning systems, ice and rain protection systems. Prerequisites: Pr&T 2230 and Pr&T 3210.

Pr&T 3255 Metal Airframe Processing (3) Theory and practice in the construction and repair of metal airframes.

Pr&T 3260 Aircraft Radio Installation and Operation (1) Theory and practice with communication and navigation radio equipment. Prerequisite: Pr&T 2230.

Pr&T 3262 Aircraft Communication/Navigation Systems (4) Theory, operation, maintenance and repair of aircraft communication and navigation systems. Course includes lectures, demonstrations, and mandatory laboratory activities. Prerequisites: ET 3000, ET 3014 and ET 3015.

Pr&T 3264 Aircraft Pulse and Related Systems (4) Theory, operation, maintenance and repair of aircraft pulse and related systems. Course includes lectures, demonstrations, and mandatory laboratory activities. Prerequisites: ET 3000, ET 3014 and ET 3015.

Pr&T 4210 Aircraft Inspection, Weight and Balancing* (3) Theory and practice of repairing, maintaining, ground handling, jacking, weighing aircraft, and performing inspection. Prerequisite: 10 semester hours of aircraft maintenance or flight courses.

Pr&T 4220 Transport Aircraft Systems* (2) Comparison studies of systems on major types of transport category aircraft and the in-flight management of those systems. Field trips to major airlines are included in the instructional sequence of the course. Prerequisite: 10 semester hours of aircraft maintenance courses.

Pr&T 4230 Aircraft Instrument Systems* (3) Theory and practice of installing, operating, marking, adjusting, and interpreting aircraft instruments.

Pr&T 4240 Aircraft Engine Instruments and Systems* (4) Theory and practice in the operation and repair of aircraft engine instruments, fire detection and extinguishing systems, engine cooling systems and exhaust systems.

*Not available for graduate credit.

Aviation Flight

Aircraft user charges are based on flying time and vary with type of aircraft. Advance deposits of \$500 or more for each course are required. Contact the Department Chair or Chief Flight Instructor for current hourly flight fee rates.

Pr&T 1310 FAA Private Requirements (3) Basic ground school in support of flight training to prepare for the FAA examination for the Private Pilot Certificate. A fee of \$100 is charged for pilot supplies and ground school materials.

Pr&T 1320 Private Flight A (1) Increase the student's knowledge and aeronautical experience to operate an airplane in solo flight and in night conditions. Third class medical required. Student should plan to fly approximately 20 hours.

Pr&T 1321 Private Flight B (1) Increase the student's knowledge and aeronautical experience to operate an airplane on dual and solo cross-country flights. Third class medical required. Student should plan to fly approximately 20 hours. Prerequisite: Pr&T 1320.

Pr&T 2310 Propulsion Systems (3) Operation and theory of aircraft propellers and both reciprocating and gas turbine engines. Laboratory activity includes testing and troubleshooting major functional components and systems. Prerequisite: Pr&T 1010.

Pr&T 3305 FAA Commercial Requirements (3) Commercial ground school subjects in support of flight training to prepare for FAA examination for Commercial Pilot Certificate. Prerequisite: Pr&T 1310 or Private Pilot Certificate.

Pr&T 3310 Commercial Flight A (1) Increase the student's knowledge and aeronautical experience in dual and solo cross country flying in both day and night conditions. Student should plan to fly approximately 20 hours. Second class medical required. Prerequisite: Pr&T 1321 or Private Pilot Certificate.

Pr&T 3311 Commercial Flight B (1) Increase the student's knowledge and aeronautical experience in solo and cross country flying. Student should plan to fly approximately 20 hours. Second class medical required. Prerequisite: Pr&T 3310.

Pr&T 3312 Commercial Flight C (1) Increase the student's knowledge and aeronautical experience in solo cross country flying. Student should plan to fly approximately 20 hours. Second class medical required. Prerequisite: Pr&T 3311.

Pr&T 3313 Instrument Flight A (1) Increase the student's knowledge and aeronautical experience in maneuvering the aircraft solely by reference to the flight instruments. Includes the use of full and partial panel reference. The student should plan to fly approximately 20 hours. Prerequisite: Pr&T 3312 or instructor's written consent.

Pr&T 3314 Instrument Flight B (1) Increase the student's knowledge and aeronautical experience in IFR cross-country and emergency procedures. Student should plan to fly approximately 20 hours. Prerequisite: Pr&T 3313 or instructor's written consent.

Pr&T 3315 Commercial Flight D (1) Increase the student's knowledge and the skill necessary to safely fly a complex aircraft. Student should plan to fly approximately 20 hours. Second class medical required. Prerequisite: Pr&T 3314.

Pr&T 3316 Commercial Flight E (1) Increase the student's knowledge and provide the skill necessary to safely fly a complex aircraft. Additionally, the commercial flight

maneuvers are introduced. Student should plan to fly approximately 20 hours. Second class medical required. Prerequisite: Pr&T 3315.

Pr&T 3317 Commercial Flight F (1) Increase the student's knowledge and provide the aeronautical skill necessary for the issuance of the Commercial Pilot Certificate. Student should plan to fly approximately 20 hours. Second class medical required. Prerequisite: Pr&T 3316.

Pr&T 3325 FAA Instrument Requirements (3) Instrument ground school subjects in support of flight training to prepare for FAA examination for instrument rating. Prerequisite: Private Pilot Certificate with 80 flight hours.

Pr&T 3330 Multi-Engine Certification (1) Classroom and laboratory instruction to provide aeronautical knowledge and skills for multi-engine pilot certification. Prerequisite: FAA Airplane Certificate with Instrument Airplane Rating.

Pr&T 3340 Aircraft Systems and Components (3) Design, construction and operation of aircraft mechanical, electrical hydraulic, and pneumatic systems with emphasis on trouble analysis, servicing methods, and safety precautions.

Pr&T 3360 Flight Instructor--Airplane (3) Combines classroom and flight laboratory experience to prepare for FAA written examination and flight test for flight instructor rating. Student should plan to fly 30 hours. Prerequisite: Commercial Pilot Certificate with instrument rating.

Pr&T 3362 Flight Instructor - Instrument (1) Instruction, flight training and practice teaching to obtain the aeronautical skills and knowledge necessary for FAA Certified Flight Instructor, Instruments. Prerequisite: FAA Certified Flight Instructor with Airplane Category.

Pr&T 3364 Flight Instructor - Multi-Engine (1) Instruction, flight training and practice teaching to obtain the aeronautical skills and knowledge necessary for FAA Certified Flight Instructor, Multi-Engine. Prerequisites: FAA Multi-Engine Rating and Flight Instructor Certificate.

Pr&T 3380 Rotorcraft Transition--Helicopter (1-2) Dual and supervised solo flight instruction to qualify for issuance of pilot certificates with Rotorcraft category and Helicopter rating. Medical certificate is required appropriate to the rating sought. Students should plan to fly at least 20 hours for each 1 semester hour course segment. *May be repeated for a maximum of 2 semester hours.* Prerequisite: consent of instructor.

Pr&T 3390 Turboprop Familiarization (2) Systems operation and flying procedures for multi-engine turboprop aircraft with particular emphasis on current complex aircraft. Class will involve both ground school and flying a minimum of five hours. Prerequisite: multi-engine Commercial Pilot Certificate.

Pr&T 4310 Air Traffic Control (2) Purposes, activities and operational procedures of air traffic control centers, towers and flight service stations. Study will include both standard and emergency services available from ATC/FSS systems.

Pr&T 4320 Physiology and Flying (2) Physiological factors related to flying, including those related to changes in pressure, supply of oxygen, spatial disorientation, and both positive and negative effects of chemicals in the body.

Pr&T 4330 Sport Aviation (2) Sailplanes, hot air balloons, and related sport aircraft. Students will have flying experience in either sailplanes or hot air balloons. Flight fees are required to cover expenses of flight instruction. Principles of organizing fly-ins, air shows, and contests.

Pr&T 4340 Flight Engineer (2) Flight engineer regulations and duties with respect to the principles and operations of

turbojet aircraft systems. Preparation for FAA written examination. Prerequisites: Pr&T 4220 and Commercial Pilot Certificate.

Pr&T 4370 Advanced Flight Crew Management (3)
Advanced flight crew operations with emphasis on the transition of the professionally qualified pilot into a highly skilled member of a flight management team with knowledge of cockpit resource management, high speed and high altitude flight techniques, turbine-powered operations and advanced avionics systems. Prerequisite: Commercial Pilot Certificate.

Transportation

Pr&T 4410 Intermodal Surface Transportation (3) Surface transportation (motor vehicle, pipeline, rail, and water) in the United States as seen from an integrated, intermodal viewpoint. Major aspects include systems analysis, organization, operations, financing, research and development, training, and regulation. Economic, social, and political factors are considered.

Pr&T 4420 Air Transportation (3) Organization and administration of the air transportation industry with attention to airline regulations, rate and route structures, air cargo and freight, scheduled and nonscheduled operations, and contract air transport.

Safety Science and Technology

In the Department of Safety Science and Technology, the second digit in the course number stands for the following:
0--General Safety, 1--Industrial Hygiene, 2--Transportation Safety, 3--System Safety, 4--Industrial Safety, 5--Loss Control, 7--Security, 8--Fire Science, 9--Individual Study and Research.

SAFETY MANAGEMENT Functional Major, B.S. Degree

(43 000204)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						74	
SS&T	3000	Prin. of Accident Causation & Prev.	3	SS&T	4360	Introduction to System Safety	3
SS&T	3050	Philosophy of Safety	3	SS&T	3430	Industrial Hazard Control	3
SS&T	3070	Psychology of Safety Mgt.	3	SS&T	4425	Safety & Health Legislation	3
SS&T	4000	Ergonomics in Safety & Health	3	SS&T	4510	Loss Control	3
SS&T	4010	Accident Investigation	3	SS&T	4520	Safety & Risk Analysis	3
SS&T	4020	Legal Aspects of Safety, Security & Fire	3	SS&T	1700	Introduction to Security	3
SS&T	4035	Safety Program Development	3	SS&T	1800	Introduction to Fire Science	3
SS&T	3120	Introduction to Industrial Hygiene	3	SS&T	4940	Introductory Quantitative Methods	3
SS&T	4140	Safety & Health Laboratory	2	IA&T	3060	Technical Report Writing	2
SS&T	4215	Transportation & Storage of Hazardous Materials	3	Chem	1110	Elementary Chemistry	4
						Departmentally approved electives	15
						List of electives available from Chair, Safety Science and Technology.	
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS						40-43	
Math	1111	Group C (required)	3	Mf&C	2500	Group H or	
Phys	1101	Group D (required)	4	CIS	1600	Group H (required)	2-3
Psy	1100	Group F (required)	3				
FREE ELECTIVES						7-10	
MINIMUM TOTAL						124	

SAFETY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000193)

						Sem. Hours	
MINOR REQUIREMENTS						26	
SS&T	3000	Prin. of Accident Causation & Prev.	3	SS&T	3070	Psychology of Safety Mgt.	3
SS&T	3010	Product Safety	3	SS&T	4035	Safety Program Development	3
SS&T	3015	Emergency Preparedness	3	SS&T	4940	Introductory Quantitative Methods	3
SS&T	3050	Philosophy of Safety	3	Departmentally approved electives			5

FIRE SCIENCE Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000177)

						Sem. Hours	
MINOR REQUIREMENTS						26	
SS&T	4020	Legal Aspects of Safety, Security & Fire	3	SS&T	4810	Fire Extinguishing & Alarm Sys.	3
SS&T	1800	Introduction to Fire Science	3	SS&T	4830	Fire Investigation	3
SS&T	2800	Fire Prevention & Protection	3	SS&T	4850	Industrial Fire Protection	3
SS&T	4800	Water & Sprinkler Systems Analysis	3	Mf&C	3330	Bldg. Codes & Code Adm.	3
						Departmentally approved elective	2

SECURITY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)
(000185)

				Sem. Hours	
MINOR REQUIREMENTS				26	
SS&T 1700	Introduction to Security	3	SS&T 4710	Security Technology	3
SS&T 2700	Physical Security Systems	3	SS&T 4720	Personnel & Infor. Security	3
SS&T 3700	Security Org. & Management	3	CJ 3303	Const. Asp. of Crim. Justice	3
SS&T 4700	Special Security Problems	3	Departmentally approved electives		5

DRIVER EDUCATION Minor, B.S. in Ed. Degree

(Certification to teach driver education in grades 9-12 with secondary major. This minor is not available to meet area of concentration requirements for the Elementary Education Functional Major.)
(000213)

				Sem. Hours	
MINOR REQUIREMENTS				21	
DrEd 2010	Introduction to Safety Education	3	SS&T 3070	Psychology of Safety Mgt.	3
DrEd 2020	Driver Education I	3	Hed 1350	Std. First Aid & Personal Safety	3
DrEd 2030	Driver Education II	3	Departmentally approved electives		6

INDUSTRIAL HYGIENE Functional Major, B.S. Degree

(43 000178)

				Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS				70	
SS&T 4020	Legal Aspects of Safety, Security & Fire	3	SS&T 4940	Intro. Quantitative Methods	3
SS&T 3120	Introduction to Industrial Hygiene	3	Biol 2401	Anatomy & Physiology I	4
SS&T 4140	Safety & Health Laboratory	2	Biol 2402	Anatomy & Physiology II	4
SS&T 4150	Noise Measurements	2	Chem 1131	General Chemistry I	5
SS&T 4160	Ind. Vent. for Envir. Safety & Hlth.	3	Chem 1132	General Chemistry II	5
SS&T 4170	Industrial Toxicology	3	Chem 3341	Organic Chemistry I	4
SS&T 4180	Principles of Epidemiology	3	Chem 3342	Organic Chemistry II	4
SS&T 3430	Industrial Hazard Control	3	Phys 1101	College Physics I	4
SS&T 4425	Safety & Health Legislation	3	Phys 1102	College Physics II	4
SS&T 4435	Analysis & Development of Safety & Health Criteria	3	Math 1112	College Trigonometry	2
MINOR NOT REQUIRED					
GENERAL EDUCATION REQUIREMENTS				40-42	
Math 1111	Group C (required)	3	Mf&C 2500	Group H (required)	2
Biol 1013	Group D (required)	4			
FREE ELECTIVES				12-14	
MINIMUM TOTAL				124	

General Safety

SS&T 2010 Safety: A Personal and Societal Focus (3) A critical examination of the role of safety in today's world. Enhances the student's critical thinking processes so the learner can analyze variables influencing risks associated with life's activities.

SS&T 3000 Principles of Accident Causation and Prevention (3) Traces the development of the safety movement, provides a background useful in handling problems and procedures of typical school, industrial, transportation, civil defense, and emergency safety programs.

SS&T 3010 Product Safety (3) An examination of product safety from an industrial and consumer perspective. Legislation, product liability, product safety, and consumer behavior will be reviewed.

SS&T 3015 Emergency Preparedness (3) Legal responsibilities of environmental and human protection. An examination of staff functions and responsibilities during major emergencies, resulting from human errors and natural disasters, as they influence human and environmental loss potentials.

SS&T 3040 Energy Resource Management (3) Concepts of energy, the energy crisis and consequences, alternative

energy technologies and issues facing the individual in society.

SS&T 3050 Philosophy of Safety (3) An examination of four major philosophical approaches to safety and their influence on society, industry, and the professional.

SS&T 3070 Psychology of Safety Management (3) Problems of behavior, causes of accidents, and the application of principles of psychology in the development and management of safe behavior on and off the job.

SS&T 4000 Ergonomics in Safety and Health (3) An introduction into the role and application of ergonomics in a comprehensive safety program. Prerequisite: SS&T 3000 or SS&T 3120.

SS&T 4010 Accident Investigation (3) Fundamentals and techniques of investigating accidents. Prerequisites: SS&T 3000, SS&T 3050, SS&T 3070 and SS&T 3430.

SS&T 4020 Legal Aspects of Safety, Security and Fire (3) An investigation of the legal problems confronting the safety, security or fire specialist. Prerequisite: SS&T 3000 or SS&T 3120.

SS&T 4035 Safety Program Development (3) The development of materials, techniques, and procedures in the implementation of safety programs and their application in a variety of occupational settings. Prerequisite: 21 semester hours of SS&T courses.

SS&T 4085 Problems With Alcohol and Other Drugs (3) An investigation of the effects of alcohol and other drugs as a contributing variable to the cause of accidents. Methods of identification of use and abuses are examined.

SS&T 5010 Organization, Administration, and Supervision of Safety Programs (3) Management styles and their effects upon safety and health programs.

SS&T 5015 Emergency Planning and Operations (3) The role and responsibilities of private and public officials in the development of emergency plans to reduce the human and material losses in time of an emergency.

Industrial Hygiene

SS&T 3120 Introduction to Industrial Hygiene (3) The recognition, evaluation and control of workplace health hazards.

SS&T 4140 Safety and Health Laboratory (2) A laboratory course using instrumentation commonly used in the evaluation of the workroom environment and equipment for safety. Prerequisites: SS&T 3120 and SS&T 3430, or equivalent.

SS&T 4150 Noise Measurements (2) Physics of sound, measurement and control of noise. Laboratory required. Prerequisite: one year of college physics or equivalent.

SS&T 4160 Industrial Ventilation for Environmental Safety and Health (3) Industrial ventilation systems designed to control health and safety hazards in the work environment with emphasis given to the design of local exhaust systems. Prerequisite: SS&T 3120 or equivalent.

SS&T 4170 Industrial Toxicology (3) Chemical composition of cells, chemical processes of life, and the effects thereon of selected corrosive and toxic substances. Prerequisite: Chem 2650 or equivalent.

SS&T 4180 Principles of Epidemiology (3) Introduction to the nature and scope of epidemiology. Principles and application of epidemiological methods in the investigation and control of safety and health problems stemming from environmental hazards.

SS&T 5120 Principles of Industrial Hygiene (3) The role and responsibilities of an industrial hygienist; the application of industrial hygiene methods to the recognition, evaluation and control of health hazards arising in or from the workplace.

SS&T 5130 Industrial Environmental Monitoring (3) Fundamentals of sample collection, precision and reliability of measurements, and methods for detecting and measuring trace contaminants in air and water. Prerequisite: Chem 2650 or equivalent.

Transportation Safety

SS&T 4215 Transportation and Storage of Hazardous Materials (3) A study of the state-of-the-art of safe methods for the transportation and storage of hazardous materials. Prerequisite: SS&T 3000.

SS&T 4250 Traffic Engineering (3) Planning, design and operation of effective and efficient traffic movement systems. Various types of traffic studies, traffic control techniques and devices, traffic flow patterns, street lighting and street and parking are presented and discussed. Students participate in field studies.

SS&T 4260 Management of Fleet Safety Programs (3) The role and responsibilities transportation officials have in the administration and operation of a motor fleet safety

program; the study of U.S. Department of Transportation Regulations.

SS&T 5220 Management of Safe Transportation Systems (3) Safety and management considerations specific to the five modes of transportation: water, rail, motor vehicle, air, and pipe. Development and importance of each mode; intermodalism.

SS&T 5230 Traffic Safety Program Management (3) The process of preparing a traffic safety program plan, arranging for its implementation and monitoring the program administration of identified countermeasures.

System Safety

SS&T 4360 Introduction to System Safety (3) Techniques and concepts of hazard control within the constraints of operational effectiveness, time, and cost attained through the specific application of management and scientific principles throughout all phases of a system life cycle. Prerequisites: SS&T 3000, SS&T 3050, SS&T 3070 and SS&T 3120.

Industrial Safety

SS&T 3430 Industrial Hazard Control (3) The techniques for the control of mechanical, electrical and chemical hazards. The Occupational Safety and Health Standards which interface with these areas will also be included. Prerequisite: SS&T 3000 or SS&T 3120.

SS&T 4425 Safety and Health Legislation (3) Comprehensive study of federal and state legislation enacted to protect the health and safety of workers or citizens of the community. Prerequisite: SS&T 3000.

SS&T 4430 Workers Compensation Legislation (2) An overview of the principles and statutes that govern workers compensation as they apply to the industrial setting. Prerequisite: SS&T 3000.

SS&T 4435 Analysis and Development of Safety and Health Criteria (3) Analysis of municipal, state and national safety and health evaluative criteria. Techniques for development of effective performance standards are emphasized. Prerequisite: SS&T 4425.

SS&T 5430 Industrial Hazard Management (3) The examination of the management of hazards in the industrial environment. Industry standards affecting the management of hazards will be reviewed. Prerequisite: safety background or consent of instructor.

Loss Control

SS&T 4510 Loss Control (3) Provides a background in loss control by investigating professional safety management. Emphasis is placed on incident recall, management's role in loss control, total job observation, total job analysis, and supervisory training. Techniques of implementing a total loss control program are explored. Prerequisite: SS&T 3000.

SS&T 4520 Safety and Risk Analysis (3) Identification of safety risks and analytical treatment of those risks in various work settings. Prerequisites: SS&T 3000 and SS&T 3050.

SS&T 5530 Loss Control Management (3) Development, management and evaluation of a comprehensive loss control program for business, industry, and government.

Security

SS&T 1700 Introduction to Security (3) A survey of the role of security in society with emphasis on industrial and government security.

SS&T 2700 Physical Security Systems (3) Physical security hardware as applied in business, industry, and government. Includes instruction on the safe handling and discharge of firearms. A small fee is required.

SS&T 3700 Security Organization and Management (3) Organization and management of security programs in business, industry, and government.

SS&T 4700 Special Security Problems (3) An overview of security as applied to contemporary situations in business, industry, and government.

SS&T 4710 Security Technology (3) A survey of security detection, including electromechanical and electronic systems. Future applications of technology are discussed. Prerequisite: college level math course.

SS&T 4720 Personnel and Information Security (3) Methods used in screening personnel and safeguarding information.

SS&T 5710 History of Security (3) The security of humans from primitive to modern times.

SS&T 5740 Commercial and Institutional Security (3) Security applications in commerce and institutions.

SS&T 5760 Security Statutes and Codes (3) Examination of state and federal statutes, ordinances as they relate to the field of security.

Fire Science

SS&T 1800 Introduction to Fire Science (3) An overview of the principles of fire protection and fire prevention as they apply to the industrial setting. Emphasis on the chemistry of fire, classification of fires, factors contributing to fires, identification of hazardous materials, techniques of fire prevention, and considerations in fire protection.

SS&T 2800 Fire Prevention and Protection (3) Provide a background in fire related codes, laws, and ordinances. Emphasis on the implementation of prevention, protection, investigation, and inspection programs. Prerequisite: SS&T 1800.

SS&T 4800 Water and Sprinkler Systems Analysis (3) Water supply, how to determine quantity, and basic fire service water requirements. An in-depth study of the design, installation, operations and maintenance of sprinkler systems that use water. Prerequisite: Math 1111 or equivalent.

SS&T 4810 Fire Extinguishing and Alarm Systems (3) Basic types of extinguishing systems, other than sprinkler systems, and their use. Fire alarm systems, their use, installation and components.

SS&T 4830 Fire Investigation (3) Fire investigation techniques with emphasis on fire causation, equipment, evidence, and reporting. Prerequisite: SS&T 1800 or equivalent.

SS&T 4850 Industrial Fire Protection (3) The fire hazards that are present in industrial settings and their recognition, control, or elimination. Prerequisites: SS&T 1800 and Chem 1110, or their equivalent.

Individual Study and Research

SS&T 4900 Directed Studies (1-6) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 6 semester hours.*

SS&T 4910 Special Projects in Safety Science and Technology (1-3) Individual or group study of problems in special areas of interest. *May be repeated for a maximum*

of 6 semester hours.

SS&T 4940 Introductory Quantitative Methods (3) Mathematical and statistical methods designed for the efficient collection and rational interpretation of data by individuals responsible for analysis in a variety of settings. Prerequisite: high school algebra or equivalent.

SS&T 4990 Internship in Safety Science and Technology* (1-6) Internships are based upon student preparation and interest. Actual work experiences in education, institutions, government, industry, or business are provided. *May be repeated for a maximum of 6 semester hours.* Prerequisite: departmental approval and must have completed one-half of major/minor courses in area of study.

*Not available for graduate credit.

SS&T 5940 Current Literature and Research in Safety (3) Current research in the area of safety, research techniques and design in proposal and other technical writing. Prerequisite: SS&T 4940 or equivalent.

SS&T 5950 Readings in Safety Science and Technology (1-6) Readings in the student's field of interest or in related areas designed to enhance knowledge and/or skills. *May be repeated for a maximum of 6 semester hours.* Prerequisite: 9 semester hours of graduate credit.

SS&T 6920 Seminar in Safety Science and Technology (1) A seminar designed to investigate a broad spectrum of current problems and innovations in the field of safety. Consideration of criteria for the identification of problems and a critical analysis of present practices toward improving the quality and management of safety programs. *May be repeated for a maximum of 2 semester hours.*

SS&T 6930 Individual Research Problems (3) Independent study and investigation of a pertinent problem confronting the safety science and technology professional that will culminate in a research paper. Prerequisite: SS&T 5940 or equivalent.

SS&T 6940 Internship in Safety Science and Technology (1-6) Internships are based on student needs and educational goals. Actual work experiences in education, government, industry or business are provided. *May be repeated for a maximum of 6 semester hours for each degree program.* Prerequisite: departmental approval.

SS&T 6950 Thesis (3) An extensive investigation into a selected problem on an original research topic, culminating in a thesis. *May be repeated for a maximum of 6 semester hours for each degree program.* Prerequisite: SS&T 5940 or equivalent.

Driver Education

DrEd 2010 Introduction to Safety Education (3) Provides a background in safety that will give insight to the possible accident situations present in various school situations.

DrEd 2020 Driver Education I (3) Curriculum content overview for driver and traffic safety education in secondary schools; classroom instruction and laboratory experience; driving skills and abilities of future teachers are evaluated. Prerequisite: DrEd 2010.

DrEd 2030 Driver Education II (3) A methods and materials course for driver education in the secondary schools. Techniques of teaching beginning drivers in both classroom and laboratory settings. Practicum arranged as a portion of the course. Prerequisite: DrEd 2020.

DrEd 4010 Driving Simulators and Multiple-Car Driving Ranges (3) Operation, maintenance, and techniques of teaching with driving simulators and multiple-car driving ranges. Practicum arranged as a portion of the course. Prerequisite: DrEd 2030.

College of Arts and Sciences

Pre-Professional Programs

Students interested in the premedical, pre-osteopathy, and pre-veterinary medicine program should plan to attend the University for four years and graduate with a B.S. degree. The student should major in biology and minor in chemistry or major in chemistry and minor in biology. Additional electives are required depending upon the student's needs and interest area.

Students interested in pre-dental, pre-optometry, and

pre-physical therapy should plan to attend the University two or more years to meet the minimum requirements in biology, chemistry, mathematics, and physics required by the professional school. Additional electives are required depending upon the student's needs and interest area.

Students interested in the pre-pharmacy program should consult the Chair of the Chemistry and Physics Department for suggested curriculum.

Art

In the Department of Art, the second digit in the course number stands for the following: 0--Art Problems, 1--Drawing, 2--Figure Drawing and Life Drawing, 3--Design, 4--Sculpture and Ceramics, 5--Painting, 6--Commercial Art, 7--Printmaking, 8--Art History, 9--Art Education.

NOTE: The Department of Art is an accredited institutional member of the National Association of Schools of Art and Design.

Department of Art Statement of Policy

Students in studio courses in art are required to furnish their own materials except certain studio equipment and some highly specialized materials provided by the Department. All work when completed is under the control of the Department until the end of the academic year. The student is expected to have a representative portfolio of his/her work available for presentation at any time prior to graduation.

Each candidate for a degree may be required to leave with the Department of Art one or more pieces of original work. These are added to the collection of the work of graduates and will form a permanent University collection.

During the sophomore year or during the first semester after transferring from another institution, all candidates for degrees will present a portfolio of work to be reviewed by the faculty for the purpose of acceptance into the B.F.A. program.

During the senior year, all candidates for degrees will present an exhibition of representative work to be reviewed by the faculty as partial graduation approval. Specific information about reviews and exhibitions may be obtained in the Department of Art Office.

ART Functional Major, B.S. in Ed. Degree

(Certification to teach art in grades PK-12)
(41 000375)

				Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS				57	
Art	1110	Drawing I	3	Art 2710 Introduction to Printmaking	3
Art	1120	Drawing II	3	Art 1800 Ideas & the Visual Arts	3
Art	3209	Figure Construction	3	Art 1815 Art History Survey I	3
Art	1315	Design I	3	Art 1825 Art History Survey II	3
Art	1325	Design II	3	Art 4850 20th Cent. Art & Architecture	3
Art	2335	Design III	3	Art 3915 Prob. in Elementary Art Ed.	3
Art	3314	Fibers	3	Art 3920 Prob. in Secondary Art Ed.	3
Art	2412	Ceramics I	3	Upper level concentration in studio art in one of the following areas: drawing, painting, watercolor, sculpture, fibers, printmaking, ceramics	
Art	2420	Sculpture I	3		6
Art	2511	Painting I	3		
MINOR NOT REQUIRED					
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, Art 1800 fulfills 3 s.h. of Group E)				36-40	
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.					
PolS	1510	Group F (required)	3	Psy 4230 Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.					
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)				28	
FREE ELECTIVES				0-3	
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.					
MINIMUM TOTAL				124	

ART Minor, B.S. in Ed. Degree

(Certification to teach art in grades PK-9. Secondary majors should see the Director of Clinical Services and Certification.)
(000369)

				Sem. Hours			
MINOR REQUIREMENTS				27			
Art	1110	Drawing I	3	Art	3915	Prob. in Elementary Art Ed.	3
Art	1315	Design I	3	Art	2511	Painting I, 3 or	
Art	3314	Fibers	3	Art	3510	Watercolor, 3	3
Art	2412	Ceramics I	3	Art	1815	Art History Survey I, 3 or	
Art	2420	Sculpture I	3	Art	1825	Art History Survey II, 3	3
Art	2710	Introduction to Printmaking	3				

ART Minor for a Bachelor's Degree

(Except for a B.S. in Ed. Degree)
(000484)

				Sem. Hours			
MINOR REQUIREMENTS				24			
Art	1110	Drawing I	3	Art	1325	Design II	3
Art	1120	Drawing II	3	Art	1815	Art History Survey I	3
Art	3209	Figure Construction	3	Art	1825	Art History Survey II	3
Art	1315	Design I	3	Elective in Art		.....	3

COMMERCIAL ART Functional Major, B.F.A. Degree

(47 000372)

				Sem. Hours			
FUNCTIONAL MAJOR REQUIREMENTS				87			
Art	4020	Studio Seminar (Portfolio)	3	Art	1825	Art History Survey II	3
Art	1110	Drawing I	3	Art	4850	20th Cent. Art & Arch.	3
Art	1120	Drawing II	3	Art	2412	Ceramics I, 3 or	
Art	1315	Design I	3	Art	2420	Sculpture I, 3	3
Art	1325	Design II	3	Electives in art		.....	6
Art	2335	Design III	3	Departmentally approved electives from one of the		.....	36
Art	2511	Painting I	3	following areas		.....
Art	3510	Watercolor	3	Area 1 Graphic Design		.....
Art	2610	Introduction to Commercial Art	3	Area 2 Illustration		.....
Art	2710	Introduction to Printmaking	3	(List of courses available from the Chair of the		.....
Art	1800	Ideas & the Visual Arts	3	Art Department.)		.....
Art	1815	Art History Survey I	3				
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, Art 1800 fulfills 3 s.h. of Group E)				36-40			
FREE ELECTIVES				0-1			
MINIMUM TOTAL				124			

INTERIOR DESIGN Functional Major, B.F.A. Degree

(47 000374)

				Sem. Hours			
FUNCTIONAL MAJOR REQUIREMENTS				87			
Art	4020	Studio Seminar	3	Art	1815	Art History Survey I	3
Art	1110	Drawing I	3	Art	1825	Art History Survey II	3
Art	1120	Drawing II	3	Art	4850	20th Cent. Art & Architecture	3
Art	3209	Figure Construction	3	Grap	1110	Fundamentals of Drafting	3
Art	1315	Design I	3	Grap	2170	Intro. to Computer Aided Drafting ..	3
Art	1325	Design II	3	Grap	3160	Residential Arch. Drawing	3
Art	2310	Introduction to Interior Design	3	HES	2442	Textiles	3
Art	2320	Residential Interior Design	3	Mf&C	2210	Finishing & Upholstering	3
Art	2335	Design III	3	Art	2412	Ceramics I, 3 or	
Art	3310	Traditional Interiors	3	Art	2420	Sculpture I, 3	3
Art	3314	Fibers	3	Electives from the following		.....	6
Art	3320	Professional Practice for		Art	4310	Design Internship	3
		Interior Designers	3	Art	2610	Intro. to Commercial Art	3
Art	3330	Restaurant & Store Planning	3	Grap	4162	Commercial Arch. Drawing	3
Art	4340	Corporate & Institutional Design	3	Grap	1210	Elementary Photography	3
Art	2511	Painting I	3	*HES	3510	Housing & Home Furnishings ..	3
Art	3510	Watercolor	3	*HES	4442	Advanced Textiles	3
Art	2710	Introduction to Printmaking	3	Thea	1600	Stagecraft & Lighting	3
Art	1800	Ideas & the Visual Arts	3				
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, Art 1800 fulfills 3 s.h. of Group E)				36-40			
FREE ELECTIVES				0-1			
MINIMUM TOTAL				124			

*Course has prerequisite(s) not listed in the program.

STUDIO ART Functional Major, B.F.A. Degree
(47 000378)

		Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS		86
Art 1110	Drawing I	3
Art 1120	Drawing II	3
Art 3110	Drawing III	3
Art 3209	Figure Construction	3
Art 1315	Design I	3
Art 1325	Design II	3
Art 2335	Design III	3
Art 2412	Ceramics I	3
Art 2420	Sculpture I	3
Art 2511	Painting I	3
Art 2710	Introduction to Printmaking	3
Art 1800	Ideas & the Visual Arts	3
Art 1815	Art History Survey I	3
Art 1825	Art History Survey II	3
Art 4850	20th Cent. Art & Architecture	3
Electives in art		14
Elect one of the following areas of specialization		21
Sculpture		
Art 4020	Studio Seminar	3
Art 3420	Sculpture II	9
Art 4420	Sculpture III	9
Painting		
Art 3510	Watercolor	3
Art 3511	Painting II	9
Art 4511	Painting III	9
Ceramics		
Art 4020	Studio Seminar	3
Art 3412	Ceramics II	9
Art 4412	Ceramics III	9
Printmaking		
Art 3710	Intaglio	3
Art 3720	Lithography	3
Art 3730	Serigraphy	3
Art 3740	Relief Printmaking	3
Electives in Printmaking		9
Departmentally approved electives related to area of specialization		6
MINOR NOT REQUIRED		
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, Art 1800 fulfills 3 s.h. of Group E)		36-40
FREE ELECTIVES		0-2
MINIMUM TOTAL		124

Art Problems

Art 4010 Special Projects in Art (1-3) *May be repeated for a maximum of 6 semester hours.*

Art 4020 Studio Seminar (3) By arrangement, with consent of the instructor involved, and through individual directed study. *May be repeated for a maximum of 6 semester hours.* Prerequisite: senior year with consent.

Art 6010 Research Problems in Art (3) *May be repeated for a maximum of 6 semester hours.* Prerequisite: 20 semester hours of graduate credit toward appropriate degree in art including Art 5910.

Drawing

Art 1110 Drawing I (3) Basic principles of perspective and composition through problems in landscape and still life.

Art 1120 Drawing II (3) Compositional drawing in various media including ink wash and pen and ink. Prerequisite: Art 1110.

Art 3110 Drawing III (3) The application of fundamentals of drawing to creative problems in figure, still life, and landscape composition. *May be repeated for a maximum of 9 semester hours.* Prerequisites: Art 1120 and Art 3209.

Art 5110 Special Problems in Drawing (3) Drawing in all media from models and from imagination leading to finished drawings. Emphasis on composition. Study of old masters and contemporary drawings. *May be repeated for a maximum of 9 semester hours.* Prerequisite: Art 3110.

Figure Drawing and Life Drawing

Art 3209 Figure Construction (3) The skeletal and muscular construction of the human figure as it relates to the action and proportions of the figure. Drawing from life. Prerequisite: Art 1110.

Art 3210 Life Drawing (3) Drawing from a live model with the emphasis on techniques. *May be repeated for a maximum of 6 semester hours.* Prerequisite: Art 3209.

Art 5210 Advanced Life Drawing (3) Drawing from the model at rest and in action in all media. Studies in composition and the analysis of the work of the old and modern masters. Special emphasis given to techniques. *May be repeated for a maximum of 9 semester hours.* Prerequisite: Art 3209.

Design

Art 1315 Design I (3) Introduces the use of the visual elements within the context of the principles of design.

Art 1325 Design II (3) The study of color, its application within the design process and its use as an integral component in design. Prerequisite: Art 1315.

Art 2310 Introduction to Interior Design (3) A practical guide to the fundamentals of interior design and an overview of the interior design profession. Prerequisites: Art 1110 and Art 1315.

Art 2320 Residential Interior Design (3) The design process as it is applied to interior design problems. An emphasis on residential design and a survey of major historical furniture styles and interiors. Prerequisites: Art 1120, Art 1325 and Art 2310 for art majors; Grap 1110 or consent of instructor for nonmajors.

Art 2335 Design III (3) Creative applications of color and design theory in a variety of design situations. Prerequisite: Art 1325.

Art 3310 Traditional Interiors (3) Traditional interior design problems, rendering techniques, and historical furniture styles. An emphasis on architectural interior elements, interior surfaces, finishes, and application. Prerequisites: Art 2320 and Grap 3160 for art majors; Grap 1110 or consent of instructor for nonmajors.

Art 3314 Fibers (3) Basic course in the fundamentals and techniques of creating on and off loom structures and fabrics. *May be repeated for a maximum of 9 semester hours.*

Art 3320 Professional Practice for Interior Designers (3) The study of interior design business practices. The history of the profession and considerations required when organizing and managing a business. Prerequisite: Art 2310.

Art 3330 Restaurant and Store Planning (3) Intermediate work in interior design, studio problems, lighting, and full presentation techniques with emphasis on store and restaurant planning. Prerequisite: Art 310 for art majors; Grap 1110 or consent of instructor for nonmajors.

Art 4310 Design Internship (2-3) An elective course for interior design and commercial art majors operated in conjunction with various business firms, wherein students are afforded the opportunity of working alongside professional designers in the field. *May be repeated for a maximum of 6 semester hours.* Prerequisite: a major on the undergraduate level of either interior design or commercial art and with approval of departmental committee.

Art 4324 Creative Craft Studio (3) Introduces and allows the student to explore a variety of three-dimensional mediums while creating mixed-media projects. A broad range of materials and techniques will be utilized. *May be repeated for a maximum of 9 semester hours.* Prerequisite: 20 semester hours of art.

Art 4340 Corporate and Institutional Design (3) Increasing emphasis on space arrangement for commercial and institutional use; introduction to specifications of materials and specification writing; emphasis in office design. *May be repeated for a maximum of 6 semester hours.* Prerequisite: Art 3330 for art majors; Grap 3160 or consent of instructor for nonmajors.

Sculpture and Ceramics

Art 2412 Ceramics I (3) Basic skills on the three pottery making methods: e.g., slab, coil, and pottery wheel with emphasis on aesthetic qualities. Wheel throwing will be accented. Basic experiences in kiln stacking and firing.

Art 2420 Sculpture I (3) Fundamentals in sculpture including additive, subtractive, and construction techniques.

Art 3412 Ceramics II (3) Extended studio research in pottery design and forming. Technical methods in the preparation of clay bodies, glazes, and kiln firing and maintenance. *May be repeated for a maximum of 9 semester hours.* Prerequisite: Art 2412.

Art 3420 Sculpture II (3) Individual problems in techniques of sculpture utilizing a variety of media. *May be repeated for a maximum of 9 semester hours.* Prerequisite: Art 2420.

Art 4412 Ceramics III (3) Production of advanced ceramics projects with emphasis on the search for individual styles and choices of forming methods. Advanced study of glaze chemistry, clay body formulation, and kiln construction. *May be repeated for a maximum of 9 semester hours.* Prerequisite: Art 3412 or consent of instructor.

Art 4420 Sculpture III (3) Advanced individual problems in techniques of sculpture utilizing a variety of media. *May be repeated for a maximum of 9 semester hours.* Prerequisite: Art 3420.

Art 5410 Sculpture Studies (3) Stylistic direction involving preliminary cartoons and scale model forms with an evaluation of the work problems in sculpture. Materials will

include clay (terra cotta), plaster, wood, metal, and cast metals with special emphasis placed upon originality, finish, and presentation. The student will be encouraged to select his/her own media. *May be repeated for a maximum of 9 semester hours.* Prerequisite: Art 2420.

Art 5412 Ceramics Studio (3) Encourages the development of stylistic direction and exhibition involvement through the intensive study of student/instructor selected areas of ceramics. *May be repeated for a maximum of 9 semester hours.* Prerequisite: Art 4412.

Painting

Art 2511 Painting I (3) The creative art process with emphasis on the basic visual concepts and styles, ranging from the care and use of painting tools to the execution of paintings, and including some painting history. Prerequisites: Art 1110 and Art 1315.

Art 3510 Watercolor (3) Application of principles of composition in the medium of transparent watercolor. *May be repeated for a maximum of 9 semester hours.*

Art 3511 Painting II (3) Study and practice in basic painting techniques. *May be repeated for a maximum of 9 semester hours.*

Art 4511 Painting III (3) Application of principles of composition in the medium of oil or acrylic paint. *May be repeated for a maximum of 9 semester hours.*

Art 5511 Advanced Oil Painting (3) Pictorial organization and the methods and techniques of painting in oils. Analysis of subject matter, preliminary sketches, and preparation of frames for exhibitions. *May be repeated for a maximum of 9 semester hours.* Prerequisites: Art 1325 and Art 4511.

Art 5520 Advanced Watercolor (3) The methods and techniques of painting in watercolor and gouache. Special attention to subject matter, preliminary sketches, and composition. *May be repeated for a maximum of 9 semester hours.* Prerequisite: Art 3510.

Commercial Art

Art 2610 Introduction to Commercial Art (3) Basic orientation to the field of commercial art. Presentation skills, use of tools and materials. Creative problem solving in the areas of advertising, publication, graphic design, and illustration. Usually offered each semester. Prerequisites: Art 1110 and Art 1315. Graphic arts majors--Grap 2022 and Grap 2030.

Art 3610 Typography (3) Principles of design and usage of letter forms and alphabet styles provide the basis for experiments in spacing, arrangement, and integration of typographic and other graphic elements on the printed page. Usually offered each semester. Prerequisites: Art 1110 and Art 1315. Graphic arts majors--Grap 2022 and Grap 2030.

Art 3620 Logo/Trademark Design (3) The design of symbolic and lettergraphic identifiers, practical application of symbols, signs, and visual metaphors from simple logotypes to sophisticated corporate identity programs. Usually offered spring only. Prerequisites: Art 2610 and Art 3610.

Art 3625 Illustration Techniques (3) The application of wet and dry media with various surfaces to achieve a range of visual effects with an emphasis on exploration and experimentation. Nineteenth and twentieth century illustrators' works are studied as a means of understanding visual possibilities and styles. Prerequisite: Art 2610.

Art 3630 Design for Advertising (3) Advertising concepts, layout, client presentation for print application. Developing, visualizing, and communicating effective advertising for magazines, newspapers, and outdoor posters. Usually offered fall only. Prerequisites: Art 2610 and Art 3610.

Art 3635 Illustration Concepts (3) The interpretation of written and verbal information resulting in appropriate and successful visual solutions. Concept and visual vocabulary are stressed as a means of satisfying client needs. Students will begin to identify and build a personal illustrative style. Prerequisite: Art 3625.

Art 3640 Package Design (3) Packaging and point-of-sale graphics from concept to client presentation. Usually offered spring only. Prerequisite: Art 3620.

Art 3660 Publication Design (3) Publications as design problems. The design of folders, brochures and soft-bound print pieces through the manipulation of type, photos, art, paper and grid systems. Usually offered fall only. Prerequisites: Art 3620 and Grap 2030. (Grap 2030 may be taken concurrently.)

Art 3670 Television Advertising Graphics (3) The development of visual design and artistic problem solving for advertising campaigns, TV concepts, storyboards, scripts, and client presentations. Usually offered fall only. Prerequisites: Art 3620 and Art 3630.

Art 4625 Advanced Illustration I* (3) The application of illustration techniques and concepts to advertising and editorial assignments in a simulated professional setting. Projects will stress the research and generation of visual references, working with art directors and editors, meeting tight deadlines. Prerequisite: Art 3635.

Art 4635 Advanced Illustration II* (3) A continuation of Art 4625 with an emphasis on the business aspects of free-lance illustration. Prerequisite: Art 4625.

*Not available for Graduate credit.

Printmaking

Art 2710 Introduction to Printmaking (3) The four principal printmaking techniques: relief, intaglio, lithography, and serigraphy. The student will become acquainted with all aspects of the printmaking process through projects and a survey of historical prints. Prerequisites: Art 1110 and Art 1315.

Art 3710 Intaglio (3) Intaglio printmaking methods and production. *May be repeated for a maximum of 12 semester hours.* Prerequisite: Art 2710.

Art 3720 Lithography (3) Printmaking techniques in traditional stone lithography. *May be repeated for a maximum of 12 semester hours.* Prerequisite: Art 2710.

Art 3730 Serigraphy (3) Application of traditional and photographic silk screen processes of reproduction to commercial and fine arts problems. *May be repeated for a maximum of 12 semester hours.* Prerequisite: Art 2710.

Art 3740 Relief Printmaking (3) The development of the print through the raised surface process. The student will engage in the technique through both traditional and contemporary materials. Single color and multicolor printing will be explored. *May be repeated for a maximum of 12 semester hours.* Prerequisite: Art 2710.

Art 5710 Printmaking Studio (3) Advanced study in the specialized areas of printmaking. *May be repeated for a maximum of 9 semester hours.* Prerequisites: Art 3710, Art 3720, Art 3730 and Art 3740, or consent.

Art History

Art 1800 Ideas and the Visual Arts (3) Relationships between the artist, his/her work, and his/her audience. A study of style, function, technique, design, and judgment emphasizing the visual arts as a means of communicating ideas.

Art 1815 Art History Survey I (3) Prehistoric to the fourteenth century.

Art 1825 Art History Survey II (3) Art history from 1400 to the present.

Art 4811 Ancient Art and Architecture (2) A history of art, architecture, and furnishings from the beginning of civilization to the fall of the Roman Empire including the arts of Egypt, Babylonia, Assyria, Persia, Minoan Civilization, Greece, and Rome.

Art 4815 American Art (3) A study of the visual arts of the United States.

Art 4820 Italian renaissance Art and Architecture (3) A history of the visual arts in Italy from 1400 to 1700.

Art 4830 Northern Renaissance art and Architecture (2) A history of the visual arts in Northern Europe from 1400 to 1700.

Art 4840 Nineteenth Century Art and Architecture (2) A history of the visual arts of Europe and America in the nineteenth century.

Art 4850 Twentieth Century Art and Architecture (3) A history of the visual arts of the world in the twentieth century.

Art Education

Art 3910 Art for Elementary Schools (3) Elements of art structure and the principles of composition and their application in creative visual art experiences, especially adapted for children ages 4 through 12.

Art 3915 Problems in Elementary Art Education (3) The art teacher's role in teaching art history, art criticism and aesthetics, along with the production of artwork for children ages 4 through 12, will be explored. Prerequisites: Art 1110 and Art 1315.

Art 3920 Problems in Secondary Art Education (3) Topics to be explored include: purposes of art education, art curriculum considerations, safety in the art classroom, and supplies and materials. Prerequisite: Art 3915.

Art 5910 Introduction to Graduate Study and Research in Art (2) A study and application of principles and techniques employed in educational research with emphasis on the collection and organization of data pertinent to the writing of the thesis in art.

Art 5920 Seminar in Teaching and Supervision of Art (3) Advanced study and class discussions over current issues in education and art education. *May be repeated for a maximum of 9 semester hours.*

Biology and Earth Science

Biology

NOTE: Careers in professional specialties in biology generally require preparation through at least the masters degree. The biology programs at Central provide preparation for students who plan professional work in the following biological specialties:

Environmental Biology	Forest Biology
Fisheries and Estuarine Ecology	Oceanography
Marine Biological Sciences	Plant Science
Entomology	Systematic Botany
Wildlife Conservation	

BIOLOGY Major, B.A. Degree

(42 000379)

	Sem. Hours
MAJOR REQUIREMENTS	34
Biol 1000 Discipline of Biology 0.5	Biol 1013 General Ecology 4
Biol 4000 Biology Coloquium 0.5	Biol 2511 Genetics 3
Biol 1011 General Botany 4	Biol 2512 Cell Biology 3
Biol 1012 General Zoology 4	Upper level electives in biology 15
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the major, Biol 1013 fulfills 4 s.h. of Group D; the Modern Language Requirement fulfills 3 s.h. of Group G)	33-36
MODERN LANGUAGE REQUIREMENT	3-9
(Refer to Bachelor's Degree Requirements section for fulfillment options.)	
FREE ELECTIVES	20-36
MINIMUM TOTAL	124

BIOLOGY Major, B.S. Degree

(43 000480)

	Sem. Hours
MAJOR REQUIREMENTS	41
Biol 1000 Discipline of Biology 0.5	Biol 2511 Genetics 3
Biol 4000 Biology Coloquium 0.5	Biol 2512 Cell Biology 3
Biol 1011 General Botany 4	Departmentally approved electives in biology (See Department Chair for assignment to faculty advisor) 22
Biol 1012 General Zoology 4	
Biol 1013 General Ecology 4	
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the major, Biol 1013 fulfills 4 s.h. of Group D)	36-39
FREE ELECTIVES	19-29
MINIMUM TOTAL	124

BIOLOGY Major, B.S. in Ed. Degree

(Certification to teach biology in grades 9-12)

(41 000385)

	Sem. Hours
MAJOR REQUIREMENTS	36.5-38.5
Biol 1000 Discipline of Biology 0.5	Biol 4221 Mammalogy 4
Biol 1011 General Botany 4	Biol 4232 Herpetology 4
Biol 1012 General Zoology 4	Biol 4311 Parasitology 4
Biol 1013 General Ecology 4	Biol 4312 Entomology 4
Biol 2511 Genetics 3	Elective from the following 2-4
Biol 2512 Cell Biology 3	Biol 3101 Evol. of Vascular Plants 2
Biol 3431 Animal Physiology 4	Biol 3211 Comparative Anatomy 4
Biol 4411 Plant Physiology 4	Biol 3213 Embry. of Vertebrates 3
Biol 4810 Curriculum Dev. in Biological Sci. 2	Biol 3414 Histology & Microtechnique ... 4
Biol 4811 Investigative Laboratory 2	Biol 3611 Microbiology 4
Elective from the following	Biol 4000 Biology Coloquium 0.5
Biol 3222 Ornithology 4	Biol 4400 Endocrinology 2
Biol 3310 Invertebrate Zoology 4	Biol 4511 Cytogenetics 4
Biol 3711 Plant Identification 4	Biol 4701 Plant Syst. & Ecology 4
Biol 3712 Field Natural History 4	Biol 4711 Animal Ecology 4
Biol 4210 Ichthyology 4	

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84 Biology and Earth Science

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For certification to teach biology a course in physics, for a minimum of 3 semester hours, is required.

MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS	40-43
Chem 1110 Group D or PolS 1510 Group F (required)	3
Chem 1131 Group D (required) 4 Psy 4230 Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.	
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)	28
FREE ELECTIVES	0-1.5
MINIMUM TOTAL	124

BIOLOGY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor.)

(000476)

MINOR REQUIREMENTS	Sem. Hours	25	
Biol 1011 General Botany	4	Biol 2511 Genetics	3
Biol 1012 General Zoology	4	Biol 2512 Cell Biology	3
Biol 1013 General Ecology	4	Electives in biology	7
GENERAL EDUCATION REQUIREMENTS (In the minor, Biol 1013 fulfills 4 s.h. of Group D)			

CONSERVATION ENFORCEMENT Functional Major, B.S. Degree

(43 000383)

FUNCTIONAL MAJOR REQUIREMENTS	Sem. Hours	69	
Biol 1000 Discipline of Biology	0.5	Chem 1131 General Chemistry I	5
Biol 4000 Biology Colloquium	0.5	Chem 1132 General Chemistry II	5
Biol 1011 General Botany	4	Chem 2650 Elem. Organic & Biochemistry	5
Biol 1012 General Zoology	4	MCom 2320 Public Relations	3
Biol 3222 Ornithology	4	CJ 1000 Intro. to Criminal Justice	3
Biol 4210 Ichthyology	4	CJ 2300 Criminal Law	3
Biol 4221 Mammalogy	4	CJ 3303 Criminal Procedures	3
Biol 3431 Animal Physiology	4	CJ 4302 Criminal Evidence	3
Biol 3711 Plant Identification	4	MCom 4115 Writ. Dramatic &	
Biol 3721 Wildlife Conservation	3	Documentary Prog., 3 or	
Biol 4711 Animal Ecology	4	MCom 1220 Elem. of News Reporting, 3	3
MINOR NOT REQUIRED			
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, CJ 1000 fulfills 3 s.h. of Group F)			37-40
Biol 1013 Group D (required)	4		
FREE ELECTIVES			15-18
MINIMUM TOTAL			124

MEDICAL TECHNOLOGY Functional Major, B.S. Degree

(43 000384)

FUNCTIONAL MAJOR REQUIREMENTS	Sem. Hours	58.5	
Biol 1000 Discipline of Biology	0.5	Chem 1132 General Chemistry II	5
Biol 1012 General Zoology	4	Chem 3212 Quantitative Analysis	3
Biol 4311 Parasitology	4	Chem 3341 Organic Chemistry I	4
Biol 2401 Anatomy & Physiology I	4	Chem 3342 Organic Chemistry II	4
Biol 2402 Anatomy & Physiology II	4	Chem 4421 Biochemistry	4
Biol 3413 Immunology	2	Math 1111 College Algebra	3
Biol 2511 Genetics	3	Math 1112 College Trigonometry	2
Biol 3611 Microbiology	4	ET 1020 General Electronics	3
Chem 1131 General Chemistry I	5		
MEDICAL TECHNOLOGY CREDIT			30
Courses in various accredited medical technology programs may vary from hospital to hospital. All courses are recorded as Biol 4012. Courses usually offered are:			
Clinical Biochemistry	6-10	Clinical Immunohematology	3-4
Clinical Urinalysis	0-3	Clinical Immunology	2-6
Clinical Hematology	4-7	Clinical Microbiology	6-8
		Special Topics	0-4

These courses are part of the Medical Technology functional major required by affiliation agreement for this program. They are not offered on campus or open to students in other programs. Credit for these courses is allowed for work taken at one (continued on next page)

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of our affiliated hospitals in Kansas City (Menorah Medical Center, North Kansas City Memorial, St. Luke's Hospital, Trinity Lutheran Hospital, Research Medical Center) and in Springfield (St. John's Hospital, Lester E. Cox Medical Center) or any fully accredited hospital medical technology training program which must be accredited by the American Medical Association Council on Medical Education. Admission and fees for the hospital portions of this program are the prerogative of the hospital and thus cannot be guaranteed by the University. Licensure to practice is dependent upon state regulations and professional examinations and thus cannot be guaranteed by the University or hospital. For additional information on this program and for entry into clinical programs, students are urged to see the program adviser at their earliest convenience. Because of complexities of affiliation agreements and variations in clinical programs, all pertinent information cannot be presented in this catalog.

MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, Math 1111 fulfills 3 s.h. of Group C;

Chem 1131 fulfills 4 s.h. of Group D)	33-36
FREE ELECTIVES	0-2.5
MINIMUM TOTAL	124

Biol 1000 The Discipline of Biology (0.5) An introduction to biology as an academic endeavor including consideration of the subdisciplines of biology, requirements of students, and professional opportunities. Prerequisite: declaration of major in biology.

Biol 1011 General Botany (4) Morphology, physiology, and taxonomy of plants with a major emphasis on flowering plants.

Biol 1012 General Zoology (4) Classification, evolution of the metazoa, and anatomy and physiology of selected invertebrate and vertebrate animal forms.

Biol 1013 General Ecology (4) Introduction to the principles and concepts of the ecology of populations, communities, and ecosystems.

Biol 2010 Human Biology (3) An overview of human biology, emphasizing physiology, development, health, interpersonal and environmental interactions. Not open to Biology majors or minors.

Biol 2401 Anatomy and Physiology I (4) A functional study of cellular and metabolic processes and cardiovascular, lymphatic, and respiratory systems integrated with a study of pertinent structures.

Biol 2402 Anatomy and Physiology II (4) A functional study of temperature, water and electrolyte balances and skeletal, muscular, neural, endocrine and reproductive systems integrated with a study of pertinent structures. Prerequisite: Biol 2401.

Biol 2511 Genetics (3) Hereditary principles and their application to classical genetics and the genetics of populations. Particular emphasis is placed on the quantitative aspect of the discipline and its relation to evolutionary mechanisms. Prerequisite: Biol 1011 or Biol 1012.

Biol 2512 Cell Biology (3) Morphology, heredity, energetics, evolution and differentiation of the cell. Prerequisite: Biol 1011 or Biol 1012 or Biol 1013.

Biol 3101 Evolution of Vascular Plants (2) An analysis of the relationship of form to function in the evolution of vascular plants from the first vascular plants of the Silurian period to present day angiosperms. Prerequisite: Biol 1011.

Biol 3211 Comparative Anatomy (4) Comparative morphology of the early development and evolution of the organ systems of vertebrates. Laboratory study of representative vertebrates. Prerequisite: Biol 1012.

Biol 3213 Embryology of Vertebrates (3) Germ cells, fertilization, and development of systems, organs, and tissues of vertebrate embryos. Prerequisite: Biol 1012.

Biol 3222 Ornithology (4) An examination of the biology of birds with special emphasis on the field study of locally occurring species. Prerequisite: Biol 1012.

Biol 3310 Invertebrate Zoology (4) Classification, comparative morphology, and physiology of invertebrates. Prerequisite: Biol 1012.

Biol 3413 Immunology (2) A survey of the field of immunology including the types of immune responses, antibody synthesis, antigen-antibody interactions, hypersensitivity, immunity to infection, and the design of laboratory techniques for immunological screening. Prerequisites: Biol 2401 or Biol 3431.

Biol 3414 Histology and Microtechnique (4) The functional morphology of selected tissues at the light microscopic level. Laboratory will include practice in standard methods of microscopic slide preparation, as well as slide reading. Prerequisites: Biol 1011 and Biol 1012.

Biol 3431 Animal Physiology (4) Animal functions in terms of their needs for oxygen, food, energy, temperature, water, movement, information, and integration. Prerequisite: Biol 1012.

Biol 3611 Microbiology (4) An introduction to the major groups of microorganisms including their cell structure, metabolism, genetics, and ecology. Emphasis is placed upon the bacteria and viruses. Prerequisites: Biol 1011 or Biol 1012 or Biol 2401, and Chem 1110 or Chem 1131.

Biol 3711 Plant Identification (4) A basic course in plant identification, using classification, nomenclature, collection and preservation techniques. Involves much field and lab work. Prerequisite: Biol 1011.

Biol 3712 Field Natural History (4) Provides basic experience in field and laboratory identification of local plants and animals and an introduction to environmental awareness. This is a background course for all courses in field biology and is especially useful to teachers and pre-professional students.

Biol 3721 Wildlife Conservation (3) Conservation of biodiversity and major ecosystems of the world, methods of preservation, management and restoration. Examination of local and global issues. Prerequisite: Biol 1013.

Biol 4000 Biology Colloquium* (0.5) Investigation of professional opportunities in biology. Evaluation of the program by students and assessment of student progress in biology. Prerequisite: 24 semester hours of biology or consent of department chair.

*Not available for graduate credit.

86 Biology and Earth Science

Biol 4011 Special Problems in Biology (1-4) Individual work under supervision of a staff member. Problems may be undertaken in any field of biology. *May be repeated for a maximum of 4 semester hours.* Prerequisite: adequate preparation in field chosen and consent.

Biol 4012 Special Projects in Biology (1-8) *May be repeated for a maximum of 9 semester hours.* With permission of the Department Chair, functional majors in medical technology may repeat for a maximum of 30 semester hours.

Biol 4210 Ichthyology (4) A thorough examination of the biology of the fish with special emphasis on the fish of Missouri. Students will be expected to develop a detailed knowledge of the literature on ichthyology. Field trips at additional expense to the student are part of this course. Prerequisites: 15 semester hours of biology including Biol 1011, Biol 1012, and Biol 1013.

Biol 4221 Mammalogy (4) A thorough examination of the Class Mammalia. Students will be expected to develop a detailed knowledge of the literature on mammalogy. Prerequisites: Biol 1011, Biol 1012, and Biol 1013.

Biol 4232 Herpetology (4) A thorough examination of the classes Amphibia and Reptilia, including systematics, evolution and ecology of these groups with special attention to identification of local forms. Prerequisites: Biol 1012, Biol 2511, and Biol 2512.

Biol 4311 Parasitology (4) Animal parasites, with emphasis on identification, morphology, biology, life histories, and host-parasite relationships. Prerequisite: Biol 1012.

Biol 4312 Entomology (4) An introduction to the systematics, morphology, physiology, evolution, and ecology of insects. Prerequisite: Biol 1012.

Biol 4400 Endocrinology (2) Examination of the physiology of endocrine glands and the roles of each hormone in the regulation of growth, metabolism, and reproduction. Examples will be selected from humans and domestic species. Prerequisite: Biol 2401 or Biol 3431 or equivalent.

Biol 4403 Environmental Physiology (4) Physiological responses and adaptations to alterations in natural and man-generated environmental factors such as temperature, light cycles, pressure, water, ions, radiation, vibration, chemicals, microorganisms, and exercise. Prerequisite: 4 semester hours of animal physiology.

Biol 4411 Plant Physiology (4) Life processes occurring in plants, the factors affecting these processes, their measurement, and the significance of these processes to the growth of the plant. Prerequisites: Biol 1011 and Chem 1110 or Chem 1131.

Biol 4511 Cytogenetics (4) Examination of cellular and molecular mechanisms in cell division and their role in biological evolution and human health. Laboratory exercises of handling and experimentally manipulating chromosomes. Prerequisites: Biol 2511 and Biol 2512.

Biol 4701 Advanced Plant Identification (3) An analysis of Missouri flora, includes ecological, physiographical, physiognomical, ethnological, and biological aspects. Provides practical experience in surveying plant communities. Students without training in plant identification will not be admitted. Prerequisite: Biol 3711.

Biol 4711 Animal Ecology (4) Ecological principles and concepts pertaining to populations, communities, and ecosystems with special emphasis on animals. Both field work with local examples and laboratory work are part of this course. Prerequisite: 20 semester hours of biology including Biol 1013 or equivalent.

Biol 4810 Curriculum Development in Biological Science (2) Classroom techniques for teaching life science to junior and senior high school students. Historical development and changes to current programs of life science discussed.

Prerequisites: Biol 1011, Biol 1012, Biol 1013, Biol 2511, Biol 2512, or equivalents or written approval of the instructor; must be taken concurrently with Biol 4811.

Biol 4811 Investigative Laboratory (2) Investigative laboratory activities related to life science teaching in junior and senior high school. Problem in investigative biology to be conducted and a paper written. Prerequisites: Biol 1011, Biol 1012, Biol 1013, Biol 2511, Biol 2512, or equivalents or written approval of the instructor; must be taken concurrently with Biol 4810.

Biol 5000 Seminar in the Biological Sciences (1)

Presentations of recent biological information not available in regular offerings of the department. Students are required to make a seminar presentation.

Biol 5011 Special Topics in Biology (2-5) Reading and analysis of the literature in a special area under the direction of a staff member. *May be repeated for a maximum of 5 semester hours.* Prerequisite: an undergraduate major or minor in biology.

Biol 5013 Biometry (2) Experimental design, modeling, hypotheses formation and testing, systems design and modeling, and analytical procedures applying both parametric and nonparametric statistics to data from biological systems will be considered. Prerequisites: college algebra or approval of instructor and 30 semester hours of biology.

Biol 5031 Biological Literature (2) Introduction to the research literature of biology with emphasis on the organization of information for oral presentation, thesis, and publication. Prerequisite: 20 semester hours of credit in biology. Should be taken during first semester of graduate work.

Biol 5032 History of Biology (2) An examination of the historical development and refinement of concepts in the major subdisciplines of biology, and of the integration of these concepts into the present disciplinary framework.

Biol 5710 Aquatic Ecology (4) Ecology and biology of aquatic species, populations, communities, and ecosystems will be emphasized. Both lentic and lotic habitats will be examined. Field trips at additional expense to the student are part of this course. Prerequisites: Biol 4711 or equivalent and 15 semester hours of chemistry.

Biol 5951 Research in Biology (2-3) Investigation of an original problem under the direction of a staff member. Prerequisite: an undergraduate major in biology or equivalent and consent.

Biol 5952 Research in Biology (2-3) Continuation of Biol 5951.

Biol 5953 Research in Biology (2-3) Continuation of Biol 5952.

Biol 5954 Research in Biology (2-3) Continuation of Biol 5953.

Earth Science

EARTH SCIENCE Major, B.A. Degree

(42 000386)

		Sem. Hours
MAJOR REQUIREMENTS		30-35
EaSc 1110	Introduction to Geology 4	Electives from the following 5-6
EaSc 3110	Structural Geology 4	Geog 2281 Map Interpretation 2
EaSc 2200	Historical Geology 4	Geog 2285 Cartography 3
EaSc 3501	Invertebrate Paleontology 4	Geog 2290 Aerial Photo. Interpretation ... 3
Electives from the following 4-8		*Agri 2330 Intro. to Soil Science 3
EaSc 4301	Minerals & Rocks 4	Electives in earth science 5
or		
EaSc 3320	Mineralogy 4	
EaSc 4325	Petrology 4	
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the major, EaSc 1110 fulfills 4 s.h. of Group D; The Modern Language Requirement fulfills 3 s.h. of Group G)		33-36
MODERN LANGUAGE REQUIREMENT		3-9
(Refer to Bachelor's Degree Requirements section for fulfillment options.)		
FREE ELECTIVES		19-40
MINIMUM TOTAL		124

*Course has prerequisite(s) not listed in the program.

EARTH SCIENCE Major, B.S. in Ed. Degree

(Certification to teach earth science in grades 9-12)

(41 000389)

		Sem. Hours
MAJOR REQUIREMENTS		34-37
EaSc 3010	Environmental Geology 3	EaSc 3320 Mineralogy, 4 or
EaSc 1110	Introduction to Geology 4	EaSc 4301 Minerals & Rocks, 4 4
EaSc 3112	Astronomy 3	Upper level electives in earth science 3-4
EaSc 3114	Meteorology 3	Elective in chemistry and/or physics 4-5
EaSc 3115	Oceanography 3	Elective in biology 3-4
EaSc 2200	Historical Geology 4	
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the major, EaSc 1110 fulfills 4 s.h. of Group D)		36-39
PolS 1510	Group F (required) 3	Psy 4230 Psy. of Adolescence 3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.		
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)		28
FREE ELECTIVES		0-8
MINIMUM TOTAL		124

EARTH SCIENCE Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor.)

(000477)

		Sem. Hours
MINOR REQUIREMENTS		20
EaSc 1110	Introduction to Geology 4	Electives in earth science 12
EaSc 2200	Historical Geology 4	
GENERAL EDUCATION REQUIREMENTS (In the minor, EaSc 1110 fulfills 4 s.h. of Group D)		

88 Biology and Earth Science

GEOLOGY Functional Major, B.S. Degree

(43 000388)

				Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS				68-70	
EaSc	1110	Intro. to Geology	4	Summer field camp at an approved university	6
EaSc	3110	Structural Geology	4	Departmentally approved electives	
EaSc	2200	Historical Geology	4	from the following	33-35
EaSc	3320	Mineralogy	4	Mathematics	8-10
EaSc	4325	Petrology	4	Physics	8
EaSc	4420	Sedimentary Petrology & Stratigraphy ..	5	Chemistry	10
EaSc	3501	Invertebrate Paleontology	4	Science	7
MINOR NOT REQUIRED					
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the major, EaSc 1110 fulfills 4 s.h. of Group D)				36-39	
FREE ELECTIVES				15-20	
MINIMUM TOTAL				124	

EaSc 1110 Introduction to Geology (4) Fundamental principles and processes of geology. Includes laboratory study of common minerals, rocks, and fossils. Also discussed will be volcanoes, earthquakes, plate tectonics, mountain building, stream erosion and deposition, glaciation, topographic maps, and aerial photographs.

EaSc 2100 Engineering Geology (4) The study of physical geology as applied in engineering practice. Emphasis is on surficial geology and soils, employing both field and laboratory investigation methods. Topics include refraction, seismic and electrical resistivity surveys, hydrogeology, waste disposal, slope stability, engineering properties of soil and rock, mapping, site characterization, and report writing. Prerequisite: EaSc 1110 or equivalent.

EaSc 2200 Historical Geology (4) The history of the earth will be studied in light of shifting continents, advances and retreats of seas, periods of mountain building and the evolution of life through the great expanse of geologic time. Laboratory will include local and regional field trips. Prerequisite: EaSc 1110.

EaSc 3010 Environmental Geology (3) The relationships between humans and their geological surroundings with an emphasis on environmental problems. The main topics are mineral and energy resources, population, earthquake and volcanic hazards, medical problems related to the environment, floods, and coastal processes.

EaSc 3110 Structural Geology (4) Structures of the Earth on maps, cross-sections, and aerial photographs and in field exercises. Folding and faulting are emphasized. Also discussed are plate tectonic mechanisms that are responsible for Earth structures. Prerequisite: EaSc 1110 or EaSc 2100.

EaSc 3111 Geomorphology (3) The processes which shape the Earth's surface and form surficial deposits. The interaction of people with their environment is emphasized. Topics include soil formation, engineering properties of soil and rock, surface water, ground water, and environmental planning. Prerequisite: EaSc 1110 or EaSc 3010.

EaSc 3112 Astronomy (3) The fundamental principles and theories pertaining to planetary astronomy, stellar evolution, and origin of the galaxies. Observational techniques are discussed and night-time viewing sessions are held using departmental telescopes.

EaSc 3114 Meteorology (3) Principles and theories of weather, climate, and other atmospheric phenomena. Included is the study of energy exchanges, winds, cloud types, precipitation forms, severe weather, and the generation and movement of tornadoes and other cyclonic storms.

EaSc 3115 Oceanography (3) Beginning course intended

for students with a limited science background. Relationship of continents and ocean basins, sea floor spreading, waves, tides, currents, circulation of the atmosphere and ocean, marine biology and geology, and global environmental implications.

EaSc 3213 Quaternary and Glacial Geology (2) Glacier formation and movement, glacial erosion and deposition, changes in sea level and in river channels, climate change and the causes of the ice ages, and changes in northern hemisphere animal and plant populations during the past two million years. Prerequisite: EaSc 1110.

EaSc 3320 Mineralogy (4) An introduction to crystallography and a systematic study of the mineral groups including the native elements, sulfides, sulfates, oxides, halides, carbonates, and silicates. Laboratory work stresses identification by physical and chemical properties. Prerequisite: EaSc 1110 or EaSc 2100.

EaSc 3501 Invertebrate Paleontology (4) Principles and methods used in collecting, identifying, and utilizing fossils to determine the distribution and environment of ancient lands and seas. Further, fossils will be studied as tools of geologic time determination. Laboratory will include local and regional field trips. Prerequisite: EaSc 2200 or consent of instructor.

EaSc 4010 Special Problems in Geology (1-3) Individual work under supervision of a staff member. Problems may be undertaken in any area of geology. Prerequisite: adequate preparation in that field and consent.

EaSc 4020 Senior Problem (1-3) Geological research and report writing. Prerequisite: consent.

EaSc 4301 Minerals and Rocks (4) The origin and classification of minerals and rocks in a course designed primarily for teachers of earth science. Methods and techniques of identification are stressed. Prerequisite: EaSc 1110.

EaSc 4325 Petrology (4) Igneous and metamorphic rocks. Includes consideration of processes of formation and identification of rock types. Prerequisite: EaSc 3320.

EaSc 4420 Sedimentary Petrology and Stratigraphy* (5) The description and classification of sedimentary rocks and the principles of stratigraphy. Laboratory exercises will focus on hand specimen petrology and subsurface stratigraphic analysis. Field work will deal with measured stratigraphic sections. Prerequisite: EaSc 4325.

*Not available for graduate credit.

EaSc 4500 Fossils of Missouri (3) Emphasis on collecting and identifying fossils in order to prepare teachers for teaching the fundamental aspects of common fossils from Missouri. Prerequisite: EaSc 1110 or EaSc 2100.

Chemistry and Physics

Chemistry

In the section of Chemistry, the second digit in the course number stands for the following: 0--Unclassified, 1--Inorganic, 2--Analytical, 3--Organic, 4--Biochemistry, 5--Physical, 6--Organic and Biochemistry, 9--Research and Special Problems.

Chemistry Statement of Policy

All junior and senior chemistry majors are required to attend oral presentations by students who are enrolled in Chem 4900 and Chem 4910.

CHEMISTRY Major, B.A. Degree

(42 000391)

		Sem. Hours
MAJOR REQUIREMENTS		37-38
Chem 1131	General Chemistry I	5
Chem 1132	General Chemistry II	5
Chem 3111	Intermediate Inorganic Chemistry	3
Chem 3212	Quantitative Analysis	3
Chem 3341	Organic Chemistry I	4
Chem 3342	Organic Chemistry II	4
Chem 3500	Elements of Physical Chemistry	4
Chem 3920	Communication Skills in Chemistry	2
Electives from the following		7-8
Chem 4111	Advanced Inorganic Chemistry ..	4
Chem 4231	Instrumental Analysis	4
Chem 4313	Modern Organic Analysis	4
Chem 4421	Biochemistry	4
Chem 4910	Research in Chemistry	3-4
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the major, Chem 1131 fulfills 4 s.h. of Group D; the Modern Language Requirement fulfills 3 s.h. of Group G)		33-36
MODERN LANGUAGE REQUIREMENT		3-9
(Refer to Bachelor's Degree Requirements section for fulfillment options.)		
FREE ELECTIVES		16-33
MINIMUM TOTAL		124

CHEMISTRY Major, B.S. in Ed. Degree

(Certification to teach chemistry in grades 9-12)

(41 000394)

		Sem. Hours
MAJOR REQUIREMENTS		40
Chem 1131	General Chemistry I	5
Chem 1132	General Chemistry II	5
Chem 3212	Quantitative Analysis	3
Chem 3500	Elements of Physical Chemistry	4
Chem 2650	Elem. Organic & Biochemistry	5
Chem 4900	Chem. Research for Teachers	2
Chem 3920	Com. Skills in Chemistry	2
Phys 1101	College Physics I	4
Phys 1102	College Physics II	4
EaSc 3010	Environmental Geology	3
Electives in mathematics/computer science		3
MINOR REQUIREMENTS		18-24
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the major, Chem 1131 fulfills 4 s.h. of Group D)		36-39
PolS 1510	Group D (required)	3
Psy 4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. of Group F.		
In the major, the elective in mathematics/computer science may fulfill 3 s.h. of Group C, if appropriate.		
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)		28
FREE ELECTIVES		0-3
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.		
MINIMUM TOTAL		125

CHEMISTRY Functional Major, B.S. Degree

(43 000393)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						64-68	
Chem	1131	General Chemistry I	5	Chem	4910	Research in Chemistry	4
Chem	1132	General Chemistry II	5	Phys	1101	College Physics I	4
Chem	3111	Intermediate Inorganic Chemistry	3	Phys	1102	College Physics II	4
Chem	3212	Quantitative Analysis	3	Math	1151	Calculus & Analytic Geometry I	5
Chem	4231	Instrumental Analysis	4	Math	1152	Calculus & Analytic Geometry II	5
Chem	3341	Organic Chemistry I	4	*Electives from the following			4-8
Chem	3342	Organic Chemistry II	4	Chem	4111	Advanced Inorganic Chemistry	4
Chem	4531	Physical Chemistry I	4	Chem	4313	Modern Organic Analysis	4
Chem	4532	Physical Chemistry II	4	Chem	4421	Biochemistry	4
Chem	3920	Communication Skills in Chemistry	2				
*Eight semester hours required for ACS-CPT approved degree.							
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, Math 1151 fulfills 3 s.h. of Group C; Chem 1131 fulfills 4 s.h. of Group D)						33-36	
FREE ELECTIVES						20-27	
MINIMUM TOTAL						124	

CHEMISTRY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor.)

(000478)

						Sem. Hours	
MINOR REQUIREMENTS						21	
Chem	1131	General Chemistry I	5	Chem	3341	Organic Chemistry I	4
Chem	1132	General Chemistry II	5	Chem	3342	Organic Chemistry II	4
Chem	3212	Quantitative Analysis	3				
GENERAL EDUCATION REQUIREMENTS (In the minor, Chem 1131 fulfills 4 s.h. of Group D)							

Unclassified

Chem 4010 Special Topics in Chemistry (1-3) Topics of contemporary significance not given in-depth coverage in regularly offered courses. *May be repeated as the topic is changed.* Prerequisite: Chem 3500 or Chem 4531 or consent of instructor.

Chem 5010 Modern Chemical Theories and Practices (3-5) For secondary and primary teachers. Content varies but typically covers aspects of the main chemistry subdivisions, modern teaching methods in chemistry or current technological procedures. *May be repeated for a maximum of 15 semester hours.* Prerequisite: Chem 1132 and consent.

Inorganic

Chem 1110 Elementary Chemistry (4) Beginning course of a terminal sequence for those needing no chemical training beyond Chem 2650. Includes laboratory experience. Not intended as a preparatory course for Chem 1131. May not be used for credit in chemistry major and minor programs on the B.A., B.S. or B.S. in Ed. degrees.

Chem 1131 General Chemistry I (5) A first course in chemistry for those expecting to major or minor in chemistry, teach chemistry, or take pre-professional curricula. Includes laboratory experience. Prerequisite: a score of 17 on the mathematics section of the ACT, or 550 on the mathematics section of the SAT, or a passing score on a mathematics examination approved by the Department of Chemistry and Physics or a grade of C or better in Math 1101.

Chem 1132 General Chemistry II (5) A continuation of Chem 1131. Includes laboratory experience. Prerequisite: Chem 1131.

Chem 3111 Intermediate Inorganic Chemistry (3) An intermediate level inorganic lecture course with emphasis on main group and organometallic chemistry. Prerequisite: Chem 3342 or concurrently.

Chem 4111 Advanced Inorganic Chemistry (4) An advanced study of inorganic compounds with a focus on the transition elements, current issues and modern laboratory techniques. Prerequisites: Chem 3111; Chem 4532 or concurrently.

Analytical

Chem 3212 Quantitative Analysis (3) Application of chemical principles to the separation and determination of elements and compounds. Laboratory practice in basic techniques of gravimetric, volumetric, and instrumental analysis. Prerequisite: Chem 1132.

Chem 4231 Instrumental Analysis* (4) A study, including applications, of instrumental methods of chemical analysis. Prerequisites: Chem 3341 and Chem 3212.

Organic

Chem 3341 Organic Chemistry I (4) A lecture and laboratory course in the chemistry of carbon compounds. Prerequisite: Chem 1132 or concurrently.

Chem 3342 Organic Chemistry II (4) A continuation of Chem 3341. Prerequisite: Chem 3341.

Chem 4313 Modern Organic Analysis* (4) A lecture and laboratory course emphasizing the instrumentation used for physical organic measurements and the identification of organic compounds. Prerequisites: Chem 4532 or concurrently and Chem 3342.

Biochemistry

Chem 4421 Biochemistry* (4) A study, including laboratory experience, of the chemical composition of living matter and the chemistry of life processes. Topics include proteins, carbohydrates, lipids, nucleic acids, and metabolism. Prerequisite: Chem 3342.

Physical

Chem 3500 Elements of Physical Chemistry (4)

Development of principles and conceptual models of physical chemistry with minimal mathematical rigor with emphasis on practical applications and laboratory experience. Prerequisites: Math 1111 or Math 1150 or Math 1151; Chem 2650 or Chem 3341 or concurrently; and Chem 3212.

Chem 4531 Physical Chemistry I* (4) The kinetic-molecular theory of gases, thermodynamics, thermochemistry, free energy, chemical equilibria, and phase relationships.

Laboratory investigations include the topics of gas thermometry, critical phenomena, enthalpy, reaction energy, free energy, and phase relationships. Prerequisites: Chem 3212, Phys 1102 and Math 1152.

Chem 4532 Physical Chemistry II* (4) Quantum mechanics, atomic and molecular structure, spectroscopy, electrical and magnetic properties of molecules, electromotive force, and chemical kinetics. Laboratory investigations include the topics of atomic and molecular spectroscopy, x-ray diffraction, magnetic susceptibility, electromotive force in chemical cells, and chemical kinetics. Prerequisite: Chem 4531.

Organic and Biochemistry

Chem 2650 Elementary Organic and Biochemistry (5)

A brief introductory course in organic chemistry and fundamental concepts of biochemistry with emphasis on physiological, nutritional, and comparative aspects. Includes laboratory experience. May not be used for credit in chemistry major and minor programs on the B.A. and B.S. degrees. Prerequisite: Chem 1110 or Chem 1132.

Chem 2651 Elementary Organic Chemistry (3) Introductory course in organic chemistry. Includes laboratory experience. May not be used for credit in chemistry major or minor programs on the B.A. or B.S. degrees. Prerequisite: Chem 1110 or Chem 1132. Chem

2651 and Chem 2652 are offered sequentially in the same semester; concurrent enrollment and completion of both courses are required for credit.

Chem 2652 Elementary Biochemistry (2) Fundamental concepts of biochemistry with emphasis on physiological, nutritional and comparative aspects. Includes laboratory experience. May not be used for credit in chemistry major or minor programs on the B.A. or B.S. degrees. Prerequisite: Chem 2651 and Chem 2652 are offered sequentially in the same semester; concurrent enrollment and completion of both courses are required for credit.

Research and Special Problems

Chem 3920 Communication Skills in Chemistry (2)

Techniques for searching the chemical literature, writing scientific reports and papers, and making effective oral presentations using audiovisual aids to effectively convey technical ideas and information. Prerequisite: a minimum of 17 semester hours of chemistry. Students are encouraged to enroll during their junior year.

Chem 4900 Chemical Research for Teachers* (1-2)

Individual work on a chemical research project under the supervision of a staff member. Project will terminate in a written and oral presentation. Prerequisites: Chem 2650, Chem 3212 and consent.

Chem 4910 Research in Chemistry* (1-5) Individual work on a chemical research project under supervision of a staff member. Project will terminate in a written and oral presentation. *May be repeated for a maximum of 10 semester hours.* Prerequisites: Chem 3212, Chem 3342 and consent.

Chem 4911 Special Problems in Chemistry (1-3) Individual work under supervision of a staff member. *May be repeated for a maximum of 3 semester hours.* Prerequisite: consent.

*Not available for graduate credit.

Physics

In the section of Physics, the second digit in the course number stands for the following: 0--Laboratory and Unclassified, 1--General, 2--Mechanics, 3--Electricity, 4--Thermodynamics, 5--Modern Physics, 6--Light and Sound, 7--Particle, 8--Electronics, 9--Research and Special Problems.

PHYSICS Functional Major, B.A. Degree

(42 000396)

				Sem. Hours		
FUNCTIONAL MAJOR REQUIREMENTS				67-69		
Phys	2121	University Physics I	5	Math	4151 Differential Equations	3
Phys	2122	University Physics II	5	Math	1414 Intro. to Computer Programming	2
Phys	3211	Analytical Mechanics I	2	Departmentally approved electives		
Phys	4212	Analytical Mechanics II	3	from the following		
Phys	4411	Thermodynamics	3	Phys	3012 Elec. Measurements Laboratory	2
Phys	3510	Solar Energy	3	Phys	4012 Microelectronics Laboratory	1
Phys	3511	Modern Physics	4	Phys	4013 Solid State Laboratory	1
Phys	3611	Optics	4	Phys	3311 Electric Circuit Theory	3
Chem	1131	General Chemistry I	5	Phys	4312 Electricity & Magnetism	3
Chem	1132	General Chemistry II	5	Phys	4512 Intro. to Quantum Mechanics	3
Math	1151	Calculus & Analytic Geometry I	5	Phys	4513 Solid State Physics	3
Math	1152	Calculus & Analytic Geometry II	5	Phys	4711 Atomic & Nuclear Physics	3
Math	2153	Calculus & Analytic Geometry III	3	Phys	4812 Electronics	3
Students whose high school preparation is inadequate should take Phys 1101 during their first year at Central.						
MINOR NOT REQUIRED						
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, Math 1151 fulfills 3 s.h. of Group C; Phys 2121 fulfills 4 s.h. of Group D; the Modern Language Requirement fulfills 3 s.h. of Group G)						30-33
MODERN LANGUAGE REQUIREMENT (Refer to Bachelor's Degree Requirements section for fulfillment options.)						3-9
FREE ELECTIVES						13-24
MINIMUM TOTAL						124

92 Chemistry and Physics

PHYSICS Functional Major, B.S. Degree
(43 000397)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						70	
Phys	3012	Elec. Measurements Laboratory	2	Chem	1132	General Chemistry II	5
Phys	2121	University Physics I	5	Math	1151	Calculus & Analytic Geometry I	5
Phys	2122	University Physics II	5	Math	1152	Calculus & Analytic Geometry II	5
Phys	3211	Analytical Mechanics I	2	Math	2153	Calculus & Analytic Geometry III	3
Phys	4212	Analytical Mechanics II	3	Math	4151	Differential Equations, 3 or	
Phys	3311	Electric Circuit Theory	3	Math	4160	Advanced Applied Calc., 3	3
Phys	4312	Electricity & Magnetism	3	Departmentally approved electives			
Phys	4411	Thermodynamics	3	from the following			4
Phys	3511	Modern Physics	4	Phys	4012	Microelectronics Laboratory	1
Phys	4512	Intro. to Quantum Mechanics	3	Phys	4013	Solid State Laboratory	1
Phys	3611	Optics	4	Phys	4513	Solid State Physics	3
Phys	4711	Atomic & Nuclear Physics	3	Phys	4812	Electronics	3
Chem	1131	General Chemistry I	5				
Students whose high school preparation is inadequate should take Phys 1101 during their first year at Central.							
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, Math 1151 fulfills 3 s.h. of Group C; Phys 2121 fulfills 4 s.h. of Group D)						33-36	
FREE ELECTIVES						18-21	
MINIMUM TOTAL						124	

PHYSICS Minor, B.S. Degree
(Available only to mathematics majors)
(000479)

						Sem. Hours	
MINOR REQUIREMENTS						20-21	
Phys	2121	University Physics I	5	Electives (continued)			
Phys	2122	University Physics II	5	Phys	4411	Thermodynamics	3
Phys	3511	Modern Physics	4	Phys	4512	Intro. to Quantum Mechanics	3
Electives from the following			6-7	Phys	3611	Optics	4
Phys	4312	Electricity & Magnetism	3	Phys	4711	Atomic & Nuclear Physics	3
GENERAL EDUCATION REQUIREMENTS (In the minor, Phys 2121 fulfills 4 s.h. of Group D)							

PHYSICS-MATHEMATICS Functional Major, B.S. in Ed. Degree
(Certification to teach physics and mathematics in grades 9-12)
(41 000401)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						60	
Phys	2121	University Physics I	5	Math	2710	Foundations of Mathematics	3
Phys	2122	University Physics II	5	Math	3720	Algebraic Structures	3
Phys	3511	Modern Physics	4	Departmentally approved electives			
Phys	4911	Special Problems in Physics	2	from the following			7
Chem	1110	Elementary Chemistry	4	Math	3221	College Geometry	3
EaSc	3010	Environmental Geology	3	Math	4211	Introduction to Topology	3
Math	1151	Calculus & Analytic Geometry I	5	Math	3311	Statistics I	3
Math	1152	Calculus & Analytic Geometry II	5	Math	3611	History of Mathematics	2
Math	2153	Calculus & Analytic Geometry III	3	Math	4710	Real Number System	2
Math	2221	Foundations of Geometry	3	Departmentally approved electives in physics			7
Math	1412	Intro. to BASIC Programming	1				
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, Math 1151 fulfills 3 s.h. of Group C; Phys 2121 fulfills 4 s.h. of Group D)						33-36	
PolS	1510	Group F (required)	3	Psy	4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.							
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)						30	
Methods courses in science and mathematics are required for certification.							
FREE ELECTIVES						0-3	
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.							
MINIMUM TOTAL						126	

PHYSICS-CHEMISTRY Functional Major, B.S. in Ed. Degree

(Certification to teach physics and chemistry in grades 9-12)

(41 000399)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						58-59	
Phys	2121	University Physics I	5	Chem	2650	Elem. Organic & Biochemistry	5
Phys	2122	University Physics II	5	Chem	4900	Chem. Research for Teachers	2
Phys	4411	Thermodynamics	3	EaSc	3010	Environmental Geology	3
Phys	3511	Modern Physics	4	Math	1151	Calculus & Analytic Geometry I	5
Phys	4911	Special Problems in Physics	2	Math	1152	Calculus & Analytic Geometry II	5
Chem	1131	General Chemistry I	5	Math	2153	Calculus & Analytic Geometry III	3
Chem	1132	General Chemistry II	5	Phys	4312	Electricity & Magnetism, 3 or	
Chem	3212	Quantitative Analysis	3	Phys	3611	Optics, 4	3-4
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, Math 1151 fulfills 3 s.h. of Group C; Phys 2121 fulfills 4 s.h. of Group D)							33-36
PoS	1510	Group F (required)	3	Psy	4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.							
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)						28	
FREE ELECTIVES						1-5	
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.							
MINIMUM TOTAL						124	

COOPERATIVE ENGINEERING 3-2 Functional Major, B.A. Degree

(42 000395)

The University of Missouri-Rolla, the University of Missouri-Columbia, the University of Kansas, and Central Missouri State University offer cooperative five-year engineering programs leading to a B.A. degree from Central and a B.S. in Engineering from the cooperating institution. Any student electing to enter upon the five-year program must apply for a worksheet at the close of his/her sophomore year indicating upon the worksheet that he/she plans to complete the cooperative plan at another institution and name the institution. For details, consult the Chair of the Chemistry and Physics Department. For the first three years, students should complete the following program.

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						62	
Phys	3012	Elec. Measurements Laboratory	2	SpCm	1000	Public Speaking	3
Phys	2121	University Physics I	5	Math	1151	Calculus & Analytic Geometry I	5
Phys	2122	University Physics II	5	Math	1152	Calculus & Analytic Geometry II	5
Phys	3211	Analytical Mechanics I	2	Math	2153	Calculus & Analytic Geometry III	3
Phys	4212	Analytical Mechanics II	3	Math	4151	Differential Equations	3
Phys	3311	Electric Circuit Theory	3	Math	1411	Intro. to FORTRAN Programming ..	1
Phys	4411	Thermodynamics	3	Grp	1110	Fundamentals of Drafting	3
Chem	1131	General Chemistry I	5	Econ	1010	Principles of Economics	3
Chem	1132	General Chemistry II	5	Econ	1011	Principles of Economics	3
Students whose high school preparation is inadequate should take Phys 1101 during their first year at Central.							
Depending upon major engineering area, the student should consider taking Phys 3511, Phys 3611, Phys 4513, Phys 4312 and/or Phys 4711. In particular, electrical engineers should consider taking Phys 3511, Phys 3611, Phys 4513, and/or Phys 4312. Other engineering students should check major requirements of the transfer university.							
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, SpCm 1000 fulfills 3 s.h. of Group B; Math 1151 fulfills 3 s.h. of Group C; Phys 2121 fulfills 4 s.h. of Group D; Econ 1010 fulfills 3 s.h. of Group F; the Modern Language Requirement fulfills 3 s.h. of Group G)						24-27	
MODERN LANGUAGE REQUIREMENT						3-9	
(Refer to Bachelor's Degree Requirements section for fulfillment options.)							
MINIMUM TOTAL AT CENTRAL						89-98	

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Laboratory and Unclassified

Phys 2020 Analytic Methods for Physics and Engineering (3) Technique development in and application of topics necessary to describe physical problems in the physics and pre-engineering curricula including coordinate systems, vectors and vector operators, series expansions, complex numbers, partial derivatives, special functions, and ordinary differential equations. Prerequisite: Phys 2121.

Phys 3012 Electrical Measurements Laboratory (2) Basic electrical and magnetic measurements from DC to radio frequencies, including electric transients and calibration procedures. Introductory experiments using analog and digital circuits. Prerequisite: Phys 3311 concurrently.

Phys 3020 Special Topics in Physics (1-4) Study, interpretation, and discussion of special topics and problems in physics. *May be repeated for a maximum of 6 semester hours.* Prerequisite: consent of instructor.

Phys 3040 Practicum in Physics Laboratory Management (1.5) The student will assist with all aspects of an undergraduate physics laboratory at the appropriate level, including answering student questions, preparing equipment, and grading. The student will also be expected to prepare and present two or three introductory lectures for the laboratory, critique materials and methods presently in use, and suggest, design, and produce written materials for a new experiment. *May be repeated for a maximum of 3 semester hours.* Prerequisite: consent of department.

Phys 4012 Microelectronics Laboratory (1) The application of semiconductor devices such as transistors, operational amplifiers, large and medium scale integrated circuits (LSI and MSI) to the fields of instrumentation and computer interfacing. Prerequisite: Phys 4812 concurrently.

Phys 4013 Solid State Laboratory (1) A laboratory course for Phys 4513. Experiments in solid state physics to include the drift mobility, Hall effect, photoconductivity, photovoltaic effect, crystal growing, ferroelectricity, and magnetic resonance. Prerequisite: Phys 4513 concurrently.

Phys 5010 Current Theories and Practices in Physics (3-5) Designed for teachers. Content varies but typically covers aspects of mechanics, heat, sound, electricity and magnetism, optics, or modern physics. *May be repeated for a maximum of 10 semester hours.* Prerequisite: consent.

General

Phys 1100 Survey of Physics (4) An introduction to the more important areas of traditional and contemporary physics. Topics include mechanics, heat, sound, electricity and magnetism, light and optics, atomic structure, lasers, structure of matter and the nucleus, nuclear power, and relativity and astrophysics. Laboratory included.

Phys 1101 College Physics I (4) Properties of matter, mechanics, sound, and heat. Laboratory required. Prerequisite: Math 1111 or consent of instructor. Phys 1100 and/or Phys 1110 is recommended for students whose background in science and/or mathematics is limited.

Phys 1102 College Physics II (4) Electricity, magnetism, light, and atomic and nuclear physics. Laboratory required. Prerequisite: Phys 1101.

Phys 1110 Problem Solving in the Physical Sciences (2) A basic course in problem solving with an emphasis on creative solutions to word problems based on physical principles. Recommended for students whose background in science and mathematics is limited and are taking or plan to take Phys 1101 or Phys 2121 as well as for students who want to improve their general problem solving skills.

Phys 2121 University Physics I (5) Kinematics, dynamics, statics, rotational motion, elasticity, periodic motion, fluids, and heat. Laboratory required. Prerequisites: Phys 1101 or consent of department, and Math 1151.

Phys 2122 University Physics II (5) Wave motion, sound, electricity and magnetism, electromagnetic waves, and optics. Laboratory required. Prerequisites: Phys 2121 and Math 1152.

Phys 3110 Introduction to Astrophysics (2) Current topics in astrophysics on a descriptive level. Examples of topics are quasars, pulsars, neutron stars, x-ray astronomy, cosmological theories, etc.

Mechanics

Phys 3211 Analytical Mechanics I (2) The principles of mechanics using elements of vector analysis applied to bodies in equilibrium, trusses, friction; centroids, and moments of inertia. Prerequisite: Phys 2121.

Phys 4212 Analytical Mechanics II (3) Using a vector analysis, a study is made of kinematics; motion of a particle; kinetics of rigid bodies; work and energy, impulse and momentum; impact. Prerequisite: Phys 3211.

Electricity

Phys 3311 Electric Circuit Theory (3) The basic principles of circuit analysis including Kirchhoff's laws, network theorems, equivalent circuits, transients, and AC circuits. Prerequisite: Phys 2122.

Phys 4312 Electricity and Magnetism (3) Electric and magnetic fields using vector analysis, dielectrics, vector potential, Coulomb's law, Gauss' law, Laplace's equation, and Maxwell's equations. Prerequisites: Math 2153 and Phys 2122.

Thermodynamics

Phys 4411 Thermodynamics (3) Properties of gases, kinetic theory of gases; laws of thermodynamics; entropy and introduction to statistical thermodynamics. Prerequisites: Phys 2121 and Math 1152.

Modern Physics

Phys 3510 Solar Energy (3) An introductory course on the principles and applications of solar energy. Topics include: the nature of solar radiation; basic radiation laws and thermodynamic principles applicable to solar utilization; solar thermal and electrical energy conversion; heat transfer; the optics of solar collectors. Laboratory experiments on the measurement and evaluation of solar radiation. Prerequisite: one year of college physics.

Phys 3511 Modern Physics (4) The atomic view of matter and radiation. Introduction to special relativity and quantum theory and x-rays. The atomic models of Bohr and Rutherford. Radioactivity. Laboratory required. Prerequisites: Phys 2122 and Math 2153 or concurrently.

Phys 4512 Introduction to Quantum Mechanics (3)

Experimental basis; fundamental postulates; Schrodinger wave equation; superposition of states; calculation of energy, position, momentum; hydrogen atom; identical particles; perturbation theory. Prerequisites: Phys 3511 and Math 2153.

Phys 4513 Solid State Physics (3) Crystal structure and diffraction in solids. Thermal dielectric properties. Free electron model of metals. Band theory of solids. Brillouin zones. Prerequisite: Phys 3511.

Light and Sound

Phys 1611 Physics of Sound (3) The physical nature of sound including its production, transmission and reception, the nature of musical sounds and the recording and reproduction of sound. A laboratory is part of the course.

Phys 3611 Optics (4) Wave optics including the principles of superposition, interference, diffraction, polarization, dispersion, and introduction to quantum optics. Laboratory required. Prerequisites: Math 2153 and Phys 2122.

Particle

Phys 4711 Atomic and Nuclear Physics (3) Designed to use introductory quantum concepts and techniques as applied to the analysis of atoms and nuclei. Prerequisite: Phys 3511.

Electronics

Phys 4812 Electronics (3) An intermediate study of electron tube and transistor characteristics and applications as circuit elements; electronic instruments and systems. Prerequisite: Phys 2122.

Research and Special Problems

Phys 4911 Special Problems in Physics (1-3) Individual work under supervision of a staff member. Problems may be undertaken in any phase of physics. *May be repeated for a maximum of 6 semester hours.*

Phys 5951 Physics Research for Teachers (1-5) Individual work on a physics research project under the supervision of a physics staff member. Project will terminate in a written and oral presentation. *May be repeated for a maximum of 10 semester hours.* Prerequisite: consent.

Communication

In the Department of Communication, the second digit in the course number stands for the following: 0--General.

General

Comm 5000 Introduction to Graduate Study in Communication (3) Research methods, bibliographical resources, and professional writing in the field of communication.

Comm 5010 Theories of Communication (3) Overview of the major theories used to provide a basis for studying the communication process.

Comm 5090 Thesis (1-6) *May be repeated for a maximum of 6 semester hours.*

Comm 6000 Readings (1-3) Guided study in the literature of special and related fields of communication. *May be repeated for a maximum of 6 semester hours.* Prerequisite: 15 semester hours graduate credit.

Comm 6090 Research Problems (1-6) Supervised research in contemporary problems in communication. *May be repeated for a maximum of 6 semester hours.*

Mass Communication

In the area of Mass Communication, the second digit in the course number stands for the following: 0--General, 1--Broadcasting and Film, 2--Journalism, 3--Public Relations and Advertising.

Mass Communication Statement of Policy

The following statements of philosophy and policy are designed to reflect both the spirit and specific guides of the Accrediting Council on Education in Journalism and Mass Communications.

Philosophy

We believe the best preparation for a successful career in mass communication is based upon a broad liberal arts education with a career emphasis.

Students majoring in the mass communication degree programs at Central Missouri State University must complete, before graduation, a minimum of 90 semester hours beyond the offerings in mass communication, of which 65 semester hours must be in the liberal arts and

sciences. Thus, taking mass communication courses beyond the required number in a major, or majoring and minoring between the mass communication programs, can only be done by taking course work beyond the 124 semester hours required for graduation from the University.

Objectives

The first objective is to ensure study of the liberal arts and sciences to prepare students to participate in a variety of societal roles.

The second objective is to provide a balanced academic program for future communication professionals, including appropriate emphasis on theory and necessary skills and techniques.

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The third objective is to develop an awareness of the heritage, ethics, and the power of the media, to enable students to make intelligent use of their professional skills, from entry-level to policy-making positions.

Admissions

Students entering Central Missouri State University to pursue a degree in mass communication (Mass Communication, B.A.; Broadcasting and Film, B.S.; Journalism, B.S.; Public Relations, B.S.) should indicate their intentions to become a mass communication major at the time of first enrollment and be assigned a departmental adviser. Departmental advisors can be obtained at the department office, Martin 136.

Admission to all mass communication degree programs is conditional upon the completion of the following prerequisites:

1. Completion of the following General Education requirements with no grade lower than C: Engl 1020, Engl 1030, SpCm 1000.
2. Proficiency in typing is required for all writing courses. This proficiency may be demonstrated at the department. BE&O 1530 and BE&O 1532 or equivalent should qualify a student for this requirement.

Application into the mass communication programs should be made during the freshman year. Applications made after completion of 75 semester hours of academic credit will normally entail the taking of more than the minimum of 49 additional semester hours. Application forms are available in Martin 136.

Departmental decision on admission will be made after completing the 9 semester hours of course work in the appropriate category. Students must maintain a 2.25 grade-point average with no course credit lower than C in these courses:

1. Broadcasting and Film Major: MCom 1000, MCom 2111, MCom 2115.
2. Journalism Major: MCom 1000, MCom 1220, MCom 2220.
3. Mass Communication Major: MCom 1000, MCom 2111, MCom 1220.
4. Public Relations Major: MCom 1220, MCom 2220, MCom 2320.

Course Work

1. Subsequent to initial enrollment as entering students, students majoring in mass communication programs should obtain pre-enrollment authorization from their departmental adviser before registering for additional classes.
2. Students will not be permitted to withdraw more than one time from each mass communication course without permission of the departmental Student Affairs Committee.
3. A student may not graduate with a degree with a mass communication major in which the grade of record for any required mass communication course work is an F. Excluding MCom 1000, MCom 2111, MCom 2115, MCom 1220, MCom 2220, and MCom 2320, a maximum of six semester hours in which the grade of record for any mass communication coursework is a D may be counted toward a degree with a mass communication major.
4. Course substitutions for the catalog requirements may be made only upon approval by the appropriate departmental Program Coordinator.
5. Some production or writing courses require participation in activities outside the class meeting hours. Students should be prepared to participate in these activities which sometimes include assignments in conjunction with the campus media.
6. Some lecture courses require attendance at departmental colloquia and/or other university presentations. Students should be prepared to participate in these assignments as a part of their degree programs.
7. In order to graduate with a degree with a mass communication major, a student must attain a 2.25 (or above) grade-point average for all credit hours (completed at Central or elsewhere) and attain a 2.35 (or above) grade-point average for all course work in the major.
8. To qualify for graduation, students must have completed 90 semester hours outside mass communication, of which 65 must be in the liberal arts and sciences.
9. For the purposes of our programs, liberal arts and sciences includes all non-mass communication (MCom) courses listed in the College of Arts and Sciences and all courses listed in sociology (Soc), psychology (Psy), and economics (Econ).

BROADCASTING AND FILM Major, B.S. Degree

For admissions and classwork requirements, see Statement of Policy.
(43 000342)

		Sem. Hours
MAJOR REQUIREMENTS		34
MCom 1000	Intro. to Mass Communication 3	
MCom 4050	Mass Communication Law 3	
MCom 2100	Foundations of Broadcasting 3	
MCom 2111	Audio Production & Performance 3	
MCom 2112	Video Production & Performance 3	
MCom 2115	Broadcast Copywriting 3	
Electives from the following 3-6		
MCom 3110	Radio Production 3	
MCom 3111	Television Production 3	
MCom 3112	Film Production 3	
Electives from the following 6-8		
MCom 3070	Media Research Methods 2	
MCom 4045	Media Economics & Sales 3	
Electives (continued)		
MCom 4080	Criticism of Mass Media 2	
MCom 3100	History & Art of the Film 3	
MCom 3130	Broadcast Prog. & Operations . 3	
MCom 4175	New Media Technologies 2	
Electives from the following 2-7		
MCom 3010	Mass Media Practicum 1-2	
MCom 4095	Internship 1-3	
MCom 4110	Adv. Television Production ... 3	
MCom 4115	Writing Dramatic & Documentary Programming ... 3	
MCom 4170	Instr. & Corp. Television 3	
MCom 1220	Elem. of News Reporting 3	
MCom 3235	Broadcast Journalism 3	
Proficiency in typing is required (see Statement of Policy).		
MINOR REQUIREMENTS (see Statement of Policy)		18-25
GENERAL EDUCATION REQUIREMENTS--40-42 s.h. (In the major, MCom 1000 fulfills 3 s.h. of Group H)		37-39
SpCm 1000	Group B (required) 3	
LIS 1100	Group I (required) or	
SpCm 2125	Group I (required) 2	
FREE ELECTIVES (see Statement of Policy)		26-35
MINIMUM TOTAL		124

BROADCASTING AND FILM Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)
(000343)

		Sem. Hours
MINOR REQUIREMENTS		21
MCom 1000	Intro. to Mass Communication 3	
MCom 4050	Mass Communication Law 3	
MCom 2100	Foundations of Broadcasting 3	
MCom 2111	Audio Production & Performance 3	
MCom 2112	Video Production & Performance 3	
Electives from the following 6		
MCom 3010	Mass Media Practicum 1-2	
MCom 4040	Media Management 2	
Electives (continued)		
MCom 4080	Criticism of Mass Media 2	
MCom 2115	Broadcast Copywriting 3	
MCom 3110	Radio Production 3	
MCom 3111	Television Production 3	
MCom 3112	Film Production 3	
MCom 3130	Broadcast Prog. & Operations . 3	
MCom 4110	Adv. Television Production ... 3	
GENERAL EDUCATION REQUIREMENTS (In the minor, MCom 1000 fulfills 3 s.h. of Group H)		

JOURNALISM Major, B.S. Degree

For admissions and classwork requirements, see Statement of Policy.
(43 000345)

		Sem. Hours
MAJOR REQUIREMENTS		34
MCom 1000	Intro. to Mass Communication 3	
MCom 3010	Mass Media Prac. (Journalism) 2	
MCom 4050	Mass Communication Law 3	
MCom 1220	Elements of News Reporting 3	
MCom 2200	Heritage of American Journalism 2	
MCom 2220	Copyediting & Layout 3	
MCom 3225	Feature Writing 3	
MCom 4220	Editorial & Interpretive Writing 3	
MCom 4235	Advanced News Reporting 3	
Electives from the following 3-6		
MCom 3070	Media Research Methods 2	
MCom 4040	Media Management 2	
MCom 4045	Media Economics & Sales 3	
MCom 4060	Comparative Media Systems 2	
MCom 4080	Criticism of Mass Media 2	
Electives from the following 3-6		
MCom 4095	Internship 1-3	
MCom 3230	Photo Journalism 3	
MCom 3235	Broadcast Journalism 3	
MCom 4210	Magazine Design & Prod. 3	
MCom 4271	School Publications 2	
MCom 2320	Public Relations 3	
MCom 3340	Mass Media Advertising 3	
MCom 4380	Publicity 3	
SpCm 3127	Improving Interviewing Skills .. 2	
Grap 1210	Elementary Photography 3	
Proficiency in typing is required (see Statement of Policy).		
(continued on next page)		

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MINOR REQUIREMENTS (see Statement of Policy)	18-25
GENERAL EDUCATION REQUIREMENTS--40-42 s.h. (In the major, MCom 1000 fulfills 3 s.h. of Group H)	37-39
SpCm 1000 Group B (required) 3	LIS 1100 Group I (required) or
	SpCm 2125 Group I (required) 2
FREE ELECTIVES (see Statement of Policy)	26-35
MINIMUM TOTAL	124

JOURNALISM Minor, B.S. in Ed. Degree

(Certification to teach journalism in grades 9-12)
(000346)

MINOR REQUIREMENTS	Sem. Hours
MCom 1000 Intro. to Mass Communication 3	MCom 2220 Copyediting & Layout 3
MCom 3010 Mass Media Practicum 1	MCom 3225 Feature Writing 3
MCom 4050 Mass Communication Law 3	MCom 4271 School Publications 2
MCom 1220 Elem. of News Reporting 3	Grp 1210 Elementary Photography 3
GENERAL EDUCATION REQUIREMENTS (In the minor, MCom 1000 fulfills 3 s.h. of Group H)	

JOURNALISM Minor for a Bachelor's Degree

(Except for a B.S. in Ed. Degree, 200008)

MINOR REQUIREMENTS	Sem. Hours
MCom 1000 Intro. to Mass Communication 3	Elective from the following 3
MCom 4050 Mass Communication Law 3	MCom 3010 Mass Media Practicum 1-2
MCom 1220 Elements of News Reporting 3	MCom 4080 Criticism of Mass Media 2
MCom 2200 Heritage of American Journalism 2	*MCom 3230 Photo Journalism 3
MCom 2220 Copyediting & Layout 3	MCom 3235 Broadcast Journalism 3
MCom 3225 Feature Writing, 3 or	MCom 4220 Editorial & Inter. Writing 3
MCom 4235 Advance News Reporting, 3 3	
GENERAL EDUCATION REQUIREMENTS (In the minor, MCom 1000 fulfills 3 s.h. of Group H)	

*Course has prerequisite(s) not listed in the program.

MASS COMMUNICATION Major, B.A. Degree

For admissions and classwork requirements, see Statement of Policy.
(42 000348)

MAJOR REQUIREMENTS	Sem. Hours
MCom 1000 Intro. to Mass Communication 3	MCom 3100 History & Art of the Film 3
MCom 4050 Mass Communication Law 3	MCom 1220 Elem. of News Reporting 3
MCom 4060 Comparative Media Systems 2	Departmentally approved electives in
MCom 4080 Criticism of Mass Media 2	mass communication 12
MCom 2111 Audio Production & Performance 3	
Proficiency in typing is required (see Statement of Policy).	
MINOR REQUIREMENTS (see Statement of Policy)	18-25
GENERAL EDUCATION REQUIREMENTS--40-42 s.h. (The Modern Language Requirement fulfills 3 s.h. of Group G;	
in the major, MCom 1000 fulfills 3 s.h. of Group H)	34-36
SpCm 1000 Group B (required) 3	LIS 1100 Group I (required) or
	SpCm 2125 Group I (required) 2
MODERN LANGUAGE REQUIREMENT	3-9
(Refer to Bachelor's Degree Requirements section for fulfillment options.)	
FREE ELECTIVES (see Statement of Policy)	23-39
MINIMUM TOTAL	124

MASS COMMUNICATION Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)
(000349)

MINOR REQUIREMENTS	Sem. Hours
MCom 1000 Intro. to Mass Communication 3	MCom 1220 Elem. of News Reporting 3
MCom 4060 Comparative Media Systems 2	Departmentally approved electives in
MCom 4080 Criticism of Mass Media 2	mass communication 7
MCom 2111 Audio Production & Performance 3	
GENERAL EDUCATION REQUIREMENTS (In the minor, MCom 1000 fulfills 3 s.h. of Group H)	

PUBLIC RELATIONS Major, B.S. Degree

For admissions and classwork requirements, see Statement of Policy.
(43 000351)

		Sem. Hours
MAJOR REQUIREMENTS		34
MCom 1000	Intro. to Mass Communication	3
MCom 3070	Media Research Methods	2
MCom 4050	Mass Communication Law	3
MCom 1220	Elements of News Reporting	3
MCom 2220	Copyediting & Layout	3
MCom 4210	Magazine Design & Production	3
MCom 2320	Public Relations	3
MCom 4380	Publicity	3
MCom 4385	Case Studies in Public Relations	2
MCom 4390	Campaigns	3
Electives from the following		6
MCom 3010	Mass Media Practicum	1-2
MCom 4000	Special Topics in Mass Media ...	1-3
Proficiency in typing is required (see Statement of Policy).		
MINOR REQUIREMENTS (see Statement of Policy)		18-25
GENERAL EDUCATION REQUIREMENTS--40-42 s.h. (In the major, MCom 1000 fulfills 3 s.h. of Group H)		37-39
SpCm 1000	Group B (required)	3
Electives (continued)		
MCom 4080	Criticism of Mass Media	2
MCom 4095	Internship	1-3
MCom 2115	Broadcast Copywriting	3
MCom 4170	Instr. & Corp. Television	3
MCom 3225	Feature Writing	3
MCom 3230	Photo Journalism	3
MCom 4220	Editorial & Inter. Writing	3
MCom 3340	Mass Media Advertising	3
Grp 1010	Intro. to Grp. Arts	3
Grp 1210	Elementary Photography	3
FREE ELECTIVES (see Statement of Policy)		26-35
MINIMUM TOTAL		124

General

MCom 1000 Introduction to Mass Communication (3)
Theory of mass communication, roles and functions of mass media in a contemporary society.

MCom 3010 Mass Media Practicum (1-2) Laboratory experience in radio, television, film, journalism, and public relations. *May be repeated for a maximum of 2 semester hours.* Prerequisite: written consent.

MCom 3070 Media Research Methods (2) Use of research techniques applied to the study of communication, with stress upon those factors affecting the mass media.

MCom 4000 Special Topics in Mass Media (1-3)
Individualized study of current problems and issues affecting the various media. *May be repeated for a maximum of 6 semester hours.*

MCom 4040 Media Management (2) Elements involved in the organization and successful operation of mass media enterprises; special emphasis upon interpersonal problems.

MCom 4045 Media Economics and Sales (3) Business aspects of mass media in a competitive economy, including techniques for selling advertising space and time.

MCom 4050 Mass Communication Law (3) Application of principles of law to the mass communication media, media practice, advertising, and freedom of information, including libel, right of privacy, copyright.

MCom 4060 Comparative Media Systems (2) Role of mass media in major countries and in developing areas; sociopolitical, economic, cultural and historical perspective.

MCom 4080 Criticism of Mass Media (2) Evaluation of the products of the audiovisual and print media, social effects, and the historical bases of public criticism of the individual media.

MCom 4090 Special Projects in Mass Communication (1-3) *May be repeated for a maximum of 6 semester hours.*

MCom 4095 Internship (1-3) A training program which provides an opportunity to work with professional practitioners in the mass media and public relations fields. Credit allowed will depend on the amount of time required of the internship assignment. Prerequisites: completion of

all 20 semester hours of preadmission coursework in the major, 2.5 overall GPA and 2.75 GPA in major, and approval by the internship committee.

MCom 5030 Seminar in Mass Media (2) Studies in a specialized area of mass media with emphasis on individual research. *May be repeated for a maximum of 6 semester hours.*

MCom 5060 International Communication (2) The role of mass media as instruments of national policy, stressing physical and psychological factors limiting exchange of information between nations.

MCom 5080 The Effects of Mass Communication (3)
Influence of radio, television, and film upon social environment.

Broadcasting and Film

MCom 2100 Foundations of Broadcasting (3) Legal, historical, and economic foundations of broadcasting. Prerequisite: MCom 1000 or consent.

MCom 2111 Audio Production and Performance (3)
Techniques of vocal skills and operation of audio equipment used in broadcasting.

MCom 2112 Video Production and Performance (3) Basic techniques and procedures in performance and production of video programs of the type most commonly found in local television stations. Prerequisite: MCom 2111.

MCom 2115 Broadcast Copywriting (3) Script preparation for various nondramatic and nonjournalistic uses in radio, television, and film presentations. Keyboarding ability necessary.

Mcom 3100 History and Art of the Film (3) The development of film as an art form and as a social force in the world today.

MCom 3110 Radio Production (3) Techniques of radio production with practical on-the-air application. Prerequisite: MCom 2111.

MCom 3111 Television Production (3) Intermediate course in television production covering all aspects of on-location video taping and post production editing techniques. Prerequisite: MCom 2112.

MCom 3112 Film Production (3) Film production using the 16mm format; principles of dramatic direction,

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documentary filming, creative editing, and animation.

Prerequisite: MCom 2112.

MCom 3130 Broadcast Programming and Operations (3)

Operation and programming of radio and television stations with emphasis on analysis of programming principles and practices, schedule development and audience behavior.

Prerequisite: MCom 2100.

MCom 4110 Advanced Television Production (3)

Creative elements in television production and direction with emphasis on dramatic direction, remotes, music programs, and the creative use of special effects. Prerequisite: MCom 3111.

MCom 4115 Writing Dramatic and Documentary Programs (3)

Script preparation for drama and documentary in radio, television and film.

MCom 4170 Instructional and Corporate Television (3)

Emphasis on television utilization as an instructional tool. Laboratory experience in the preparation, presentation, and analysis of student productions.

MCom 4175 New Media Technologies (2) Technological developments and their uses (existing and potential) as information distribution systems.

Journalism

MCom 1220 Elements of News Reporting (3)

News, news sources, principles and techniques of news writing; duties and responsibilities of the reporter. Keyboarding ability necessary. Prerequisite: Engl 1030.

MCom 2200 Heritage of American Journalism (2)

Development of the American press from colonial days to modern times; factors affecting the shape and contents of the press in contemporary society. Prerequisite: MCom 1000.

MCom 2220 Copyediting and Layout (3)

Copyediting, rewriting, headline writing, and page make-up. Laboratory work on campus newspaper. Prerequisite: MCom 1220.

MCom 3225 Feature Writing (3) Advanced course in writing special articles for newspapers and magazines. Prerequisites: MCom 2220 and Engl 1030.

MCom 3230 Photo Journalism (3) Effective use of photography in journalism communication. Prerequisites: MCom 1220 and Grap 1210.

MCom 3235 Broadcast Journalism (3) Philosophy and techniques of radio and television journalism. Prerequisite: MCom 1220.

MCom 4210 Magazine Design and Production (3) The magazine process from the collection of raw material through layout and design to the circulation of the finished product. Prerequisite: MCom 1220.

MCom 4220 Editorial and Interpretative Writing (3)

Principles and techniques of editorial and interpretative article writing; relationship between the news, the editorial and the business aspects of a newspaper. Prerequisite: MCom 3225.

MCom 4235 Advanced News Reporting (3)

Problems and techniques of researching and gathering material for in-depth news reporting concerning the political, economic, and social aspects of contemporary society. Prerequisite: MCom 3225.

MCom 4271 School Publications (2)

Editorial and business problems of high school newspapers and yearbooks. Prerequisite: MCom 3225.

Public Relations and Advertising

MCom 2320 Public Relations (3)

Public relations communications, principles, and techniques in historical perspective, including research and report writing. Prerequisites: Engl 1020 and Engl 1030.

MCom 3340 Mass Media Advertising (3) The techniques and roles of advertising in the mass media.

MCom 4380 Publicity (3) Overview of the publicity process including written, spoken, and/or videotaped messages using the mass media as a public relations tool. Prerequisites: MCom 2320 and MCom 2220.

MCom 4385 Case Studies in Public Relations (2) Public relations problems of individual business and civic organizations; analysis of actual and proposed solutions. Prerequisite: MCom 2320.

MCom 4390 Campaigns (3) Overview of the public relations campaign process with actual "hands on" application.

Students will plan, organize and conduct an actual campaign for an organization. Prerequisite: MCom 4380.

MCom 5300 Seminar in Public Relations (2) Guided research in specialized areas of public relations emphasizing historical, descriptive, or experimental studies. *May be repeated for a maximum of 6 semester hours.*

Speech Communication

In the area of Speech Communication, the second digit in the course number stands for the following: 0--General Education, 1--General Speech Communication, 2--Professional.

ORGANIZATIONAL COMMUNICATION Major, B.S. Degree

(43 000356)

		Sem. Hours
MAJOR REQUIREMENTS		42
	Foundations Courses	
SpCm 1000	Public Speaking	3
SpCm 3000	Interpersonal Communication	3
SpCm 2110	Foundations of Comm. Theory	3
SpCm 2120	Foundations of Rhetorical Theory	3
SpCm 2125	Improving Listening Abilities	2
	Pre-Internship Requirements	
SpCm 2130	Small Group Communication	3
SpCm 3127	Improving Interviewing Skills	2
SpCm 4280	Communication in Organizations	3
	Internship	
SpCm 4285	Internship in Speech Comm.	3-6
	Professional Courses	
	Electives from the following	8-11
SpCm 3120	Audience Adaptation	3
SpCm 3125	Nonverbal Communication	2
SpCm 3150	Prin. of Presentational Speaking	3
SpCm 3155	Spch. Writing & Criticism	3
SpCm 4120	Persuasion	2
SpCm 4130	Theories of Interpersonal Communication	3
	Electives	
	Departmentally approved electives	3-9
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--40-42 s.h. (In the major, SpCm 1000 fulfills 3 s.h. of Group B;		
SpCm 2125	fulfills 2 s.h. of Group I)	35-37
CIS 1600	Group H (required) or MCom 1000	Group H (required)
		3
FREE ELECTIVES		20-29
MINIMUM TOTAL		124

SPEECH COMMUNICATION Major, B.A. Degree

(42 000358)

		Sem. Hours
MAJOR REQUIREMENTS		30
SpCm 1000	Public Speaking	3
SpCm 3000	Interpersonal Communication	3
SpCm 2125	Improving Listening Abilities	2
SpCm 2130	Small Group Communication	3
SpCm 2140	Argumentation & Debate	3
SpCm 3155	Speech Writing & Criticism	3
SpCm 4120	Persuasion	2
SpCm 4130	Theories of Interpersonal Com.	3
SpCm 3120	Audience Adaptation, 3 or	
SpCm 3150	Prin. of Presentational Speaking, 3	3
SpCm 4140	Class. Rhetorical Theory, 3 or	
SpCm 4145	Mod. Rhetorical Theory, 3	3
	Departmentally approved electives	2
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--40-42 s.h. (In the major, SpCm 1000 fulfills 3 s.h. of Group B; the Modern Language Requirement fulfills 3 s.h. of Group G; in the major, SpCm 2125 fulfills 2 s.h. of Group I)		
Phil 1000	Group E (required)	3
CIS 1600	Group H (required) or	
MCom 1000	Group H (required)	3
MODERN LANGUAGE REQUIREMENT		3-9
(Refer to Bachelor's Degree Requirements section for fulfillment options.)		
FREE ELECTIVES		26-41
MINIMUM TOTAL		124

SPEECH COMMUNICATION Major, B.S. Degree

(43 000359)

		Sem. Hours
MAJOR REQUIREMENTS		40
SpCm 1000	Public Speaking	3
SpCm 3000	Interpersonal Communication	3
SpCm 2125	Improving Listening Abilities	2
SpCm 2130	Small Group Communication	3
SpCm 2140	Argumentation & Debate	3
SpCm 3120	Audience Adaptation	3
SpCm 3125	Nonverbal Communication	2
SpCm 4120	Persuasion	2
SpCm 4130	Theories of Interpersonal Com.	3
SpCm 4145	Modern Rhetorical Theory	3
SpCm 4150	Cont. Public Address, 2 or	
SpCm 3155	Spch. Writing & Criticism, 3	2-3
	Departmentally approved electives	10-11
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--40-42 s.h. (In the major, SpCm 1000 fulfills 3 s.h. of Group B;		
SpCm 2125	fulfills 2 s.h. of Group I)	35-37
CIS 1600	Group H (required) or MCom 1000	Group H (required)
		3
FREE ELECTIVES		22-31
MINIMUM TOTAL		124

102 **Communication**

SPEECH COMMUNICATION Minor for a Bachelor's Degree

(Except for a B.S. in Ed. Degree)
(000360)

				Sem. Hours
MINOR REQUIREMENTS				21
SpCm 1000	Public Speaking	3	SpCm 2130 Small Group Communication	3
SpCm 3000	Interpersonal Communication	3	Electives in speech communication	12
GENERAL EDUCATION REQUIREMENTS (In the minor, SpCm 1000 fulfills 3 s.h. of Group B)				

SPEECH COMMUNICATION AND THEATRE Major, B.S. in Ed. Degree

(Certification to teach speech and theatre in grades 9-12)
(41 000362)

				Sem. Hours
CORE REQUIREMENTS				21
Thea 1500	Acting	3	SpCm 2130 Small Group Communication	3
Thea 1600	Stagecraft & Lighting	3	SpCm 2140 Argumentation & Debate	3
Thea 3700	Directing	3	SpCm 3125 Nonverbal Communication	2
SpCm 2110	Foundations of Comm. Theory	3	SpCm 3190 Forensics	1

Speech Communication Major Option, B.S. in Ed. Degree

				Sem. Hours
MAJOR REQUIREMENTS				36
Core Requirements		21	SpCm 3150 Prin. of Presentational Speaking	3
SpCm 3000	Interpersonal Communication	3	Thea 4400 Lit. & History of the Theatre I, 3 or	
SpCm 3120	Audience Adaptation	3	Thea 4420 Lit. & History of the Theatre II, 3	3
			Electives in SpCm, Thea, or MCom	3
MINOR REQUIREMENTS				18-25
GENERAL EDUCATION REQUIREMENTS				39-43
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.				
SpCm 1000	Group B (required)	3	MCOM 1000 Group H (required)	3
Thea 2400	Group E (required)	3	Psy 4230 Psy. of Adolescence	3
PoS 1510	Group F (required)	3		
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.				
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)				28
FREE ELECTIVES				0-3
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.				
MINIMUM TOTAL				124

Theatre Major Option, B.S. in Ed. Degree - See requirements as outlined in the Department of Theatre.

SPEECH COMMUNICATION AND THEATRE Minor, B.S. in Ed. Degree

See requirements as outlined in the Department of Theatre.

General Education

SpCm 1000 Public Speaking (3) A study and practice of basic principles involved in discovering, arranging, delivering, and evaluating ideas in speech situations.

SpCm 3000 Interpersonal Communication (3) Principles of symbolic interaction and their implications for social, personal, and physiological adaptation across the human life span. Includes the patterns involved in establishing and maintaining effective relationships, managing conflict, and promoting tolerance for human diversity.

General Speech Communication

SpCm 2110 Foundations of Communication Theory (3) The process by which communication principles are formulated and the principles themselves, with emphasis on both their theoretical and pragmatic dimensions.

SpCm 2120 Foundations of Rhetorical Theory (3) Nature and functions of rhetoric across various communication situations.

SpCm 2125 Improving Listening Abilities (2) Theories and principles for improving listening in a variety of communication situations.

SpCm 2130 Small Group Communication (3)

Communication process as it relates to small group behavior, including the study of principles, methods, and forms of discussion used in small groups.

SpCm 2135 Voice and Body in Performance (3) The study and practice of communication functions and performance components of non-dramatic texts; e.g., conversations, radio broadcasts, oral and personal narratives, television and video presentations.

SpCm 2140 Argumentation and Debate (3) Principles of analysis, evidence, reasoning, briefing, refutation, case construction, preparing and evaluating arguments. Practical experience with different types of debate.

SpCm 3120 Audience Adaptation (3) Audience dimensions and their relationship to communicative acts. Prerequisite: SpCm 1000.

SpCm 3125 Nonverbal Communication (2) An examination of selected areas of nonverbal communication; e.g., space and territory relationships, physical behavior, appearance and dress; paralinguistics; and artifacts.

SpCm 3127 Improving Interviewing Skills (2) Theory and purposes of interviewing, emphasizing the principles and practice of interviewing skills.

SpCm 3150 Principles of Presentational Speaking (3)

Designed to increase awareness and understanding of speech theory and, by means of speaking exercises, to increase proficiency as a speaker in a variety of professional settings. Prerequisite: SpCm 1000.

SpCm 3155 Speech Writing and Criticism (3) A study of critical practices and methodology including the composition of speech manuscripts and the application of standards for evaluation.

SpCm 3170 Special Topics in Speech Communication (1-3)

The study of subjects not included in department's regular offering such as parliamentary procedure, intercultural and/or therapeutic communication. *May be repeated for a maximum of 6 semester hours.* Prerequisite: written approval of department chair.

SpCm 3190 Forensics (1) Participation in intercollegiate forensics--debate, oratory, extemporaneous speaking, discussion, and oral interpretation. *May be repeated for a maximum of 3 semester hours.*

SpCm 4120 Persuasion (2) Emotive, cognitive, and behavioral sources of persuasive appeal.

SpCm 4130 Theories of Interpersonal Communication (3)

An in-depth study of selected theories and supporting research findings of the communication process as it occurs in informal face-to-face situations.

SpCm 4135 Gender Communication (3) Gender as it influences communication processes in intrapersonal, interpersonal, group, public and mediated contexts.

Prerequisite: SpCm 3000 or consent of instructor.

SpCm 4140 Classical Rhetorical Theory (3) Foundations and development of rhetorical theory during the Classical Period with special emphasis given to Plato, Aristotle, Cicero, and Quintillian.

SpCm 4145 Modern Rhetorical Theory (3) An examination of significant movements in the development of twentieth century rhetorical theory including the contributions of Kenneth Burke, Richard Weaver, and Marshall McLuhan.

SpCm 4150 Contemporary Public Address (2) Public address as it functions in contemporary society in a variety of traditional and mass media settings.

SpCm 5100 Seminar in Speech Communication (2-3) A presentation of topics not included in the regular offering of the department. *May be repeated for a maximum of 6 semester hours.*

SpCm 5130 Group Communication (3) Principles of communication within small and large groups emphasizing educational, business, social, and therapeutic group functions with readings, discussions, and research.

SpCm 5160 General Semantics (3) An introduction to the field of general semantics considering the extensional devices, the processes of abstracting, inter- and intra-organic communication, and nonverbal communication.

Professional**SpCm 3210 Issues in Teaching Speech Communication (2)**

Curricular and co-curricular activities involved in the teaching of speech with emphasis directed toward secondary school teaching.

SpCm 3220 Communication Conflict Management (3) An examination of communication factors which contribute to conflicts and an analysis of their resolution.

SpCm 4200 Special Projects in Speech Communication (1-3) *May be repeated for a maximum of 6 semester hours.*

Prerequisite: written approval of department chair.

SpCm 4280 Communication in Organizations (3)

A consideration of theories and principles of communication structures and systems within organizations.

SpCm 4283 Communication Training (3) Communication as the coupling that holds organizations together and the agent of change which ensures health and growth. Students will assess needs and determine communication links; design, develop, and implement learning modules for human resource development; and design and interpret evaluation means to determine the effectiveness of the communicated training. Prerequisites: SpCm 3127, SpCm 3150, and SpCm 3120 or SpCm 2140 or consent of instructor.

SpCm 4285 Internship in Speech Communication (1-6) The application of speech communication principles and theories in business, industry, and government settings. *May be repeated for a maximum of 6 semester hours.* Prerequisites: written approval of department chair.

SpCm 5210 Advanced Problems of Teaching Speech

Communication (3) A study of the current theory, research, and practice of teaching speech communication courses and concepts at the secondary and college levels with special emphasis upon beginning courses. Prerequisite: 15 semester hours or 5 courses in speech communication at the undergraduate and/or graduate levels.

SpCm 5220 Speech Education Studies (2-3) Variable topics to be offered such as Communication Anxiety, Research in Special Communication, Teaching Interpersonal Communication, and Communication Games and Simulation. *May be repeated for a maximum of 6 semester hours.* Prerequisite: undergraduate speech communication major or consent.

SpCm 5227 Professional Interviewing (2) Interviewing focusing upon the role of the interviewer in business,

government, industrial, academic, and other professional settings. Prerequisite: SpCm 3127 or consent.

SpCm 5250 Presentational Speaking in Professional Settings (2) Prepares students who are seeking careers in business and the professions to understand the theory and practice of making effective presentations in small group, conference, or meeting situations.

SpCm 5270 Communication Assessment (2) The assessment and measurement of human interaction within professional settings. Prerequisite: Comm 5000.

SpCm 5280 Studies in Organization Communication (2) Directed individual research and group discussion of selected topics in organizational communication research, communication audit techniques, and communication training and programming in organizational settings. *May be repeated for a maximum of 6 semester hours.* Prerequisite: SpCm 4280 or consent.

SpCm 6271 Graduate Internship in Organizational Communication (1-6) The application of communication principles in business, industrial and governmental settings through a supervised experience. *May be repeated for a maximum of 6 semester hours.* Prerequisites: SpCm 4280 and approval of department chair.

English and Philosophy

English

In the section of English, the second digit in the course number stands for the following: 0--Rhetoric and Composition, 1--Language Study and Grammar, 2--Literary Study and Criticism, 3--English Literature Before 1500 and English Literature From 1500 to 1640, 4--English Literature From 1640 to 1800, 5--English Literature From 1800 to 1900, 6--American Literature From Its Beginnings to 1914, 7--Modern Literature, 8--Teaching Methods in English, 9--Research and Readings.

ENGLISH Major, B.A. Degree

(42 000303)

	Sem. Hours
MAJOR REQUIREMENTS	35
Engl 2000 Orientation for the Major	1
Engl 3000 Critical Studies	1
Engl 4000 Senior Seminar	1
Engl 3120 History of English Language	2
Engl 4360 Shakespeare	3
3000-4000 level electives in English	9
British Literature	
Select British Literature Area A or B	9
British Literature Area A	
Engl 2210 British Literature to 1750	3
Electives from the following	6
Engl 4460 The Age of Pope & Johnson ..	3
Engl 4500 19th Century English Novel ..	3
Engl 4510 Romantic Poets & Essayists ..	3
Engl 4540 Victorian Poets & Essayists ..	3
Engl 4560 British Women Writers	3
Engl 4700 British Fiction	
1890 to Present	3
Engl 4720 Modern British Poetry	3
British Literature Area B	
Engl 2215 British Lit. 1750 to Present	3
Electives from the following	6
Engl 4310 Chaucer	3
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENT--39-43 s.h. (The Modern Language Requirement fulfills 3 s.h. of Group G)	36-40
Engl 2220 Group E (required)	3
MODERN LANGUAGE REQUIREMENT	3-9
(Refer to Bachelor's Degree Requirements section for fulfillment options.)	
FREE ELECTIVES	15-32
MINIMUM TOTAL	124

(Electives continued)

Engl 4330 Renaissance English Writers .. 3

Engl 4340 Old & Middle English Lit. 3

Engl 4450 The Age of Milton

American Literature

Select American Literature Area A or B

American Literature Area A

Engl 2200 American Literature to 1865 ... 3

Electives from the following

 Engl 4640 American Realists

 & Naturalists

 Engl 4660 Women Writers of the

 United States

 Engl 4670 Ethnic American Lit. 3

 Engl 4710 Modern American Fiction ... 3

 Engl 4730 Modern American Poetry ... 3

American Literature Area B

Engl 2205 American Lit. 1865 to Present . 3

Electives from the following

 Engl 4610 American Renaissance 3

 Engl 4620 Early American Literature .. 3

 Engl 4670 Ethnic American Lit. 3

ENGLISH Major, B.S. in Ed. Degree

(Certification to teach English in grades 9-12)

(41 000311)

		Sem. Hours
MAJOR REQUIREMENTS		39-40
Engl 2000	Orientation for the Major	1
Engl 3000	Critical Studies	1
Engl 4000	Senior Seminar	1
Engl 3030	Composition & Evaluation	3
Engl 4040	Advanced Rhetoric	3
Engl 3110	English Grammar	3
Engl 3120	History of English Language	2
Engl 2830	Literature for Adolescents	2
Electives in English		5-6
British Literature		
Select British Literature Area A or B		9
British Literature Area A		
Engl 2210	British Literature to 1750	3
Electives from the following		6
Engl 4460	The Age of Pope & Johnson ..	3
Engl 4500	19th Century English Novel ..	3
Engl 4510	Romantic Poets & Essayists ..	3
Engl 4540	Victorian Poets & Essayists ..	3
Engl 4560	British Women Writers	3
Engl 4700	British Fiction	
	1890 to Present	3
Engl 4720	Modern British Poetry	3
British Literature Area B		
Engl 2215	British Lit. 1750 to Present	3
Electives from the following		6
Engl 4310	Chaucer	3
Engl 4330	Renaissance Engl. Writers ..	3
Engl 4340	Old & Middle English Lit. ...	3
Engl 4360	Shakespeare	3
Engl 4450	The Age of Milton	3
American Literature		
Select American Literature Area A or B		9
American Literature Area A		
Engl 2200	American Literature to 1865 ..	3
Electives from the following		6
Engl 4640	American Realists	
	& Naturalists	3
Engl 4660	Women Writers of the	
	United States	3
Engl 4670	Ethnic American Lit.	3
Engl 4710	Modern American Fiction ..	3
Engl 4730	Modern American Poetry ..	3
American Literature Area B		
Engl 2205	American Lit. 1865 to Present ..	3
Electives from the following		6
Engl 4610	American Renaissance	3
Engl 4620	Early American Literature ..	3
Engl 4670	Ethnic American Lit.	3
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h.		39-43
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.		
Engl 2220	Group E (required)	3
Psy 4230	Psychology of Adolescence	3
PoS 1510	Group F (required)	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.		
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)		28
FREE ELECTIVES		0-3
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.		
MINIMUM TOTAL		127

ENGLISH Functional Major, B.S. in Ed. Degree

(Certification to teach English in grades 9-12)

(41 000313)

		Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS		55
Engl 2000	Orientation for the Major	1
Engl 3000	Critical Studies	1
Engl 4000	Senior Seminar	1
Engl 3030	Composition & Evaluation	3
Engl 4040	Advanced Rhetoric	3
Engl 3110	English Grammar	3
Engl 3120	History of English Language	2
Engl 2830	Literature for Adolescents	2
Electives in English		9
British Literature		
Engl 4360	Shakespeare	3
Select British Literature Area A or B		9
British Literature Area A		
Engl 2210	British Literature to 1750	3
Electives from the following		6
Engl 4460	The Age of Pope & Johnson ..	3
Engl 4500	19th Century English Novel ...	3
Engl 4510	Romantic Poets & Essayists ...	3
Engl 4540	Victorian Poets & Essayists ...	3
Engl 4560	British Women Writers	3
Engl 4700	British Fiction 1890 to Present	3
Engl 4720	Modern British Poetry	3
British Literature Area B		
Engl 2215	British Lit. 1750 to Present	3
Electives from the following		6
Engl 4310	Chaucer	3
Engl 4330	Renaissance Engl. Writers ...	3
Engl 4340	Old & Middle English Lit.	3
Engl 4450	The Age of Milton	3
American Literature		
Select American Literature Area A or B		9
American Literature Area A		
Engl 2200	American Literature to 1865 ...	3
Electives from the following		6
Engl 4640	American Realists & Naturalists	3
Engl 4660	Women Writers of the United States	3
Engl 4670	Ethnic American Lit.	3
Engl 4710	Modern American Fiction ...	3
Engl 4730	Modern American Poetry ...	3
American Literature Area B		
Engl 2205	American Lit. 1865 to Present .	3
Electives from the following		6
Engl 4610	American Renaissance	3
Engl 4620	Early American Literature ...	3
Engl 4670	Ethnic American Lit.	3
Cognates		
Select one of the Cognate Areas A, B, C, or D		9
Cognate Area A		
Electives from the following		9
Phil 1000	Intro. to Philosophy	3
Phil 2100	History of Philosophy I	3
Phil 3100	History of Philosophy II	3
Phil 2300	Ethics	3
Phil 3500	Aesthetics	3
Cognate Area B		
Electives from Religious Studies		9
Cognate Area C		
Electives from History other than General Education requirements		9
Cognate Area D		
Electives from one modern language		9
MINOR NOT REQUIRED		
GENERAL EDUCATION REQUIREMENTS--39-43 s.h.		39-43
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.		
Engl 2220	Group E (required)	3
PoiS 1510	Group F (required)	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.		
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)		28
FREE ELECTIVES		3
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.		
MINIMUM TOTAL		125

ENGLISH Minor, B.S. in Ed. Degree

(Certification to teach English in grades 5-9 with a middle school-junior high school major.

Elementary education functional majors may use this as an area of concentration.

(000305)

		Sem. Hours
MINOR REQUIREMENTS		24
*Engl 3030	Composition & Evaluation	3
Engl 3110	English Grammar	3
Engl 3120	History of English Language	2
*Electives in English		7
American Literature		
Select American Literature Area A or B		6
American Literature Area A		
Engl 2200	American Literature to 1865	3
Elective from the following		3
Engl 4640	American Realists & Naturalists	3
Engl 4660	Women Writers of the United States	3
Engl 4670	Ethnic American Lit.	3
Engl 4710	Modern American Fiction	3
Engl 4730	Modern American Poetry	3
British Literature		
Engl 2210	British Literature to 1750, 3 or	3
Engl 2215	British Lit. 1750 to Present, 3	3
American Literature Area B		
Engl 2205	American Lit. 1865 to Present .	3
Elective from the following		3
Engl 4610	American Renaissance	3
Engl 4620	Early American Literature ..	3
Engl 4670	Ethnic American Lit.	3
GENERAL EDUCATION REQUIREMENTS (Engl 2220, Group E required)		

*A total of 9 semester hours in composition/rhetoric is required for teacher certification, grades 7-9. This requirement may be satisfied by Engl 3030 plus any of the following or any other composition/rhetoric courses approved by the department: Engl 1020, Engl 1030, Engl 1040, Engl 1050, Engl 2050, Engl 3050, Engl 4040, Engl 4050. Students may choose to use part of "Electives in English" to satisfy this requirement.

ENGLISH Minor for a Bachelor's Degree

(Except for a B.S. in Ed. Degree)

(200009)

		Sem. Hours
MINOR REQUIREMENTS		23
Engl 3120	History of English Language	2
Engl 4360	Shakespeare	3
3000-4000 level electives in English		6
British Literature		
Select British Literature Area A or B		6
British Literature Area A		
Engl 2210	British Literature to 1750	3
Elective from the following		3
Engl 4460	The Age of Pope & Johnson ..	3
Engl 4500	19th Century English Novel ...	3
Engl 4510	Romantic Poets & Essayists ..	3
Engl 4540	Victorian Poets & Essayists ...	3
Engl 4700	British Fiction 1890 to Present	3
Engl 4720	Modern British Poetry	3
British Literature Area B		
Engl 2215	Brit. Lit. 1750 to Present	3
Elective from the following		3
Engl 4310	Chaucer	3
Engl 4330	Renaissance English Writers ..	3
Engl 4340	Old & Middle English Lit.	3
Engl 4450	The Age of Milton	3
American Literature		
Select American Literature Area A or B		6
American Literature Area A		
Engl 2200	American Literature to 1865 ...	3
Elective from the following		3
Engl 4640	American Realists & Naturalists	3
Engl 4660	Women Writers of the United States	3
Engl 4670	Ethnic Am. Literature	3
Engl 4710	Modern American Fiction ...	3
Engl 4730	Modern American Poetry ...	3
American Literature Area B		
Engl 2205	American Literature 1865 to Present	3
Elective from the following		3
Engl 4610	American Renaissance	3
Engl 4620	Early American Literature ..	3
Engl 4670	Ethnic Am. Literature	3
GENERAL EDUCATION REQUIREMENTS (Engl 2220, Group E required)		

Rhetoric and Composition

NOTE: Students desiring preparatory courses to Engl 1020 should see "Educational Development Center--Personal Skills Development" in this catalog.

Engl 1020 Rhetorical Writing (3) The logic and rhetoric of expository writing.

Engl 1030 Composition (3) Advanced writing involving research and a generic study of literature. Prerequisite: Engl 1020

Engl 1040 Honors English (3) Designed for those enrolled in the Honors Program. Prerequisite: consent.

Engl 1050 Honors English (3) Designed for those enrolled in the Honors Program. Prerequisite: consent.

Engl 2000 Orientation for the Major (1) Provides a sense of community for English majors as they commence their major study. It will suggest a logical sequencing of courses and will expand the majors' terminology, perspective, and responsibilities in the field of English.

Engl 2050 Creative Writing (2) Introduces students to terminology and techniques in writing and analyzing poetry and fiction; lecture and workshop format.

Engl 3000 Critical Studies (1) Introduction to critical theory and application of various approaches and analyses to works of literature. Continuation of Engl 2000 work on research and assessment techniques; review of majors portfolios and cocurricular transcripts. Prerequisite: Engl 2000.

Engl 3030 Composition and Evaluation (3) Techniques of writing and evaluating composition for those planning to teach.

Engl 3050 Advanced Creative Writing (2) Poetry and fiction writing at advanced level; directed individual research into one area of poetry or fiction; written and oral analysis of students' creative work; workshop format. Prerequisite: Engl 2050 or concurrently or consent of instructor.

Engl 3090 Improvement of Writing (3) Not credited on English major or minor.

Engl 4000 Senior Seminar (1) Provides an opportunity for students to reflect on their program and to identify the coherence of their experience, through assessment and self-assessment of majors portfolio and cocurricular transcript. It will culminate in a senior paper and a formal presentation. Prerequisite: Engl 3000.

Engl 4040 Advanced Rhetoric (3) Practice in the devices of effective writing.

Engl 4050 Creative Writing for Publication* (2) Poetry and fiction writing at advanced level; research into publishing (markets, agents, contests); oral and written analysis of students' creative work; workshop format. Prerequisite: Engl 2050 or concurrently or consent of instructor.

*Not available for graduate credit.

Engl 5000 Introduction to Graduate Study in Language and Literature (2) Research techniques, writing the critical essay, bibliography, research paper format. Required on Masters and Education Specialist degrees.

Language Study and Grammar

Engl 1180 Communication Skills in English as a Second Language (5) For international students who need additional reinforcement in listening and reading comprehension, study skills, grammar, and composition. *May be repeated for a maximum of 10 semester hours.*

Engl 1190 Expository Composition in English as a Second Language (3) For international students who demonstrate through the initial evaluation procedure a need for additional study in English expository writing. *May be repeated for a maximum of 6 semester hours.* Prerequisite: Engl 1180 or consent of the English As a Second Language Committee.

Engl 3110 English Grammar (3) A comparative study of English grammars with strong emphasis on traditional grammar and including structural and transformational approaches.

Engl 3120 History of English Language (2) Growth and nature of the English language.

Engl 4110 Linguistics (3) Approaches to the nature and structure of language.

Engl 4120 Language and Culture (3) A survey of the ways in which languages and varieties of a language differ in content and structure from culture to culture.

Engl 5110 Advanced Grammar for Teaching English as a Second Language (3) Advanced study of English grammar for instruction in English as a second language.

Prerequisite: Engl 4110 or consent of instructor.

Engl 5140 Advanced Applied Linguistics: Materials and Design (3) An examination of materials available and instruction in developing new materials for teaching

English as a second/foreign language. Prerequisite: Engl 5870 or consent of the instructor.

Engl 5150 Topics in Linguistics (3) Modern approaches to linguistics, including syntactic and semantic models of analysis. *May be repeated as areas change for maximum of 9 semester hours.*

Literary Study and Criticism

Engl 2200 American Literature to 1865 (3) An introduction to major American authors and works from the colonial period to the Civil War.

Engl 2205 American Literature 1865 to Present (3) An introduction to major American authors and works from the Civil War to the present.

Engl 2210 British Literature to 1750 (3) An introduction to major British authors and works from 700 to 1750.

Engl 2215 British Literature 1750 to Present (3) An introduction to major British authors and works from 1750 to the present.

Engl 2220 World Masterpieces (3) Major works of world literature, excluding British and American.

Engl 2230 Literature and Film (3) Reading and discussion of selected novels and film scripts combined with laboratory viewing sessions. This course is not available for credit toward English major or minor requirements, except as a free elective.

Engl 2240 Literature and the Arts (3) A course relating literature to the arts of painting, sculpture, architecture, music, and the dance. Not available for credit toward the English major or minor requirements, except as a free elective.

Engl 2270 Fiction by Women Around the World (3) Novels and short stories by women around the globe. Not available for credit toward English major or minor requirements, except as a free elective.

Engl 2290 Science Fiction and Fantasy (2) An introduction to science fiction and fantasy. Not available for credit toward English major or minor, except as a free elective.

Engl 3220 Survey of Asian Literature (3) A survey of selected literature from India, China, and Japan in translation. This course is not available for credit toward English major or minor requirements, except as a free elective.

Engl 5210 Studies in English Literature (2-3) Advanced study and class discussions in a selected area of English literature. Special area of emphasis to be announced each semester. *May be repeated as areas change for a maximum of 9 semester hours.*

Engl 5220 Studies in American Literature (2-3) Advanced study and class discussions in a selected area of American literature. Special area of emphasis to be announced each

semester. *May be repeated as areas change for a maximum of 9 semester hours.*

Engl 5230 Literary Criticism (3) A survey of the trends in literary criticism in the Western World.

English Literature Before 1500

Engl 4310 Chaucer (3) Life and times of Chaucer with extensive reading in his major works. Prerequisite: Engl 2215.

Engl 4340 Old and Middle English Literature (3) Literary genres and contributions from *Beowulf* to 1500 (excluding Chaucer). Prerequisite: Engl 2215.

English Literature From 1500 to 1640

Engl 4330 Renaissance English Writers (3) Literary figures of the Elizabethan and Jacobean periods, excluding Shakespeare. Prerequisite: Engl 2215.

Engl 4360 Shakespeare (3) Study seven or more Shakespearean plays, including comedies, histories, tragedies and romances, with attention to Renaissance backgrounds, literary analysis, and theatrical traditions. Prerequisite: Engl 2215.

English Literature From 1640 to 1800

Engl 4450 The Age of Milton (3) English poetry, prose, and drama of the Puritan and Restoration times. Prerequisite: Engl 2215.

Engl 4460 The Age of Pope and Johnson (3) Fiction, poetry, essays and drama during the times of Pope and Johnson. Prerequisite: Engl 2210 or Engl 2215 for English majors only.

English Literature From 1800 to 1900

Engl 4500 Nineteenth Century English Novel (3) Representative novels from Austen through Gaskell. Prerequisite: Engl 2210.

Engl 4510 Romantic Poets and Essayists (3) Major poets and essayists of the English Romantic period. Prerequisite: Engl 2210.

Engl 4540 The Victorian Poets and Essayists (3) Major poets and essayists of the English Victorian period. Prerequisite: Engl 2210.

Engl 4560 British Women Writers (3) Study of major works by British women writers, with an introduction to feminist criticism. Prerequisite: Engl 2210 or ENGL 2215 (majors only).

American Literature From Its Beginnings to 1914

Engl 4610 American Renaissance (3) The works of Emerson, Hawthorne, Thoreau and Melville. Prerequisite: Engl 2205.

Engl 4620 Early American Literature (3) Major figures of colonial, federal, and early 19th century literature. Prerequisite: Engl 2205.

Engl 4640 American Realists and Naturalists (3) Works of Twain, Howells, James, Dreiser, Chopin, and Crane. Prerequisite: Engl 2200.

Engl 4660 Women Writers of the United States (3) Prerequisite: Engl 2200.

Engl 4670 Ethnic American Literature (3) A survey of America's old and new ethnic writing, with particular emphasis on Native, Asian, Hispanic, and African-American writers and a general emphasis on other groups. Prerequisite: Engl 2200 or Engl 2205.

Modern Literature

Engl 4700 British Fiction 1890 to Present (3) Representative fiction by major British authors from 1890 to the present. Prerequisite: Engl 2210.

Engl 4710 Modern American Fiction (3) Prerequisite: Engl 2200.

Engl 4720 Modern British Poetry (3) British poetry of the twentieth century. Prerequisite: Engl 2210.

Engl 4730 Modern American Poetry (3) American poetry of the twentieth century. Prerequisite: Engl 2200.

Engl 4740 Modern Drama (2) Readings in the significant drama of the Western World from Ibsen and Chekov to the present.

Teaching Methods in English

Engl 2830 Literature for Adolescents (2) Reading course intended for those who will teach high school English.

Engl 4810 Seminar in Teaching English (2-3) May be repeated with different offerings, such as Individualizing Instruction, Teaching Traditional Grammar, How to Teach the Novel, Techniques of Theme Grading, Teaching Creative Writing, or Teaching Prosody. *May be repeated for a maximum of 6 semester hours of undergraduate credit and 6 semester hours of graduate credit.*

Engl 4850 Introduction to Second Language Teaching (3) An examination of the theories and procedures underlying the application of linguistic concepts to the teaching of languages including English as a second or foreign language.

Engl 5860 Teaching English as a Second Language I: The Spoken Language (3) A systematic examination of the phonetic, phonological, morphological, and syntactic structure of spoken English with reference to instructional methodology in applied linguistics. Prerequisite: Engl 4850 or consent of instructor.

Engl 5870 Teaching English as a Second Language II: The Written Language (3) A systematic examination of the written forms of English emphasizing sentence-, paragraph-, and discourse-level grammar and a study of instructional methods. Prerequisite: Engl 5860 or consent of the instructor.

Engl 5890 Practicum in English as a Second Language (3) Supervised practical experience in English as a second language instruction under the direction of a TESL/linguistics faculty member. Prerequisites: Engl 4850, Engl 5860, Engl 5110 and Engl 5870.

Research and Readings

Engl 3990 Special Topics in English (1-3) Individual or group work by qualified students in areas such as creative writing, literature, or language. *May be repeated for a maximum of 6 semester hours.* Prerequisite: approval of department chair.

Engl 4990 Special Projects in English (1-3) *May be repeated for a maximum of 6 semester hours.*

Engl 5920 Research Problems (1-6) Special investigation of a problem in language or literature culminating in a paper. *May be repeated for a maximum of 6 semester hours.*

Engl 6930 Readings (1-3) Extensive special reading programs. *May be repeated for a maximum of 3 semester hours at the masters level, 6 semester hours at the education specialist level.*

Engl 6940 Thesis (1-6) *May be repeated for a maximum of 6 semester hours.*

Philosophy

In the section of Philosophy, the second digit in the course number stands for the following: 0--General, 1--History, 2--Special Projects, 3--Ethics, 4--Logic, 5--Aesthetics, 6--Special Topics, 7--Religion, 8--Theory of Knowledge.

PHILOSOPHY Minor for a Bachelor's Degree (Central does not confer teacher certification for this minor) (000317)

MINOR REQUIREMENTS	Sem. Hours
Phil 1000 Introduction to Philosophy	3
Phil 2100 History of Philosophy I	3
Phil 3100 History of Philosophy II	3
Phil 2300 Ethics	3
Phil 1400 Deductive Logic	3
Electives in philosophy	6
GENERAL EDUCATION REQUIREMENTS (In the minor, 3 s.h. of Group E are fulfilled)	21

General

Phil 1000 Introduction to Philosophy (3) A first course in philosophy, surveying selected problems and perspectives in metaphysics, ethics, the theory of knowledge and/or philosophy of mind.

History

Phil 2100 History of Philosophy I (3) Investigational procedures and resultant viewpoints, along with the impact on Western civilization of leading philosophers, from pre-Socratic times to the beginning of the Middle Ages.

Phil 3100 History of Philosophy II (3) A consideration of and criticism of the views of the major Western philosophers from the end of the Middle Ages through Kant.

Special Projects

Phil 2250 Special Projects in Philosophy (3) An introduction to an analysis of philosophical problems and theories in the student's major area of study. *May be repeated for a maximum of 6 semester hours.*

Ethics

Phil 2300 Ethics (3) An examination of the fundamental principles of moral right and wrong and their applications.

Logic

Phil 1400 Deductive Logic (3) An introduction to the principles, forms, and methods of valid reasoning by a survey of syllogistic logic, propositional logic, and elementary quantificational logic.

Phil 1410 Critical Thinking (3) An introduction to the basic principles and patterns of good reasoning, emphasizing informal argument analysis and practical applications of logic.

Aesthetics

Phil 3500 Aesthetics (3) A survey of philosophy of art from Plato to the present, covering the nature of art, its function in human experience, the basis for standards of evaluation, problems of interpretation, comparisons of different arts, and related topics.

Special Topics

Phil 3600 Special Topics in Philosophy (1-3) Individual or group work by qualified and specially selected students in carefully chosen fields, for more intensive study. *May be repeated for a maximum of 6 semester hours.*

Religion

Phil 3710 Philosophy of Religion (3) The concept of religion, analysis and evaluation of arguments for God's existence, the problem of evil, the nature of religious language, the concept of immortality, and related topics.

Theory of Knowledge

Phil 3800 Philosophy of Science and Technology (3) A philosophical examination of the nature of scientific theorizing and its relation to technology; the relation between scientific methodology, scientific rationality and scientific progress; the role of technology in scientific conceptions of reality.

History and Anthropology

Department of History and Anthropology Statement of Policy

A course with a grade lower than a "C" will not be allowed to fulfill a major or minor requirement in any program offered by the Department of History and Anthropology.

History

HISTORY Major, B.A. Degree

(42 000420)

		Sem. Hours
MAJOR REQUIREMENTS		33
Hist 1350	History of the United States 3	Hist 2451 Modern World Civilization 3
Hist 1351	History of the United States 3	SoSc 3010 Writing in Social Sciences 3
Hist 2450	Early World Civilization 3	Electives in history 18
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--38-43 s.h. (In the major, 3 s.h. of Group F are fulfilled;		
Hist 2451 fulfills 3 s.h. of Group G)		33-37
MODERN LANGUAGE REQUIREMENT (Refer to Bachelor's Degree Requirements section for fulfillment options) 3-9		
FREE ELECTIVES		20-37
MINIMUM TOTAL		124

HISTORY Major, B.S. Degree

(43 000421)

		Sem. Hours
MAJOR REQUIREMENTS		33
Hist 1350	History of the United States 3	Hist 2451 Modern World Civilization 3
Hist 1351	History of the United States 3	SoSc 3010 Writing in Social Sciences 3
Hist 2450	Early World Civilization 3	Electives in history 18
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--38-43 s.h. (In the major, 3 s.h. of Group F are fulfilled;		
Hist 2451 fulfills 3 s.h. of Group G)		33-37
FREE ELECTIVES		29-40
MINIMUM TOTAL		124

HISTORY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000422)

		Sem. Hours
MINOR REQUIREMENTS		20
Hist 1350	History of the United States 3	Hist 2451 Modern World Civilization 3
Hist 1351	History of the United States 3	Electives in history 8
Hist 2450	Early World Civilization 3	
GENERAL EDUCATION REQUIREMENTS (In the minor, 3 s.h. of Group F are fulfilled; Hist 2451 fulfills 3 s.h. of Group G)		

American History

Hist 1320 America and the Modern World I (3) A survey of American history with a study of the modern world from 1750 to 1900. A study of the Constitution of Missouri is included to meet requirements of Section 170.011 RSMo Supp (1988) which states that instruction must be given in "the Constitution of the U.S. and of the state of Missouri and in American history and institutions. . ." Not open to those students who have credit in Hist 1350 or Hist 1351.

Hist 1321 America and the Modern World II (3) A survey of American history with a study of the modern world from 1900 to the present, including a study of the Constitution of Missouri to meet requirements of Section 170.011 RSMo Supp (1988), which states that instruction must be given in "the Constitution of the U.S. and of the state of Missouri and in American history and institutions. . ." Not open to those students who have credit in Hist 1351.

Hist 1322 Honors-America and the Modern World I (3) The same as Hist 1320 designed especially for the Honors Program.

Hist 1323 Honors-America and the Modern World II (3) The same as Hist 1321 designed especially for the Honors Program.

Hist 1350 History of the United States (3) Survey of U.S. history from the age of exploration to 1877. Fulfills state requirements of Section 170.011 RSMo Supp (1988).

Hist 1351 History of the United States (3) Survey of U.S. history from 1877 to present. Fulfills state requirements of Section 170.011 RSMo Supp (1988).

Hist 3300 American Historical Biography (2) Biographies of selected American political leaders and molders of opinion and institutions showing the interaction of men/women and their times and the resulting influences on American development.

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Hist 4300 Missouri History (3) Missouri history from earliest times to the present.

Hist 4305 Political History of the United States 1763-1877 (3) Historical forces and experiences that shaped the nature of public policy and the structure of political institutions from 1763 to 1877.

Hist 4307 American Colonial History 1607-1789 (3) American political, economic, and cultural institutions in the colonial and revolutionary period.

Hist 4308 Social History of the United States (3) A social, cultural, and intellectual survey of American life from its colonial beginnings to the present.

Hist 4309 The African-American in American History (3) Economic, political, and social development of the African-American in the United States.

Hist 4310 Women in America (2) Women in America from colonial times to the present with emphasis upon the nineteenth century feminist movement and the recent twentieth century women's rights movement.

Hist 4315 The Civil War and Reconstruction (2) The causes of the war, the social, political, economic and military impact of the war; and the post-war reconstruction process.

Hist 4316 The American Military Experience (3) A military history of the American people from colonial times to the present, specifically designed to satisfy the Professional Military Education component of the Military Qualifications Standards required of all candidates for commissioning in the United States Army.

Hist 4320 History of the Westward Movement (3) Economic, social, cultural, and political contributions to American development by the Westward Movement.

Hist 4321 History of the South (3) Social, economic, and political development of the South from colonial times to the present.

Hist 4322 Recent American History (3) The United States since 1929 with special emphasis on the Great Depression, New Deal, and expanding role of the United States as a world power.

Hist 4323 Economic History of the United States (3) A survey of the major forces, trends, institutions, and ideas of American economic development.

Hist 4324 Problems in American History (2) Interpretive reading and discussion of selected problems. Conflicting interpretations in American historical writing will be analyzed and evaluated.

Hist 4325 History of American Diplomacy (3) Foreign relations of the United States with emphasis on the period since 1900.

Hist 4326 Native American History of the United States (3) A survey of relations between Native Americans and Euro-Americans from colonial times to the present.

Hist 4330 The United States and World War II (3) The rise of totalitarianism in the 1930's, America's reaction to totalitarianism, the war in Europe 1939-41 and America's reaction, America in World War II, the impact of World War II upon American society, and the post-war settlement and the Cold War.

Hist 4331 The Vietnam Era (3) Vietnam in the pre-French (1880's) era, France in Vietnam until 1954, the gradual U.S. involvement in Vietnam 1954-64, the Vietnam war 1964-73, Vietnam of the post-American involvement era to the present and finally an analysis of the impact of the Vietnam war on American society.

Hist 4351 Special Projects in History (1-6) Study, interpretation, and discussion of special topics and

problems in American and world history. *May be repeated for a maximum of 6 semester hours.*

Hist 5310 Readings in History (1-6) Independent readings in selected fields of history. Offered only on a limited basis. *May be repeated for a maximum of 6 semester hours.* Prerequisites: 9 semester hours of history and graduate adviser's consent.

Hist 5350 Colloquium (3) Advanced study and class discussions in selected area of history. Special area of emphasis to be announced each semester by assigned instructor. *May be repeated as areas change for a maximum of 12 semester hours.* Prerequisite: 9 semester hours of history.

Hist 6305 Studies in History (3) Directed specialized study leading to the completion of a research paper. Periodic arranged class sessions devoted to discussion of historical writing techniques and analysis of individual research projects. *May be repeated as areas change for a maximum of 12 semester hours.* Prerequisite: 9 semester hours of history.

Hist 6350 Thesis (4-6) Special investigation of problems in historical research and interpretation culminating in the completion of a thesis.

World History

Hist 2450 Early World Civilization (3) The civilization and culture of man--his government, economic, social, religious, intellectual, and aesthetic activities from the earliest times to the end of the fifteenth century.

Hist 2451 Modern World Civilization (3) A survey of modern times beginning with the sixteenth century and concluding with the modern world. The widespread changes brought about by developments in commerce and industry receive special emphasis. The total effects of world wars on modern society and culture are studied in a setting of contemporary world affairs.

Hist 3410 War and Modern Society (3) Military affairs in the Western World since the dawn of the twentieth century.

Hist 3430 Western Cultural History (3) Religious, philosophical, scientific, and artistic development of the West from the fall of the Roman Empire to World War I. Special emphasis on the relationships among scientific, artistic, and speculative endeavors and achievements. Prerequisites: Hist 2450 and Hist 2451.

Hist 4402 Ancient Greece (3) A survey of Greek history from the pre-classical Minoan and Mycenaean civilizations, through the classical period, to the Roman conquest.

Hist 4403 Ancient Rome (3) A survey of Roman history from its origins to the decline of the imperial system. Particular emphasis will be placed upon the political, social, and economic developments in the Republic and the factors that led to the fall of the empire.

Hist 4408 Imperial Spain 1469-1714 (3) The rise of the Spanish Empire in the Old World and the New from the fifteenth through the seventeenth centuries.

Hist 4409 History of Latin America Since 1700 (3) Latin American history from the independence movement of the eighteenth century to the present.

Hist 4412 Era of Renaissance and Reformation (3) The intellectual and cultural institutions of Europe during the Age of the Renaissance and the Protestant Revolt and Catholic Reformation.

Hist 4413 Europe in the Seventeenth Century (3) Political, social, economic, and cultural history of Europe in the seventeenth century.

Hist 4414 The Age of the French Revolution and Napoleon (3) The origins, development, and consequences of the French Revolution and the Napoleonic Empire in France and in the larger European world, with special reference to the broad transformation of the entire continent during the eighteenth century.

Hist 4415 Revolutionary Europe (3) A survey of the political, social, economic, and cultural transformation of Europe in a century of revolution, from the *ancient regime* to World War I.

Hist 4416 Europe in Crisis: 1914 to Present (3) A political, social, economic and cultural history of Europe, 1914 to the present; including especially the effect of two world wars, the origins and legacies of Fascism and Nazism, the Depression, Cold War, and Europe's regeneration after 1945.

Hist 4422 England to 1689 (2) The history and institutions of England from Anglo-Saxon times to the Glorious Revolution.

Hist 4423 England and the Commonwealth (3) Political, economic, and social development of modern England and the empire.

Hist 4424 History of Russia (3) Russia and its place in world affairs since the eighteenth century.

Hist 4425 Modern Germany and the Nazi Experience (2) A political, social, economic and cultural history of Germany from World War I through the post-World War II era with emphasis on the Third Reich.

Hist 4426 The Rise of Chinese Civilization (3) The origins, development, and transformation of Chinese civilization from ancient to modern times, including China's impact on peripheral nations and the modifications of traditional culture by Western influences until 1949.

Hist 4427 The Rise of Japanese Civilization (3) The origins, development, and transformation of Japanese civilization from ancient to modern times, emphasizing the unique qualities of Japanese history and culture and the role of Japanese leadership in modern East Asia.

Hist 4428 Communist China (3) Communist China since World War II, including the expulsion of the Nationalist government from the mainland, the consolidation of communist power and authority, internal upheavals such as the "Hundred Flowers," the Great Leap Forward, and the Cultural Revolution and Communist China's foreign policies and role in international affairs.

Hist 4431 Intellectual History of Modern Europe (3) Political, social, and religious ideas shaping the culture, society, and institutions of Europe.

Hist 4432 Economic History of Europe (3) Rise of medieval commerce, growth of towns, commercial and industrial revolutions and the more important economic philosophies.

Hist 5400 Historiography (3) Philosophical systems and the contributions of each to the interpretation of history. Famous historians who represent each of the schools of thought will be analyzed. Open only to history and social science majors.

Interdisciplinary Studies Involving History

A full description of Interdisciplinary Studies courses is listed in the section on Interdisciplinary Studies.

IndS 2340 Introduction to Asian Societies and Civilization (3)

Anthropology

ANTHROPOLOGY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000424)

				Sem. Hours
MINOR REQUIREMENTS				20
Anth	1810	Introduction to Anthropology I	3	Electives (continued)
Anth	1820	Introduction to Anthropology II	3	Elective in sociology
Electives from the following			14	Electives in Anthropology
Engl	4110	Linguistics	3	8-14
GENERAL EDUCATION REQUIREMENTS (In the minor, Anth 1820 fulfills 3 s.h. of Group G)				

Anth 1810 Introduction to Anthropology I (3) Introduction to physical anthropology and archaeology.

Anth 1820 Introduction to Anthropology II (3) The origin, development and varieties of cultures; comparison of artifacts, customs, groups and institutions between and among cultures; implications of nonliterature cultures for modern society.

Anth 2820 Archaeology (3) An examination of societies that are now extinct and an introduction to the field and laboratory methods used to reconstruct their cultures.

Anth 2845 Physical Anthropology (3) The biology of the human organism; primatology, primate paleontology, and fossil hominids; the role of genetics in evolutionary theory; basic ideas in population genetics, and racial variation.

Anth 3801 Applied Anthropology (3) Applications of the four major subfields of anthropology: cultural anthropology, physical anthropology, archaeology, and linguistics.

Prerequisite: Anth 1810 or Anth 1820 or

consent of instructor.

Anth 3850 Peoples of the World (3) An examination of more than twenty cultures throughout the world.

Anth 4815 Special Projects in Anthropology (1-6) Study, interpretation, and discussion of special topics and problems in anthropology. *May be repeated for a maximum of 6 semester hours.* Prerequisite: consent of instructor.

Anth 4820 Sexual Dynamics and Culture (3) Explores cultural factors influencing roles of women and men in a variety of cultures, from small foraging bands to large industrialized states. Topics include cultural influences on sexual equality, sexual hierarchy, heterosexuality, and homosexuality.

Anth 4850 The North American Indian (3) The anthropological study of the native peoples of America north of Mexico; the physical types of American Indian populations; the comparative study of native American

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languages, North American prehistory, and North American ethnology.

Anth 4870 Comparative Cultures (3) Compares various aspects of cultures in selected societies and helps students to collect and analyze data on cultural patterns in their own and other societies.

Anth 4894 Cross-Cultural Aspects of Aging (3) A wide variety of societies, from small hunting and gathering to large industrialized societies, is examined in an attempt to explore probable causes and effects of different patterns of aging.

Social Science

In the area of Social Sciences, the second digit in the course number stands for the following: 0--Social Science Education, 2--Geography, 3--American History, 4--World History, 5--Political Science, 8--Anthropology.

Department of History and Anthropology Statement of Policy

A course with a grade lower than a "C" will not be allowed to fulfill a major or minor requirement in any program offered by the Department of History and Anthropology.

ASIAN STUDIES Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)
(000412)

				Sem. Hours
MINOR REQUIREMENTS				20-21
IndS	2340	Intro. to Asian Societies & Civ.	3	Electives (continued)
Hist	4426	The Rise of Chinese Civ., 3 or		ML 4040 Spec. Proj. in Foreign Lang.
Hist	4427	The Rise of Japanese Civ., 3	3	(Asian Studies)
Engl	3220	Survey of Asian Literature	3	Phil 3600 Spec. Topics in Philosophy
PolS	3520	Asian Government & Politics	3	(Asian Studies)
Geog	4230	Geography of Asia, 3 or		Rel 3900 Spec. Projects in Religion
Geog	4235	Geography of the Soviet Union, 3	3	(Asian Studies)
Electives from the following				5-6
Hist	4351	Spec. Projects in History		*PolS 4531 American Foreign Policy
		(Asian Studies)	1-6	PolS 4532 Intl. Relations of East Asia
Hist	4428	Communist China	3	PolS 4590 Spec. Proj. in Political Sci.
Engl	3990	Spec. Topics in English		(Asian Studies)
		(Asian Studies)	1-6	*Soc 3825 Race & Ethnic Relations
				Soc 4815 Spec. Projects in Sociology
				(Asian Studies)
				Anth 4870 Comparative Cultures
				3

GENERAL EDUCATION REQUIREMENTS (In the minor, IndS 2340 fulfills 3 s.h. of Group G)

*Course has prerequisite(s) not listed in the program.

SOCIAL STUDIES Functional Major, B.S. in Ed. Degree

(Certification to teach social studies in grades 9-12)
(41 000416)

				Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS				56
SoSc	3010	Writing in Social Sciences	3	Psy 4230 Psychology of Adolescence
Geog	2212	World Geography	3	Soc 1800 General Sociology
Hist	1350	History of the United States	3	Upper level elective in Soc or Anth
Hist	1351	History of the United States	3	Upper level electives in American history
Hist	2450	Early World Civilization	3	Upper level elective in world history
Hist	2451	Modern World Civilization	3	Upper level elective in geography
PolS	1510	National Government	3	Electives in at least two of the following: Geog, Hist,
PolS	2511	State Government	3	PolS, Soc, Anth, or Econ
Econ	1010	Principles of Economics	3	9

The program must include at least one course that focuses on a non-western society, nation or region or on the non-western world. A list of the courses which fulfill this requirement is available from the History and Anthropology Department and on file with the Academic Advisors.

MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, 9 s.h. of Group F are fulfilled;

Hist 2451 fulfills 3 s.h. of Group G)

ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.

(continued on next page)

(continued from previous page)

PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)	28
Psy 4200 Psy. of Except. Children (required)	2
FREE ELECTIVES	9-13
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.	
To be recommended for student teaching by the Department of History and Anthropology, a student with a major or minor in social studies must achieve at least a 2.5 GPA in all social science courses taken at Central.	
MINIMUM TOTAL	124

SOCIAL STUDIES Minor, B.S. in Ed. Degree

(Certification to teach social studies in grades 5-9 is available only with a major in middle school-junior high school. May fulfill an area of concentration requirement for elementary education functional majors.) (000418)

MINOR REQUIREMENTS		Sem. Hours
Hist 1350	History of the United States	3
Hist 1351	History of the United States	3
Hist 2451	Modern World Civilization	3
PoIS 1510	National Government, 3 or	
PoIS 2511	State Government, 3	3
Econ 1010	Principles of Economics, 3 or	
Econ 1011	Principles of Economics, 3	3
Geog 2212	World Geography, 3 or	
Geog 3201	The Cultural Landscape, 3	3
	Upper-level elective in American history	2-3
	Upper-level elective in World history	2-3
	2000-4000 level elective in Geog.,	
	PolS, Soc, or Anth	2-3

GENERAL EDUCATION REQUIREMENTS (In the minor, 9 s.h. of Group F are fulfilled; Hist 2451 fulfills 3 s.h. of Group G)
To be recommended for student teaching by the Department of History and Anthropology, a student with a major or minor in social studies must achieve at least a 2.5 GPA in all social science courses taken at Central.

Social Science Education

SoSc 3010 Writing in the Social Sciences (3) Practicum in writing in the social sciences. Prerequisites: Engl 1020 and Engl 1030.

SoSc 4050 Teaching the Social Studies in Secondary Schools (2) Study, discussion, and interpretation of practical problems encountered by teachers of the social studies in secondary schools.

SoSc 5040 Social Studies in the Elementary School (2)

The content of the social studies, their place in the elementary school curriculum, and the approaches and methods teachers might employ in developing concepts and shaping values.

SoSc 5050 Teaching About the World and Its People (2)

Global perspectives and interdependence as they relate to topics such as energy, food and population. Resources and activities will be emphasized.

Women's Studies

In the area of Women's Studies, the second digit in the course number stands for the following: 0--General, 1--Music/Art, 2--Literature/Language/Theatre/Philosophy, 3--History/Anthropology/Sociology, 4--Political Science/Criminal Justice/Safety, 5--Speech Communication/Mass Communication, 6--Psychology/Education/Physical Education, 7--Mathematics/Science, 8--Business/Economics/Home Economics, 9--Special Projects/Individual Study/Research.

WOMEN'S STUDIES Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor) (000471)

MINOR REQUIREMENTS		Sem. Hours
WS 1050	Introduction to Women's Studies	3
WS 4910	Spec. Proj. in Women's Studies	3
Electives from the following		9-10
Hist 4310	Women in America	2
Anth 4820	Sexual Dynamics & Culture	3
*SpCm 4135	Gender Communications	3
Engl 2270	Fict. by Women Around the World	3
Engl 4560	British Women Writers	3
**Engl 4660	Women Writers of the United States	3
Electives (continued)		
Rel 2510	Gender & Religions	3
Nur 4030	Human Sexuality	2
CJ 4403	Sexual Assault & the Criminal Justice System	3
Psy 4320	Psychology of Women	2
Soc 4865	Sociology of the Family	3
Electives from the above list or as approved by the Women's Studies Council		6

*Course has prerequisite(s) not listed in the program.

General

WS 1050 Introduction to Women's Studies (3) Provides an overview of the interdisciplinary nature of the women's studies program. Focuses upon social, psychological, economic, political, cultural, religious, and historical aspects of women's roles in the United States.

Special Projects/Individual Study/Research

WS 4910 Special Projects in Women's Studies* (3) Extensive reading and discussion of selected topics to integrate the various courses in the women's studies program. Prerequisite: 15 semester hours in the minor, including WS 1050.

*Not available for graduate credit.

Mathematics and Computer Science

In the Department of Mathematics and Computer Science, the second digit in the course number stands for the following:
0--Unclassified, 1--Analysis, 2--Geometry, 3--Statistics, 4--Computer Science, 5--Actuarial Science, 6--History or General Education,
7--Modern Algebra, 8--Mathematics Education, 9--Research and Special Problems.

Department of Mathematics and Computer Science Statement of Policy

A course with a grade lower than a "C" will not be allowed to fulfill a major or minor requirement in any program offered by the Department of Mathematics and Computer Science.

A student may enroll in a course offered by the Department of Mathematics and Computer Science only if a grade of at least "C" is earned in each of the course's prerequisites taken.

ACTUARIAL SCIENCE AND MATHEMATICS Functional Major, B.S. Degree

(43 000475)

NOTE: Candidates for this degree must: (1) pass examination #1 of the Actuarial Examination Series and (2) possess a 3.0 grade-point average overall and in mathematics.

	Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS	64
Math 1151 Calculus & Analytical Geometry I	5
Math 1152 Calculus & Analytical Geometry II	5
Math 2153 Calculus & Analytical Geometry III	3
Math 3311 Statistics I	3
Math 4312 Statistics II	3
Math 1414 Intro. to Computer Programming	2
Math 2411 Intro. to Computer Science	3
Math 4410 Intro. to Operations Research	3
Math 4411 Numerical Analysis I	3
Math 3500 Elem. Actuarial Math.--Problem Set I ..	1
Math 4500 Actuarial Appl. of Probability & Statistics -- Problem Set II	1-2
Math 4510 Mathematics of Finance	3
Math 2710 Foundations of Mathematics	3
Math 3720 Algebraic Structures	3
CIS 2610 COBOL Programming	4
Fin 2801 Business Statistics I	3
Fin 3801 Business Statistics II	3
Fin 4801 Social Insurance	3
Fin 4803 Risk Mgt.--Property & Liability Ins. ...	3
Electives from the following	6
Math 3412 Data Structures	3
Math 4151 Differential Equations	3
Math 4160 Adv. Applied Calculus	3
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, Math 1151 fulfills 3 s.h. of Group C)	36-40
FREE ELECTIVES	20-25
MINIMUM TOTAL	124

COMPUTER SCIENCE AND MATHEMATICS Functional Major, B.S. Degree

(43 000448)

	Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS	65
Math 1151 Calculus & Analytic Geometry I	5
Math 1152 Calculus & Analytic Geometry II	5
Math 2153 Calculus & Analytic Geometry III	3
Math 3311 Statistics I	3
Math 1410 Intro. Seminar in Computer Science ...	1
Math 1414 Intro. to Computer Programming	2
Math 2411 Intro. to Computer Science	3
Math 2413 Intro. to Computer Sys. & Org.	2
Math 3412 Data Structures	3
Math 3413 Comparison of Prog. Languages	3
Math 3415 Discrete Mathematics	2
Math 4410 Intro. to Operations Research	3
Math 4411 Numerical Analysis I	3
Math 4414 Operating Systems	3
Math 4415 Compiler Construction	3
Math 4418 Intro. to Artificial Intelligence	3
Math 2710 Foundations of Mathematics	3
Math 3720 Algebraic Structures	3
Electives from the following or as approved by department	12
Math 4151 Differential Equations	3
Math 4160 Advanced Applied Calculus ...	3
Math 4312 Statistics II	3
Math 3411 Object-Oriented Prog.	2
Math 3416 Math. Computer Graphics	3
Math 4413 Applied Computer Projects ...	2
Math 4416 Theory of Automata	3
Math 4420 Analysis of Algorithms	3
CIS 2610 COBOL Programming	4
CIS 3612 Assembler Language Prog. ...	3
CIS 3650 Database Management Sys. ...	3
CIS 3670 Adv. COBOL Programming ...	3
CIS 4680 Adv. Computer Concepts	3
MINOR NOT REQUIRED	
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, Math 1151 fulfills 3 s.h. of Group C)	36-40
FREE ELECTIVES	19-23
MINIMUM TOTAL	124

COMPUTER SCIENCE AND MATHEMATICS Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)
(000449)

				Sem. Hours
MINOR REQUIREMENTS				22-23
Math	1151	Calculus & Analytic Geometry I	5	Electives (continued)
Math	1152	Calculus & Analytic Geometry II	5	Math 3411 Object-Oriented Prog.
Math	1410	Intro. Seminar in Computer Sci.	1	Math 3412 Data Structures
Math	1414	Intro. to Computer Programming	2	Math 3413 Comparison of Prog. Lang.
Math	2411	Intro. to Computer Science	3	Math 3416 Math. Computer Graphics
Electives from the following or as				Math 4410 Intro. to Oper. Research
approved by department				CIS 2610 COBOL Programming
6-7				CIS 3612 Assembler Language Prog.
Math	3311	Statistics I	3	CIS 3670 Adv. COBOL Programming
Math	2413	Intro. to Computer Sys. & Org.	2	CIS 4680 Adv. Computer Concepts
GENERAL EDUCATION REQUIREMENTS (In the minor, Math 1151 fulfills 3 s.h. of Group C)				

MATHEMATICS Major, B.A. Degree

(42 000453)

				Sem. Hours
MAJOR REQUIREMENTS				31
Math	1151	Calculus & Analytic Geometry I	5	Math 1414 Intro. to Computer Programming
Math	1152	Calculus & Analytic Geometry II	5	Math 2710 Foundations of Mathematics
Math	2153	Calculus & Analytic Geometry III	3	Math 3720 Algebraic Structures
Math	3221	College Geometry	3	Upper level electives in mathematics
Math	4211	Introduction to Topology	3	
MINOR REQUIREMENTS				18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the major, Math 1151 fulfills 3 s.h. of Group C;				
the Modern Language Requirement fulfills 3 s.h. of Group G)				
MODERN LANGUAGE REQUIREMENT				33-37
(Refer to Bachelor's Degree Requirements section for fulfillment options)				
FREE ELECTIVES				22-39
MINIMUM TOTAL				124

MATHEMATICS Major, B.S. Degree

(43 000454)

				Sem. Hours
MAJOR REQUIREMENTS				39
Math	1151	Calculus & Analytic Geometry I	5	Math 2411 Intro. to Computer Science
Math	1152	Calculus & Analytic Geometry II	5	Math 2710 Foundations of Mathematics
Math	2153	Calculus & Analytic Geometry III	3	Math 3720 Algebraic Structures
Math	2221	Foundations of Geometry	3	Upper level electives in mathematics
Math	1414	Intro. to Computer Programming	2	
MINOR REQUIREMENTS				18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the major, Math 1151 fulfills 3 s.h. of Group C)				
FREE ELECTIVES				20-31
MINIMUM TOTAL				124

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MATHEMATICS Major, B.S. in Ed. Degree

(Certification to teach mathematics in grades 9-12)

(41 000459)

		Sem. Hours
MAJOR REQUIREMENTS		34
Math 1151	Calculus & Analytic Geometry I	5
Math 1152	Calculus & Analytic Geometry II	5
Math 2221	Foundations of Geometry	3
Math 3311	Statistics I	3
Math 1412	Intro. to BASIC Programming	1
Math 1414	Intro. to Computer Programming	2
Math 3611	History of Mathematics	2
Math 2710	Foundations of Mathematics	3
Math 3720	Algebraic Structures	3
Math 4710	Real Number System	2
Electives from the following or as approved by department		5
Math 2153	Calc. & Analytical Geom. III ...	3
Math 4151	Differential Equations	3
Math 3221	College Geometry	3
Math 4211	Introduction to Topology	3
Math 4312	Statistics II	3
Math 2411	Intro. to Computer Science ...	3
Math 3415	Discrete Mathematics	2
Math 4510	Mathematics of Finance	3
Math 4711	Modern Algebra I	3
Math 4730	Set Theory & Math. Logic	3
Math 4741	Intro. to Theory of Numbers ...	3
Math 3850	Strategies in Tchg. Secondary Math	3
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the major, Math 1151 fulfills 3 s.h. of Group C)		36-40
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.		
PolS 1510	Group F (required)	3
Psy 4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.		
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)		28
FREE ELECTIVES		0-8
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.		
MINIMUM TOTAL		124

MATHEMATICS Functional Major, B.S. in Ed. Degree

(Certification to teach mathematics in grades 9-12)

(41 000461)

		Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS		50
Math 1151	Calculus & Analytic Geometry I	5
Math 1152	Calculus & Analytic Geometry II	5
Math 2153	Calculus & Analytic Geometry III	3
Math 2221	Foundations of Geometry	3
Math 3221	College Geometry	3
Math 3311	Statistics I	3
Math 1412	Intro. to BASIC Programming	1
Math 1414	Intro. to Computer Programming	2
Math 3611	History of Mathematics	2
Math 2710	Foundations of Mathematics	3
Math 3720	Algebraic Structures	3
Math 4710	Real Number System	2
Electives from the following		8-10
Phys 1101	College Physics I	4
Phys 1102	College Physics II	4
or		
Phys 2121	University Physics I	5
Phys 2122	University Physics II	5
Upper level electives in mathematics		5-7
MINOR NOT REQUIRED		
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, Math 1151 fulfills 3 s.h. of Group C; Phys 1101 or Phys 2121 fulfills 4 s.h. of Group D)		33-36
PolS 1510	Group F (required)	3
Psy 4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.		
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)		28
FREE ELECTIVES		10-13
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.		
MINIMUM TOTAL		124

MATHEMATICS Minor, B.S. in Ed. Degree

(Certification to teach mathematics in grades 5-9 with a middle school-junior high major.
Elementary education functional majors 1-6 may use this as an area of concentration.
(000480)

				Sem. Hours
MINOR REQUIREMENTS				21
Math	4821	Elements of Algebra	3	Electives (continued)
Math	4822	Elements of Geometry	3	Math 1412 Intro. to BASIC Programming . 1
Math	4823	Introduction to Infinite Processes	5	Math 3611 History of Mathematics
Math	4841	Educational Computing in Math.	3	Math 3700 Matrices & Applications
Math	4871	Algebraic Concepts for Teachers	3	Math 3840 Strat. in Tchg. Elem. Math. ... 3
Electives from the following or as approved				Math 4890 Math. for Special Ed. 2
by department				4

MATHEMATICS Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor. Recommended only for
majors in business, economics, social sciences and related fields)
(000481)

				Sem. Hours
MINOR REQUIREMENTS				19-20
Math	1111	College Algebra	3	Electives from the following or as approved
Math	1112	College Trigonometry	2	by department
Math	1131	Calculus for Business & Econ.	3	Math 1411 Intro. to FORTRAN Prog. 1
Math	3311	Statistics I	3	Math 1412 Intro. to BASIC Programming . 1
Math	3700	Matrices & Applications	3	Math 1414 Intro. to Comp. Programming . 2
				Math 2411 Intro. to Comp. Science 3

GENERAL EDUCATION REQUIREMENTS (In the minor, Math 1111 fulfills 3 s.h. of Group C)

MATHEMATICS Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)
(Recommended for physical science majors)
(000482)

				Sem. Hours
MINOR REQUIREMENTS				20-21
Math	1151	Calculus & Analytic Geometry I	5	Electives from the following or as approved
Math	1152	Calculus & Analytic Geometry II	5	by department
Math	2710	Foundations of Mathematics	3	Math 1411 Intro. to FORTRAN Prog. 1
Math	3720	Algebraic Structures	3	Math 1412 Intro. to BASIC Programming . 1
Math	2153	Calc. & Analytical Geometry III, 3 or	3	Math 1414 Intro. to Comp. Programming . 2
Upper level elective in mathematics, 3				3

GENERAL EDUCATION REQUIREMENTS (In the minor, Math 1151 fulfills 3 s.h. of Group C)

Analysis

Math 1101 Intermediate Algebra (3) Continuation of basic algebra including such topics as linear and quadratic equalities, linear and quadratic inequalities, second degree relations and functions, systems of equations, and exponential and logarithmic functions. Prerequisite: high school credit in basic algebra or Pers 1030.

Math 1111 College Algebra (3) The properties of real numbers, polynomials, rational exponents, radicals, functions, and systems of equations. Prerequisite: high school program including advanced algebra or Math 1101.

Math 1112 College Trigonometry (2) Elementary trigonometric functions, identities, trigonometric equations, multiple angle formulas, and general triangle solutions. Prerequisite: a high school program including advanced algebra and one unit of geometry; or Math 1111 or concurrently.

Math 1131 Calculus for Business and Economics (3) The fundamental skills and concepts of calculus with an emphasis on applications in business and economics. Prerequisite: a high school program including one unit of advanced algebra and one unit of geometry, or Math 1111.

Math 1150 Pre-Calculus Mathematics (4) Pre-calculus concepts in algebra and trigonometry for the student with

an above average preparation in high school mathematics. Prerequisite: a high school program including advanced algebra, one unit of geometry, and one-half unit of trigonometry.

Math 1151 Calculus and Analytic Geometry I (5) A combined course in calculus and analytic geometry. Prerequisite: a high school program including advanced algebra, one unit of geometry, and one-half unit of trigonometry; or Math 1112 or Math 1150.

Math 1152 Calculus and Analytic Geometry II (5) A continuation of Math 1151. Prerequisite: Math 1151.

Math 2153 Calculus and Analytic Geometry III (3) A continuation of Math 1152. Prerequisite: Math 1152.

Math 4151 Differential Equations (3) Presents techniques of solving ordinary differential equations with applications to physics and engineering. Prerequisite: Math 2153.

Math 4160 Advanced Applied Calculus (3) Line and surface integrals, Laplace transforms, infinite series, Fourier series, and related topics of advanced calculus with emphasis on applications. Prerequisite: Math 2153.

Math 5161 Advanced Calculus (3) A rigorous approach to the fundamental concepts of differential calculus, integral calculus, and infinite series. Prerequisites: Math 2153 and Math 3720.

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Math 5171 Functions of a Complex Variable (3) General properties of analytic functions of a complex variable with applications. Prerequisite: Math 4160.

Geometry

Math 1201 Introduction to Euclidean Geometry (3) An emphasis on the techniques of proof and construction in Euclidean geometry.

Math 2221 Foundations of Geometry (3) An emphasis on the techniques of proof and constructions in geometry, the properties of a set of postulates, a brief review of Euclidean geometry, and the study of other geometries. Prerequisite: Math 1201 or one unit of high school geometry.

Math 3221 College Geometry (3) Modern Euclidean geometry, geometric transformations, advanced Euclidean constructions, constructible numbers, extension fields and the three impossible problems of antiquity. Prerequisite: Math 1201 or one unit of high school geometry.

Math 4211 Introduction to Topology (3) Introduces the concept of point set topology. Includes the study of the real line, the real plane, metric spaces, topological spaces, continuity, connectedness, compactness, product spaces, and separation properties. Prerequisite: Math 3720.

Math 5212 Differential Geometry (3) Study of geometry of curves and surfaces by means of calculus and linear algebra. Prerequisites: Math 2153 and Math 3720.

Math 5221 Projective Geometry (3) Nonmetric properties of geometric figures, together with an analysis of the assumptions and definitions basic to all geometry. Prerequisites: Math 1152 and Math 3221.

Statistics

Math 3311 Statistics I (3) Basic concepts of probability and statistics. Prerequisite: Math 1131 or Math 1152.

Math 4312 Statistics II (3) Theoretical point-set probability applied to selected problems and statistical procedures. Prerequisites: Math 3311 and Math 2153.

Computer Science

Math 1410 Introductory Seminar in Computer Science (1) Provides students with a basic understanding of the various areas of computer science early in their academic studies.

Math 1411 Introduction to FORTRAN Programming (1) Coding a defined algorithm into computer FORTRAN language. Prerequisite: three units of high school mathematics or Math 1101.

Math 1412 Introduction to BASIC Programming (1) Introduction to interactive programming and coding of defined algorithms into the computer using BASIC language. Prerequisite: one unit of high school algebra or Math 1101.

Math 1414 Introduction to Computer Programming (2) Emphasis is on techniques of problem analysis, structured algorithm and program development, and program testing. The principal programming language for the course is PASCAL. Prerequisite: three units of high school mathematics or Math 1101.

Math 2411 Introduction to Computer Science (3) Implementing the concepts of computer science through the use of flow-charting, assembly language programming, and PASCAL programming. Prerequisite: Math 1414.

Math 2413 Introduction to Computer Systems and Organization (2) Logical structure of digital computers: representation of information, addressing mechanisms, storage and peripheral hardware, microprocessing and microprocessors, virtual machines and virtual memory. Prerequisite: Math 2411.

Math 3411 Object-Oriented Programming (2) An introduction to object-oriented programming using the C++ language. Topics include objects, classes, inheritance, polymorphism, dynamic binding, and system design from an object-oriented viewpoint. Programming assignments will emphasize the implementation of these concepts.

Prerequisite: Math 2411 or CIS 2610.

Math 3412 Data Structures (3) An introduction to data representations and information structures including a variety of non-numerical algorithms and their applications. Linear lists, arrays, trees, multilinked structures and dynamic storage allocation are investigated. Prerequisites: Math 2411 or CIS 2610 and Math 1411.

Math 3413 Comparison of Programming Languages (3) An overview of the main feature of the major programming languages. Programming languages such as BASIC, FORTRAN, PL/I, PASCAL, ADA, APL, LISP, PROLOG, SNOBOL, MODULA-2, and C will be compared in their handling of variables, types, control structures, and input-output. Prerequisite: Math 3412.

Math 3415 Discrete Mathematics (2) Mathematical foundations of programming and computing. Induction, logical proofs and discrete structures used in programs. Introduction to recursive functions, relations, homomorphisms, partially ordered sets, the predicate calculus and concepts from automata and computability theory. Prerequisites: Math 2411 and Math 2710.

Math 3416 Mathematical Computer Graphics (3) An introductory course to integrate mathematics, numerical methods, and computers to provide computer generated graphics. Prerequisites: Math 1152 and Math 3412.

Math 4410 Introduction to Operations Research (3) Systems and models, including Random Number Process, (Monte Carlo Process) and Queuing Concepts. Combining these concepts into model building techniques. Prerequisites: Math 2411 and Math 3311, or CIS 2610 and Fin 2801.

Math 4411 Numerical Analysis I (3) Finite difference interpolation, numerical differentiation and integration, numerical solution of nonlinear equations, numerical solution of ordinary differential equations. Computational techniques stressed and extensive quantity of problems to be solved on a digital computer. Prerequisites: Math 2411 and Math 2153.

Math 4413 Applied Computer Projects* (2) Application of the computer within the student's area of concentration. Prerequisite: Math 2411 or CIS 2610.

*Not available for graduate credit.

Math 4414 Operating Systems (3) Operating systems including process management, storage management, processor management, and performance. The topics of asynchronous concurrent processes, concurrent programming, deadlock, real and virtual storage, processor scheduling, multiprocessing, queuing theory, Markov processes, and case studies will be discussed. Prerequisites: Math 3412 and Math 2413.

Math 4415 Compiler Construction (3) Includes finite-state machines, top-down and bottom-up parsing, and syntax-directed translation. The topics of regular grammars, lexical analysis, LL(k) grammars, LR(k) grammars, syntax-

directed translation schemes, and simple transducers will be discussed. Prerequisite: Math 3412.

Math 4416 Theory of Automata (3) Includes finite-state automata, pushdown automata, and Turing machines. The topics of regular expressions, context-free languages, the halting problem, Post's correspondence problem, P, NP, NP-completeness, and some NP-complete problems will be discussed. Prerequisite: Math 3415.

Math 4418 Introduction to Artificial Intelligence (3) An introduction to Artificial Intelligence (AI) and AI languages such as LISP and PROLOG. Specific topics will include knowledge representation, predicate calculus, resolution, pruning, heuristic search techniques, probabilistic reasoning, and expert systems. Prerequisites: Math 3412 and Math 3415.

Math 4420 Analysis of Algorithms (3) Techniques needed to analyze algorithms. The application of these techniques to topics such as sorting, graph algorithms, fast Fourier transforms, dynamic programming, and NP-completeness. Prerequisite: Math 2153.

Math 5410 Linear Programming (3) Methods used in linear programming such as the simplex method and the ratio-analysis method with application to typical problems. Prerequisite: Math 2710.

Math 5411 Numerical Analysis II (3) Extension of topics in Numerical Analysis I to include numerical treatment of empirical data, numerical solution of simultaneous linear equations and calculation of eigenvalues and eigenvectors of matrices, numerical solution of partial differential equations. Extensive quantity of problems to be solved on digital computer. Prerequisite: Math 4411.

Math 5412 Methods of Optimization (3) An introduction to optimization techniques for both nonlinear programming and nonlinear optimization problems. Specific topics include N-dimensional geometry, convex sets, hyperplanes, convex polyhedra, Fibonacci search, steepest-descent method, conjugate gradient method, and the Davidon-Fletcher-Powell method. Current papers in the area will be surveyed.

Actuarial Science

Math 3500 Elementary Actuarial Mathematics--Problem Set I (1) Problems from algebra, trigonometry, calculus, and linear algebra that apply to the actuarial sciences will be considered. Prerequisites: Math 2153 and Math 3720.

Math 4500 Actuarial Applications of Probability and Statistics--Problem Set II (1) A study of problems from probability and statistics that apply to actuarial science. *May be repeated for a maximum of 2 semester hours.* Prerequisite: Math 4312.

Math 4510 Mathematics of Finance (3) The basic measures of interest, annuities and life contingencies will be presented. Prerequisite: Math 1152.

History or General Education

Math 1620 Contemporary Mathematics (3) Mathematical concepts, with historical perspectives, from various branches of mathematics including an introduction to statistics, logic, combinatorics, linear programming, number theory, geometry and probability. Prerequisite: a high school program including advanced algebra or Math 1101.

Math 3611 History of Mathematics (2) A survey of the growth of mathematical thought and methods. Prerequisite: 15 semester hours of college mathematics.

Modern Algebra

Math 2710 Foundations of Mathematics (3) A foundations course for several branches of mathematics.

Techniques that serve other areas of mathematics will be developed. Prerequisite: Math 1151 or Math 4823.

Math 3700 Matrices and Applications (3) The vocabulary and basic concepts of matrices, vectors, and linear programming. Will not meet major requirements in mathematics. Prerequisite: a high school program including one and one-half units of algebra, one unit of geometry and one-half unit of trigonometry; or Math 4821 and Math 4822; or Math 1112.

Math 3720 Algebraic Structures (3) Basic mathematical systems: groups, rings, fields, and vector spaces. Prerequisite: Math 2710.

Math 4710 Real Number System (2) The real number system beginning with the natural numbers using Peano's postulates. Prerequisite: Math 3720.

Math 4711 Modern Algebra I (3) Some of the theories of modern algebra with emphasis on algebraic systems with one operation. Prerequisite: Math 3720.

Math 4730 Set Theory and Mathematical Logic (3) A formal axiomatic approach to set theory, logic, and inference. Prerequisite: Math 3720.

Math 4741 Introduction to the Theory of Numbers (3) Congruences, quadratic residues, the reciprocity theorem, and Diophantine equations. Prerequisite: Math 3720.

Math 5711 Modern Algebra II (3) A continuation of the study of algebraic systems with emphasis on ring theory. Prerequisite: Math 4711.

Math 5722 Matrix Algebra (3) Treats the algebra of matrices, vector spaces, linear transformations, and characteristic equations of matrices. Prerequisite: a basic knowledge of vectors and vector operations is assumed and Math 4711.

Mathematics Education

Math 1811 Concepts and Methods in Elementary School Mathematics I (4) An emphasis on the concepts and methods of teaching mathematics to grades K- 4. Topics include sets and relations, number, numeration, mathematical systems, whole number system, algorithms, fractions, geometry, measurement and problem solving.

Math 1812 Concepts and Methods in Elementary School Mathematics II (4) An emphasis on the concepts and methods of teaching mathematics relevant to the intermediate and junior high grades. Prerequisite: Math 1811.

Math 3812 Mathematics in the Integrated Middle School Curriculum (3) An emphasis on integrating mathematics with other subject areas at the middle school level. A focus on relationships between mathematics and other subject areas together with investigation of relevant applications of mathematics outside the classroom. Prerequisites: Math 1620 and completion of 9 semester hours in minor teaching field.

Math 3840 Strategies in Teaching Elementary Mathematics (3) An investigation of techniques, problems, and issues involved in the teaching of elementary and junior high school mathematics. Involves both lecture and laboratory sessions. Not applicable to major requirements for secondary majors. Prerequisite: Math 1812.

Math 3850 Strategies in Teaching Secondary Mathematics (3) An investigation of instructional strategies, problems and issues relevant to the teaching of secondary

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school mathematics. Prerequisites: Math 1152, Math 2221 and Math 2710.

Math 4813 Elements of Mathematics (3) Mathematics concepts and practices to update the middle grade/junior high teaching of selected elements of mathematical investigation prominent in current school curricula.

Prerequisite: Math 1111 or Math 4821.

Math 4821 Elements of Algebra (3) Basic concepts of algebra adapted to the needs of elementary teachers. May be taken for graduate credit by elementary teachers only.

Prerequisite: Math 1812.

Math 4822 Elements of Geometry (3) Concepts and relationships of geometry adapted to the needs of elementary teachers. Available for graduate credit to elementary teachers only. Prerequisite: Math 1812.

Math 4823 Introduction to Infinite Processes (5) Transition from the concepts of elementary analysis to the infinite processes which form the foundation for the calculus. Open only to elementary education majors on the B.S. in Ed. and Master of Science in Education degrees. Prerequisites: Math 4821 and Math 4822.

Math 4841 Educational Computing in Mathematics (3) An introduction to the microcomputer, the development and evaluation of software, and the techniques and procedures of using the computer for teaching mathematics K-9.

Prerequisite: Math 4821 or equivalent.

Math 4861 Problem Solving in Mathematics (2) Emphasis on the teaching and learning of mathematical problem solving skills in grades 5-9 including locating resources, studying current theories and national standards, and developing materials. Prerequisites: Math 4821 and Math 4822.

Math 4871 Algebraic Concepts for Teachers (3) The properties and language of sets, functions, groups, rings, integral domains, and fields. Recommended for middle school/junior high school teachers. Will not satisfy requirements on undergraduate programs where Math 3720 is a requisite. Prerequisite: Math 4821 or equivalent course in college algebra.

Math 4890 Mathematics for Special Education (2) Individual and small group investigation of concepts and procedures in teaching mathematics to exceptional children.

Math 5812 Problems in Teaching Elementary Mathematics (3) An investigation of problem areas, general and student initiated, concerning teaching elementary school mathematics.

Math 5852 Problems of Teaching Secondary Mathematics (3) A survey of current issues in the teaching of secondary mathematics.

Research and Special Problems

Math 4910 Special Problems in Mathematics (1-3)

Individual reading and research leading to an acceptable paper on some topic not included in the regular offering of the department. *May be repeated for a maximum of 3 semester hours.* Prerequisite: mathematics major or Math 3720 or consent.

Math 4912 Internship in Mathematical Sciences (6-8)

Opportunity for students to gain knowledge in areas of mathematical science, both theoretical and applied, that would not normally be included as a part of the department's curriculum. Internship contract must be completed prior to beginning work/learning experience. *May be repeated for a maximum of 16 semester hours. A maximum of 8 semester hours may be applied to any one degree.* Prerequisite: consent of department Internship Committee and if taken for graduate credit, approval of graduate adviser.

Math 5900 Special Projects in Mathematics (1-3) *May be repeated for a maximum of 3 semester hours.*

Math 5911 Special Topics in Mathematics (1-3) Individual reading and research leading to an acceptable paper on some topic not included in the regular offerings of the department. *May be repeated for a maximum of 3 semester hours.* Prerequisites: Math 2153, Math 3720 and consent.

Math 5920 Seminar in Mathematics (1-3) For presentation of those topics in mathematics not included in the regular offerings of the department. *May be repeated for a maximum of 3 semester hours.* Prerequisite: consent.

Math 6912 Readings in Mathematics (1-5) Selected readings in mathematics designed to deepen and expand the student's understanding of an area of interest. *May be repeated for a maximum of 5 semester hours.* Prerequisite: consent.

Math 6950 Research (2-8) *May be repeated for a maximum of 8 semester hours.*

Modern Languages

In the Department of Modern Languages, the second digit in the course number stands for the following: 0--General, 2--French, 3--German, 6--Spanish, 7--Chinese.

Department of Modern Languages Statement of Policy

One unit of high school credit will entitle the student to admission to the second semester college course in that language, and two units permit admission to the third semester college course.

Requirements for Certification in Modern Languages

For certification as a modern language teacher in Missouri, grades K-12, 30 semester hours are required in the language taught, or 27 hours in the language taught plus two or more high school units in that language.

Certification for grades K-9 only requires 21 semester hours in the language taught, or 18 semester hours in the language taught plus two or more high school units in that language.

FRENCH Major, B.A. Degree
(42 000318)

		Sem. Hours
MAJOR REQUIREMENTS		30
Fren 1203	Intermediate French I	3
Fren 1204	Intermediate French II	3
Fren 2223	French Composition	3
Fren 2243	French Conversation	3
Fren 2262	French Civilization II	3
Fren 3223	Advanced French Composition	3
Fren 3243	Advanced French Conversation	3
Fren 3282	Survey of French Literature II	3
Fren 2261	French Civilization I, 3 or	
Fren 3281	Survey of French Literature I, 3	3
Electives in French at 2000 or 3000 level (Students must take 12 hours at 3000 level in their major)		3
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The major fulfills 3 s.h. of Group G)		36-40
MODERN LANGUAGE REQUIREMENT (fulfilled by major)		
FREE ELECTIVES		29-40
MINIMUM TOTAL		124

FRENCH Major, B.S. Degree
(43 000319)

		Sem. Hours
MAJOR REQUIREMENTS		30
Fren 1203	Intermediate French I	3
Fren 1204	Intermediate French II	3
Fren 2223	French Composition	3
Fren 2243	French Conversation	3
Fren 2262	French Civilization II	3
Fren 3223	Advanced French Composition	3
Fren 3243	Advanced French Conversation	3
Fren 3282	Survey of French Literature II	3
Fren 2261	French Civilization I, 3 or	
Fren 3281	Survey of French Literature I, 3	3
Electives in French at 2000 or 3000 level (Students must take 12 hours at 3000 level in their major)		3
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The major fulfills 3 s.h. of Group G)		36-40
FREE ELECTIVES		29-40
MINIMUM TOTAL		124

FRENCH Major, B.S. in Ed. Degree
(Certification to teach French in grades PK-12)
(41 000334)

		Sem. Hours
MAJOR REQUIREMENTS		30
Fren 1203	Intermediate French I	3
Fren 1204	Intermediate French II	3
Fren 2223	French Composition	3
Fren 2243	French Conversation	3
Fren 2262	French Civilization II	3
Fren 3223	Advanced French Composition	3
Fren 3243	Advanced French Conversation	3
Fren 3282	Survey of French Literature II	3
Fren 2261	French Civilization I, 3 or	
Fren 3281	Survey of French Literature I, 3	3
Electives in French at 2000 or 3000 level (Students must take 12 hours at 3000 level in their major)		3
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The major fulfills 3 s.h. of Group G)		36-40
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.		
PoS 1510	Group F (required)	3
Psy 4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.		
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)		28
FREE ELECTIVES		1-12
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.		
MINIMUM TOTAL		124

FRENCH Minor for a Bachelor's Degree

(Certification to teach French in grades PK-9 is available only on a B.S. in Ed. Degree with an elementary education functional major 1-6 or middle school-junior high major.)
(200013)

		Sem. Hours
MINOR REQUIREMENTS		21
Fren 1203	Intermediate French I	3
Fren 1204	Intermediate French II	3
Fren 2223	French Composition	3
Fren 2243	French Conversation	3
Fren 2261	French Civilization I, 3 or	
Fren 2262	French Civilization II, 3	3
Elective in French literature		3
Elective in French at 2000 or 3000 level		3
GENERAL EDUCATION REQUIREMENTS (In the minor, 3 s.h. of Group G are fulfilled)		

GERMAN Major, B.A. Degree

(43 000321)

						Sem. Hours	
MAJOR REQUIREMENTS						30	
Ger	1303	Intermediate German	3	Ger	3371	Survey of German Literature I	3
Ger	1304	German Readings	3	Ger	3372	Survey of German Literature II	3
Ger	2301	Advanced German Readings	3	Ger	3381	The Classic Movement	3
Ger	2323	German Conversation & Comp.	3	Ger	3383	The Romantic Period	3
Ger	2362	German Civilization	3	Ger	3385	Modern German Literature	3
MINOR REQUIREMENTS						18-25	
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The major fulfills 3 s.h. of Group G)						36-40	
MODERN LANGUAGE REQUIREMENT (fulfilled by major)							
FREE ELECTIVES						29-40	
MINIMUM TOTAL						124	

GERMAN Major, B.S. Degree

(43 000322)

						Sem. Hours	
MAJOR REQUIREMENTS						33	
Ger	1303	Intermediate German	3	Ger	2323	German Conversation & Comp.	3
Ger	1304	German Readings	3	Ger	2362	German Civilization	3
Ger	2301	Advanced German Readings	3	Electives in 2000 level or higher German courses			18
MINOR REQUIREMENTS						18-25	
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The major fulfills 3 s.h. of Group G)						36-40	
FREE ELECTIVES						26-37	
MINIMUM TOTAL						124	

GERMAN Major, B.S. in Ed. Degree

(Certification to teach German in grades PK-12)

(41 000335)

						Sem. Hours	
MAJOR REQUIREMENTS						30	
Ger	1303	Intermediate German	3	Ger	3371	Survey of German Lit. I	3
Ger	1304	German Readings	3	Ger	3372	Survey of German Lit. II	3
Ger	2301	Advanced German Readings	3	Electives in 2000 level or higher German courses			9
Ger	2323	German Conversation & Comp.	3				
Ger	2362	German Civilization	3				
MINOR REQUIREMENTS						18-25	
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The major fulfills 3 s.h. of Group G)						36-40	
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.							
PolS	1510	Group F (required)	3	Psy	4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.							
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)						28	
FREE ELECTIVES						1-12	
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.							
MINIMUM TOTAL						124	

GERMAN Minor, B.S. in Ed. Degree

(Certification to teach German in grades PK-9 is available only on a B.S. in Ed. Degree with an elementary education functional major 1-6 or middle school-junior high major.)

(000333)

						Sem. Hours	
MINOR REQUIREMENTS						21	
Ger	1303	Intermediate German	3	Ger	2362	German Civilization	3
Ger	1304	German Readings	3	Electives in 2000 level or higher German courses			6
Ger	2301	Advanced German Readings	3				
Ger	2323	German Conversation & Comp.	3				
GENERAL EDUCATION REQUIREMENTS (In the minor, 3 s.h. of Group G are fulfilled)							

GERMAN Minor for a Bachelor's Degree

(Except for a B.S. in Ed. Degree)
(200014)

						Sem. Hours	
MINOR REQUIREMENTS						21	
Ger	1303	Intermediate German	3	Ger	2362	German Civilization	3
Ger	1304	German Readings	3	Ger	3371	Survey of German Lit. I	3
Ger	2301	Advanced German Readings	3	Ger	3372	Survey of German Lit. II	3
Ger	2323	German Conversation & Comp.	3				
GENERAL EDUCATION REQUIREMENTS (In the minor, 3 s.h. of Group G are fulfilled)							

SPANISH Major, B.A. Degree

(42 000338)

						Sem. Hours	
MAJOR REQUIREMENTS						30	
Span	1603	Intermediate Spanish	3	Electives from the following		6-12	
Span	1604	Spanish Readings	3	Span	3681	Spanish Literature I	3
Span	2623	Spanish Composition	3	Span	3682	Spanish Literature II	3
Span	2661	Spanish Civilization & Culture	3	and/or			
Span	2662	Spanish American Civ. & Culture	3	Span	3691	Spanish American Lit. I	3
				Span	3692	Spanish American Lit. II	3
						Electives in 2000 level or higher Spanish courses 3-9	
MINOR REQUIREMENTS						18-25	
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The major fulfills 3 s.h. of Group G)						36-40	
MODERN LANGUAGE REQUIREMENT (fulfilled by major)						29-40	
FREE ELECTIVES						29-40	
MINIMUM TOTAL						124	

SPANISH Major, B.S. Degree

(43 000339)

						Sem. Hours	
MAJOR REQUIREMENTS						33	
Span	1603	Intermediate Spanish	3	Span	2662	Spanish American Civ. & Culture ..	3
Span	1604	Spanish Readings	3	Span	3623	Adv. Spanish Composition	3
Span	2623	Spanish Composition	3	Span	3643	Adv. Spanish Conversation	3
Span	2643	Spanish Conversation	3	Electives in 2000 level or higher Spanish courses			9
Span	2661	Spanish Civilization & Culture	3				
MINOR REQUIREMENTS						18-25	
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The major fulfills 3 s.h. of Group G)						36-40	
FREE ELECTIVES						26-37	
MINIMUM TOTAL						124	

SPANISH Major, B.S. in Ed. Degree

(Certification to teach Spanish in grades PK-12)
(41 000337)

						Sem. Hours	
MAJOR REQUIREMENTS						30	
Span	1603	Intermediate Spanish	3	Span	3643	Adv. Spanish Conversation	3
Span	1604	Spanish Readings	3	Electives from the following			6
Span	2623	Spanish Composition	3	Span	3681	Spanish Literature I	3
Span	2643	Spanish Conversation	3	Span	3682	Spanish Literature II	3
Span	2661	Spanish Civilization & Culture	3	or			
Span	2662	Spanish American Civ. & Culture	3	Span	3691	Spanish American Lit. I	3
Span	3623	Adv. Spanish Composition	3	Span	3692	Spanish American Lit. II	3
MINOR REQUIREMENTS						18-25	
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The major fulfills 3 s.h. of Group G)						36-40	
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.							
PoIS	1510	Group F (required)	3	Psy	4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.							
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)						28	
FREE ELECTIVES						1-12	
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.							
MINIMUM TOTAL						124	

SPANISH Minor, B.S. in Ed. Degree

(Certification to teach Spanish in grades PK-9 is available only on a B.S. in Ed. Degree with an elementary education functional major 1-6 or middle school-junior high major.)
(000340)

						Sem. Hours	
MINOR REQUIREMENTS						21	
Span	1603	Intermediate Spanish	3	Span	2661	Span. Civilization & Culture	3
Span	1604	Spanish Readings	3	Span	2662	Spanish American Civ. & Culture	3
Span	2623	Spanish Composition	3	Electives in 2000 level or higher Spanish courses			3
Span	2643	Spanish Conversation	3				
GENERAL EDUCATION REQUIREMENTS (In the minor, 3 s.h. of Group G are fulfilled)							

SPANISH Minor for a Bachelor's Degree

(Except for a B.S. in Ed. Degree)
(200015)

						Sem. Hours	
MINOR REQUIREMENTS						21	
Span	1603	Intermediate Spanish	3	Elective from the following		3	
Span	1604	Spanish Readings	3	Span	3681	Spanish Literature I	3
Span	2623	Spanish Composition	3	Span	3682	Spanish Literature II	3
Span	2643	Spanish Conversation	3	Span	3691	Spanish American Lit. I	3
Span	2661	Span. Civilization & Culture	3	Span	3692	Spanish American Lit. II	3
Span	2662	Spanish American Civ. & Culture	3				
GENERAL EDUCATION REQUIREMENTS (In the minor, 3 s.h. of Group G are fulfilled)							

General**ML 4010 Foreign Studies in Language (French) (German) (Spanish) (1-6)**

Credit granted for study in a CMSU approved program in a foreign country. Freshmen and sophomores permitted to enroll with consent of the Chair of the Department of Modern Languages. Available for graduate credit upon approval of student's graduate program adviser. *May be repeated for a maximum of 12 semester hours.*

ML 4040 Special Projects in Foreign Language* (1-3)

Individualized and group instruction in foreign and modern languages. *May be repeated for a maximum of 6 semester hours.* Prerequisite: consent of department chair.

*Not available for graduate credit.

French

Fren 1201 Elementary French I (3) Fundamental principles of French pronunciation, the building of basic vocabulary of words and expressions, studies in structure, oral work, and reading selections. Not open to native speakers or students who have had three years of high school French without the permission of the department chair.

Fren 1202 Elementary French II (3) A continuation of French I. Increased attention to grammar. Not open to native speakers or students who have had four years of high school French without the permission of the department chair. Prerequisite: Fren 1201 or equivalent.

Fren 1203 Intermediate French I (3) Reading, conversation, vocabulary, and idiom drill. Prerequisite: Fren 1202 or equivalent.

Fren 1204 Intermediate French II (3) Continuing development of the ability to use the language on the intermediate level. Prerequisite: Fren 1203 or equivalent.

Fren 2223 French Composition (3) Review of grammar. Intensive practice in composition with increased attention to stylistics. Prerequisite: Fren 1204 or equivalent.

Fren 2243 French Conversation (3) Provides intensive drill in conversational language using culture-based materials. Prerequisite: Fren 1204 or equivalent.

Fren 2261 French Civilization I (3) From the origins to the end of the eighteenth century. Prerequisite: Fren 1204 or equivalent.

Fren 2262 French Civilization II (3) From the nineteenth century to the present. Prerequisite: Fren 1204 or equivalent.

Fren 3223 Advanced French Composition (3) Oral and written composition, review of more difficult grammatical construction and idioms. Prerequisite: Fren 2223 or equivalent.

Fren 3243 Advanced French Conversation (3) Conversational drill in everyday idiomatic French. Reading and discussion of topics chosen from current newspapers and magazines. Prerequisite: Fren 2243 or equivalent.

Fren 3263 French Phonetics (3) The sound system of the French language: analysis of problems encountered by a native English speaker in learning spoken French. Prerequisite: Fren 2243 or equivalent.

Fren 3264 Commercial French (3) French commercial terminology, stressing the difference between French and American forms and practices. Prerequisite: Fren 2223 or equivalent.

Fren 3281 Survey of French Literature I (3) Major French writers of the Middle Ages up to and including the eighteenth century. Prerequisite: two 2000 level courses in French.

Fren 3282 Survey of French Literature II (3) Major French writers from the nineteenth century to the present. Prerequisite: two 2000 level courses in French.

Fren 3286 French Literature of the Nineteenth Century (3) Romanticism, realism, and naturalism. Analysis of texts and literary theories. Prerequisites: Fren 3281 and Fren 3282, or equivalent.

Fren 3287 French Literature of the Twentieth Century (3) Symbolism, surrealism, and existentialism in prose, poetry and theatre. Prerequisite: Fren 3281 and Fren 3282, or equivalent.

Fren 3288 French Translation (3) Commercial and technical translation from French into English and English into French. Prerequisite: Fren 3223.

Fren 3289 French Cinema (3) A historical survey of French film, with particular emphasis on the period between 1931 and 1958. Prerequisite: 6 semester hours of 2000 level French courses for those planning for a program in French.

Fren 4290 Special Topics in French* (1-3) Individual or group work by selected students in carefully chosen fields for **advanced study**. *May be repeated for a maximum of 6 semester hours*. Prerequisite: 18 semester hours of French and consent of department chair.

*Not available for graduate credit.

German

Ger 1301 Elementary German I (3) Fundamental principles of German pronunciation, building a basic vocabulary of German words and idiomatic expressions, oral work, and reading simple selections. Not open to native speakers or students who have had three years of high school German without the permission of the department chair.

Ger 1302 Elementary German II (3) A continuation of German I. Increased attention to grammar. Not open to native speakers or students who have had four years of high school German without the permission of the department chair. Prerequisite: Ger 1301 or equivalent.

Ger 1303 Intermediate German (3) Reading, conversation, vocabulary, and idiom drill. Prerequisite: acceptable proficiency as demonstrated by adequate high school course work in German or by departmental approval.

Ger 1304 German Readings (3) Continuing development of the ability to use the language on the intermediate level. Prerequisite: Ger 1303 or equivalent.

Ger 2301 Advanced German Readings (3) Selected novels, poems, and plays are read and discussed. Prerequisite: Ger 1304 or equivalent.

Ger 2323 German Conversation and Composition (3) Oral and written composition, dictation, idioms, and reviews of difficult construction and grammatical forms. Prerequisite: 9 semester hours of German.

Ger 2362 German Civilization (3) Germany's social, cultural, and political history from its Germanic beginnings through World War II to the present. Prerequisite: Ger 1304.

Ger 3371 Survey of German Literature I (3) German literature and literary history from the Old High German literature to Schiller's *Don Carlos* (1787). Prerequisite: Ger 2301.

Ger 3372 Survey of German Literature II (3) German literature and literary history from Goethe and Schiller's classical period (1790) to modern writers, including modern East German literature. Prerequisite: Ger 2301.

Ger 3381 The Classic Movement (3) Poems of Goethe, Schiller and other selected authors. Readings and discussion. Prerequisites: Ger 3371 and Ger 3372.

Ger 3383 The Romantic Period (3) Philosophers, the novel and the drama. Reading of selected works. Prerequisites: Ger 3371 and Ger 3372.

Ger 3385 Modern German Literature (3) Readings and discussions of selected works of Mann, Hauptmann, Hesse, Kafka, Remarque, Zweig. Prerequisites: Ger 3371 and Ger 3372.

Ger 4390 Special Topics in German* (1-3) Individual or group work by selected students in carefully chosen fields for **advanced study**. *May be repeated for a maximum of 6 semester hours*. Prerequisite: 18 semester hours of German and consent of department chair.

*Not available for graduate credit.

Spanish

Span 1601 Elementary Spanish I (3) Fundamentals of Spanish pronunciation, the building of basic vocabulary and patterns, oral work, studies in structure, and reading selections. Not open to native speakers or students who have had three years of high school Spanish without the permission of the department chair.

Span 1602 Elementary Spanish II (3) A continuation of Spanish I, with increased attention to grammar. Not open to native speakers or students who have had four years of high school Spanish without the permission of the department chair. Prerequisite: Span 1601 or equivalent.

Span 1603 Intermediate Spanish (3) Development of the ability to use the language by oral-aural laboratory drills and readings. Prerequisite: acceptable proficiency as demonstrated by adequate high school course work in Spanish or by departmental approval.

Span 1604 Spanish Readings (3) Continuing development of the ability to use the language on the intermediate level, with more advanced grammar, laboratory work and readings. Prerequisite: Span 1603 or equivalent.

Span 2623 Spanish Composition (3) Review of grammar, oral-aural training, and special study of the subjunctive mood. Prerequisite: Span 1603 or equivalent.

Span 2643 Spanish Conversation (3) Oral practice in everyday Spanish, discussion, idiomatic usage, listening comprehension, speaking. Prerequisite: Span 2623.

Span 2661 Spanish Civilization and Culture (3) The social, cultural, and political history of Spain. Prerequisite: Span 1604 or equivalent.

Span 2662 Spanish American Civilization and Culture (3) The social, cultural, and political history of Spanish America. Prerequisite: Span 1604 or equivalent.

Span 3623 Advanced Spanish Composition (3) Oral and written composition; review of more difficult grammatical constructions and idioms. Prerequisite: Span 2623 or equivalent.

Span 3643 Advanced Spanish Conversation (3) Emphasis on oral-aural practice in Spanish. Prerequisite: 12 semester hours in Spanish or equivalent.

Span 3681 Spanish Literature I (3) A survey of Spanish literature from *El Cid* to post-Romanticism. Prerequisite: two 2000 level course in Spanish.

Span 3682 Spanish Literature II (3) A survey of Spanish literature from post-Romanticism through the twentieth century. Prerequisite: two 2000 level course in Spanish.

Span 3691 Spanish American Literature I (3) A survey of Spanish American literature from 1492 to the Mexican Revolution. Prerequisite: two 2000 level course in Spanish.

Span 3692 Spanish American Literature II (3) A survey of Spanish American literature from the Mexican Revolution through the twentieth century. Prerequisite: two 2000 level course in Spanish.

Span 4690 Special Topics in Spanish* (1-3) Individual or group work by selected students in carefully chosen fields for **advanced study**. *May be repeated for a maximum of 6 semester hours*. Prerequisite: 18 semester hours of Spanish and consent of department chair.

*Not available for graduate credit.

Chinese

Chin 1701 Elementary Chinese I (3) A self-instruction course in Mandarin Chinese with pronunciation drill/master/tutor. Additional independent language laboratory work required. Students should consult the Program Coordinator before enrolling.

Chin 1702 Elementary Chinese II (3) Continuation of Chin 1701. Prerequisite: Chin 1701 or equivalent.

Music

In the Department of Music, the second digit in the course number stands for the following: 0--General, 1--Music Theory, 2--Music History and Literature, 3--Music Education, 4--Conducting, 5--Piano and Organ, 6--Voice, 7--String Instruments, 8--Woodwind Instruments, 9--Brass and Percussion Instruments.

Department of Music Statement of Policy

All music majors, except for the B.A. degree, and all music minors on the B.S. in Ed. degree must pass a proficiency test in piano. (See list of requirements available at the department office.) Beginning piano students should elect Mus 1501, Piano Class I, then continue piano until the proficiency test is passed. Keyboard majors and students with several years of pre-college piano should attempt the piano proficiency at the end of the freshman year. All students must meet the proficiency requirement before being admitted to special methods classes.

Credit for private lessons is based on one lesson per week for each 1-1.5 hours of credit. Upper level credit is given only after the sophomore examination is passed. Minimum practice requirement is one hour per day for each 1-1.5 hours of credit.

All students majoring or minoring in music are required to attend a designated number of recitals and concerts given on the campus. Music majors and minors are required to enroll for pass-fail in and to complete satisfactorily the following number of semesters of

Mus 1000, Recital Attendance: music majors on the B.A. degree, six semesters; on the B.M. degree, eight semesters; on the B.M.E. degree, seven semesters; and music minors, four semesters. Deficiencies in Mus 1000 must be removed before a student may graduate.

Students are urged to participate in ensembles to broaden their general musical background. All wind and percussion majors must be in band. However, in the Fall semester the Bachelor of Music and Bachelor of Arts degree candidates majoring in winds or percussion may elect either Marching Band or Orchestra, subject to faculty approval. Bachelor of Music Education degree candidates majoring in winds or percussion may substitute up to two semesters of Orchestra for the major ensemble credit, subject to faculty approval. Students approved for this substitution may elect a maximum of one Fall semester and one Spring semester of Orchestra or two Spring semesters. String bass majors may substitute up to two semesters of Concert Band or University Band for major ensemble credit, subject to faculty approval.

MUSIC Major, B.A. Degree

(42 000436)

	Sem. Hours
MAJOR REQUIREMENTS	37
Mus 1000 Recital Attendance	0
Mus 1111 Theory I	3
Mus 1112 Theory II	3
Mus 1121 Aural Training I	1
Mus 1122 Aural Training II	1
Mus 2111 Theory III	3
Mus 2121 Aural Training III	1
Mus 2221 Intro. to Music Literature I	2
Mus 2222 Intro. to Music Literature II	2
Mus 3211 Music History to 1800	3
Mus 3212 Music History 1800-Present	3
Major instrument or voice, 1000 level	4
Major instrument or voice, 3000 level	6
Large vocal or instrumental ensemble	3
Elective in Music	2
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS--39-42 s.h. (In the major, Mus 1111 fulfills 3 s.h. of Group E; the Modern Language Requirement fulfills 3 s.h. of Group G)	33-36
Phys 1611 Group D (required)	3
MODERN LANGUAGE REQUIREMENT	3-9
(Refer to Bachelor's Degree Requirements section for fulfillment options.)	
FREE ELECTIVES	17-33
MINIMUM TOTAL	124

MUSIC Functional Major, B.M. Degree
(44 000472)

				Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS				80-84.5	
Mus	1000	Recital Attendance	0	Mus 3212 Music History 1800-Present	3
Mus	3060	Junior Recital	1	Mus 2400 Conducting	2
Mus	1111	Theory I	3	Major instrument or voice, 1000 level	8
Mus	1112	Theory II	3	Major instrument or voice, 3000 level	10.5
Mus	1121	Aural Training I	1	Major large instrumental or vocal ensemble	6
Mus	1122	Aural Training II	1	Departmentally approved electives	
Mus	2111	Theory III	3	to complete an emphasis in one of	
Mus	2112	Theory IV	3	the following areas	27.5-32
Mus	2121	Aural Training III	1	Area 1 Instrumental Music	
Mus	2122	Aural Training IV	1	Area 2 Jazz-Commercial Music	
Mus	4125	Form & Analysis	3	Area 3 Piano	
Mus	3211	Music History to 1800	3	Area 4 Piano Pedagogy	
				Area 5 Voice	

A listing of specific courses required for each emphasis is available from the Department of Music office.
Selection of major large instrumental or vocal ensemble will be determined by the student's chosen emphasis.
Piano proficiency examination required.

MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENTS--39-42 s.h. (In the functional major Mus 1111 fulfills 3 s.h. of Group E)				36-39	
Phys	1611	Group D (required)	3		
For voice emphasis, Fren 1201 or Ger 1301 Group G is required.					
For piano pedagogy emphasis, Psy 1100 Group F is required.					
FREE ELECTIVES				0.5-8	
MINIMUM TOTAL				124	

MUSIC Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor.)
(000483)

				Sem. Hours	
MINOR REQUIREMENTS				23	
Mus	1000	Recital Attendance	0	Mus 3212 Music History 1800-Present	3
Mus	1111	Theory I	3	Mus 2221 Intro. to Music Literature I, 2 or	
Mus	1112	Theory II	3	Mus 2222 Intro. to Music Literature II, 2	2
Mus	1121	Aural Training I	1	Major instrument or voice	4
Mus	1122	Aural Training II	1	Major large ensemble	6
GENERAL EDUCATION REQUIREMENTS (In the minor, Mus 1111 fulfills 3 s.h. of Group E)					

MUSIC EDUCATION Functional Major, B.M.E. Degree

INSTRUMENTAL Functional Major Option, B.M.E. Degree (45 000440)

(Certification to teach instrumental music in grades PK-12)

				Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS				60-66	
Mus	1000	Recital Attendance	0	Mus 3420 Instrumental Conducting	3
Mus	1111	Theory I	3	Mus 1701 String Class	2
Mus	1112	Theory II	3	Mus 2801 Woodwind Class I	1
Mus	1121	Aural Training I	1	Mus 2802 Woodwind Class II	1
Mus	1122	Aural Training II	1	Mus 2901 Brass Class I	1
Mus	2111	Theory III	3	Mus 2902 Brass Class II	1
Mus	2112	Theory IV	3	Mus 2950 Percussion Class	1
Mus	2121	Aural Training III	1	Mus 4115 Instrumentation	3
Mus	2122	Aural Training IV	1	Major instrument, 1000 level	4
Mus	3211	Music History to 1800	3	Major instrument, 3000 level	4.5
Mus	3212	Music History 1800-Present	3	Major large instrumental ensemble	10.5
Mus	3306	Music Education II	3	Piano	0-4
Mus	3308	Marching Band Techniques	1	Guitar	0-2
Mus	2400	Conducting	2		

Keyboard majors choose band or orchestra for major ensemble.

Piano proficiency examination required.

Functional knowledge of fretted instruments will be demonstrated by successful completion of Mus 1703 or by examination.

MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENTS--39-42 s.h. (In the functional major, Mus 1111 fulfills 3 s.h. of Group E)				36-39	
Phys	1611	Group D (required)	3	Psy 4230 Psy. of Adolescence	3
PolS	1510	Group F (required)	3		

(continued on next page)

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Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. of Group F.	
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)	28
FREE ELECTIVES	3
For teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.	
MINIMUM TOTAL	127
For additional certification to teach vocal music with the INSTRUMENTAL Functional Major Option, B.M.E. Degree, see the department chair.	

VOCAL Functional Major Option, B.M.E. Degree (45 000441)

						Sem. Hours	
(Certification to teach vocal music in grades PK-12)							
FUNCTIONAL MAJOR REQUIREMENTS							
Mus	1000	Recital Attendance	0	Mus	3212	Music History 1800-Present	3
Mus	1111	Theory I	3	Mus	4230	Choral Literature	2
Mus	1112	Theory II	3	Mus	3305	Music Education I	3
Mus	1121	Aural Training I	1	Mus	4320	Music in Junior High	2
Mus	1122	Aural Training II	1	Mus	2400	Conducting	2
Mus	2111	Theory III	3	Mus	3415	Choral Techniques	2
Mus	2112	Theory IV	3	Mus	1610	Voice I	4
Mus	2121	Aural Training III	1	Mus	1615	Opera Theatre	1
Mus	2122	Aural Training IV	1	Mus	3610	Voice II	4.5
Mus	4130	Choral Arranging	2	Mus	3410	Choral Conducting	2
Mus	2221	Introduction to Music Literature I	2	Large vocal ensemble			10.5
Mus	2222	Introduction to Music Literature II	2	Piano			0-4
Mus	3211	Music History to 1800	3	Guitar			0-2

A student who wishes this degree and elects a keyboard performing emphasis must have 4 hours of keyboard (1000 level), 4.5 hours of keyboard (3000 level), and 5 hours of voice or voice class in lieu of the required 8.5 hours of voice. Piano proficiency examination required.

Functional knowledge of fretted instruments will be demonstrated by successful completion of Mus 1703 or by examination.

MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENTS--39-42 s.h. (In the functional major, Mus 1111 fulfills 3 s.h. of Group E)			
Phys	1611	Group D (required)	3
PolS	1510	Group F (required)	3
Psy	4230	Psy. of Adolescence	3

Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.	
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)	28
FREE ELECTIVES	3
For teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.	
MINIMUM TOTAL	128
For additional certification to teach instrumental music with the VOCAL Functional Major Option, B.M.E. Degree, see the department chair.	

General

Mus 1000 Recital Attendance (0) Laboratory in music listening and musical performance. Attendance at a designated number of department sponsored or approved concerts. Enrollment for pass-fail only.

Mus 1005 Marching Band (1.5) Appears at all home games, one away game, and frequently at professional football games. Marching Band credit may be applied toward fulfillment of requirements under Group I in the General Education Program. Membership selected by audition. *May be repeated.*

Mus 1008 Campus Band (1) A concert/pep band open to any University student who wishes to continue band performance as an avocation. Instrumental music majors may gain experience on a secondary instrument. *May be repeated.*

Mus 1010 Collegiate Band (1.5) Open without audition to any University student interested in band. Instrumental music majors may gain experience on a secondary instrument in the University Band. *May be repeated.*

Mus 1030 University String Orchestra (1.5) A preparatory ensemble open to any student interested in string playing. String majors may enroll in String Orchestra to gain experience on a secondary stringed instrument. *May be repeated.*

Mus 1055 Collegiate Choir (1.5) A large mixed chorus which sings music representative of the finest in sacred and secular choral literature. Membership selected by audition. *May be repeated.*

Mus 1060 Women's Chorus (1) Performs music of all periods and styles, composed specifically for treble voices. *May be repeated.*

Mus 1065 Male Chorus (1) Sings a wide variety of music including serious works, college songs, and current Broadway hit tunes. *May be repeated.*

Mus 1081 Collegiate Jazz Ensemble (1.5) Study and performance of traditional and progressive jazz ensemble music. Membership selected by audition. *May be repeated.*

Mus 1085 Jazz-Rock Combo (1) Study and performance of traditional and progressive jazz-rock music in a small group format. Membership selected by audition. *May be repeated.*

Participation in small ensembles such as string trio, brass quartet, woodwind quintet, madrigal singers, two-pianos, percussion ensembles, etc., is strongly recommended. Credit in small ensembles cannot be used to meet participation requirements for large ensembles. Enrollment in specific ensembles is only by music faculty permission. *May be repeated.*

Mus 1094 Percussion Ensemble (1)

Mus 1095 Keyboard Ensemble (1)

Mus 1097 String Ensemble (1)

Mus 1098 Woodwind Ensemble (1)

Mus 3000 University Concert Band (1.5) A select band which performs original band literature and transcriptions of many famous works at frequent appearances. Membership selected by audition. *May be repeated.*

Mus 3025 University Symphony Orchestra (1.5) Performs concerts of standard and contemporary literature. Members selected by audition. *May be repeated.*

Mus 3050 University Concert Choir (1.5) A select choir which performs the best of choral literature in concert. Membership selected by audition. *May be repeated.*

Mus 3060 Junior Recital (1) One-half of a public recital. Prerequisite: consent of instructor.

Mus 3070 Chamber Singers (1) A small chamber choir of mixed voices which performs literature by contemporary composers and music from the Broadway stage. Membership selected by audition. *May be repeated.*

Mus 3075 Madrigal Singers (1) A select performing group specializing in Renaissance and twentieth century madrigal singing. Membership selected by audition. *May be repeated.*

Mus 3081 University Jazz Ensemble (1.5) A select ensemble which performs original jazz ensemble literature representing traditional as well as the most current forms of jazz. Membership selected by audition. *May be repeated.*

Mus 3095 Piano Accompanying Practicum (1) Instruction and supervised practical experience in piano accompanying on an individual basis. *May be repeated for a maximum of 2 semester hours.* Prerequisite: Mus 2515.

Mus 3099 Brass Ensemble (1) *May be repeated.*

Mus 4000 Special Projects in Music (1-3) *May be repeated for a maximum of 6 semester hours.*

Mus 4060 Senior Recital* (2) Full length public recital. Prerequisite: consent of instructor.

*Not available for graduate credit.

Mus 5000 Introduction to Graduate Study (3) Books and periodicals about music and various collections and editions of printed music. Techniques of suitable style in presentation of formal documented papers.

Mus 5020 Advanced Special Projects in Music (1-3) Intensive directed study in music designed to improve the graduate student's understanding of specific areas of interest. *May be repeated for a maximum of 6 semester hours.*

Mus 5050 Research Problems (3) Special investigation in the major field leading to the writing of the research document or thesis. Prerequisite: 10 semester hours of graduate credit.

Mus 5051 Thesis (3) Prerequisite: 15 semester hours of graduate credit.

Music Theory

Mus 1100 Fundamentals of Music (3) Basic theory: notation, scales, chords, terminology. Application to simple rhythm, chording, and melody instruments and piano.

Mus 1111 Theory I (3) Basic materials: notation, rhythm and meter, scales, intervals, triads, primary and secondary harmony, V7, phrase, period, cadence, the concept of tonality, and related analysis. Prerequisite: Mus 1121 concurrently for music majors and minors. Admission by examination or completion of Mus 1100 with grade of C or better.

Mus 1112 Theory II (3) Melodic and harmonic structure and embellishment, nonharmonic tones, consonance and dissonance principles, simple two-part counterpoint, part writing, harmonic progression, secondary dominants, regions, and modulation. Prerequisites: Mus 1122 concurrently and Mus 1111.

Mus 1121 Aural Training I (1) Basic listening and aural awareness skills: rhythm and pitch patterning, scales, intervals, triads, V7, primary triads, harmonic dictation, melodic memory, melodic dictation, and sight singing. Prerequisite: Mus 1111 concurrently. Admission by examination or completion of Mus 1100 with grade of C or better.

Mus 1122 Aural Training II (1) Continuation of development of aural skills introduced in Mus 1121 plus two-part dictation, nonharmonic tones, secondary triads, secondary dominants, and modulation. Prerequisites: Mus 1112 concurrently and Mus 1121.

Mus 2111 Theory III (3) Continuation of the materials and organization of music: modality, modulation, seventh chords, chromatic harmony, contrapuntal procedures, and form. Prerequisites: Mus 2121 concurrently and Mus 1112.

Mus 2112 Theory IV (3) Continuation of Mus 2111 including impressionism and twentieth century music. Prerequisites: Mus 2122 concurrently and Mus 2111.

Mus 2121 Aural Training III (1) Continuation of the development of aural skills in Mus 1122 applied to sight singing and aural perception of rhythm, melody, and chromatic harmony. Prerequisites: Mus 2111 concurrently and Mus 1122.

Mus 2122 Aural Training IV (1) Continuation of the development of aural skills in Mus 2121 including rhythmic, melodic, and harmonic techniques from the twentieth century. Prerequisites: Mus 2112 concurrently and Mus 2121.

Mus 2141 Composition I (3) Techniques of twentieth century composition through projects in smaller forms. Electronic music studio techniques. Aural and visual analysis of twentieth century music. *May be repeated for a maximum of 6 semester hours.* Prerequisites: Mus 1112 and Mus 1122.

Mus 2180 Jazz Improvisation I (2) The techniques and materials of jazz improvisation at the introductory level. Scales, chords, phrasing, articulation, and guided listening. Performance mandatory. Prerequisite: Mus 1112 and Mus 1122.

Mus 2181 Jazz Improvisation II (2) A continuation of Mus 2180. Advanced concepts in style and form. Transcription of recorded solos using altered scales and chords and the development of style. Performance mandatory. Prerequisite: Mus 2180.

Mus 3141 Composition II (3) Continuation of Mus 2141 through projects of small and medium dimensions

adapted to needs and interests of the student. *May be repeated for a maximum of 12 semester hours.* Prerequisite: Mus 2141.

Mus 4101 Counterpoint I (3) Eighteenth century style in two parts: melodic structure, resolution of melodic and harmonic contrapuntal dissonances, canon, and the writing of original two-part inventions. Prerequisites: Mus 2112 and Mus 2122.

Mus 4102 Counterpoint II (3) Continuation of Mus 4101. Analysis and creative projects in three voices, rounds, canons, chorale preludes, and fugues for various media and various styles from the sixteenth to the twentieth century. Prerequisite: Mus 4101.

Mus 4115 Instrumentation (3) Characteristics of instruments normally found in band and orchestra. Short writing projects for instrumental choirs, full band and orchestra. Score study. Prerequisites: Mus 2112 and Mus 2122.

Mus 4125 Form and Analysis (3) Small song forms, rondos, variations and sonata forms, with emphasis on aural analysis and score readings. Prerequisites: Mus 2112 and Mus 2122.

Mus 4130 Choral Arranging (2) Practical arrangements for various choral ensembles for school organizations and church choirs. Prerequisites: Mus 2112 and Mus 2125.

Mus 4181 Advanced Jazz Improvisation (2) Advanced study of jazz improvisation techniques in applied, private lessons. *May be repeated for a maximum of 8 semester hours undergraduate credit and 4 semester hours graduate credit.* Prerequisite: Mus 2181 or consent of instructor.

Mus 4185 Jazz-Commercial Arranging (3) Characteristics of instruments normally found in jazz ensemble and commercial performing groups. Emphasis on style and voicing problems in these idioms. Writing projects for combo and jazz ensemble. Score study. Prerequisites: Mus 2112 and Mus 2122.

Mus 4186 Advanced Jazz-Commercial Arranging (2) Private lessons in composition, arranging, score study, and analysis for various jazz or commercial ensembles based on individual student needs and interests. *May be repeated for a maximum of 12 semester hours.* Prerequisite: Mus 4185.

Mus 5105 Analytical Studies (3) In-depth analysis of selected masterworks from the Renaissance to the twentieth century to develop musical understanding and its application to performance. Prerequisite: Mus 4125.

Mus 5120 Orchestration (2) Setting complete works for small instrumental ensembles and full orchestra. Orchestration problems of school orchestras. Score study. Prerequisite: Mus 4115.

Mus 5125 Band Arranging (2) Practical arranging and transcribing for various groups including school band and wind ensembles. Prerequisite: Mus 4115.

Mus 5140 Advanced Composition (2) Creative musical composition in applied, private lessons based on the individual student's interest, need, and capacity to develop an individual style. *May be repeated for a maximum of 12 semester hours.* Prerequisites: Mus 4125, Mus 4101 and Mus 4115.

Mus 5150 Teaching of Theory (2) Materials and procedures used in teaching music fundamentals and music theory in high school and college.

Music History and Literature

Mus 1200 Music Appreciation (3) An introduction to important musical masterpieces with emphasis on the knowledge and skills involved in perceptive listening.

Mus 1281 History and Development of Jazz (3) A survey of the evolution in jazz music in the United States. Includes discussion of the styles and characteristics of each period of jazz history and the contributions of influential groups and individuals.

Mus 2221 Introduction to Music Literature I (2) An introduction to the principal forms of instrumental music with emphasis on representative works from the standard repertoire. A basic knowledge of instrumental music is assumed. Prerequisite: Mus 1112 or consent.

Mus 2222 Introduction to Music Literature II (2) An introduction to the principal forms of vocal music including oratorio, church music, opera, and art songs. A basic knowledge of vocal music is assumed. Prerequisite: Mus 1112 or consent.

Mus 3211 Music History to 1800 (3) Early history of music including the Medieval, Renaissance, Baroque, and Classic eras. For music majors and minors only. Prerequisite: nonmusic majors only with consent.

Mus 3212 Music History 1800-Present (3) Music of Beethoven, the Romantic era, and the twentieth century. For music majors and minors only. Prerequisite: nonmusic majors only with consent.

Mus 3260 Hymnology, Liturgy and Worship (3) History of Christian hymnody, liturgical and nonliturgical services, philosophy of worship and worship activities, and the use of music in worship.

Mus 4201 Piano Literature Through Beethoven (2) Survey and analysis of music written for clavichord, harpsichord, and piano through the music of Beethoven. Prerequisite: four semesters of Mus 1510 or equivalent.

Mus 4202 Piano Literature From the Romantic Era to the Present (2) Survey and analysis of music written for piano from the Romantic era through the present. Prerequisite: four semesters of Mus 1510 or equivalent.

Mus 4230 Choral Literature (2) Music literature for all choral groups with emphasis on the performance style and interpretative problems of the choral conductor. Prerequisite: Mus 2400.

Mus 4235 Vocal Literature (3) A survey of solo literature for all voice classifications with emphasis on the development of art song in the Italian, British, German, French, and American repertoires. Prerequisite: Mus 2222 or consent of instructor.

Mus 4240 String Instrument Literature (2) A survey of instructional materials and studies for the various string instruments. Prerequisite: 12 semester hours credit on major instrument.

Mus 4245 Woodwind Instrument Literature (2) Instructional materials and studies for the various woodwind instruments. Prerequisite: 12 semester hours credit on major instrument.

Mus 4250 Brass Instrument Literature (2) A survey of instructional materials and studies for the various brass instruments. Prerequisite: 12 semester hours credit on major instrument.

Mus 4255 Organ Literature (2) Organ music and early keyboard music appropriate for organ from the fourteenth and fifteenth centuries to the present. Prerequisites: Mus 3211 and Mus 3212.

Mus 5205 Music of the Renaissance (3) Music of the era with specific reference to the Flemish school; the Italian

motet, mass, and madrigal; the English madrigal and anthem; and the French chanson. Prerequisite: Mus 3211.

Mus 5210 Music of the Baroque (3) The Baroque styles and forms including opera, cantata, and oratorio; keyboard and instrumental music to 1750. Prerequisite: Mus 3211.

Mus 5215 Music of the Classicists and Romanticists (3) Musical forms and styles of Classicism and Romanticism. Prerequisites: Mus 3211 and Mus 3212.

Mus 5220 Music of the Twentieth Century (3) Origins and trends of twentieth century music. Prerequisite: Mus 3212.

Mus 5240 Chamber Music Literature (2) Formal and stylistic study of chamber music from 1600 to the present. Prerequisites: Mus 3211 and Mus 3212.

Mus 5250 American Music (3) American music from colonial days to the present time. Prerequisite: Mus 3212.

Music Education

Mus 3301 Music for Elementary Schools (3) The study of music fundamentals, methods and materials appropriate for teaching music to children K-6. Developing skills in listening, singing, playing percussion and tonal instruments. Planning and evaluating learning experiences.

Mus 3305 Music Education I (3) Musical growth and materials designed for music majors who are preparing to teach vocal music in the elementary schools. Prerequisite: Mus 1112.

Mus 3306 Music Education II (2-3) Materials, techniques, and organization of the elementary and middle school instrumental program designed for music majors who are preparing to teach instrumental music. Includes an introduction to early childhood choral literature and musical instruments. Prerequisite: Mus 1112.

Mus 3308 Marching Band Techniques (1) The various techniques of pageantry, precision drill, arranging, charting and planning, as well as problems of organization, administration and public relations.

Mus 4300 Band and Orchestra Management (2) Philosophy, rehearsal techniques, scheduling, equipping, housing, and budgeting of the large instrumental ensemble. Prerequisites: Mus 3306 and EdCI 4700.

Mus 4320 Music in Junior High (2) Objectives, materials, subject matter and problems in the teaching of vocal and general music in the junior high school. Prerequisite: Mus 3305 or Mus 3306 or consent of instructor.

Mus 4370 Band Instrument Repair (2) A study and practice of band instrument maintenance and repair techniques. Prerequisite: one semester each of woodwind and brass study, or one year of teaching music in public schools.

Mus 4381 Jazz Pedagogy (2) Jazz styles as they relate to the jazz ensemble. Techniques, systems and materials for the teaching of jazz ensemble and jazz improvisation. Supervised conducting experience with one of the University jazz ensembles. Prerequisite: music major or consent of instructor.

Mus 5300 Band and Orchestra Literature (2) A study of music written and arranged for elementary and secondary school bands and orchestras. Prerequisites: Mus 3306 and EdCI 4700.

Mus 5308 Advanced Marching Band Techniques (2) Survey of history and function of the marching band with emphasis on special projects in advanced show design, music arranging and auxiliary units. Prerequisites: Mus 3415, Mus 4115 and marching band teaching experience, or consent of instructor.

Mus 5309 School Music Curriculum (3) Construction, development, current trends, and implementation of a school music curriculum, grades 1 through 12. Prerequisite: EdCI 4495 or EdCI 4700.

Mus 5310 Research and Evaluation in Music Education (3) Research methodologies and the measurement techniques used to evaluate all aspects of the elementary and secondary music program. Prerequisite: EdCI 4495 or EdCI 4700.

Mus 5311 Music for Early Childhood (2) An investigation of musical development during early childhood and of teaching methods, musical materials and equipment suitable for use with the young child. Prerequisite: Mus 3305.

Mus 5312 Elementary Listening Literature (2) Recorded music for presentation in the elementary classroom; themes, form and structure, style, instruments, and mood for primary and intermediate grades. Prerequisites: EdCI 4495 and EdCI 4700.

Mus 5330 Music Education Administration and Supervision (3) Factors involved in the administration of a well-rounded school music program. Prerequisite: EdCI 4700.

Conducting

Mus 2400 Conducting (2) Fundamentals of conducting. Practical experience with vocal and instrumental ensembles. Prerequisites: Mus 1112 and Mus 1122.

Mus 3410 Choral Conducting (2) Techniques of choral conducting, rehearsal procedures, and basic choral repertoire. Prerequisite: Mus 2400.

Mus 3415 Choral Techniques (2) Aspects of choral singing, including the human voice and choral tone, choral diction, organization, rehearsal procedures, and basic choral repertoire. Prerequisites: Mus 2400 and successful completion of piano proficiency examination.

Mus 3420 Instrumental Conducting (3) Advanced techniques of conducting instrumental ensembles, development of visual/aural discrimination skills for diagnosing and correcting problems in performance; techniques, systems and materials for the teaching of jazz ensembles and jazz improvisation, and selection of appropriate methods and literature. Prerequisites: Mus 2400 and successful completion of piano proficiency examination.

Mus 5400 Advanced Conducting (2) The development of adequate baton and rehearsal techniques based on practical work with groups of performers. Prerequisites: Mus 2400 and Mus 4115.

Piano and Organ

Mus 1501 Piano Class I (1) Study of the piano, especially for adult students who have had no previous training.

Mus 1502 Piano Class II (1) A continuation of Mus 1501. Prerequisite: Mus 1501.

Mus 1507 Secondary Keyboard Lessons (1) Private lesson study in any keyboard instrument listed in this catalog. Does not count for any music major or minor as the principal performing area. Prerequisite: initial enrollment by permission of applied area faculty. *May be repeated.*

Mus 1510 Piano I (1) Technical study and easier compositions selected from the various eras of keyboard literature. In addition to weekly lessons, attendance at

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biweekly studio classes is required. *May be repeated for a maximum of 12 semester hours.*

Mus 1520 Organ I (1) Manual and pedal study, elementary registration and specification; Bach short preludes and fugues, chorale preludes, etc. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 12 semester hours.* Prerequisite: consent based on keyboard proficiency examination.

Mus 2501 Piano Class III (1) A continuation of Mus 1502 with additional emphasis on functional keyboard skills. *May be repeated for a maximum of 4 semester hours.* Prerequisite: Mus 1502.

Mus 2502 Piano Class IV (1) Emphasis on specific piano proficiency skills for vocal and instrumental students preparing for a teaching career. *May be repeated for a maximum of 2 semester hours.* Prerequisite: Mus 2501 or Mus 1510 or permission of instructor.

Mus 2515 Piano Accompanying (2) A study of and practical experience in piano accompanying in various musical mediums, using music from several styles and historical eras. Prerequisite: one year of college level private piano or consent of instructor.

Mus 3510 Piano II (1.5) Technical study and moderately difficult compositions selected from the various eras of keyboard literature. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 15 semester hours.* Prerequisite: successful completion of lower level credit as determined by departmental examination.

Mus 3520 Organ II (1.5) Continued manual and pedal study; Bach preludes and fugues; selections from advanced classic and modern organ works; church playing and accompaniments. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 15 semester hours.* Prerequisite: successful completion of lower level credit as determined by departmental examination.

Mus 3525 Service Playing (1) Private (applied music) study at the organ to develop specific techniques necessary to playing church services; console conducting, transposition, modulation, improvisation, reading open score choral and orchestral music, and adaptation of piano accompaniments to the organ. *May be repeated for a maximum of 4 semester hours with consent of department.* Prerequisite: to be taken concurrently with Mus 1520.

Mus 4511 Piano Pedagogy I--The Beginner (3) Goals, methods, and materials for individual and class instruction of beginning piano students. Includes practice teaching and observation. Prerequisite: Two semesters of Mus 1510 or equivalent.

Mus 4512 Piano Pedagogy II--The Intermediate Student (3) Goals, methods, and materials for teaching intermediate piano students. Includes practice teaching and observation. Prerequisite: two semesters of Mus 1510 or equivalent.

Mus 4513 Piano Pedagogy III--The Advanced Student (3) Goals, methods, and materials of advanced piano teaching. Includes practice teaching and observation. Prerequisite: Two semesters of Mus 1510 or equivalent.

Mus 4514 Piano Pedagogy IV--Seminar (3) Intensive individual study in piano pedagogy designed to improve the student's understanding of a selected area of interest. Prerequisite: Mus 4511 or Mus 4512 or Mus 4513 or the equivalent.

Mus 4515 Practice Teaching in Piano (1.5) Supervised teaching of piano students. *Course must be repeated.*

Prerequisites: Mus 4511 and Mus 4512 or the equivalent.

Mus 4590 Piano Tuning and Maintenance* (3) Structural, mechanical, and acoustical properties of the piano, tuning techniques, operation, and maintenance of the instrument. Supervised hands-on experience will be required.

*Not available for graduate credit.

Mus 5510 Piano III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. *May be repeated.* Prerequisite: approval by audition.

Mus 5520 Organ III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. *May be repeated.* Prerequisite: approval by audition.

Voice

Mus 1600 Beginning Singing (2) Voice class combining elementary vocal training and fundamentals of music for those students who wish to study singing, but who do not read music. Not open to music majors.

Mus 1601 Voice Class I (2) Breathing exercises, diction, stage deportment, acquaintance with familiar vocal literature, and experience in solo and duet singing. Designed for beginning voice students. Prerequisite: demonstrated ability to read music.

Mus 1602 Voice Class II (2) Instruction in breathing, resonance, diction, musicality, performance skills, and the nature of the vocal instrument, using solo song and duet literature in English and Italian. Prerequisite: one semester of Mus 1610, or Mus 1601.

Mus 1607 Secondary Voice Lessons (1) Private lesson study in voice. Does not count as credit for any music major or minor as the principal performing area. Prerequisite: initial enrollment by permission of applied area faculty. *May be repeated.*

Mus 1610 Voice I (1) Breath control; technical exercises represented by Sieber, Vaccai, and other specified methods. Early Italian songs. English songs of medium difficulty, and other repertoire suggested by the instructor. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 12 semester hours.*

Mus 1615 Opera Theatre (1-2) Production of scenes from operatic repertoire. *May be repeated for a maximum of 4 semester hours.*

Mus 2632 Diction for Singers (3) Systematic instruction in singing English, French, German, and Italian art songs emphasizing clear, correct, and expressive diction. Prerequisite: Mus 1610 or consent of instructor.

Mus 3610 Voice II (1.5) Advanced technical exercises, modern art songs; the great Lieder composers; French art songs; and representative repertoire from opera and oratorio. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 15 semester hours.* Prerequisite: successful completion of lower level credit as determined by departmental examination.

Mus 4600 Vocal Pedagogy (2) For prospective singing teachers. Includes study of the physiology of the vocal instrument, the techniques of singing production, goals and materials, teaching techniques, and analysis of vocal problems. Observation of master teachers, and supervised

teaching will be required. Prerequisite: three years of vocal training.

Mus 5610 Voice III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. *May be repeated.* Prerequisite: approval by audition.

String Instruments

Mus 1701 String Class (1) A laboratory course in the fundamentals of playing and teaching string instruments.

May be repeated for a maximum of 2 semester hours. Two different string instruments will be studied in each semester.

Mus 1703 Folk Guitar Techniques (2) Beginning instruction in folk guitar performance intended to equip the student with the skills required to harmonize folk melodies.

Mus 1704 Classical Guitar Techniques (2) Introduction to the fundamental skills of classical guitar performance.

Prerequisite: Mus 1703 or equivalent.

Mus 1707 Secondary String Lessons (1) Private lesson study in any string instrument listed in this catalog. Does not count for any music major or minor as the principal performing area. Prerequisite: initial enrollment by permission of applied area faculty. *May be repeated.*

The course description is applicable for all applied string instruments courses: easy technical studies, easy standard sonatas, concertos, and short solos. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 12 semester hours for each course.*

Mus 1710 Violin I (1)

Mus 1715 Viola I (1)

Mus 1720 Cello I (1)

Mus 1725 String Bass I (1)

Mus 1760 Guitar I (1) Technical studies, standard solo literature from all style periods. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 12 semester hours.*

Prerequisite: Mus 1703 or Mus 1704 or equivalent.

The course description is applicable for the following string instruments courses: advanced technical studies, advanced standard sonatas, concertos, and short solos. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 15 semester hours for each course.* Prerequisite: successful completion of lower level credit as determined by departmental examination.

Mus 3710 Violin II (1.5)

Mus 3715 Viola II (1.5)

Mus 3720 Cello II (1.5)

Mus 3725 String Bass II (1.5)

Mus 3760 Guitar II (1.5) Advanced technical studies, advanced standard sonatas, concertos, and short solos. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 15 semester hours.* Prerequisite: successful completion of lower level credit as determined by departmental examination.

Mus 5700 Advanced String Techniques (1) A lecture and laboratory course in string playing and teaching techniques and materials. Prerequisite: 2 semester hours of Mus 1701.

The course description is applicable for the following applied string instruments courses: advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. *May be repeated.* Prerequisite: approval by audition.

Mus 5710 Violin III (1.5)

Mus 5715 Viola III (1.5)

Mus 5720 Cello III (1.5)

Mus 5725 String Bass III (1.5)

Woodwind Instruments

Mus 1807 Secondary Woodwind Lessons (1) Private lesson study in any woodwind instrument listed in this catalog. Does not count for any music major or minor as the principal performing area. Prerequisite: initial enrollment by permission of applied area faculty. *May be repeated.*

The course description is applicable for the following woodwind instruments courses: breath control; fundamentals of mechanism, embouchure; proper tonal color; technical exercises; easy solos; supervised chamber ensemble rehearsals. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 12 semester hours for each course.*

Mus 1810 Flute I (1)

Mus 1815 Clarinet I (1)

Mus 1820 Oboe I (1)

Mus 1825 Saxophone I (1)

Mus 1830 Bassoon I (1)

Mus 2801 Woodwind Class I (1) A laboratory course in the fundamentals of playing and teaching the clarinet and the saxophone.

Mus 2802 Woodwind Class II (1) A laboratory course in the fundamentals of playing and teaching the oboe, the bassoon, and the flute.

The course description is applicable for all applied woodwind instruments courses: advanced technical studies; standard solos; chamber ensemble playing. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 15 semester hours for each course.* Prerequisite: successful completion of lower level credit as determined by departmental examination.

Mus 3810 Flute II (1.5)

Mus 3815 Clarinet II (1.5)

Mus 3820 Oboe II (1.5)

Mus 3825 Saxophone II (1.5)

Mus 3830 Bassoon II (1.5)

Mus 5800 Advanced Woodwind Techniques (1) A lecture and laboratory course in instrumental playing and teaching techniques and materials. Prerequisites: Mus 2801 and Mus 2802.

The course description is applicable for the following woodwind instruments courses: advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. *May be repeated.* Prerequisite: approval by audition.

Mus 5810 Flute III (1.5)

Mus 5815 Clarinet III (1.5)

Mus 5820 Oboe III (1.5)

Mus 5825 Saxophone III (1.5)

Mus 5830 Bassoon III (1.5)

Brass and Percussion Instruments

Mus 1907 Secondary Brass and Percussion Lessons (1)

Private lesson study in any brass instrument listed in this catalog or in percussion. Does not count for any major or minor as the principal performing area. Prerequisite: initial enrollment by permission of applied area faculty. *May be repeated.*

The course description is applicable for the following brass instruments courses: breath control; fundamentals of mechanism, embouchure; proper tonal color; technical exercises; easy solos; supervised chamber ensemble rehearsals. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 12 semester hours for each course.*

Mus 1910 Trumpet I (1)

Mus 1915 French Horn I (1)

Mus 1920 Trombone I (1)

Mus 1925 Baritone Horn I (1)

Mus 1930 Tuba I (1)

Mus 1960 Percussion I (1) Fundamental skills in rudimental and concert snare drum techniques. Study of the keyboard percussion instruments and an introduction to the timpani. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 12 semester hours.*

Mus 2901 Brass Class I (1) A laboratory course in the fundamentals of playing and teaching the trumpet and French horn.

Mus 2902 Brass Class II (1) A laboratory class in the fundamentals of playing and teaching the baritone horn, the trombone, and the tuba.

Mus 2950 Percussion Class (1) A laboratory course in the basic techniques of playing and teaching the instruments of percussion.

The course description is applicable for the following applied brass instruments courses: advanced technical studies; standard solos; chamber ensemble playing. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 15 semester hours for each course.* Prerequisite: successful completion of lower level credit as determined by departmental examination.

Mus 3910 Trumpet II (1.5)

Mus 3915 French Horn II (1.5)

Mus 3920 Trombone II (1.5)

Mus 3925 Baritone Horn II (1.5)

Mus 3930 Tuba II (1.5)

Mus 3960 Percussion II (1.5) Advanced study of snare drum, keyboard, percussion, and timpani, as well as an emphasis in performance literature. In addition to weekly lessons, attendance at biweekly studio classes is required. *May be repeated for a maximum of 15 semester hours.*

Prerequisite: successful completion of lower level credit as determined by departmental examination.

Mus 5900 Advanced Brass Techniques (1) A lecture and laboratory course in instrumental playing and teaching techniques and materials. Prerequisites: Mus 2901 and Mus 2902.

The course description is applicable for the following brass instruments courses: advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. *May be repeated.* Prerequisite: approval by audition.

Mus 5910 Trumpet III (1.5)

Mus 5915 French Horn III (1.5)

Mus 5920 Trombone III (1.5)

Mus 5925 Baritone Horn III (1.5)

Mus 5930 Tuba III (1.5)

Mus 5960 Percussion III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. *May be repeated.* Prerequisite: approval by audition.

Political Science and Geography

Political Science

POLITICAL SCIENCE Major, B.A. Degree

(42 000425)

		Sem. Hours
MAJOR REQUIREMENTS		33
PolS 1500	Introduction to Political Science 3	PolS 4560 Cont. U.S. Pol. Sci.: Methodology .. 3
PolS 1510	National Government 3	PolS 4561 Data Analysis in Political Science .. 3
PolS 2520	Comp. Government & Politics 3	PolS 4570 Public Administration 3
PolS 2530	International Relations 3	Electives in political science 9
PolS 3540	Survey of Political Theory 3	
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The Modern Language Requirement fulfills 3 s.h. of Group G)		32-37
MODERN LANGUAGE REQUIREMENT (Refer to Bachelor's Degree Requirements section for fulfillment options.)		3-9
FREE ELECTIVES		20-37
MINIMUM TOTAL		124

POLITICAL SCIENCE Major, B.S. Degree
(43 000421)

				Sem. Hours
MAJOR REQUIREMENTS				33
PolS 1500	Introduction to Political Science	3	PolS 4560	Cont. U.S. Pol. Sci.: Methodology .. 3
PolS 1510	National Government	3	PolS 4561	Data Analysis in Political Science .. 3
PolS 2520	Comp. Government & Politics	3	PolS 4570	Public Administration .. 3
PolS 2530	International Relations	3	Electives in political science .. 9	
PolS 3540	Survey of Political Theory	3		
MINOR REQUIREMENTS				18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the major, PolS 1510 fulfills 3 s.h. of Group F)				36-40
FREE ELECTIVES				26-37
MINIMUM TOTAL				124

POLITICAL SCIENCE Minor for a Bachelor's Degree
(Central does not confer teacher certification for this minor)
(000427)

				Sem. Hours
MINOR REQUIREMENTS				20
PolS 1510	National Government	3	Electives in political science .. 14	
PolS 2520	Comp. Government & Politics	3		
GENERAL EDUCATION REQUIREMENTS (In the minor, PolS 1510 fulfills 3 s.h. of Group F)				

PolS 1500 Introduction to Political Science (3) The nature of government, politics, the state, relations among states or nations, and the areas of political science. A preliminary examination of governmental institutions and selected political theories with an emphasis on basic principles, concepts, and characteristics.

PolS 1510 National Government (3) National constitution; general principles of our Federal system; processes, machinery, & organization of our Government.

PolS 1511 American Government (3) Description and analysis of American government at the national, state, and local levels. Open only to students majoring in Elementary Education, Elementary Education/Early Childhood Education, Elementary Education/Middle School-Junior High School, or secondary teaching fields.

PolS 2511 State Government (3) Administrative, legislative, and judicial activities of state governments and their relationships to national and local governments with special emphasis on state and local governments in Missouri.

PolS 2520 Comparative Government and Politics (3) Major forms of government with focus on England, France, Germany, and the Confederation of Independent States.

PolS 2530 International Relations (3) Introduction to international relations with specific focus on balance-of-power, nature and cause of war, political, social, economic and military issues in international politics.

PolS 2550 Political Parties and Pressure Groups (3) The theory, principles, structures, and functions of pressure groups and political parties in the American political system.

PolS 2580 Public Law and the Judicial Process (3) Lawyers, judges, and the law from the perspective of political science. Development and types of law, jurisprudence, and use of precedent. Judicial selection, structure, and decision-making process.

PolS 3520 Asian Government and Politics (3) Political systems of Asia, focusing on the institutions, decision-making process, and activities of governments and on political parties, pressure groups, and public opinion.

PolS 3521 Latin American Government and Politics (3) A comparative study of the political system of the Latin American countries. Prerequisite: PolS 1510 or PolS 1500.

PolS 3530 International Organizations (3) The role of international organizations in international relations with special emphasis on the United Nations, the specialized agencies of the United Nations, NATO, Warsaw Pact, and the European Economic Community.

PolS 3540 Survey of Political Theory (3) Political philosophies from early recorded history through the eighteenth century.

PolS 3541 Recent Political Theory (3) Political philosophy in the nineteenth and twentieth centuries. A continuation of PolS 3540.

PolS 3550 Public Opinion (3) Forces that mold political opinion, the techniques used in the relevant systematic study of opinion, and the practical application of the techniques of survey research.

PolS 4511 Public Policy (3) Introduction to the public policymaking process and analysis of contemporary policy of the United States.

PolS 4516 The Intelligence Community (3) The nature of intelligence, the historical background, legal foundations. U.S. Intelligence--structure, the intelligence process, and counterintelligence. Prerequisite: PolS 1510 or consent of instructor.

PolS 4520 Politics of the Developing Nations (3) Problems of political development in the new nations of the world and the concepts and theories for comparative analysis of them.

PolS 4530 International Law (3) An examination of its nature, history, philosophies, and basic rules as found in treaties, court decisions, customs, and other sources.

PolS 4531 American Foreign Policy (3) The foreign policy process with specific focus on the powers of the American President and foreign policies toward the Confederation of Independent States, Europe, the Middle East, Latin America, and East Asia.

PolS 4532 International Relations of East Asia (3) Study and analysis of contemporary East Asia focusing on political culture, nationalism, the foreign policies of the United States, the Confederation of Independent States,

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Japan, China and the challenge of the East Asia edge to the Western industrial powers, particularly the United States.

PoIS 4533 Theory and Methods of International Relations (3) Study, analysis, and application of dominant approaches used in the research and study of international relations including consideration of images, conflict, balance-of-power politics, deterrence, and forecasting. Prerequisite: PoIS 2530 recommended.

PoIS 4550 Comparative Party Systems (3) Theories and methods of comparative inquiry plus an analysis of party structures and functions in contemporary political systems.

PoIS 4551 Culture and Politics of the Middle East (3) The influence of culture on the politics, political systems and issues of the Middle East.

PoIS 4555 The American Presidency (3) Examination of the powers, duties, and limitations of the American presidency. Prerequisite: PoIS 1510.

PoIS 4560 Contemporary United States Political Science: Methodology (3) New approaches to the study of politics in the United States with an emphasis on controversies among political scientists.

PoIS 4561 Data Analysis in Political Science (3) Quantitative research techniques, including hypothesis testing and statistical analysis using packaged computer program. Prerequisite: PoIS 4560 or Soc 4890.

PoIS 4570 Public Administration (3) A broad and basic study of public administration in the United States. Prerequisite: PoIS 1510.

PoIS 4571 Municipal Administration (3) Principles of municipal administration as they operate in the United States under the various forms of municipal governments. Prerequisite: PoIS 1510.

PoIS 4572 Intergovernmental Relations (3) Relationships of the various levels and units of American government. Prerequisite: PoIS 1510.

PoIS 4580 American Constitutional Law (3) An interpretation of our constitutional heritage, including the growth of Federal judicial power and the role of the Supreme Court.

PoIS 4581 Constitutional Rights (3) American constitutional rights as originally conceived, as interpreted by the Supreme Court, and as an object of struggle between conflicting groups.

PoIS 4590 Special Projects in Political Science (1-6) Study, interpretation, and discussion of special topics and problems in political science. *May be repeated for a maximum of 6 semester hours.*

PoIS 4591 Internship in Political Science (1-6) Practical experience with a governmental or political unit.

Supervision by professional of unit and by member of University faculty. *May be repeated for a maximum of 6 semester hours.* Prerequisite: consent of department.

PoIS 5510 Problems in National, State or Local Government (1-3) Special problems in government, selected by student and instructor. *May be repeated for a maximum of 3 semester hours.*

PoIS 5590 Readings in Political Science (1-6) Selected readings designed to strengthen weak points in student's program as recommended by the student's adviser. *May be repeated for a maximum of 6 semester hours.*

PoIS 6590 Thesis (1-6) A candidate for the Master of Arts degree with a major in political science selecting the thesis option shall be responsible for the oral defense of his/her thesis before a special committee. *May be repeated for a maximum of 6 semester hours.*

Interdisciplinary Studies Involving Political Science

A full description of Interdisciplinary Studies courses is listed in the section on Interdisciplinary Studies.

IndS 2340 Introduction to Asian Societies and Civilization (3)

Geography

GEOGRAPHY Major, B.A. Degree

(42 000429)

	Sem. Hours
MAJOR REQUIREMENTS	30
Geog 2212 World Geography	3
Geog 2246 Economic Geography	3
Geog 3275 Climatology	3
Electives from the following, including two courses in regional geography	21
EaSc 1110 Intro. to Geology	4
EaSc 3111 Geomorphology	3
Electives in geography	14-21
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The Modern Language Requirement fulfills 3 s.h. of Group G)	32-37
MODERN LANGUAGE REQUIREMENT (Refer to Bachelor's Degree Requirements section for fulfillment options.)	3-9
FREE ELECTIVES	23-40
MINIMUM TOTAL	124

GEOGRAPHY Major, B.S. Degree

(43 000430)

	Sem. Hours
MAJOR REQUIREMENTS	30
Geog 2212 World Geography	3
Geog 2246 Economic Geography	3
Geog 3275 Climatology	3
Electives from the following, including two courses in regional geography	21
EaSc 1110 Intro. to Geology	4
EaSc 3111 Geomorphology	3
Electives in geography	14-21
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the major, Geog 2212 fulfills 3 s.h. of Group F)	36-40
FREE ELECTIVES	29-40
MINIMUM TOTAL	124

GEOGRAPHY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000431)

	Sem. Hours
MINOR REQUIREMENTS	20
Geog 2212 World Geography	3
Geog 2246 Economic Geography	3
Geog 3275 Climatology	3
Electives from the following, including two courses in regional geography	11
EaSc 1110 Intro. to Geology	4
EaSc 3111 Geomorphology	3
Electives in geography	4-11
GENERAL EDUCATION REQUIREMENTS (In the minor, Geog 2212 fulfills 3 s.h. of Group F)	

Geog 1221 World Regional Geography (3) A general survey of the distinguishing characteristics of the major regions of the world. Emphasis on the human activities occurring within the regions.

Geog 2200 Geography of Europe (3) Differentiation of major natural and cultural regions; analysis and characterization of present political units; continental and world relations of major countries. Prerequisite: Geog 2212.

Geog 2211 Geography of North America (3) Physical and cultural features of the United States and Canada, based on regional concepts. Prerequisite: Geog 2212.

Geog 2212 World Geography (3) A survey of the geography of the world and the principles underlying geographic development. Designed to meet the needs of elementary and social studies teachers and majors in geography.

Geog 2246 Economic Geography (3) Influence of geographic factors upon economic life, including such topics as natural resources and the relations of geographic factors to industrial and commercial development.

Geog 2281 Map Interpretation (2) A survey of the problems encountered in reading maps. Emphasis is on

the kinds of information that can be presented on maps, the kinds of symbols used, and limitations of maps.

Geog 2285 Cartography (3) An introduction to the techniques and tools of map construction. Emphasis will be placed on individual projects of map composition.

Geog 2290 Aerial Photograph Interpretation (3) An introductory presentation of aerial photograph interpretation; stereoscopy; elementary photogrammetry; and the determination from 3-D photo models of landforms, topographic features, plant ecology, and land use patterns. Practice in solution of problems useful to agricultural, military, and civil engineers; foresters; archeologists; geographers; and geologists.

Geog 3201 The Cultural Landscape (3) Earth as the home of man, and the role of man and his/her culture systems in changing the face of the earth.

Geog 3221 Geography of Africa (2) Historic and modern significance of Africa; description and delimitation of the major natural regions; and the dominant native cultures. Prerequisite: Geog 2212.

Geog 3225 Geography of Latin America (2) South America and Central America including Mexico and the Caribbean. Prerequisite: Geog 2212.

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Geog 3275 Climatology (3) Considers on a minimal basis the physics of the atmosphere, hydrosphere, and lithosphere requisite to an understanding of the cultural implications of climate. Prerequisite: Geog 2212.

Geog 3280 Computer Cartography (3) An introduction to the construction of computer drawn maps. Emphasis is placed on individual problems of data collection and processing plus student use of the computer.

Geog 4230 Geography of Asia (3) A systematic and regional approach to the several Asian landscapes. Emphasis is on physical geography and cultural regions. Prerequisite: Geog 2212 or consent of instructor.

Geog 4235 Geography of the Former Soviet Union (3) A regional geography of the F.S.U. The relationship of rigorous physical environment to national problems. Prerequisite: Geog 2212 or consent of instructor.

Geog 4240 Geography of Missouri (2) A description and analysis of the systematic and regional geography of Missouri. Prerequisite: Geog 2212.

Geog 4251 Special Projects in Geography (1-6) Study, interpretation, and discussion of special topics and problems in geography. *May be repeated for a maximum of 6 semester hours.*

Geog 4256 Physical Geography (3) The areal distribution of the major elements of the physical environment relevant to man's occupation of the earth's surface. Prerequisite: Geog 2212.

Geog 4260 Historical Geography of the United States (3) Relationship of changing geography to physical environment and developing technology in the United States. Prerequisite: Geog 2212.

Geog 4265 Urban Geography (3) Location of cities as related to other geographic phenomena. Urban units are analyzed with respect to general location theory. Prerequisite: Geog 2246.

Geog 4270 World Political Geography (3) The historical development of the political organization of area. Theoretical aspects of political geography are emphasized. Prerequisite: Geog 2212.

Geog 4275 Special Topics in Geography (1-3) Directed individual or group research of predetermined problems in geography for more intensive study. *May be repeated for a maximum of 3 semester hours.*

Geog 4291 Conservation of Natural Resources (3) Problems of availability, production, exploitation, appraisal, distribution, and renewability of natural resources.

Geog 4295 Land and Leisure (3) Focus upon land use patterns for recreational activities. Relationship of recreation to land uses and regional economic interaction.

Geog 5200 Readings in Geography (1-3) Selected readings in geography under the guidance of the instructor. Class sessions may be required as part of the program. *May be repeated for a maximum of 3 semester hours.* Prerequisite: consent.

Geog 5210 Problems in Geography (1-3) An in-depth study of the major problems in regional and systematic geography. *May be repeated for a maximum of 3 semester hours.* Prerequisite: consent.

Geog 5220 Industrial Geography (3) Areal distribution patterns of industry and their relation to other regionally varying geographic phenomena. Prerequisite: Geog 2246.

Geog 5230 Geography of International Trade (3) An analysis of the relationship of geography to international trade. Prerequisite: Geog 2246.

Religious Studies

In the area of Religious Studies, the second digit in the course number stands for the following: 1--Literature of Religions, 2--History of Religions, 3--Ethics and Moral Issues, 4--Interdisciplinary Studies Including Theologies, 5--Religion and Society, 9--Research and Readings.

Center for Religious Studies Statement of Policy

Students are encouraged to seek advisement concerning courses taken toward a minor in Religious Studies from the Director of the Center for Religious Studies.

RELIGIOUS STUDIES Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000839)

		Sem. Hours
MINOR REQUIREMENTS		21
Rel 2210	Religions in America, 3 or	
Rel 3210	Comparative World Religions, 3	3
Rel 2310	World Views & Values, 3 or	
Rel 2510	Gender & Religions, 3	3
Rel 4410	Modern Religious Thought, 3 or	
Rel 4520	Legal Issues & Religion, 3	3
Rel 3900	Special Projects in Religion	3
Elective from the following		3
Rel 1130	The Bible as Literature	3
Rel 2110	Images of Jesus of Nazareth	3
Rel 1510	Introduction to Religion	3
Electives from the following		6
Art 1815	Art History Survey I	3
Art 1825	Art History Survey II	3
*Engl 4450	The Age of Milton	3
*Engl 4620	Early American Literature	3
Phil 3710	Philosophy of Religion	3
Hist 4412	Era of Renaissance & Reformation	3
Thea 4400	Lit. & History of Theatre I	3
Thea 4420	Lit. & History of Theatre II	3
Soc 4885	Sociology of Religion	3
GENERAL EDUCATION REQUIREMENTS (In the minor, Rel 3210 fulfills 3 s.h. of Group G)		

*Course has prerequisite(s) not listed in the program.

Literature of Religions

Rel 1130 The Bible as Literature (3) A literary and historical critical analysis of the Old Testament/Hebrew Bible, the Apocrypha, and the New Testament.

Rel 2110 Images of Jesus of Nazareth (3) An investigation of first and second century literature including the gospels of Matthew, Mark, Luke, John and apocryphal writings.

History of Religions

Rel 2210 Religions in America (3) Historical development of American religious pluralism.

Rel 3210 Comparative World Religions (3) Similar and contrasting aspects of the world's major religions.

Ethics and Moral Issues

Rel 2310 World Views and Values (3) Studies in selected contemporary religio-ethical problems. Topics will include bio-medical, computer, ecological, and gender issues, corporate responsibility, war and peace, racism, and death and dying.

Interdisciplinary Studies Including Theologies

Rel 4410 Modern Religious Thought (3) Selected contemporary religious writers. Topics may include liberation theology, civil religion, feminist criticism, and black theology. Prerequisite: one course in religious studies.

Religion and Society

Rel 1510 Introduction to Religion (3) Definitions, experiences, expressions, beliefs, socio-cultural contexts, and concept of self within religious traditions and practices.

Rel 2510 Gender and Religions (3) Studies in how major world religions view the social responsibilities, activities, and relationships of males and females.

Rel 4520 Legal Issues and Religion (3) A survey of historic and recent legal issues dealing with the relationship between religion (church) and the state. Topics will include: Bible reading and curriculum in the schools, conscientious objectors, taxation and the church, prayer and the Pledge of Allegiance. Prerequisite: Rel 1510 or Phil 3710 or equivalent.

Research and Readings

Rel 3900 Special Projects in Religion (1-3) Individual or group study of problems in special areas of interest, such as research projects and travel seminars. *May be repeated for a maximum of 6 semester hours.*

Theatre

In the Department of Theatre, the second digit in the course number stands for the following: 1--Interpretation, 2--Children's Theatre and Creative Dramatics, 3--Production, 4--History and Literature, 5--Acting, 6--Crafts, 7--Directing, 8--Playwriting, 9--General.

SPEECH COMMUNICATION AND THEATRE Major, B.S. in Ed. Degree

(Certification to teach speech and theatre in grades 9-12)

					Sem. Hours	
CORE REQUIREMENTS					21	
Thea	1500	Acting	3	SpCm 2130	Small Group Communication	3
Thea	1600	Stagecraft & Lighting	3	SpCm 2140	Argumentation & Debate	3
Thea	3700	Directing	3	SpCm 3125	Nonverbal Communication	2
SpCm	2110	Foundations of Comm. Theory	3	SpCm 3190	Forensics	1
Theatre Major Option, B.S. in Ed. Degree (41 000362)					Sem. Hours	
MAJOR REQUIREMENTS					36	
Core Requirements		21		Thea 4420	Lit. & History of the Theatre II	3
Thea	1100	Oral Interpretation	3	Thea 3630	Studio Theatre I	1
Thea	4400	Lit. & History of the Theatre I	3	Thea 4730	Studio Theatre II	1
				Electives in SpCm, Thea, or MCom		4
MINOR REQUIREMENTS					18-25	
GENERAL EDUCATION REQUIREMENTS					39-43	
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.						
Thea	2400	Group E (required)	3	MCom 1000	Group H (required)	3
PoS	1510	Group F (required)	3	Psy 4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.						
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)					28	
FREE ELECTIVES					0-3	
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.						
MINIMUM TOTAL					124	

Speech Communication Major Option, B.S. in Ed. Degree

See requirements as outlined in the Department of Communication.

SPEECH COMMUNICATION AND THEATRE Minor, B.S. in Ed. Degree

(Certification to teach speech and theatre in grades 5-9 with a middle school-junior high major.

Elementary education functional majors 1-6 may use this as an area of concentration.

(000363)

				Sem. Hours	
MINOR REQUIREMENTS				21	
Thea	1500	Acting	3	SpCm 2130 Small Group Communication	3
Thea	1600	Stagecraft & Lighting	3	SpCm 2140 Argumentation & Debate	3
Thea	3700	Directing	3	Elective in SpCm or Thea	3
SpCm	2110	Foundations of Comm. Theory	3		

THEATRE Major, B.A. Degree

(42 000364)

				Sem. Hours	
MAJOR REQUIREMENTS				35	
Thea	1100	Oral Interpretation	3	Thea 3700 Directing	3
Thea	1400	Script Analysis	3	Thea 4730 Studio Theatre II	1
Thea	1500	Acting	3	Thea 4400 Lit. & History of the Theatre I	3
Thea	1510	Stage Voice & Movement	3	Thea 4420 Lit. & History of the Theatre II	3
Thea	1600	Stagecraft & Lighting	3	Electives in theatre	6
Thea	3600	Scene Design	3		
Thea	3630	Studio Theatre I	1		
MINOR REQUIREMENTS				18-25	
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The Modern Language Requirement fulfills 3 s.h. of Group G)				36-40	
MODERN LANGUAGE REQUIREMENT				3-9	
(Refer to Bachelor's Degree Requirements section for fulfillment options.)					
FREE ELECTIVES				15-32	
MINIMUM TOTAL				124	

THEATRE Functional Major, B.F.A. Degree

(47 000366)

				Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS				60	
Thea	1100	Oral Interpretation	3	Electives (continued)	
Thea	4300	Professional Practices	4	Thea 4710 Advanced Directing	3
Thea	4310	Theatre Management	3	Electives from technical	
Thea	1400	Script Analysis	3	concentration listing	6-7
Thea	4400	Lit. & History of the Theatre I	3	Technical	
Thea	4420	Lit. & History of the Theatre II	3	Thea 2600 Stage Drafting	2
Thea	1500	Acting	3	Thea 2620 Theatrical Costume	3
Thea	1600	Stagecraft & Lighting	3	Thea 3600 Scene Design	3
Thea	3630	Studio Theatre I	1	Thea 4600 Advanced Technical Theatre ..	3
Thea	3700	Directing	3	Thea 4610 Adv. Stage Lighting & Sound ..	3
Thea	4730	Studio Theatre II	1	Electives from performance	
Elect one of the following concentrations				18-21	
Performance					
Thea	1510	Stage Voice & Movement	3	concentration listing	6-7
Thea	4500	Advanced Acting	3	Departmentally approved supporting courses	9-10
Thea	1610	Stage Make-Up	3	Electives in theatre	0-3
MINOR NOT REQUIRED					
GENERAL EDUCATION REQUIREMENTS				39-43	
FREE ELECTIVES				21-25	
MINIMUM TOTAL				124	

THEATRE Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000365)

				Sem. Hours	
MINOR REQUIREMENTS				23	
Thea	1100	Oral Interpretation	3	Thea 4400 Lit. & History of the Theatre I, 3 or	
Thea	1400	Script Analysis	3	Thea 4420 Lit. & History of the Theatre II, 3 ...	3
Thea	1500	Acting	3	Electives in theatre	5
Thea	1600	Stagecraft & Lighting	3		
Thea	3700	Directing	3		

Interpretation

Thea 1100 Oral Interpretation (3) Skills used to convey the intellectual, emotional, and aesthetic values of literature to an audience.

Children's Theatre and Creative Dramatics

Thea 3220 Children's Theatre (3) The study and practice of producing plays for a children's audience.

Thea 4210 Creative Dramatics (2) Instruction in the supervision of pre-school through elementary grade children in the spontaneous expression of ideas and characters through the theatrical form.

Production

Thea 4300 Professional Practices (1-6) Extended, supervised experiences in any phase of theatre production. Credit allowed will depend upon the nature and scope of the assignment. *May be repeated for a maximum of 10 semester hours.* Prerequisite: consent.

Thea 4310 Theatre Management (3) Business theories and practices in the modern educational, community, and professional theatre.

Thea 5310 Modern Theatrical Styles (3) The origin and development of modern production practices with special attention to their use in the contemporary theatre.

History and Literature

Thea 1400 Script Analysis (3) Structural and performance dimensions of the playscript. It will focus on the role of the various theatrical artists in developing an effective methodology and application for translating the playwright's script into a public performance.

Thea 2400 Theatre in Western Civilization (3) Survey of the drama and the developments of major theatrical periods in western civilization, and introduction to the various contemporary theatre arts.

Thea 4400 Literature and History of the Theatre I (3) Works and writers for the stage from the beginning to 1700. The development of theatrical modes and presentation and their influences upon the drama of each period.

Thea 4420 Literature and History of the Theatre II (3) Works and writers for the stage from 1700 to the present. The development of theatrical modes and presentation and their influences upon the drama of each period.

Thea 5400 Development of the American Theatre (3) Plays and playwrights of the American theatre and of the evolution of the physical theatre, acting, staging, and production practices.

Thea 5410 Contemporary Theatre and Drama (2) Twentieth century plays, playwrights, and theatre artists with particular emphasis on the period since 1960.

Thea 5420 Dramatic Theory and Criticism (2) Dramatic theory and criticism of the Western World from Aristotle to modern critics and theorists.

Acting

Thea 1500 Acting (3) An extensive study in the theories and techniques of acting.

Thea 1510 Stage Voice and Movement (3) Analysis of basic problems of voice and body use in the theatre with the practice of exercises for correction or improvement.

Thea 4500 Advanced Acting (3) An intensified study of characterization centering around the study of difficult roles, and the adaptation of acting techniques to various styles of acting. Prerequisite: Thea 1500.

Crafts

Thea 1600 Stagecraft and Lighting (3) Lectures and laboratory experience in the construction, painting, rigging and shifting of stage scenery and study of theatrical lighting design and execution for stage and television. Scene shop work arranged as a portion of the course.

Thea 1610 Stage Make-up (3) Materials and methods of application of make-up artistry for cosmetic and character effects on stage.

Thea 2600 Stage Drafting (2) Methods of construction and processes of drafting working drawings for stage scenery.

Thea 2620 Theatrical Costume (3) Basics of costume design, survey of costume history, laboratory in construction of costume.

Thea 3600 Scene Design (3) Theory and practice of design as applied to scenery for modern theatrical production.

Prerequisites: theatre majors, Thea 1600; art majors, Art 3910 or Art 3310.

Thea 3630 Studio Theatre I (1) Technical direction of a play in the Studio Theatre series at approximately the junior class level. Prerequisites: Thea 1500, Thea 1600 and Thea 3700.

Thea 4600 Advanced Technical Theatre (3) Advanced techniques in scenery construction and painting, plastics, and selection of stage equipment. Laboratory exercises will be required. Prerequisite: Thea 1600.

Thea 4610 Advanced Stage Lighting and Sound (3) Extensive investigation of stage lighting history and practices in the modern theatre and the study and use of live and recorded sound as a theatrical art. Prerequisite: Thea 1600.

Directing

Thea 3700 Directing (3) Problems, principles, and employment of various directing styles, and the adaptation of directing techniques to various physical facilities.

Prerequisites: Thea 1500 and Thea 1600.

Thea 4710 Advanced Directing (3) Extensive examination of special directing problems with comedy, tragedy, period drama, and the musical show in arena and proscenium theatres. Prerequisite: Thea 3700.

Thea 4730 Studio Theatre II* (1) Direction of a play in the Studio Theatre series at approximately the senior class level. Prerequisite: Thea 3630.

*Not available for graduate credit.

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Playwriting

Thea 4800 Playwriting (1-3) Dramatic writing, dramatic theory, style dialogue exercises, characterization, with opportunity for the production of student plays. *May be repeated for a maximum of 3 semester hours.*

General

Thea 1900 Theatre Practicum (1) Supervised work on selected problems in play direction, acting, scene design, scene construction, stage lighting, and business management. *May be repeated for a maximum of 3 semester hours.* Prerequisite: consent.

Thea 3900 Special Topics in Theatre (1-3) Individual study and research on topics that are of special interest to the student. *May be repeated for a maximum of 6 semester hours.* Prerequisite: consent.

Thea 4900 Repertory Theatre (3) Practical experience in theatre through participation in a summer repertory season of plays as an actor, a technician, or management personnel. *May be repeated for a maximum of 6 semester hours.* Prerequisite: enrollment by department approval only.

Thea 5900 Seminar in Theatre (1-3) Studies in a specialized area of theatre, with emphasis on individual research. *May be repeated for a maximum of 12 semester hours.*

Thea 5910 Thesis (1-5) *May be repeated for a maximum of 5 semester hours.*

Thea 5920 Theatre Architecture (2) Analysis of and practice in modern theatre architectural design.

Thea 5990 Introduction to Graduate Study in Theatre (3) Recent theatre research and research methods, professional organizations, and employment.

Thea 6900 Readings in Theatre (1-3) Guided study in the literature of special and related fields of theatre. *May be repeated for a maximum of 12 semester hours.*

College of Business and Economics

In the College of Business and Economics, the second digit in the course number stands for the following: 0--Economics, 1--Accounting, 2--Business Education, 3--Management, 4--Marketing, 5--Office Administration, 6--Computer Information Systems, 7--Business Law, 8--Finance, 9--Human Resource Management.

Bachelor of Science in Business Administration Degree Program Statement of Policy

The primary mission of the College of Business and Economics at Central Missouri State University is to provide quality business and economics education for present and future business and economics students. The College is also to serve the Central Missouri State University academic community in vital academic support roles that meet the educational needs of a variety of campus constituencies.

The faculty in the College of Business and Economics place an emphasis on effective classroom teaching and student learning. Business instruction programs are to provide graduates with theoretical and other knowledge in business functional areas that satisfies professional requirements for leadership positions in both the private and public sectors. High standards of academic excellence, assessment of present programs, and the emergence of new academic programs continue to guide and influence the content and design in all academic programs located in the College.

Admission to B.S.B.A. Programs.* Acceptance and registration in business administration courses or the declaration of intent to complete a business major do not guarantee admission to the Bachelor of Science in Business Administration programs. A student is not officially admitted to the College of Business and Economics until he/she is notified in writing by a representative of the College of Business and Economics. Only those students who have applied for admission to a program in the College of Business and Economics may file an application for graduation for the Bachelor of Science in Business Administration degree.

*Students seeking a Bachelor of Science in Education degree with a major in business education must meet requirements of the College of Education and Human Services for admission to the professional sequence.

The desire of the faculty in the College of Business and Economics is for all Central students to succeed. To facilitate and support (1) overall academic program quality, (2) student progress through his/her academic program at the desired rate and (3) to better ensure receiving the maximum benefit from the curriculum design, students who desire to earn a B.S.B.A. degree are to enroll and take courses that are specifically designed for their academic classification. This means that freshmen (those who have completed 0-29.5 semester hours of college credit) who take courses within the College of Business and Economics will enroll in 1000 level courses only, sophomores (completed 30-59.5 semester hours) will enroll in 2000 or 1000 level courses, juniors (completed 60-89.5 semester hours) will enroll in 3000, 2000, or 1000 level courses and seniors (all students who have completed 90

semester hours) will enroll in 4000 level courses or below.

All Central students enrolled in business and economics courses are required to comply with prerequisites for those courses.

Students who have not applied for admission to a B.S.B.A. degree program or other business and economics four-year academic programs may not enroll for more than 25 percent of their total Central course work (or 30 semester hours) in the College of Business and Economics courses.**

**Deviations from the preceding requirements must be approved in writing by the College of Business and Economics department where the course is offered. This written permission must be approved and filed in the Dean's Office of the College of Business and Economics prior to the last drop-and-add day of the semester in which the course is taken.

B.S.B.A. Admission Requirements. Central students who desire to graduate with a B.S.B.A. degree should declare themselves to be pre-business majors upon enrollment at the University. Admission to all B.S.B.A. degree programs is conditional upon the completion of the departmental requirements and the following prerequisites:

1. A minimum of 45 semester hours of credit including the following pre-admission courses:

Acct	2101	Principles of Financial Accounting	.....	3
Acct	2102	Principles of Managerial Accounting	.....	3
CIS	1600	Principles of Computer Info. Systems	.....	3
BLaw	2720	Legal Environment of Business	.....	3
Econ	1010	Principles of Economics	.....	3
Econ	1011	Principles of Economics	.....	3
Fin	2801	Business Statistics I	.....	3
Math	1111	College Algebra	.....	3
Math	1131	Calculus for Business and Economics	.....	3

2. Attainment of a 2.25 (or above) grade-point average on a scale of 4.00 for credit hours completed at Central and elsewhere and attainment of 2.25 (or above) grade-point on the 27 semester hours of pre-admission courses.
3. Transfer students from other colleges and universities must meet all degree program admission requirements. Transfer students may take appropriate additional course work to fulfill admission requirements.

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4. A student applies for admission at the College of Business and Economics Office of Undergraduate Admissions (Dockery 102C). The admission process should be initiated prior to fulfillment of all admission requirements.
5. All students pursuing a Bachelor of Science in Business Administration degree must take the ACT before they may be officially admitted to the degree program.

Additional B.S.B.A. Graduation Requirements. In addition to specified major and other requirements, all students graduating with a B.S.B.A. degree must satisfy the following requirements:

1. Fifty percent of the hours required for a B.S.B.A. degree must be taken outside of the College of Business and Economics. Up to nine semester hours of economics and up to six semester hours of statistics may be counted either inside or outside the business-economics group.
2. Students are required to earn at least 50 percent of their required business credit hours for a B.S.B.A. degree at Central.
3. Students must achieve a minimum cumulative grade-point average of 2.25.

Transfer of Credit. Students planning to transfer to Central should expect to complete most major business courses during their junior and senior years. A student from a two-year or four-year institution may transfer pre-admission courses equivalent to those required for the B.S.B.A. degree at Central. Transfer students from four-year institutions should obtain transfer information from the academic department offering the major.

Upper division courses (courses at the 3000 and 4000 level) cannot generally be transferred from a two-year institution and applied to a B.S.B.A. degree. However, the department chair responsible for the Central course may elect to allow such a transfer for equivalent credit. Before the department chair may accept the transfer course for equivalent credit, the course must be "validated" through a departmentally administered examination or successful completion of a more advanced course in the discipline.

The specific validation requirement to be applied will be designated by the department chair. The validation policy for the College of Business and Economics is consistent with policies and guidelines at comparable business schools and is in effect for all students desiring to transfer courses completed at a community or junior college. Upper division course work transferred from a four-year institution must be reviewed by the department chair before such work can be applied to a B.S.B.A. degree. The department chair may choose to apply the validation requirement to such transfers.

B.S.B.A. Core Courses. All B.S.B.A. degree program students are required to successfully complete carefully selected and designed 3000 and 4000 level business core courses. Students may enroll in 3000 level core courses after successfully completing 59.5 semester hours and may enroll in 4000 level core courses after successfully completing 89.5 semester hours. Prerequisite course requirements are to be complied with at all levels of the core and in other Central business and economics courses. Exception to these rules concerning core courses may be granted by the Chair of the department in the College of Business and Economics in which the course is offered. College of Business and Economics 3000 and 4000 level core courses are listed as an integral part of departmental academic programs. Please refer to the following pages of this section of the Central catalog for a complete listing of core and major courses required by the faculty in each department in the College of Business and Economics.

The College of Business and Economics intends to provide equal opportunities for all through careful blending of human and financial resources. By accentuating growth in the capabilities of people, the College seeks to improve the quality of life for each individual in the region served.

Accounting

Department of Accounting Statement of Policy

A minimum grade of C must be earned in the following courses, if they are to be applied toward the fulfillment of an accounting functional major or minor: Acct 2101, Acct 2102, Acct 2110, Acct 3111, Acct 3112, Acct 3120, Acct 3130, and Acct 3160.

Completion of the departmental exit examination is a graduation requirement for the accounting functional major.

A student with an accounting functional major or minor may enroll in a course offered by the Department of Accounting only if a grade of at least C is earned in each of the course's prerequisites.

ACCOUNTING Functional Major, B.S. in Business Administration Degree

(46 000501)

					Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS					69	
*Acct	2101	Principles of Financial Acct.	3	*Econ	1011 Principles of Economics	3
*Acct	2102	Principles of Managerial Acct.	3	*Fin	2801 Business Statistics I	3
Acct	2110	Microcomputer Applications	3	Fin	3850 Principles of Finance	3
Acct	3111	Inter. Financial Accounting I	3	Mgt	3315 Management of Organizations	3
Acct	3112	Inter. Financial Accounting II	3	Mgt	3325 Business Communications	3
Acct	3120	Cost & Managerial Accounting	3	Mgt	3360 Production/Operations Mgt.	3
Acct	3130	Introduction to Income Tax	3	Mgt	4305 Business Policy	3
Acct	3160	Acct. Information Systems	3	Mkt	3405 Marketing Policy	3
Acct	4100	Advanced Accounting I	3	*BLaw	2720 Legal Environment of Business	3
Acct	4105	Auditing	3	BLaw	3721 Law of Business Transactions	3
Acct	4130	Advanced Income Tax	3	*Math	1131 Calculus for Business & Econ.	3
CIS	3630	Management Information Systems	3			
MINOR NOT REQUIRED						
GENERAL EDUCATION REQUIREMENTS					40-43	
SpCm	1000	Group B (required)	3	Psy	1100 Group F or	
*Math	1111	Group C (required)	3	Soc	1800 Group F (required)	3
*Econ	1010	Group F (required)	3	*CIS	1600 Group H (required)	3
ELECTIVES OUTSIDE OF THE COLLEGE OF BUSINESS AND ECONOMICS					10-13	
FREE ELECTIVES					2	
MINIMUM TOTAL					124	

*Students expecting to receive the B.S. in Business Administration Degree must seek admission to this program upon the completion of a minimum of 45 semester hours of credit including Acct 2101, Acct 2102, BLaw 2720, CIS 1600, Econ 1010, Econ 1011, Fin 2801, Math 1111, and Math 1131. See pages 145-146 for the Statement of Policy on Admission to a B.S. in Business Administration Degree program.

ACCOUNTING Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000502)

					Sem. Hours	
MINOR REQUIREMENTS					21	
Acct	2101	Principles of Financial Acct.	3	Acct	3130 Introduction to Income Tax	3
Acct	2102	Principles of Managerial Acct.	3	Acct	4100 Advanced Accounting	3
Acct	3111	Inter. Financial Accounting I	3	Elective in accounting		3
Acct	3112	Inter. Financial Accounting II	3			

Accounting

Acct 2100 Survey of Accounting (3) Study of elementary financial and managerial accounting to include the preparation and use of accounting statements and use of accounting information for managerial decisions. Course may not be substituted for Acct 2101 and/or Acct 2102. Not available to students with credit in Acct 2102.

Acct 2101 Principles of Financial Accounting (3) Fundamental principles of financial accounting. The preparation and use of financial accounting records and statements for business organizations.

Acct 2102 Principles of Managerial Accounting (3) Development and use of cost and managerial accounting information for management control and decision making. Prerequisite: Acct 2101.

Acct 2110 Microcomputer Applications (3) Use of microcomputer to solve accounting related business problems. Prerequisites: CIS 1600 and Acct 2101.

Acct 3111 Intermediate Financial Accounting I (3) Financial accounting theory and practice applied to selected topics with emphasis on assets and application of generally accepted accounting principles. Prerequisite: Acct 2101.

Acct 3112 Intermediate Financial Accounting II (3)

Continuation of financial accounting theory and practice applied to selected topics with emphasis on equities and application of generally accepted accounting principles. Prerequisite: Acct 3111.

Acct 3120 Cost and Managerial Accounting (3) Application of accounting for managerial decision making, financial reporting and control for business enterprises. Prerequisites: Acct 2102 and Fin 2801.

Acct 3130 Introduction to Income Tax (3) Federal Income Tax principles and procedures. Determination of gross income, exclusions from gross income, business and nonbusiness deductions. Application of the principles is by the use of actual tax forms.

Acct 3135 Internship in Accounting (3, 6, 9) Opportunity for students to gain theoretical knowledge and practical application within a particular field of specialization. May not be taken last semester of senior year. Enrollment normally in 6 or 9 semester hours. *May be repeated for a maximum of 18 semester hours.* Prerequisites: 60 semester hours and overall GPA 2.5 or above or permission of internship supervisor.

Acct 3160 Accounting Information Systems (3) The integration of information flows of various segments of a business into an information system of the total organization. Emphasis areas include accounting aspects of data processing, system security controls, and documentation. Prerequisites: Acct 2110, Acct 3111 and CIS 3630.

Acct 4100 Advanced Accounting I* (3) Selected topics including business combinations, consolidations, financial accounting and reporting practices; and accounting and reporting for non-profit entities. Prerequisite: Acct 3112.

Acct 4105 Auditing* (3) Study of theory and practice relating to attestation engagements, professional liability and ethics. Prerequisites: Acct 3112, Acct 3120, Acct 3130 and Acct 3160.

Acct 4120 Advanced Cost Accounting* (3) Advanced study of cost planning and control techniques to aid management in the decision making process. Prerequisite: Acct 3120.

*Not available for graduate credit.

Acct 4130 Advanced Income Tax (3) Continuation of the study of Federal Income Tax. Consideration of the special treatment received by the various business entities, including a study of partnerships, corporations, estates, and trusts. Prerequisite: Acct 3130.

Acct 4140 Advanced Accounting II (3) In-depth study of preparation of consolidated financial statements. Prerequisite: Acct 3112.

Acct 4160 Professional Examination Problems (3) Selected subject areas in financial accounting theory and practice, cost and managerial accounting, and auditing. Prerequisites: Acct 3120, Acct 3130, and Acct 4105.

Acct 5101 Financial Accounting Information (3) Provides an understanding, ability to interpret, and analytical skills needed to use financial accounting statements for decision making. Prerequisite: CIS 1600 or equivalent.

Acct 5102 Managerial Accounting Information (3) Provides an understanding of management use of accounting information with emphasis on decision making. Topics include controllership function, information needs, global influences and ethical consideration. Prerequisites: Acct 5101 and admission to MBA program.

Acct 5110 Professional Accountancy Problems (3) Applications and case studies of ethics, selected financial accounting pronouncements, current literature and practice, and current developing issues in accounting as an integral part of financial accounting problems. Prerequisite: Acct 4105.

Acct 5120 Seminar in Accounting Theory (3) The development and application of current accounting theory. Prerequisite: Acct 4105.

Acct 5130 Seminar in Tax Research and Planning (3) Graduate course in federal income taxes. The obtaining of tax information from its various sources and using it to make important management and financial decisions. Prerequisite: Acct 4130.

Acct 5131 Advanced Managerial Accounting (3) Advanced study of cost analysis, budget control and performance evaluation, using quantitative data for operational planning and control. Prerequisite: Acct 3120 or equivalent.

Acct 5150 Advanced Auditing (3) An in-depth study of external and internal auditing including the theory and application of auditing standards, authoritative literature, statistical techniques, the attest function and audit reports, and current topics in auditing. Prerequisite: Acct 4105.

Acct 5170 Accounting Studies (3) Develops student ability to apply managerial skills to specific accounting issues. Emphasis is on integration of skills and knowledge across accounting-related disciplines. Topics will vary in accordance with student needs and resources available. Prerequisites: Acct 5102 or admission to the MBA Accounting concentration.

Acct 5191 International Accounting (3) Accounting for international transactions, the operations of international firms, foreign exchange markets, comparisons of accounting standards in foreign countries and the procedures by which they and international standards are established. Integrates financial, managerial, and tax accounting in the conduct of international business. Prerequisites: Acct 4100, Acct 3120 and Acct 4130.

Acct 6160 Readings in Accounting (1-3) A directed study of selected accounting literature. *May be repeated for a maximum of 6 semester hours.* Prerequisite: Acct 3112.

Computer and Office Information Systems

Computer Information Systems

COMPUTER INFORMATION SYSTEMS Functional Major, B.S. in Business Administration Degree

(46 000534)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						71	
*CIS	1600	Prin. of Computer Infor. Systems	3	*Econ	1011	Principles of Economics	3
CIS	2610	COBOL Programming	4	*Fin	2801	Business Statistics I	3
CIS	3605	Principles of Data Communication & Local Area Networking	2	Fin	3850	Principles of Finance	3
CIS	3620	Programming in C Language	3	Mkt	3405	Marketing Policy	3
CIS	3630	Management Information Systems	3	*BLaw	2720	Legal Environment of Business	3
CIS	3650	Database Management Systems	3	*Math	1131	Calculus for Business & Econ.	3
CIS	3660	Anlys. & Des. of Comp. Infor. Sys.	3	Electives from the following			6
CIS	3670	Adv. COBOL Programming	3	CIS	3695	Intern. in Comp. Infor. Sys.	3-9
CIS	3680	Systems Project	2	CIS	4600	Prog. in Generator Languages	2
CIS	4680	Adv. Computer Concepts	3	CIS	4620	Microcomputer Applications	3
*Acct	2101	Principles of Financial Acct.	3	CIS	4635	Seminar in Bus. Comp. Appl.	3
*Acct	2102	Principles of Managerial Acct.	3	CIS	4655	Software Engineering	3
Mgt	3315	Management of Organizations	3	CIS	4665	Data Com. & Dist. Data Proc.	3
Mgt	3325	Business Communications	3	CIS	4667	Cont. Voice & Data Sys.	3
Mgt	3360	Production/Operations Mgt.	3	CIS	4669	Com. Network Management	3
Mgt	4305	Business Policy	3	CIS	4675	Project Management	3
				CIS	4695	Adv. Prog. in C/C++	3
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, CIS 1600 fulfills 3 s.h. of Group H)						37-40	
SpCm	1000	Group B (required)	3	Psy	1100	Group F or	
*Math	1111	Group C (required)	3	Soc	1800	Group F (required)	3
*Econ	1010	Group F (required)	3				
ELECTIVES OUTSIDE OF THE COLLEGE OF BUSINESS AND ECONOMICS						13-16	
MINIMUM TOTAL						124	

*Students expecting to receive the B.S. in Business Administration Degree must seek admission to this program upon the completion of a minimum of 45 semester hours of credit including Acct 2101, Acct 2102, BLaw 2720, CIS 1600, Econ 1010, Econ 1011, Fin 2801, Math 1111, and Math 1131. See pages 145-146 for the Statement of Policy on Admission to a B.S. in Business Administration Degree program.

COMPUTER INFORMATION SYSTEMS Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000535)

						Sem. Hours	
MINOR REQUIREMENTS						21	
CIS	1600	Prin. of Computer Infor. Systems	3	CIS	3620	Programing in C Language	3
CIS	2610	COBOL Programming	4	CIS	3670	Adv. COBOL Programming	3
CIS	3605	Principles of Data Communication & Local Area Networking	2	Acct	2101	Principles of Financial Acct.	3
				Acct	2102	Principles of Managerial Acct.	3
GENERAL EDUCATION REQUIREMENTS (In the minor, CIS 1600 fulfills 3 s.h. of Group H)							

COMPUTER INFORMATION SYSTEMS, Associate in Science Degree

Inquiries about the status of this program should be directed to the chair of the Department of Computer Information Systems.

CIS 1600 Principles of Computer Information Systems (3)

Provides a working knowledge of computer information systems. Hands-on experience is gained in major microcomputer software packages including operating systems, word processing, spreadsheets, and databases.

CIS 2610 COBOL Programming (4) Major emphasis on the developing of logical solutions to business problems. The development of programs on on-line terminals with job control and an overview of architecture of the latest IBM

systems. Processing business data using COBOL (Common Business Oriented Language) on mainframe IBM systems. Prerequisite: CIS 1600 or Math 2411; and a high school program including one unit of advanced algebra and one unit of geometry or Math 1111.

CIS 3605 Principles of Data Communications and Local Area Networking (2) Overview of the fundamental concepts needed to develop and work with a data communications system. Hardware, software, network

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topology, network design and implementation is covered with a particular emphasis on the application of theory to solving business data communication needs. Prerequisite: CIS 1600.

CIS 3612 Assembler Language Programming (3) Use of BAL (Basic Assembler Language) in solving computer programming problems. Prerequisite: CIS 2610 or Math 2411.

CIS 3620 Programming in C Language (3) Basic concepts of data representation, assembly language binary instructions, addressing and indexing. Study of the ANSI C programming language in business applications. Emphasis will be on business problem solving, system interface, and simple graphic implementation. Prerequisite: CIS 2610 or Math 2411.

CIS 3630 Management Information Systems (3) Emphasizes how general managers can participate in formulating data processing plans that support corporate goals. A working knowledge of systems analysis and design is covered to allow effective participation by information users. Covers what information systems resources are available and how those resources can be used to support the functional management areas. Prerequisites: CIS 1600, Acct 2102, Fin 2801 and MGT 3315.

CIS 3650 Database Management Systems (3) An overview of the major commercial database management systems available with emphasis on current data structures, terminology, and managerial trends. Database programming using DL/I is also presented. Prerequisite: CIS 2610 or Math 2411.

CIS 3660 Analysis and Design of Computer Information Systems (3) Systems analysis and procedure writing, designing and maintaining business applications. Develop and practice techniques used in designing a system. Investigate different hardware and software products available. Prerequisite: CIS 3650.

CIS 3670 Advanced COBOL Programming (3) An extension of programming techniques and application presented in CIS 2610. ANS COBOL is the language used in this class. Additional topics include DOS/VSE JCL, Utilities, VSAM, CICS and 85-COBOL. Prerequisites: CIS 2610.

CIS 3680 Systems Project (1-3) An independent individual project to be completed by the student. *May be repeated for a maximum of 5 semester hours.* Prerequisites: CIS 3660 and CIS 3670.

CIS 3695 Internship in Computer Information Systems (3, 6, 9) Opportunity for students to gain theoretical knowledge and practical application within a particular field of specialization. May not be taken last semester of senior year. Enrollment normally in 6 or 9 semester hours. *May be repeated for a maximum of 18 semester hours.* Prerequisites: 60 semester hours and overall GPA 2.5 or above or permission of intern program Director.

CIS 4600 Programming in Generator Languages (2) Develops programming proficiency in applying contemporary generator languages, particularly RPG II and RPG III, to typical business situations. Special emphasis on using multi-file programming and file maintenance. Prerequisite: CIS 4630 or 3 semester hours of programming language credit.

CIS 4610 Special Projects (1-3) Special projects offerings in computer information systems. *May be repeated for a maximum of 6 semester hours.* Prerequisite: consent of instructor.

CIS 4620 Microcomputer Applications (3) Emphasis will be on current microcomputer hardware, operating system, and database management software. Applications will be developed using the operating system and the database software. Prerequisites: CIS 1600 or Math 2411; and a high school program including one unit of advanced algebra or Math 1111.

CIS 4625 Marketing Computer Technology* (3) A comprehensive introduction to marketing of computer technology for industrial and consumer users. The course will include techniques of market analysis, consumer consulting, and product development. Prerequisites: Mkt 4490 and CIS 4620.

*Not available for graduate credit.

CIS 4630 Data Processing in Business (3) Computer programming and system analysis procedures and techniques used in processing data. Computer uses and business applications are studied from the management viewpoint. Not open to students with credit in CIS 1600.

CIS 4635 Seminar in Business Computer Applications (2-3) Business applications and programming techniques will be studied and prepared for presentation and discussion. Prerequisite: CIS 4630 or at least one programming course.

CIS 4640 Contemporary Computer Programming and Business Systems (3) Comparison and application of two or three popular programming languages; systems analysis and procedure writing, flowcharting, designing, and maintaining business applications. Not open to computer information systems majors or minors.

CIS 4655 Software Engineering (3) An advanced course in the systematic approach to the specification, development, operation, maintenance, and retirement of software. Topics include formal specification tools, developmental strategies, software metrics, verification and validation techniques. Prerequisite: CIS 3660.

CIS 4665 Data Communication and Distributed Data Processing (3) A comprehensive introduction to the field of digital data communications. It provides an understanding of terminology, topology, protocol, and available systems network architecture. Prerequisite: 6 semester hours of programming courses.

CIS 4667 Contemporary Voice and Data Systems* (3) An in-depth study of the theory of telephony. Provides the student with tools to understand and manage a large voice and data communications network. Topics include Central Office Switches, ISDN, Dial-Up and ISO-OSI. Prerequisite: CIS 4665.

CIS 4669 Communications Network Management* (3) Provides a detailed study of the establishment and operation of a telecommunications department. Emphasis is placed on the telecommunication manager's responsibilities for the total corporate telecommunication function. Topics include design and implementation of new systems, technical support, and planning and directing communications networks. Prerequisite: CIS 4667.

*Not available for graduate credit.

CIS 4670 Advanced Computer Systems (2-3) An overview of CICS systems, interactive program development, checkpoints and restarts, systems case studies, and systems testing and implementation. Prerequisite: CIS 3660.

CIS 4675 Project Management (3) An advanced course in the planning and management of all phases of the computer information systems project, including the creation, execution, and monitoring of system project plans. Prerequisite: CIS 3660.

CIS 4680 Advanced Computer Concepts (3) Introduction to system architecture, operating systems generation, utility sort-merge programs, library maintenance, and job control. Prerequisite: CIS 3670.

CIS 4690 Advanced Systems Project (2-3) Independent study, analysis and development of a specific business computer application. *May be repeated for a maximum of 6 semester hours.* Prerequisite: CIS 4630 or at least one programming course.

CIS 4695 Advanced Programming in C/C++* (3) Advanced study of the ANSI C Programming Language and C++ programming constructs that improve upon C. Introduces object-oriented world with Objects, Classes, Operators and Friends. Prerequisite: CIS 3620.

CIS 5630 Management Information Systems (3) Use of information technology for decision making and formulation of long- and short-term information systems plans. Working knowledge of systems analysis, design and development, understanding of conceptual and technical foundations and recent research issues. Prerequisites: admission to MBA program and consent of graduate advisor.

CIS 6610 Readings in Computer Information Systems (1-3) Selected readings in data processing to extend student's understanding of the use of the computer in various business areas and his/her knowledge of current hardware and software in the field. *May be repeated for a maximum of 6 semester hours.* Prerequisite: CIS 4630 or equivalent.

*Not available for graduate credit.

Office Information Systems

BUSINESS EDUCATION Major, B.S. in Ed. Degree

(Certification to teach business education subjects in grades 9-12)

(41 000524)

	Sem. Hours
MAJOR REQUIREMENTS	33
*BE&O 1535 Advanced Typewriting	3
BE&O 3500 Word Processing	3
BE&O 3501 Office Technology	3
BE&O 4550 Automated Office Management	3
CIS 1600 Prin. of Computer Infor. Systems	3
Acct 2101 Principles of Financial Acct.	3
Certification in shorthand may be obtained by completing 6 s.h. in shorthand (BE&O 1508, BE&O 1511, or BE&O 1512*).	
Obtain certification requirements from the department.	
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the major, Math 1111 fulfills 3 s.h. of Group C; Econ 1010, 3 s.h. of Group F; CIS 1600, 3 s.h. of Group H)	31-34
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.	
PolS 1510 Group F (required)	3
Psy 4230 Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.	
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)	28
FREE ELECTIVES	4-14
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.	
MINIMUM TOTAL	124

*Previous training in shorthand and typewriting determines the course selection. Persons with one unit of typewriting and shorthand in high school or business school normally start with BE&O 1535 and BE&O 1511.

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BUSINESS EDUCATION Functional Major, B.S. in Ed. Degree

(Certification to teach business education subjects in grades 9-12)

(41 000525)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						48	
*BE&O	1535	Advanced Typewriting	3	Mkt	3400	Principles of Marketing	3
BE&O	3500	Word Processing	3	BLaw	2720	Legal Environment of Business	3
BE&O	3501	Office Technology	3	BLaw	3721	Law of Business Transactions	3
BE&O	3510	Desktop Publishing for Bus.	3	Math	1111	College Algebra	3
BE&O	4550	Automated Office Management	3	Econ	1010	Principles of Economics, 3 or	
CIS	1600	Prin. of Computer Infor. Systems	3	Econ	1011	Principles of Economics, 3	3
Acct	2101	Principles of Financial Acct.	3	*Electives from the following			6
Acct	2102	Principles of Managerial Acct.	3	BE&O	1508	Beginning Shorthand	3
Mgt	3325	Business Communications	3	BE&O	1511	Intermediate Shorthand	3
				BE&O	1512	Advanced Shorthand	3
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, Math 1111 fulfills 3 s.h. of Group C;							
CIS 1600, 3 s.h. of Group H)						34-37	
Econ 1010, if elected, fulfills 3 s.h. of Group F.							
ScEd 1110 or ScEd 1120 can fulfill Group D for secondary education majors.							
PolS	1510	Group F (required)	3	Psy	4230	Psy. of Adolescence	3
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.							
PROFESSIONAL EDUCATION REQUIREMENTS (see pages 166-171)						28	
FREE ELECTIVES						8-14	
For secondary teacher certification in the state of Missouri, students must have at least two 2-hour natural science courses, one in a physical or earth science and one in a biological science, one of which must have a laboratory.							
MINIMUM TOTAL						124	

*Obtain certification requirements from the department. Previous training in shorthand and typewriting determines the course selection. Persons with one unit of typewriting and shorthand in high school or business school normally start with BE&O 1535 and BE&O 1511.

BUSINESS EDUCATION Minor for a Bachelor's Degree

(Certification to teach Business Education in grades 5-9 with a middle school-junior high school major.)

NOTE: See Director of Clinical Services and Certification.)

(000517)

						Sem. Hours	
MINOR REQUIREMENTS						21	
*BE&O	1535	Advanced Typewriting	3	*Electives from the following			6
BE&O	3500	Word Processing	3	BE&O	1508	Beginning Shorthand	3
BE&O	3501	Office Technology	3	BE&O	1511	Intermediate Shorthand	3
BE&O	3510	Desktop Publishing for Bus.	3	BE&O	1512	Advanced Shorthand	3
Econ	1010	Principles of Economics	3				
This program allows choice of Shorthand-Typewriting or Bookkeeping-Typewriting by substituting accounting courses--Acct 2101 and Acct 2102 for 6 s.h. of shorthand.							
GENERAL EDUCATION REQUIREMENTS (In the minor, Econ 1010 fulfills 3 s.h. of Group F)							

*Obtain certification requirements from the department. Previous training in shorthand and typewriting determines the course selection. Persons with one unit of typewriting and shorthand in high school or business school normally start with BE&O 1535 and BE&O 1511.

**OFFICE ADMINISTRATION Functional Major,
B.S. in Business Administration Degree**

(46 000522)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						69	
*BE&O	1511	Intermediate Shorthand	3	Fin	3850	Principles of Finance	3
*BE&O	1535	Advanced Typewriting	3	Mgt	3315	Management of Organizations	3
BE&O	3500	Word Processing	3	Mgt	3325	Business Communications	3
BE&O	3530	Automated Office Procedures	3	Mgt	3360	Production/Operations Mgt.	3
BE&O	4550	Automated Office Management	3	Mgt	4305	Business Policy	3
BE&O	4560	Information Design & Presentation	3	HRM	3920	Human Resource Management	3
**Acct	2101	Principles of Financial Acct.	3	Mkt	3405	Marketing Policy	3
**Acct	2102	Principles of Managerial Acct.	3	**BLaw	2720	Legal Environment of Business	3
**CIS	1600	Prin. of Computer Infor. Systems	3	BLaw	3721	Law of Business Transactions	3
CIS	3630	Management Information Systems	3	**Math	1131	Calculus for Business & Econ.	3
**Econ	1011	Principles of Economics	3	BE&O	3501	Office Technology, 3 or	
**Fin	2801	Business Statistics I	3	BE&O	3510	Desktop Publishing for Bus., 3	3

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MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, CIS 1600 fulfills 3 s.h. of Group H)						37-40
SpCm	1000	Group B (required)	3	Psy	1100	Group F or
**Math	1111	Group C (required)	3	Soc	1800	Group F (required)
**Econ	1010	Group F (required)	3			3
ELECTIVES OUTSIDE OF THE COLLEGE OF BUSINESS AND ECONOMICS						13-16
FREE ELECTIVES						2-5
MINIMUM TOTAL						124

*Previous training in shorthand and typewriting determines the course selection. Persons with one unit of typewriting and shorthand in high school or business school normally start with BE&O 1535 and BE&O 1511.

**Students expecting to receive the B.S. in Business Administration Degree must seek admission to this program upon the completion of a minimum of 45 semester hours of credit including Acct 2101, Acct 2102, BLaw 2720, CIS 1600, Econ 1010, Econ 1011, Fin 2801, Math 1111, and Math 1131. See pages 145-146 for the Statement of Policy on Admission to a B.S. in Business Administration Degree Program.

SECRETARIAL TRAINING, Associate in Science Degree

Secretarial Training Option (22 000530)

						Sem. Hours
FIRST YEAR REQUIREMENTS						30
*BE&O	1511	Intermediate Shorthand	3	Econ	1010	Principles of Economics
BE&O	1512	Advanced Shorthand	3	Engl	1020	Rhetorical Writing
*BE&O	1535	Advanced Typewriting	3	Math	1111	College Algebra
CIS	1600	Prin. of Computer Infor. Systems	3	Psy	1100	General Psychology
Acct	2101	Principles of Financial Acct.	3	Hist	1321	America & the Modern World II, 3 or
				Hist	1351	History of the United States, 3
SECOND YEAR REQUIREMENTS						30
BE&O	1550	Office Practicum	3	BE&O	3530	Automated Office Procedures
BE&O	3500	Word Processing	3	Mgt	3325	Business Communications
BE&O	3501	Office Technology	3	BLaw	2720	Legal Environment of Business
BE&O	3510	Desktop Publishing for Bus.	3	Electives		9
MINIMUM TOTAL						60

Secretarial Training--Legal Option (22 000531)

						Sem. Hours
FIRST YEAR REQUIREMENTS						30
*BE&O	1535	Advanced Typewriting	3	Math	1111	College Algebra
CIS	1600	Prin. of Computer Infor. Systems	3	Psy	1100	General Psychology
Acct	2101	Principles of Financial Acct.	3	Hist	1321	America & the Modern World II, 3 or
Econ	1010	Principles of Economics	3	Hist	1351	History of the United States, 3
Engl	1020	Rhetorical Writing	3	Electives		6
SECOND YEAR REQUIREMENTS						30
BE&O	1550	Office Practicum	3	BE&O	3510	Desktop Publishing for Bus.
BE&O	2511	Legal Document Formatting	3	BE&O	3530	Automated Office Procedures
		& Transcription	3	Mgt	3325	Business Communications
BE&O	2512	Legal Office Procedures & Tech.	4	BLaw	2720	Legal Environment of Business
BE&O	3500	Word Processing	3	LIS	2600	Introduction to Legal Research
BE&O	3501	Office Technology	3			2
MINIMUM TOTAL						60

*Previous training in shorthand and typewriting determines the course selection. Persons with one unit of typewriting and shorthand in high school or business school normally start with BE&O 1535 and BE&O 1511.

Business Education

BE&O 3240 Seminar in Vocational Student Organizations (3) Organizing, planning, and implementing activities involved in all vocational youth organizations.

BE&O 3241 Principles of Distributive Education (3) An introduction to the basic principles of distributive education.

BE&O 4240 Organization and Administration of Cooperative Education (3) Broad perspective of vocational cooperative education programs.

BE&O 4241 Coordination of Cooperative Education (2) Methods of teaching vocational office and distributive education. Majors in business and office education are not to take the course BE&O 4241 except as part of their graduate program.

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BE&O 4242 Philosophy of Vocational Business Education

(2) Past and current philosophy of vocational education. Majors in business and office education are not to take the course BE&O 4242 except as part of their graduate program.

BE&O 4243 Curriculum Construction for Business and Distributive Education (2) Development of vocational curriculum and teaching materials. Majors in business and office education are not to take the course BE&O 4243 except as part of their graduate program.

BE&O 4250 Business/Distributive Education Practicum (1-3) *May be repeated for a maximum of 6 semester hours.*

BE&O 4260 Special Topics in Business Education and Office Administration (1-3) Topics will be listed in appropriate course schedules. May be used to teach specific microcomputer software or to cover other critical topics in business education and office administration as new technologies develop. Prerequisite: senior or graduate status.

BE&O 5200 Improvement of Instruction (2) Designed for teachers and prospective teachers of business and distributive education. Present methods of teaching leading to better organization and presentation of these courses in the secondary school. Will be offered on alternate years with subtitles--skills, basic business, and distributive education. Prerequisite: departmental consent.

BE&O 5231 Special Problems Business/Distributive Education (1-3) Designed to develop some aspect of business education or distributive education.

BE&O 5232 Adult Programs Business/Distributive Education (3) Overview of adult education; the curriculum; selecting, training and supervising adult teachers; counseling; preparing to teach adult classes; public relations and advisory committees.

BE&O 5235 Business, Distributive and Industrial Occupational Analysis (3) The techniques of job analysis and community occupational surveys to aid in developing supervisory and training techniques.

BE&O 5240 Seminar in Business Education (1-3)

Office Administration

BE&O 1508 Beginning Shorthand (3) Fundamentals of Speedwriting theory. Prerequisites: BE&O 1532 or equivalent or concurrently; no previous shorthand or only one-half unit of high school shorthand or previous work in another shorthand system.

BE&O 1511 Intermediate Shorthand (3) Dictation and practice in writing shorthand accurately and fluently with increased emphasis on transcription speed and accuracy as well as "mailable" transcripts. May not be taken for credit by students who have received two units of credit for shorthand in high school within the preceding five years except by consent. Prerequisite: one unit of high school shorthand or BE&O 1508 or equivalent, and BE&O 1535 or equivalent or concurrently.

BE&O 1512 Advanced Shorthand (3) A continuation of course BE&O 1511. Attention to building speed and improving production rate of "mailable" transcripts. Prerequisites: BE&O 1511 or equivalent, and BE&O 1535 or equivalent.

BE&O 1530 Keyboarding (2) Touch operation of alphabetic, numeric, and symbol keys found on most computer keyboards, word processors, and typewriters; introduction to document formatting.

BE&O 1532 Intermediate Typewriting (3) Primary emphasis on building speed and accuracy in touch typing. Tabulation, business letters, reports, centering, and arrangement of materials are included. May not be taken

for credit by students who have more than one semester of high school typewriting. Prerequisite: BE&O 1530 or equivalent.

BE&O 1535 Advanced Typewriting (3) A continuing emphasis on improvement of speed with accuracy and building production skill on typing business letters, forms, and reports. Prerequisite: one unit of typing or BE&O 1532 or equivalent.

BE&O 1550 Office Practicum (1-3) Practical supervised work experience for students enrolled in one-year certificate and two-year associate degree vocationally-funded programs. *May be repeated for a maximum of 6 semester hours.*

Prerequisite: permission of vocational program supervisor.

BE&O 2511 Legal Document Formatting and Transcription (3) Formatting and production of legal documents, forms, and correspondence from longhand copy, typed copy, and recorded dictation. Emphasis is on legal terminology, purposes of documents, legal procedures, and word processing applications. Prerequisite: BE&O 1535.

BE&O 2512 Legal Office Procedures and Technology (4) Secretarial procedures for the legal office. Includes legal shorthand vocabulary and transcription; application of shorthand, transcription, typing, and word processing to secretarial procedures for the legal office; legal research; legal computer search programs. Prerequisites: BE&O 2511, BE&O 1511, and BE&O 3500 or concurrently.

BE&O 3500 Word Processing (3) Introduction to word processing principles. Operation of transcribing and word processing equipment, including several types of transcription units and modern word processing systems. Prerequisite: BE&O 1535 or equivalent.

BE&O 3501 Office Technology (3) Advanced work with current office technology software, electronic media management, business mathematics applications using the electronic calculator, and presentation graphics. Prerequisite: CIS 1600 and either 1 semester of high school keyboarding or BE&O 1530.

BE&O 3510 Desktop Publishing for Business (3) Desktop publishing concepts and applications. Prerequisite: BE&O 3500.

BE&O 3530 Automated Office Procedures (3) Practical secretarial problems in the automated office, including ethics of office technologies and procedures, traits and duties of an administrative assistant. High-level administrative assistant skills emphasized. Introduction to various software packages. Prerequisite: BE&O 3501 or BE&O 3510 or either concurrently.

BE&O 3535 Internship in Office Administration (3, 6, 9) Opportunity for students to gain theoretical knowledge and practical application within a particular field of specialization. May not be taken last semester of senior year. Enrollment normally in 6 or 9 semester hours. *May be repeated for a maximum of 18 semester hours.* Prerequisites: 60 semester hours and overall GPA 2.5 or above or permission of internship supervisor.

BE&O 4550 Automated Office Management (3) Office problems from the administrative point of view, with an emphasis on a systems approach to office automation, using lecture, case studies, current literature, and management decision making software.

BE&O 4560 Information Design and Presentation* (3) Study and application of information design and professional presentation for business and education using microcomputer software. Prerequisites: keyboarding ability and microcomputer proficiency (prior experience with word processing, database, and spreadsheet software).

*Not available for graduate credit.

Economics and Finance

ECONOMICS Major, B.A. Degree

(42 000536)

	Sem. Hours
MAJOR REQUIREMENTS	30-33
Econ 1010 Principles of Economics	3
Econ 1011 Principles of Economics	3
Econ 3030 Intermediate Microeconomics	3
Econ 3010 Intermediate Macroeconomics	3
Electives in economics or related fields	18-21
Students using Econ 1010 to fulfill Group F of General Education will take 21 elective hours in economics or related fields for a total of 33 s.h. in the major.	
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (The Modern Language Requirement fulfills 3 s.h. of Group G)	36-40
If Econ 1010 is used to fulfill Group F, 33-37 s.h. of General Education are required.	
Math 1111 Group C (required)	3
PolS 1510 Group F (required)	3
MODERN LANGUAGE REQUIREMENT (Refer to Bachelor's Degree Requirements section for fulfillment options.)	3-9
FREE ELECTIVES	20-37
MINIMUM TOTAL	124

ECONOMICS Major, B.S. Degree

(43 000537)

	Sem. Hours
MAJOR REQUIREMENTS	33-36
Econ 1010 Principles of Economics	3
Econ 1011 Principles of Economics	3
Econ 3030 Intermediate Microeconomics	3
Econ 3010 Intermediate Macroeconomics	3
Fin 2801 Business Statistics I	3
Fin 3801 Business Statistics II	3
Math 1131 Calculus for Business & Econ.	3
Electives in economics or related fields	12-15
Students using Econ 1010 to fulfill Group F of General Education will take 15 elective hours in economics or related fields for a total of 36 s.h. in the major.	
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS	39-43
If Econ 1010 is used to fulfill Group F, 36-40 s.h. of General Education are required.	
Math 1111 Group C (required)	3
PolS 1510 Group F (required)	3
FREE ELECTIVES	23-34
MINIMUM TOTAL	124

ECONOMICS Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000538)

	Sem. Hours
MINOR REQUIREMENTS	20
Econ 1010 Principles of Economics	3
Econ 1011 Principles of Economics	3
Electives in economics	14
GENERAL EDUCATION REQUIREMENTS (In the minor, Econ 1010 fulfills 3 s.h. of Group F)	

FINANCE Functional Major, B.S. in Business Administration Degree

(46 000540)

						Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS						72	
*Fin	2801	Business Statistics I	3	*BLaw	2720	Legal Environment of Business	3
Fin	3801	Business Statistics II	3	BLaw	3721	Law of Business Transactions	3
Fin	3850	Principles of Finance	3	*Math	1131	Calculus for Business & Econ.	3
Fin	3861	Financial Management I	3	Econ	3013	Public Finance, 3 or	
Fin	4813	Security Analysis	3	Econ	3030	Intermediate Microeconomics, 3	3
*Econ	1011	Principles of Economics	3	Acct	3111	Inter. Financial Accounting I, 3 or	
Econ	3020	Money & Banking	3	Acct	3120	Cost & Managerial Accounting, 3	3
Econ	4021	Money & Banking II	3	Electives from the following			9
*Acct	2101	Principles of Financial Acct.	3	Fin	3805	Real Estate Prin. & Practices	3
*Acct	2102	Principles of Managerial Acct.	3	Fin	3862	Financial Management II	3
CIS	3630	Management Information Systems	3	Fin	3880	Bank Management	3
Mgt	3315	Management of Organizations	3	Fin	4803	Risk Management--Property &	
Mgt	3325	Business Communications	3			Liability Insurance	3
Mgt	3360	Production/Operations Mgt.	3	Fin	4815	Investment Portfolio Admin.	3
Mgt	4305	Business Policy	3	Fin	4817	Managing Financial Derivatives	3
Mkt	3405	Marketing Policy	3	Fin	4820	International Finance	3
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS						40-43	
SpCm	1000	Group B (required)	3	Psy	1100	Group F or	
*Math	1111	Group C (required)	3	Soc	1800	Group F (required)	3
*Econ	1010	Group F (required)	3	*CIS	1600	Group H (required)	3
ELECTIVES OUTSIDE OF THE COLLEGE OF BUSINESS AND ECONOMICS						9-12	
MINIMUM TOTAL						124	

*Students expecting to receive the B.S. in Business Administration Degree must seek admission to this program upon the completion of a minimum of 45 semester hours of credit including Acct 2101, Acct 2102, BLaw 2720, CIS 1600, Econ 1010, Econ 1011, Fin 2801, Math 1111, and Math 1131. See pages 145-146 for the Statement of Policy on Admission to a B.S. in Business Administration Degree program.

FINANCE Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000541)

						Sem. Hours	
MINOR REQUIREMENTS						24	
Fin	2801	Business Statistics I	3	Acct	2101	Principles of Financial Acct.	3
Fin	3850	Principles of Finance	3	Acct	2102	Principles of Managerial Acct.	3
Fin	3861	Financial Management I	3	Math	1111	College Algebra	3
Fin	4813	Security Analysis	3	Math	1131	Calculus for Business & Econ.	3
GENERAL EDUCATION REQUIREMENTS (In the minor, Math 1111 fulfills 3 s.h. of Group C)							

Economics

Econ 1010 Principles of Economics (3) An introduction to principles underlying the operation of modern industrial countries. Special attention is given to the determinants of income and employment.

Econ 1011 Principles of Economics (3) An introduction to the functioning of a market economy. Emphasis is on behavior of consumers and business firms and the resulting allocation of resources and distribution of income.

Econ 2000 Economic Aspects of Current Social Issues (2) Contemporary economic issues of topical concern. Basic tools for analysis are presented. Not available for those with credit in Econ 1010 and/or Econ 1011 or their equivalents.

Econ 2005 Economic Analysis (3) The theoretical foundations of macro- and microeconomic analysis and policy application. Includes national income, stabilization, growth, pricing, and international economics. Not available to those with credit in Econ 1010 and Econ 1011 or equivalent.

Econ 3010 Intermediate Macroeconomics (3) Develop various theoretical frameworks for studying the forces affecting income, employment, and output in the economic system of the United States. Attention is given to the impact that government and other countries may have on these variables. Prerequisite: Econ 1010.

Econ 3013 Public Finance (3) The role of government in the modern mixed economy with emphasis on the impact of tax and expenditure policies on resource allocation and income distribution. Prerequisite: Econ 1011.

Econ 3020 Money and Banking (3) Money and banking structures including the Federal Reserve System and how it affects the economy. Monetary and National Income Theory are used to analyze economic policy. Prerequisite: Econ 1010.

Econ 3030 Intermediate Microeconomics (3) Conventional theory of consumption, production, pricing, and resource allocation. Prerequisite: Econ 1011.

Econ 3035 Internship in Economics (3, 6, 9) Opportunity for students to gain theoretical knowledge and practical application within a particular field of specialization. May

not be taken last semester of senior year. Enrollment normally in 6 or 9 semester hours. *May be repeated for a maximum of 18 semester hours.* Prerequisites: 60 semester hours and overall GPA 2.5 or above or permission of internship supervisor.

Econ 3065 Labor Economics (3) Survey of the labor force, wage and employment theories, economic insecurity including unemployment, trade unionism and collective bargaining from the standpoint of public policy.

Prerequisites: Econ 1010 and Econ 1011.

Econ 4010 International Economics (3) Principles underlying international trade and finance and analysis of current problems and related policies. Prerequisites: Econ 1010 and Econ 1011.

Econ 4015 Mathematical Economics I (3) A survey of mathematics including theory of sets, calculus, differential and difference equations, linear programming, matrices, and their application in economics. Prerequisites: Econ 1011 and Math 1131.

Econ 4016 Mathematical Economics II (2) A continuation and more advanced study in the application of mathematical tools in economics. Prerequisite: Econ 4015.

Econ 4021 Money and Banking II (3) An analytic study of financial institutions, financial markets, and monetary policy. Prerequisite: Econ 3020.

Econ 4030 Directed Studies in Economics (1-3) Intensive study of significant economic topics. *May be repeated for a maximum of 3 semester hours.*

Econ 4040 History of Economic Thought (3) Classical economists and the development of economic thought from the mercantilist period through the development of present thought. The course aims at establishing a synthesis of evolving doctrines which have become the basis of currently accepted economic theory. Prerequisite: Econ 1011.

Econ 4044 Economic Development (3) Common problems, development theories, and policies related to less developed countries. Prerequisites: Econ 1011 and Econ 3010.

Econ 4050 Comparative Economic Systems (3) Analysis of alternate patterns of economic control, planning, and market structures. The experience of British socialism, American capitalism, and Soviet-type central planning is emphasized.

Econ 4052 Regional and Urban Economics (3) Geographic regions and urban areas as economic systems with emphasis on location theory and economic policy in the regional/urban environments. Prerequisite: Econ 1011 or Econ 2000.

Econ 4070 Industrial Organization (3) An analysis of selected economic problems of current interest dealing primarily with the structure of American industry, with emphasis on the conduct and performance of large firms. Prerequisite: Econ 1011.

Econ 4080 Econometrics I (3) Mathematical techniques and problems used in the quantitative approach to economic theory. Prerequisites: Econ 3030, Econ 3010 and statistics.

Econ 5001 Macroeconomics (3) A continuation of aggregate economics, with emphasis upon measurement, growth, and fluctuation of national income. Prerequisite: Econ 3010.

Econ 5002 Microeconomics (3) Price theory and the theory of the firm. The decision-making units in our

economy and their market relationship. Prerequisite: Econ 3030.

Econ 5010 National Economic Perspectives (3) Provides beginning MBA students with an introduction to the structure, operation, and performance of the U.S. economy.

Introduces economic concepts to be integrated into advanced study of business and management. Not available for credit on Economics, Master of Arts program.

Econ 5043 Research Projects in Economics (1-3) Selected research projects in economics under the guidance and supervision of the graduate staff in economics.

Econ 5060 Economics of Transportation (3) Structure and operation of our economy, its relationship to the transportation field, as well as to the social and political arena.

Econ 5061 Managerial Economics (3) The application of economic analysis and models to business decisions involving demand, cost, pricing, and uncertainty.

Prerequisites: Math 1131; admission to Economics, Master of Arts degree program, or admission to MBA program; and consent of graduate advisor.

Econ 5080 Econometrics II (3) A continuation of Econ 4080. A survey of econometrics literature is included.

Prerequisite: Econ 4080.

Econ 5085 Readings in Economics (1-3) Intensive directed readings in economics designed to improve the graduate student's familiarity and understanding of the specific areas of interest. *May be repeated for a maximum of 3 semester hours.*

Econ 5090 Seminar in Applied Economics (3) Various topics in a given field of economics such as monetary, labor, public finance, urban and regional. Topic in any given semester will be prearranged according to the demands of students and availability of faculty. *May be repeated for a maximum of 6 semester hours.* Prerequisites: Econ 5001 or Econ 5002 or concurrently.

Econ 6099 Thesis (4-6)

Finance

Fin 1820 Personal Finance (3) For the student who desires information on managing his/her own personal income.

Fin 2801 Business Statistics I (3) Emphasizes the statistical analysis of business and economic data used in business and how this analysis aids in controlling operations and in making sound business decisions. Prerequisite: Math 1111 and Math 1131 concurrently or equivalent.

Fin 3801 Business Statistics II (3) Emphasizes the statistical analysis of business and economic data and how this analysis aids in controlling operations and in making sound business decisions. Prerequisite: Fin 2801.

Fin 3805 Real Estate Principles and Practices (3) Acquaints the student with the basic principles of real estate activity, examines some of the legal aspects, and inquires into the current practices in the field of real estate.

Fin 3811 Investments (3) A survey of the variety of investment opportunities available in the modern American market place. Not open to students with a major or minor in finance.

Fin 3835 Internship in Finance (3, 6, 9) Opportunity for students to gain theoretical knowledge and practical application within a particular field of specialization. May not be taken last semester of senior year. Enrollment normally in 6 or 9 semester hours. *May be repeated for a*

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maximum of 18 semester hours. Prerequisites: 60 semester hours and overall GPA 2.5 or above or permission of internship supervisor.

Fin 3850 Principles of Finance (3) An introduction to corporate financial decision-making, including financial analysis, working capital management, capital budgeting, long-term financing, and international finance.

Prerequisites: Acct 2102 or Acct 2100, Fin 2801, and either admission to B.S. in Business Administration degree program or a declared minor in finance.

Fin 3861 Financial Management I (3) Organization goals and tools of financial management. Analysis of case materials illustrating problems encountered by firms of various sizes and operating characteristics. Examination of adjustment of financial policy of business to changing conditions. Prerequisite: Fin 3850.

Fin 3862 Financial Management II (3) Application of the theories and tools of financial decision making and control to case problems and business problem simulations. Prerequisite: Fin 3861.

Fin 3880 Bank Management (3) Study and analysis of the problems of management of commercial banks with an emphasis on investment and loan portfolios. Prerequisite: Fin 3850.

Fin 4801 Social Insurance (3) The application of the social security program, unemployment insurance, workers compensation, welfare, veterans programs, the Railroad Retirement Act, civil service program, and government pension programs plus new programs for compensating crime victims and the supplementary security income programs for the aged, blind, and disabled. Prerequisite: Math 1111 or equivalent.

Fin 4802 Life and Health Insurance (3) The nature and importance of life and health insurance risks. Topics will include the concept of human life value, types and uses of life and health insurance, and various annuity contracts in treating these risks. The perspective is that of broad-based financial planning from both the individual's and the business' viewpoints.

Fin 4803 Risk Management--Property and Liability Insurance (3) Insurance principles and practices of risk management applying to property and liability insurance. The study of direct and consequential losses to all property and liability insurance. Prerequisite: Fin 3850 or declared functional major in Actuarial Science and Mathematics.

Fin 4813 Security Analysis (3) Classification and analysis of securities, markets, and industries. Formulation of investment policy for institutions and aggressive personal investors. Not available for credit to students who received credit in Fin 3811. Prerequisites: Fin 3801 or concurrently and Fin 3850.

Fin 4815 Investment Portfolio Administration (3) Application of security analysis and investment decision concepts to case problems and computer simulated investment situations. Additional readings in selected portfolio management theories. Prerequisite: Fin 4813.

Fin 4817 Managing Financial Derivatives (3) Applied analysis of pricing and hedging techniques for managing investments in derivative contracts (forward, futures, options, and swap contracts) involving the application of concepts and strategies to case problems and computer simulations. Prerequisite: Fin 4813 or concurrently or consent of instructor.

Fin 4820 International Finance (3) An intensified study of international banking and finance as it relates to international trade and the multinational corporation and the financing of imports and exports. Prerequisite: Fin 3850 or equivalent.

Fin 5800 Managerial Finance (3) Topics covered will include capital expenditures, capital structure, cost of capital, dividends, mergers, concept of income maintenance, and working capital. Cases in managerial finance and individual readings will supplement textbook learning. Prerequisites: Math 1131, Fin 2801, admission to MBA program and consent of graduate advisor.

Fin 5820 Seminar in Finance (3) The financial problems of profit seeking corporations are examined. Consideration of such matters as operations, obtaining capital, and reorganization. Prerequisite: 6 semester hours credit in finance.

Fin 5870 Quantitative Methods for Business Decisions (3) Some of the quantitative methods used for business decisions, including Bayesian Statistics, the payoff table, and strategies in business. Prerequisite: Fin 2801.

Fin 6860 Readings in Finance (1-3) Selected readings in finance; e.g., financial management, commercial banking, investment banking, or investment. *May be repeated for a maximum of 6 semester hours.* Prerequisite: 6 semester hours credit in finance.

Management

MANAGEMENT Functional Major, B.S. in Business Administration Degree

(46 000543)

					Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS					60
Mgt	3315	Management of Organizations	3	*Acct 2102	Principles of Managerial Acct. 3
Mgt	3320	Organizational Behavior	3	*CIS 1600	Prin. of Computer Infor. Systems ... 3
Mgt	3325	Business Communications	3	CIS 3630	Management Information Sys. 3
Mgt	3360	Production/Operations Mgt.	3	*Econ 1011	Principles of Economics
Mgt	4305	Business Policy	3	Econ 3065	Labor Economics
Mgt	4310	Total Quality Management	3	*Fin 2801	Business Statistics I
Mgt	4320	Management Theory & Application ...	3	Fin 3850	Principles of Finance
Mkt	4460	International Marketing	3	Mkt 3405	Marketing Policy
HRM	3920	Human Resource Management	3	*BLaw 2720	Legal Environment of Business ... 3
*Acct	2101	Principles of Financial Acct.	3	*Math 1131	Calculus for Business & Econ. 3

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MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, CIS 1600 fulfills 3 s.h. of Group H)						37-40
SpCm	1000	Group B (required)	3	Psy	1100	Group F or
*Math	1111	Group C (required)	3	Soc	1800	Group F (required)
*Econ	1010	Group F (required)	3			3
ELECTIVES OUTSIDE OF THE COLLEGE OF BUSINESS AND ECONOMICS						13
FREE ELECTIVES						11-14
MINIMUM TOTAL						124

*Students expecting to receive the B.S. in Business Administration Degree must seek admission to this program upon the completion of a minimum of 45 semester hours of credit including Acct 2101, Acct 2102, BLaw 2720, CIS 1600, Econ 1010, Econ 1011, Fin 2801, Math 1111, and Math 1131. See pages 145-146 for the Statement of Policy on Admission to a B.S. in Business Administration Degree program.

**HUMAN RESOURCE MANAGEMENT Functional Major,
B.S. in Business Administration Degree**

(46 000544)

FUNCTIONAL MAJOR REQUIREMENTS						Sem. Hours	63
Mgt	3315	Management of Organizations	3	CIS	3630	Mgt. Information Systems	3
Mgt	3320	Organizational Behavior	3	Mkt	3405	Marketing Policy	3
Mgt	3325	Business Communications	3	*BLaw	2720	Legal Environment of Business	3
Mgt	3360	Production/Operations Mgt.	3	BLaw	4740	Labor Legislation	3
Mgt	4305	Business Policy	3	BLaw	4750	Collective Bargaining	3
HRM	3920	Human Resource Management	3	*Econ	1011	Principles of Economics	3
HRM	4930	Compensation & Benefits	3	Econ	3065	Labor Economics	3
HRM	4960	Employment & Development	3	*Fin	2801	Business Statistics I	3
*Acct	2101	Principles of Financial Acct.	3	Fin	3850	Principles of Finance	3
*Acct	2102	Principles of Managerial Acct.	3	*Math	1131	Calculus for Business & Econ.	3
*CIS	1600	Prin. of Computer Infor. Systems	3				

MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, CIS 1600 fulfills 3 s.h. of Group H)						37-40
SpCm	1000	Group B (required)	3	Psy	1100	Group F or
*Math	1111	Group C (required)	3	Soc	1800	Group F (required)
*Econ	1010	Group F (required)	3			3
ELECTIVES OUTSIDE OF THE COLLEGE OF BUSINESS AND ECONOMICS						13
FREE ELECTIVES						8-11
MINIMUM TOTAL						124

*Students expecting to receive the B.S. in Business Administration Degree must seek admission to this program upon the completion of a minimum of 45 semester hours of credit including Acct 2101, Acct 2102, BLaw 2720, CIS 1600, Econ 1010, Econ 1011, Fin 2801, Math 1111, and Math 1131. See pages 145-146 for the Statement of Policy on Admission to a B.S. in Business Administration Degree program.

AGRICULTURE-BUSINESS Functional Major, B.S. Degree

See requirements as outlined in the Department of Agriculture.

MANAGEMENT Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000510)

MINOR REQUIREMENTS						Sem. Hours	21
Mgt	3315	Management of Organizations	3	Acct	2101	Principles of Financial Acct.	3
Mgt	3320	Organizational Behavior	3	CIS	1600	Prin. of Computer Infor. Systems	3
Mgt	3325	Business Communications	3	Econ	1010	Principles of Economics	3
HRM	3920	Human Resource Management	3				
GENERAL EDUCATION REQUIREMENTS (In the minor, CIS 1600 fulfills 3 s.h. of Group H)							

Mgt 1300 Introduction to Business (3) Emphasizes the traditional facets of business (its environment, organization, and basic business functions) as well as the social and physical climate in which business, industry, and government operate. May not be taken for credit by students who have completed in excess of 12 semester hours of College of Business and Economics courses.

Mgt 3310 Principles of Management (3) Provides an intensive examination of the basic fundamentals of organization underlying the solution of management problems.

Mgt 3315 Management of Organizations (3) An examination of the theory and practices of managing organizations, including planning, organizational theory, human behavior, and control. Prerequisites: Acct 2101 and Econ 1010.

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Mgt 3320 Organizational Behavior (3) The organization as a social system with particular emphasis on the interpersonal relations between participants in that system. Prerequisite: Mgt 3315.

Mgt 3325 Business Communications (3) Improves the student's ability to plan and strategically write letters, memos, proposals, and reports and improve oral and interpersonal communication skills. Both listening and speaking skills will be developed through formal presentations, class discussions, and group work.

Mgt 3335 Internship in Management (3, 6, 9) Opportunity for students to gain theoretical knowledge and practical application within a particular field of specialization. May not be taken last semester of senior year. Enrollment normally in 6 or 9 semester hours. *May be repeated for a maximum of 18 semester hours.* Prerequisites: 60 semester hours and overall GPA 2.5 or above or permission of internship supervisor.

Mgt 3360 Production/Operations Management (3) Managerial analysis of problems common to operations within a complex organization. Emphasis upon planning, control, and decision-making. Prerequisites: Mgt 3315 and Fin 2801.

Mgt 3370 Purchasing and Materials Management (3) Emphasizes the buyer's point of view of the industrial interface. Topics include: purchasing, inventory control, receiving, stores, production control, traffic and materials handling. Prerequisite: Mgt 3360.

Mgt 4300 Health Care Administration (3) Management concepts, tools, and techniques for effective administration of all types of health care facilities. Prerequisite: Mgt 3310 or Mgt 3315 or graduate standing.

Mgt 4303 Seminar in Business and Society (3) Research and analysis of problem factors emerging from our social institutions, with emphasis upon their concomitant impact upon business organizations and management. Prerequisite: Mgt 3320 or HRM 3920.

Mgt 4305 Business Policy (3) Capstone course requiring integration of functional knowledge in accounting, computer information systems, economics, finance, management, and marketing, and of conceptual, communication, interpersonal, and technical skills applied to environmental analysis and strategic management using the case method. Prerequisites: all preadmission courses, Mgt 3315, Mgt 3325, Mkt 3405, Fin 3850, and senior standing.

Mgt 4310 Total Quality Management* (3) Familiarizes students with the basic principles and methods associated with total quality management (TQM). Shows how these principles and methods have been put into effect in a variety of organizations. Illustrates the relationships between TQM principles and the theories and models studied in management. Prerequisite: Mgt 3360. *Not available for graduate credit.

Mgt 4315 Small Business Consulting (3) Offered in conjunction with the Small Business Administration to develop consulting skills of seniors and graduate students. Prerequisite: approval of the Small Business Institute Coordinator.

Mgt 4350 Special Projects in Management (1-3) Advanced course in management theory, practice, methods, and strategies taught on an individual or group basis to advanced management students and graduate students. *May be repeated for a maximum of 6 semester hours.* Prerequisites: all preadmission courses or MBA background requirements, Mgt 3315, and Department Chair's approval with adequate preparation in area to be studied.

Mgt 5300 Seminar in Administrative Practices (3) The case method of approach in dealing with the personnel problems encountered on all levels of management.

Mgt 5310 Seminar in Management (3) Advanced problems in managerial functions, organizational theory, and group dynamics.

Mgt 5320 Organization Theory and Behavior (3) An analysis of managerial functions and processes and their cause/effect relationship to organizational theory and behavior. Assigned readings, case analysis and selected research projects under the instructor's guidance and supervision. Descriptive literature search and prescriptive project presentation. Prerequisites: admission to MBA program and consent of graduate advisor.

Mgt 5325 Managerial Communication (3) Communication in managerial situations, including ethics, oral presentations, written messages and reports, communication audits, group dynamics and organizational communication. Prerequisites: admission to MBA program and consent of graduate advisor.

Mgt 5340 Research Methods (3) Develops the student's ability to use analytic (qualitative and quantitative) and writing skills in applying the scientific method of behavioral theory and research. Research project requires selection of research question, literature review, design, primary data collection and analysis, inference, implications, and written and oral presentation of results. Prerequisites: Math 1131 and Fin 2801 (or background in inferential statistics and regression analysis).

Mgt 5350 Special Problems in Management (1-3) Individual work under supervision of a staff member. Problems may be undertaken in any phase of business. Prerequisite: adequate preparation in the area to be studied.

Mgt 5355 MBA Studies (3) Develops student ability to apply managerial skills to specific business issues. Integration of skills and knowledge across management-related disciplines. Topic will vary with student needs and resources available. Prerequisites: admission to MBA program and consent of graduate advisor.

Mgt 5360 Operations Management Seminar (3) Planning and design of operating systems, including layout, coordination, scheduling and balancing of the factors of production and quality. Selected applications of quantitative techniques to production system problem areas. Contemporary trends in research and development, automation and decision making, and quality control. Prerequisites: admission to MBA program and consent of graduate advisor.

Mgt 5390 Internship in Business (3, 6) Opportunity for students to gain theoretical knowledge and practical application in the student's field of specialization. Employment must be above entry level for graduate credit and must be approved by the College of Business and Economics Director of Graduate Programs. *May be repeated for a maximum of 6 semester hours.* Prerequisite: overall graduate GPA 3.0.

Mgt 6305 Strategic Management (3) Capstone course in MBA program, requiring advanced proficiency in integrating highly quantifiable functional analysis with scenario construction which includes expert value judgment on qualitative factors, e.g., ethical and multicultural issues. Builds on previous work in the MBA program as well as on professional experience. Uses case approach and readings. Prerequisite: must be taken in the last semester of enrollment in the MBA program.

Mgt 6330 Readings in Management (1-3) Selected readings in group dynamics, communications, decision-making theory, and managerialism and its

economic justification. *May be repeated for a maximum of 6 semester hours.* Prerequisite: Mgt 3315 or equivalent.

Mgt 6340 Thesis (1-3)

Human Resource Management

HRM 3920 Human Resource Management (3) Employment, training and development, employee and labor relations, compensation and benefits, health, safety and security, and personnel research. Prerequisite: Mgt 3310 or Mgt 3315.

HRM 4930 Compensation and Benefits (3) Concepts, models, theories, and application of processes and systems of employee compensation and benefits within organizations. Prerequisite: HRM 3920.

HRM 4960 Employment and Development (3) Concepts, models, theories, and application of human resource planning, employment, and training and development. Prerequisite: HRM 3920.

HRM 4990 Problems in Human Resource Management (3) An integrated approach to the administration of the human resource function in various types of organization settings through the use of the case and incident methods. Prerequisite: HRM 3920.

Marketing and Legal Studies

MARKETING Functional Major, B.S. in Business Administration Degree

(46 000511)

					Sem. Hours	
FUNCTIONAL MAJOR REQUIREMENTS					63	
Mkt	3405	Marketing Policy	3	Fin	3850 Principles of Finance	3
Mkt	3430	Personal Selling	3	Mgt	3315 Management of Organizations	3
Mkt	3480	Consumer Behavior	3	Mgt	3325 Business Communications	3
Mkt	4460	International Marketing	3	Mgt	4305 Business Policy	3
Mkt	4470	Marketing Research	3	Mgt	3360 Production/Operations Mgt.	3
Mkt	4490	Marketing Management	3	*Math	1131 Calculus for Business & Econ.	3
*BLaw	2720	Legal Environment of Business	3	Electives from the following		6
*Acct	2101	Principles of Financial Acct.	3	Mkt	3410 Retail Management	3
*Acct	2102	Principles of Managerial Acct.	3	Mkt	3420 Principles of Advertising	3
*CIS	1600	Prin. of Computer Infor. Systems	3	Mkt	4420 Sales Management	3
CIS	3630	Management Info. Systems	3	Mkt	4430 Marketing Distribution	3
*Econ	1011	Principles of Economics	3	Mkt	4440 Seminar in Marketing	3
*Fin	2801	Business Statistics I	3	Mkt	4450 Promotional Strategy	3
MINOR NOT REQUIRED						
GENERAL EDUCATION REQUIREMENTS--40-43 s.h. (In the functional major, CIS 1600 fulfills 3 s.h. of Group H)					37-40	
SpCm	1000	Group B (required)	3	Psy	1100 Group F or	
*Math	1111	Group C (required)	3	Soc	1800 Group F (required)	3
*Econ	1010	Group F (required)	3			
ELECTIVES OUTSIDE OF THE COLLEGE OF BUSINESS AND ECONOMICS					13-16	
FREE ELECTIVES					5-8	
MINIMUM TOTAL					124	

*Students expecting to receive the B.S. in Business Administration Degree must seek admission to this program upon the completion of a minimum of 45 semester hours of credit including Acct 2101, Acct 2102, BLaw 2720, CIS 1600, Econ 1010, Econ 1011, Fin 2801, Math 1111, and Math 1131. See pages 145-146 for the Statement of Policy on Admission to a B.S. in Business Administration Degree program.

MARKETING Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000512)

					Sem. Hours	
MINOR REQUIREMENTS					21	
Mkt	3405	Marketing Policy	3	Econ	1010 Principles of Economics	3
Mkt	3430	Personal Selling	3	Econ	1011 Principles of Economics	3
Mkt	3480	Consumer Behavior	3	Mkt	3410 Retail Management, 3 or	
CIS	1600	Prin. of Computer Infor. Systems	3	Mkt	3420 Principles of Advertisement, 3	3
GENERAL EDUCATION REQUIREMENTS (In the minor, Econ 1010 fulfills 3 s.h. of Group F; CIS 1600 fulfills 3 s.h. of Group H)						

Mkt 3400 Principles of Marketing (3) Methods used in determining the needs and desires of consumers and translating these findings into products of a suitable nature. Methods used in getting these products into the hands of the consumer. Basic marketing class for nonbusiness majors. Not available to students with prior credit in Mkt 3405 and may not be used as a marketing elective.

Mkt 3405 Marketing Policy (3) A comprehensive study of marketing theory and concepts and the application of these ideas in modern organizations by professionally trained managers. First course in marketing sequence for marketing functional majors and minors, and marketing foundation course for the business core requirement of B.S. in Business Administration degree students. May not be used as a marketing elective. Prerequisites: Econ 1010, Econ 1011 and 60 semester hours of college credit.

Mkt 3410 Retail Management (3) The initial considerations and decisions for establishing and managing a retail store. Prerequisite: Mkt 3405 or 3400.

Mkt 3420 Principles of Advertising (3) Advertising purposes and procedures covering primarily the point of view of the advertising manager. Study of proper appeals, copy preparation, layout, and media. Prerequisite: Mkt 3405 or Mkt 3400 or Agri 3120.

Mkt 3430 Personal Selling (3) Techniques involved in personal selling. Prerequisite: Mkt 3405 or Mkt 3400 or Agri 3120.

Mkt 3435 Internship in Marketing (3, 6, 9) Opportunity for students to gain theoretical knowledge and practical application within a particular field of specialization. May not be taken last semester of senior year. May not be used for the required marketing electives. *May be repeated for a maximum of 18 semester hours.* Prerequisites: completion of all preadmission courses, Mkt 3405 and 2.5 overall GPA.

Mkt 3480 Consumer Behavior (3) The application of knowledge from the behavioral sciences to the study, analysis, and interpretation of consumer buying habits and motives. Individual, group, and cultural influences on consumer preferences and purchasing patterns are emphasized. Prerequisite: Mkt 3405 or Mkt 3400.

Mkt 4420 Sales Management (3) Management aspects of selling with emphasis on the role of the supervisor in the sales field. Prerequisites: all B.S. in Business Administration degree preadmission courses or MBA background requirements, Mkt 3405 and senior standing.

Mkt 4430 Marketing Distribution (3) Methods and strategies used in distributing products including the design of channels and the activity performed by channel members to facilitate efficient movement of goods. Prerequisites: all B.S. in Business Administration degree preadmission courses or MBA background requirements, Mkt 3405 and senior standing.

Mkt 4440 Seminar in Marketing (3) Analysis of current issues and problems in marketing with emphasis on new theoretical and methodological developments. Prerequisites: all B.S. in Business Administration degree preadmission courses or MBA background requirements, Mkt 3405 and senior standing.

Mkt 4450 Promotional Strategy (3) The determination of the correct blend of advertising, personal selling, sales promotion, reseller support, and publicity. Prerequisites: all B.S. in Business Administration degree preadmission courses or MBA background requirements, Mkt 3405, and senior standing.

Mkt 4460 International Marketing (3) Marketing policies and practices in foreign trade. Prerequisites: all B.S. in

Business Administration degree preadmission courses or MBA background requirements, Mkt 3405 and senior standing.

Mkt 4470 Marketing Research (3) Applications of research methods to the problems of marketing. Prerequisites: all B.S. in Business Administration degree preadmission courses or MBA background requirements, Mkt 3405 and senior standing.

Mkt 4480 Special Projects in Marketing (1-3) Individualized or group study under supervision of department faculty. *May be repeated for a maximum of 6 semester hours.* Prerequisites: all B.S. in Business Administration degree preadmission courses or MBA background requirements, Mkt 3405 and Department Chairperson's approval with adequate preparation in area to be studied.

Mkt 4490 Marketing Management* (3) An overview of major areas of marketing from the viewpoint of the marketing executive; a capstone course integrating previous marketing study and background into a managerial context. Prerequisites: all B.S. in Business Administration degree preadmission courses, Mkt 3405 and senior standing.

*Not available for graduate credit.

Mkt 5400 Marketing Strategy (3) Managerial techniques applied to the marketing functions of organizations; strategic implications of decision making with case study applications. Prerequisites: admission to MBA program and consent of graduate advisor.

Mkt 6410 Readings in Marketing (1-3) Selected readings in diverse areas of marketing designed to complement and extend the student's program in marketing. *May be repeated for a maximum of 6 semester hours.* Prerequisite: Mkt 3405.

BLaw 2720 Legal Environment of Business (3) A survey of a number of areas of law that are important to persons as citizens and as participants in economic activity. Included are legal process, alternative dispute resolution, contracts, torts, product liability, employment law, antitrust, and international business law.

BLaw 3721 Law of Business Transactions (3) Provides a comprehensive discussion of the laws concerning the formation and performance of contracts, sales of goods transactions, creation and transfer of negotiable instruments, and selected transactions in real and personal property. Prerequisite: BLaw 2720.

BLaw 3775 Law of Business Associations (3) Designed to examine law as it relates to the business enterprise and legal aspects of its activities including bankruptcy, agency, partnerships, and corporations. Prerequisite: BLaw 2720.

BLaw 4725 Government and Business (3) An examination of the impact and effects of the exercise of government regulation and influence on business.

BLaw 4740 Labor Legislation (3) Policy and legal problems arising in an area of acute social and economic conflict.

BLaw 4750 Collective Bargaining (3) Roles and strategies of labor, management, and the Government as the active participants in the negotiation and performance of the labor contract. Prerequisite: BLaw 4740.

BLaw 5700 Legal Aspects of Business Decisions (3) An examination of the external influences on business in the jurisprudential context and emanating from political, global, economics, ethical, technological and social forces.

College of Education and Human Services

Criminal Justice

In the Department of Criminal Justice, the second digit in the course number stands for the following: 0--General, 1--Administration, 2--Traffic, 3--Law, 4--Investigation, 5--Police Science, 6--Problems and Research, 7--Juvenile Justice.

CONSERVATION ENFORCEMENT Functional Major, B.S. Degree

See requirements as outlined in the Departments of Biology and Earth Science.

CORRECTIONS Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000709)

					Sem. Hours
MINOR REQUIREMENTS					24
CJ	1000	Introduction to Criminal Justice	3	CJ	4330 Criminal Justice & the
CJ	2000	Hist. of Corrections & Penal Inst.	3		Mental Health Systems
CJ	4006	Probation, Parole &		Psy	4740 Rehab. of the Law Offender
		Community Corrections	3	Soc	3890 Criminology
				Soc	4845 Juvenile Delinquency
				Soc	4846 Corrections & Preventions

GENERAL EDUCATION REQUIREMENTS (In the minor, CJ 1000 fulfills 3 s.h. of Group F)

CRIMINAL JUSTICE Major, B.S. Degree

(43 000842)

					Sem. Hours
MAJOR REQUIREMENTS					46
CJ	1000	Introduction to Criminal Justice	3	CJ	3600 Intro. to Crim. Justice Research
CJ	3006	Corrections	3	CJ	4605 Senior Sem. in Criminal Justice
CJ	3010	Policing a Democratic Society	3	CJ	2700 Introduction to Juvenile Justice
CJ	2300	Criminal Law	3	Soc	3890 Criminology
CJ	3303	Criminal Procedure	3		Departmentally approved electives
MINOR REQUIREMENTS					18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the major, CJ 1000 fulfills 3 s.h. of Group F)					36-40
FREE ELECTIVES					13-24
MINIMUM TOTAL					124

CRIMINAL JUSTICE Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000829)

					Sem. Hours
MINOR REQUIREMENTS					24
CJ	1000	Introduction to Criminal Justice	3	CJ	3303 Criminal Procedures
CJ	2000	Hist. of Corrections & Penal Inst.	3	CJ	3400 Criminal Investigation
CJ	2101	Police Organization & Mgt.	3	Soc	3890 Criminology
CJ	2300	Criminal Law	3		Elective in criminal justice
GENERAL EDUCATION REQUIREMENTS (In the minor, CJ 1000 fulfills 3 s.h. of Group F)					

General

CJ 1000 Introduction to Criminal Justice (3) The history, nature and function of the criminal justice system in America. Special attention is given to the philosophical basis underlying this system and to the problems associated with crime control in a democratic society. At each stage of the process, major issues confronting the system are examined.

CJ 2000 History of Corrections and Penal Institutions (3)

Historical analysis of the development of corrections and penal institutions and the influence of social thought and philosophy on this development. Prerequisite: CJ 1000 or consent.

CJ 3006 Corrections (3) An overview course in correctional theory and practice. Traces the historical development of corrections with emphasis on changing social standards and philosophies. Examines the various types of correctional institutions, their mission, physical structure,

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management, and problems. Also examines probation and parole, including theory, practice and major issues confronting these correctional alternatives. Prerequisite: CJ 1000.

CJ 3010 Policing a Democratic Society (3) An in-depth look at the relationship between law enforcement and American society. Focus is on police-community relations, the police sub-culture, and the need for police objectives to conform to constitutional procedures. Prerequisite: CJ 1000.

CJ 4000 Special Projects in Criminal Justice Administration (1-3) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 6 semester hours.*

CJ 4006 Probation, Parole and Community Corrections (3) An examination of the roles of probation, parole and other community correctional methods as they relate to other elements of the criminal justice system. Prerequisite: CJ 3006.

CJ 5000 The Criminal Justice System (3) Historical development and present structure and function of the American criminal justice system.

CJ 5003 Criminal Justice Studies in Group Behavior (3) The dynamics of interpersonal, group, and societal relationships as they impinge on the criminal justice mission.

CJ 5006 Comparative Criminal Justice Systems (3) Criminal justice systems worldwide and means of establishing cooperation toward mutual goals despite structural, historical and ideological differences.

Administration

CJ 2101 Police Organization and Management (3) The principles and practices common to the effective management of American law enforcement agencies. Prerequisite: CJ 1000.

CJ 2102 Jail Management (3) An in-depth study of jail operations and procedural guidelines which define the role, duties and responsibilities of jail personnel.

CJ 3104 Institutional Operations (3) An examination of the procedures of correctional institutions and of the problems encountered in the classification, care and treatment of incarcerated offenders. Prerequisite: CJ 3006.

CJ 3107 Patrol Administration (3) An in-depth study of the theories and techniques utilized in providing police service to the public. Focus is on proactive vs. reactive policing and on the usage of computers for prediction of criminal activity and in the assignment of police personnel. Prerequisite: CJ 2101.

CJ 4100 Advanced Police Management (3) Intensive study of administrative theory with special emphasis on the systems concept as it applies to the management of police organizations. Prerequisite: CJ 2101.

CJ 4101 Criminal Justice Planning (3) Planning concepts and development of comprehensive criminal justice plans; their integration into meaningful crime reduction and resistance programs; and their influence on the operations of police, judicial, and correctional agencies. Prerequisite: CJ 2101 or consent.

CJ 5102 Administration in Criminal Justice (3) An intensive, in-depth analysis of criminal justice agencies (law enforcement, corrections, and court administration), organizational structures, and management techniques.

CJ 5105 Custody, Care and Treatment in the Institutional Setting (3) An examination of operations in the institutional setting relating to classification, custody, care, and treatment of the confined offender.

Law

CJ 2300 Criminal Law (3) Origin, development, and classification of the substantive criminal law, defenses, and criminal responsibility. Prerequisite: CJ 1000 or consent.

CJ 3303 Criminal Procedure (3) Selected constitutional aspects of law enforcement including the law of arrest, search and seizure, freedom from electronic eavesdropping, self-incrimination, and the right to counsel. Prerequisite: CJ 1000.

CJ 3304 Constitutional Aspects of Criminal Justice II (3) An examination through U.S. Supreme Court decisions of the government's and the criminal defendant's rights and privileges regarding electronic surveillance, entrapment, self-incrimination, lineups, preliminary examination, plea bargaining, trial, double jeopardy, and sentencing. Prerequisite: CJ 3303 or consent of instructor.

CJ 3310 Law of Corrections and Prisoners' Rights (3) An examination of federal and state laws and resultant judicial interpretation regarding the substantive and procedural protections applied in the correctional setting with regard to the rights of the confined. Prerequisite: CJ 3303 or consent.

CJ 4300 Case Preparation and Courtroom Procedure (3) Criminal procedure from arrest through trial. Preparation for and participation in mock trial. Prerequisite: CJ 3303 or consent.

CJ 4301 Motor Vehicle Law (3) Uniform Vehicle Code of the National Committee on Uniform Traffic Law and Ordinances and the Model Traffic Ordinance with a view to understanding the fundamentals of traffic regulation and control as they relate to the police service motor vehicle administration, traffic courts and other governmental functions.

CJ 4302 Criminal Evidence (3) The rules of evidence as they relate to the prosecution and defense of criminal cases: general provisions, judicial notice, presumptions, relevancy, privileges, witnesses, hearsay, expert testimony, authentication, and identification. Prerequisite: CJ 2300 or consent.

CJ 4321 Liability and the Criminal Justice Officer (3) Law of negligence and tort liability arising from police conduct. Prerequisite: CJ 3303 or consent.

CJ 4330 Criminal Justice and the Mental Health Systems (3) The relation of the criminal justice system and the mental health process; legal concepts regarding the mentally disabled. Prerequisite: CJ 1000 or consent.

CJ 5301 Legal Aspects of the Criminal Justice System (3) Current legal issues affecting the various areas of criminal justice.

Investigation

CJ 2405 Global Crime (3) International crime operations including sea and air piracy, smuggling, and terrorism. Focus on how these groups operate and techniques for investigation and apprehension.

CJ 3400 Criminal Investigation (3) Principles involved in the investigation of crimes with particular attention given to its historical origins, the investigator, organization and management of the investigative function, and investigative

methods; including crime scene processing, suspect identification and use of information sources. Consideration is also given to the investigation of specific crimes.

CJ 3405 Homicide Investigation (3) An in-depth study of homicide investigation including tactics, procedures, problems, forensic techniques, and legal issues. Prerequisite: CJ 3400.

CJ 4403 Sexual Assault and the Criminal Justice System (3) In-depth study of sexual assault and sex offenders. Investigation into the motivation of sex offenders, the victim's responses to assault, and investigative procedures.

CJ 4420 Organized Crime (3) An analysis of both the historical development of organized crime and its current impact on society. The enforcement, prosecutorial, judicial, and legislative actions utilized to combat organized crime will be examined.

Police Science

CJ 3501 Police Laboratory Methods (5) An overall view of the field of forensic science/criminalistics with an emphasis on the importance of the scientific treatment of physical evidence in criminal investigations.

Problems and Research

CJ 3600 Introduction to Criminal Justice Research (3) An introductory examination of the research methods with application most commonly utilized in criminological and criminal justice research.

CJ 4601 Directed Studies (1-6) Individual research and study in student's field of interest as approved and directed by major professors. The examination of selected problems affecting various criminal justice agencies. *May be repeated for a maximum of 6 semesters hours.* Prerequisite: consent.

CJ 4602 Internship in Criminal Justice (1-6) Practical experience in the operation of various components of the criminal justice system. *May be repeated for a maximum of 12 semester hours.* Prerequisite: consent.

CJ 4605 Senior Seminar in Criminal Justice* (1) Current issues and trends in criminal justice with emphasis on group discussion. Each student will be required to prepare, submit and defend a senior thesis. Successful completion of the thesis is mandatory. Prerequisite: senior major in Criminal Justice.

*Not available for graduate credit.

CJ 5600 Individual Research (2-6) Individual study and research of pertinent criminal justice administration problems. Not open to those enrolled in CJ 4601. May be repeated for a maximum of 6 semester hours. Prerequisites: 12 semester hours graduate credit and consent.

CJ 5602 Readings in Criminal Justice Administration (1-5) Selected readings that allow the student to pursue areas of particular interest or need not covered in established courses or programs. *May be repeated for a maximum of 5 semester hours.* Prerequisite: consent.

CJ 5610 Statistics for Criminal Justice (3) Graduate introduction to statistical techniques in criminal justice. The course provides an understanding of the relationship between statistical analysis and research methodology. It is a basic graduate course in statistics and presumes minimal mathematical or statistical background. Stress is placed on the assumptions, restrictions and uses of various statistical techniques rather than on mathematical derivation of formulas or detailed examination of theoretical statistics.

CJ 5620 Methods of Criminal Justice Research (3) A comprehensive examination of the basic concepts of research, causal order of variables, sampling techniques, research designs, techniques of data collection and analysis that will enable the student to critically evaluate crime and delinquency research as well as design and implement his/her own research.

CJ 5625 Crime Analysis (3) The patterns of crime, the analysis of such patterns and applications of crime analysis. Focus is on temporal and spatial distributions of crime, crime analysis charting and visual investigative analysis.

Prerequisite: admission to departmental graduate program.

CJ 6600 Thesis (6) Special investigation into a specific area of criminal justice administration. It is recommended that the student should have completed the major courses in his/her program before enrolling in this course. Prerequisite: CJ 5620.

Juvenile Justice

CJ 2700 Introduction to Juvenile Justice (3) An examination of the origins, philosophy and objectives of the juvenile justice system. Focus is on the operation, legal processes, current trends and roles of the various actors within the juvenile justice system.

CJ 5700 The Juvenile Justice System (3) The historical development and assessment of current policies and practices of agencies involved in the juvenile justice system.

CJ 5701 The Juvenile and the Law (3) The jurisdiction of juvenile courts, role of law enforcement agents, judicial process, fact-finding hearings, dispositions, waivers, appeals, philosophy of the juvenile court with attention to the legal rights of children, and comparative analyses of juvenile codes.

CJ 5702 Juvenile Corrections (3) An analysis of the theories, concepts, practices and special problems of juvenile corrections, including a review of contemporary juvenile correctional systems and discussion of recent research concerning the juvenile institution and the various field services.

Teacher Education Policies and Procedures

CERTIFICATION

All teacher certification programs offered by Central are accredited nationally by the National Council for Accreditation of Teacher Education. Programs in education also meet all certification requirements set by the Missouri Department of Elementary and Secondary Education.

Missouri state regulations stipulate these basic requirements for students seeking initial teacher certification (or extended certification in some instances): (1) for admission to teacher education programs, passing all sections of the College Basic Academic Subjects Examination (C-BASE) [post-baccalaureate students are exempt] and receiving a grade of "C" or better in an oral communications class; (2) a minimum cumulative grade-point average of 2.50 on a 4-point scale on all college work attempted prior to initial certification; (3) a minimum grade-point average of 2.50 on a 4-point scale in each initial certificate subject area, and any additional area of endorsement for extended certification; (4) a minimum grade-point average in professional education courses of 2.50, with no grade lower than "C"; "professional education courses" are defined as those listed in the state certificate requirements as (a) Foundations of Teaching, (b) Teaching Methods, and (c) Clinical Experiences; (5) completion of a specialty area test on the National Teacher Examination with a score no lower than a minimum determined by the state for each test ("exit test"); (6) for all persons seeking school administrator certification, satisfactory appraisal upon completion of the state Administrator Assessment Center program.

Initial teacher certification may be earned at Central via completion of the Bachelor of Science in Education degree, the Bachelor of Music Education degree and in certain instances the Bachelor of Science degree. Students apply for certification upon completion of degrees with major and minor programs that are designated as meeting certification guidelines of the state of Missouri. The degree earned, however, does not automatically lead to certification; failing to complete satisfactorily the "exit test" requirement (see above) does not prevent the awarding of the degree but will be cause for non-issuance of the certificate. Initial teacher certification may also be obtained through a post-baccalaureate program. In addition, Central has instituted an alternative program for certification for people with degrees not in education who are otherwise eligible for immediate employment in a school position. See the Director of Clinical Services and Certification for further information about both of these special programs.

Central offers undergraduate majors in the following fields which lead to initial teacher certification:

- Agriculture Education (Vocational)
- Art
- Business Education
- Early Childhood Education
- Elementary Education

- English
- Home Economics (Vocational)
- Industrial Arts and Technology
- Mathematics
- Middle School-Junior High School Education
- Modern Languages (French, German, or Spanish)
- Music, Instrumental and/or Vocal
- Physical Education
- Sciences (Biology, Chemistry, Earth Science, Physics)
- Social Studies
- Special Education (Educable Mentally Handicapped, Behaviorally Disordered, Severely Developmentally Disabled, Early Childhood Special Education)
- Speech Communication and Theatre

NOTE: Other certification programs are available that require initial certification or graduate degrees. See the Graduate Catalog for further information.

Central offers minor programs in many of the above areas that may provide teacher certification for grades 5-9 or K-9. In addition, the following minors, all requiring completion of a major teaching program, are available:

- Driver Education
- Health Education
- Journalism
- Science Education 5-9

ADMISSION TO THE TEACHER EDUCATION PROGRAM

Students seeking an initial teaching certificate (as candidates for the Bachelor of Science in Education, the Bachelor of Science, or the Bachelor of Music Education degrees, or as post-baccalaureate students) must gain admission to the Central Missouri State University Teacher Education Program. Two steps are involved, Provisional Admission and Full Admission.

Provisional Admission: Provisional Admission permits students to take most professional education courses. Students may qualify for Provisional Admission by providing the following items:

1. An application for Provisional Admission.
2. Evidence of having taken the American College Test (ACT) or the Scholastic Aptitude Test (SAT), and the College Basic Academic Subjects Examination (C-BASE) (latter test required for undergraduates only).
3. Evidence of having completed a minimum of 48 semester hours of college credit, earning a minimum cumulative grade-point average of 2.40.
4. Completion of the following courses with a grade of C or higher:
 - EdCI 2100, Foundations of Education
 - Psy 2240, Educational Psychology
 - Engl 1020, Rhetorical Writing (or approved equivalent course emphasizing writing skills.)
 - A college-level mathematics course.
5. Results of a speech and hearing evaluation (may be provided by the Department of Speech Pathology and Audiology).

Full Admission: Full Admission is prerequisite for EdCI 4400, Teaching Strategies in the Elementary School, and EdCI 4500, Secondary Teaching and Behavioral Management. Full Admission also qualifies students for the Professional Education Semester (including special methods and student teaching). Requirements are as follows:

1. Provisional Admission to the Teacher Education Program.
2. At least 72 semester hours of college credit with a minimum cumulative grade-point average of 2.50 on all work attempted, and on work attempted at Central.
3. Recommendation for Full Admission from the department representing the major area of study in the preparation for teaching. (It is recommended that each department or area require an interview with the teacher candidate prior to endorsement. Post-baccalaureate candidates seeking Full Admission for certification may submit three references from professors at Central who are in a position to evaluate the academic performance of the candidates.)
4. Evidence of having attained a cut-off score of 18 (old form) or 20 (enhanced version) of the ACT, or a minimum score of 800 (verbal plus mathematics) on the Scholastic Aptitude Test (SAT). The minimum score of 20 is applicable for ACT scores on the enhanced test if taken September 1, 1990, or later.
5. Evidence of having passed each section of the College Basic Academic Subjects Examination (C-BASE) (undergraduates only).
6. A grade of "C" or better earned in a course emphasizing oral communication skills.

ADMISSION TO THE PROFESSIONAL EDUCATION SEMESTER AND STUDENT TEACHING

Approval for admission to the professional education semester, including student teaching, involves meeting or completing the following minimum requirements:

1. Full Admission to the Teacher Education Program.
2. Submission of a completed application form by March 1 for the Fall Semester, or September 1 for the Spring Semester.
3. Completion of a minimum of 90 semester hours of university credit prior to the beginning of student teaching; meeting all prerequisites for professional semester courses and student teaching.
4. A minimum cumulative grade-point average of 2.50 on all university work attempted, on all courses taken at Central, and in the field or fields for which teacher certification is being sought (determined on the basis of courses approved for the teaching area, whether taken at Central or elsewhere).
5. A satisfactory appraisal for student teaching from each department or area in which student teaching placement is requested.
6. Evidence of proficiency in the operation of audiovisual equipment. An audiovisual course may be taken for credit or the requirement may be met by a noncredit laboratory.
7. Evidence of computer proficiency. A computer course may be taken for credit or the requirement may be met by a noncredit laboratory.
8. A doctor's certificate or other evidence of good health, if required by the school system where the student is placed for student teaching.
9. Students using Central as a "home base" institution for certification (see explanation below) must have earned a minimum of six semester hours of credit at Central before qualifying for student teaching.

NOTE: Students provisionally admitted who are deficient in one or more of the requirements for Full Admission may petition the Teacher Education Council for permission to enroll in the Professional Education Semester. This petition privilege does not include low scores on C-BASE.

All requirements set by the state of Missouri for certification following completion of university requirements must be met prior to endorsement for certification by the appropriate university official, including the following: (1) minimum overall GPA of 2.50; (2) minimum GPA of 2.50 in the certificate subject area and in professional education courses; (3) no grade lower than "C" in professional education courses; (4) minimum score on the specialty test of the National Teacher Examination that is applicable to the initial certificate endorsement being requested.

HOME BASE INSTITUTION PROCEDURES

College graduates seeking to qualify for teacher certification as post-baccalaureate students are expected by the state of Missouri to establish a "home base" institution, which verifies the completion of certification requirements. Students wishing to obtain certification recommendation from Central must meet all applicable requirements for the Teacher Education Program and its designated certification subject areas, including Full Admission to the program, and must successfully complete the Professional Education Semester. They must also satisfy the state "exit test" requirement.

Transcripts to assist home base students in obtaining certification may be prepared as follows:

1. If a student's transfer work is to be used as a part of an academic record for a degree at Central, the credits shall be typed on the student's permanent record in accordance with the current policy.
2. If a student's transfer work is not to be used as a part of an academic program for a degree at Central, but is being accumulated by the student, the credit will be printed on a separate transcript (not the same transcript with credit from Central) with the following statement:
 "This is a true copy of courses, credits, and grades earned by the above named student at the institutions listed. An official transcript from each institution is on file at Central Missouri State University."
3. A charge of \$5 is assessed for the preparation of the initial transcript described in Item 2.

Curriculum and Instruction

In the Department of Curriculum and Instruction, the second digit in the course number stands for the following: 0--Special Projects, 1--Foundations, 2--Reading, 3--Curriculum and Instruction, 4--Elementary Education, 5--Secondary Education, 6--Adult Education, 7--Special Methods, 8--Early Childhood Education, 9--Individual Study and Research.

EARLY CHILDHOOD EDUCATION Minor, B.S. in Ed. Degree (Certification to teach grades PK-3 with an elementary education functional major.) (000723)

						Sem. Hours
MINOR REQUIREMENTS						25
EdCI	2850	Creative Exper. for Young Children	3	PE	2410	Movement Skills & Activities for Primary Grades
EdCI	4830	Early Childhood Education	3			2
EdCI	4850	Child's Physical & Social World	3	HES	1220	Child Development
EdSp	3150	Community & Family Resources	2	HES	1240	Pract. in Child Development
EdSp	4370	Screening, Diagnosing & Prescribing Instructions	3	HES	2310	Early Childhood Nutr. & Health
				SP&A	2000	The Bases of Speech & Lang.

Clinical Experiences for Teacher Education Students

Early Field Experience

Education students are required to participate in early field/clinical experiences prior to student teaching. All education majors enroll in a seven-hour block of three courses, scheduled to provide flexibility for off-campus time in field experiences, typically taken at the sophomore level. The field experience portion of this block is EdCI 2150 (Introductory Field Experience).

Prior to the block, elementary majors enroll in EdCI 1150 (Introduction to Professional Education) which involves school-related activities. The third experience for elementary majors occurs within EdCI 3210 (Methods of Reading Instruction), which provides increased participation in the schools through tutoring. A fourth field experience, EdCI 4250 (Practicum in Reading) provides application of learning from earlier courses through supervised teaching of specific types of reading lessons. Elementary majors conclude their school-related experiences with EdCI 4150 (Summative Seminar) taken along with student teaching (EdCI 4495 and EdCI 4496) in the Professional Education Semester.

Secondary majors, after the early three-course block, complete their pre-student-teaching field experiences by enrolling in EdCI 4520 (Secondary Field Experience II) which is offered in conjunction with the special methods course in the Professional Education Semester.

Professional Education Semester

Elementary education majors using this catalog are required to student teach for 14 weeks, earning 12 semester hours during the Professional Education Semester. All elementary majors also enroll in EdCI 4150 (Summative Seminar) during this semester.

Majors in special education using this catalog are required to student teach for a minimum of 12 weeks (usually 14), earning 12 semester hours during the Professional Education Semester. Special education majors also have the option of enrolling for student teaching for 16 weeks, earning 16 semester hours of credit.

Secondary and K-12 education majors must plan for a senior semester in which they enroll full-time in a professional block of courses which includes student teaching. The 16-week semester consists of two parts--six weeks on campus in 5-6 semester hours of course work determined by the selected major program and ten weeks of student teaching (all day, five days a week in a school setting). Secondary and K-12 majors customarily enroll in EdCI 4300, EdCI 4520, a special methods course in their major field, and EdCI 4595 and EdCI 4596. See the appropriate department program listing for any variations in this requirement. Students following programs not clearly covered by these general statements or the department program listing should see the Director of Clinical Services and Certification for information.

ELEMENTARY EDUCATION Functional Major, B.S. in Ed. Degree

Elementary teacher certification in Missouri is available at two levels--for Grades 1-6 and for early childhood education grades Pre-K-3. Careful program planning could lead to certification in both of these levels, or for one level with special education certification. Students interested in two levels of certification should see the Director of Clinical Services and Certification.

				Sem. Hours
CORE REQUIREMENTS				47
EdCI	2110	Teaching for Multicultural Ed.	2	ScEd 1120 Biology for Teachers 3
EdCI	3210	Methods of Reading Instruction	3	ScEd 4120 Elem. Science Tchg. Strategies 3
EdCI	3220	Teaching of the Language Arts	3	HEd 3310 Hlth. Ed. in the Elem. School 2
EdCI	4215	Teaching Reading in Content Fields ...	3	HEd 4330 First Aid & CPR for Educators 1
EdCI	4220	Anlys. & Corr. of Rdg. Disabilities	2	Art 3910 Art for Elementary Schools 3
EdCI	4250	Practicum in Reading	1	Math 1811 Concepts & Methods in Elem. School Mathematics I 4
EdCI	2310	Computer/Technology in Ed.	2	Math 1812 Concepts & Methods in Elem. School Mathematics II 4
EdCI	3410	Children's Literature	3	Mus 3301 Music for Elem. Schools 3
EdCI	3420	Tchg. Social Studies in Elem. Sch.	2	
ScEd	1110	Physics for Teachers	3	
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (9-13 s.h. fulfilled by functional major)				30
To meet certification requirements and to fulfill the remaining semester hours of General Education, the following courses are required:				
SpCm	3000	Interpersonal Communication	3	Engl 2200 American Lit. to 1865, 3 or
Engl	1020	Rhetorical Writing	3	Engl 2220 World Masterpieces, 3 3
Engl	1030	Composition	3	Art 1800 Ideas & the Visual Arts, 3 or
PolS	1511	American Government	3	Mus 1200 Music Appreciation, 3 3
Geog	2212	World Geography	3	Hist 1350 History of the United States, 3 or
Econ	1010	Principles of Economics	3	Hist 1351 History of the United States, 3 3
				Foreign language 3

GRADES 1-6 Functional Major Option, B.S. in Ed. Degree (41 000720)
(Certification to teach elementary education in grades 1-6)

				Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS				49
Core Requirements			47	PE 3420 Elem. Sch. Phys. Ed. Activ. 2
AREA OF CONCENTRATION REQUIREMENTS				21
An approved minor in a teaching/specialty area appropriate for elementary majors.				
GENERAL EDUCATION REQUIREMENTS (listed for this program)				30
PROFESSIONAL EDUCATION REQUIREMENTS				29
EdCI	1150	Intro. to Professional Education	1	EdCI 4496 Student Tchg. Elementary II 6
EdCI	2100	Foundations of Education	3	Psy 2220 Child Psychology 3
EdCI	2150	Introductory Field Experience	1	Psy 2240 Educational Psychology 3
EdCI	4150	Summative Seminar	1	EdSp 2100 Ed. of the Exceptional Child, 2 or
EdCI	4400	Tchg. Strategies in Elem. School	3	Psy 4200 Psy. of Except. Children, 2 2
EdCI	4495	Student Tchg. Elementary I	6	
Proficiency in use of audiovisual equipment is required prior to student teaching. May be met by a no-credit laboratory, or InsT 3140, or InsT 3100.				
MINIMUM TOTAL				129

EARLY CHILDHOOD, Grades Pre-K-3 Functional Major Option, B.S. in Ed. Degree (41 000722)
(Certification to teach early childhood education and elementary education, grades Pre-K-3)

				Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS				47
Core Requirements			47	
AREA OF CONCENTRATION REQUIREMENTS				25
EdCI	2850	Creative Exp. for Young Children	3	EdSp 4370 Screening, Diagnosing & Prescribing Instructions 3
EdCI	4830	Early Childhood Education	3	SP&A 2000 The Bases of Speech & Lang. 2
EdCI	4850	Child's Physical & Social World	3	HES 1220 Child Development 3
PE	2410	Movement Skills & Activities for Primary Grades	2	HES 1240 Pract. in Child Development 2
EdSp	3150	Com. & Family Resources	2	HES 2310 Early Childhood Nutr. & Health 2

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GENERAL EDUCATION REQUIREMENTS (listed for this program)	30
PROFESSIONAL EDUCATION REQUIREMENTS	29
EdCI 1150 Intro. to Professional Education	1
EdCI 2100 Foundations of Education	3
EdCI 2150 Introductory Field Experience	1
EdCI 4150 Summative Seminar	1
EdCI 4400 Tchg. Strategies in Elem. Sch.	3
EdCI 4495 Student Tchg. Elementary I	6
EdCI 4496 Student Tchg. Elementary II	6
Psy 2220 Child Psychology	3
Psy 2240 Educational Psychology	3
EdSp 2100 Ed. of the Exceptional Child, 2 or	
Psy 4200 Psy. of Except. Children, 2	2
Proficiency in use of audiovisual equipment is required prior to student teaching. May be met by a no-credit laboratory, or InsT 3140, or InsT 3100.	
MINIMUM TOTAL	131

MIDDLE SCHOOL-JUNIOR HIGH SCHOOL Major, B.S. in Ed. Degree

(Certification to teach language arts, grades 5-9,
and selected area(s) of concentration/endorsement, grades PK-9 or 5-9)
(41 000840)

		Sem. Hours
MAJOR REQUIREMENTS		41
EdCI 2110 Teaching for Multicultural Education	2	
EdCI 3210 Methods of Reading Instruction	3	
EdCI 3220 Teaching of the Language Arts	3	
EdCI 4215 Tchg. Reading in the Content Fields	3	
EdCI 4220 Analysis & Correction of Reading Disabilities	3	
EdCI 4250 Practicum in Reading	1	
EdCI 2310 Computer/Technology in Education	2	
EdCI 3410 Children's Literature	3	
ScEd 1110 Physics for Teachers	3	
EdAd 4130 The Middle School	3	
Hed 4310 Drugs & Youth	3	
*HEd 4320 Teaching Sex Education in the School	3	
HEd 4330 First Aid & CPR for Educators	1	
Math 1811 Concepts & Methods in Elem. School Mathematics I	4	
Math 1812 Concepts & Methods in Elem. School Mathematics II	4	

MINOR REQUIREMENTS 21-27

Select one minor from the following list as an area of concentration/endorsement: Art (27 s.h.), Business Education (21 s.h.), English (24 s.h.), French (21 s.h.), German (21 s.h.), Home Economics (25 s.h.), Mathematics (21 s.h.), Science (23 s.h.), Social Studies (24-27 s.h.), Speech Communication & Theatre (21 s.h.), Spanish (21 s.h.).

An additional certification may be obtained by choosing one of the above minors plus a minor in Health Education (22-23 s.h.)

GENERAL EDUCATION REQUIREMENTS--39-41 s.h. (In the major, EdCI 2310 substitutes for 2 s.h. of Group H) 37-39

To meet certification requirements and to fulfill the remaining semester hours of General Education, the following courses are required:

ScEd 1120 Biology for Teachers	3	Engl 2205 American Lit. 1865 to Present, 3 or	
SpCm 3000 Interpersonal Communication	3	Engl 2220 World Masterpieces, 3	3
Engl 1020 Rhetorical Writing	3	Art 1800 Ideas & the Visual Arts, 3 or	
Engl 1030 Composition	3	Mus 1200 Music Appreciation, 3	3
Math 1620 Contemporary Mathematics	3	Hist 1350 History of the United States, 3 or	
PolS 1511 American Government	3	Hist 1351 History of the United States, 3	3
Geog 2212 World Geography	3	Group I 4-6	
		Foreign language	3

PROFESSIONAL EDUCATION REQUIREMENTS 33-34

EdCI 1150 Intro. to Professional Education	1	EdCI 4595 Student Tchg. Secondary I	6
EdCI 2100 Foundations of Education	3	Psy 2240 Educational Psychology	3
EdCI 2150 Introductory Field Experience	1	Psy 4230 Psychology of Adolescence	3
EdCI 4150 Summative Seminar	1	EdSp 2100 Ed. of the Exceptional Child, 2 or	
EdCI 4300 Ed. Measurement & Evaluation	2	Psy 4200 Psy. of Exceptional Children, 2	2
EdCI 4340 Tchg. Strategies in the Middle Sch.	3	A teaching methods course is required for each area of concentration or area of endorsement 2-3	
EdCI 4495 Student Tchg. Elementary I	6		

MINIMUM TOTAL 132

**SECONDARY EDUCATION
B.S. in Ed. and B.M.E. Degrees**

Bachelor of Science in Education and Bachelor of Music Education degree programs include the following professional education components toward the total of a minimum of 124 semester hours required. A teaching degree shall include a major and a minor, two teaching majors, or a functional major. (Minors need not be in a teaching field.) Majors, functional majors, and minors leading to certification to teach are listed in the respective

departments or service fields with teaching programs. Professional education requirements listed here apply to each secondary or K-12 program, with exceptions as noted in certain majors.

Before being admitted to the Professional Education Semester, secondary education candidates must have completed a course in adolescent psychology (Psy 4230).

	Sem. Hours
MAJOR OR FUNCTIONAL MAJOR REQUIREMENTS	30-67
Central offers certification as indicated under Certification (see page 166) in the College of Education and Human Services.	
MINOR REQUIREMENTS	0-25
Central offers certification as indicated under Certification (see page 166) in the College of Education and Human Services.	
GENERAL EDUCATION REQUIREMENTS	39-43
PROFESSIONAL EDUCATION REQUIREMENTS	28
EdCI 2100 Foundations of Education	3
EdCI 2150 Introductory Field Experience	1
EdCI 4210 Tchg. of Rdg. in the Sec. School	2
EdCI 4300 Ed. Measurement & Evaluation	2
EdCI 4500 Sec. Tchg. & Behavioral Mgt.	3
EdCI 4520 Secondary Field Experience II	1
EdCI 4595 Student Tchg. Secondary I	5
EdCI 4596 Student Tchg. Secondary II	4
Psy 2240 Educational Psychology	3
EdSp 2100 Ed. of the Exceptional Child, 2 or	
Psy 4200 Psy. of Except. Children, 2	2
Special methods in major field	2-3
Minimal computer literacy and proficiency in media technology are required prior to student teaching. These requirements may be met by (1) InsT 3100--3 hours and a no-credit laboratory in computer use, or (2) InsT 3140--1 hour and a no-credit laboratory in computer use, or (3) EdCI 2310--2 hours, or (4) a no-credit laboratory in audio-visual and computer literacy instruction. Majors in Business Education, Industrial Arts and Technology, Mathematics, Physical Education, Vocational Agriculture, and Vocational Home Economics satisfy computer proficiency through their programs, but must meet the audio-visual requirement.	
FREE ELECTIVES	0-11
See program listings as indicated above for number of hours available.	
MINIMUM TOTAL	124

Special Projects

EdCI 1001 Special Projects in Undergraduate Education

(1-3) Freshman and sophomore independent study or specially constructed experiences for a group on specific areas of concern. *May be repeated for a maximum of 6 semester hours.*

EdCI 4000 Special Projects in Education (1-5) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 5 semester hours.*

EdCI 5000 Special Projects (1-5) Opportunity for individual students or groups of students to pursue an emerging or special professional topic or issue. *May be repeated for a maximum of 5 semester hours.* Prerequisite: consent of instructor.

Foundations

EdCI 1150 Introduction to Professional Education (1) To provide information about procedures and requirements for becoming a professional educator and to create an awareness of the teaching profession through in-school observation and investigation of the school environment. The Department of Curriculum and Instruction recommends that this course be taken prior to EdCI 2100 or its equivalent. (Postbaccalaureate students are not required to take this course as part of their program.)

EdCI 2100 Foundations of Education (3) An overview of the American public school; its place in the culture; its nature, purpose, history, philosophy, organization and administration; contemporary issues, trends, and problems

of the teaching profession. Prerequisite: 2.5 cumulative GPA and should be taken concurrently with Psy 2240 and EdCI 2150 during the sophomore year.

EdCI 2110 Teaching for Multicultural Education (2) An analysis of the interrelatedness of culture, individuality, and the educational process in a pluralistic America. To investigate the ethno-cultural and educational variables and concerns for teaching in a diverse, changing society.

EdCI 2150 Introductory Field Experience (1) Introductory experiences in the classroom that provide opportunities for becoming involved with students and professional teachers in the school setting. Prerequisite: EdCI 1150 for elementary functional majors should be taken concurrently with EdCI 2100 and Psy 2240 during the sophomore year.

EdCI 4100 History of Education (2) Development of the educational system with reference to social movements and the educational philosophies of important educators.

EdCI 4120 Career Education and Public Schools (2) Historical, philosophical, and psychological backgrounds of career education to develop the ability of integrating career education with the regular curriculum.

EdCI 4150 Summative Seminar* (1) A culminating experience for elementary education majors which will provide an opportunity for students to synthesize the learnings from their program. Prerequisite: concurrent enrollment in the Professional Semester.

*Not available for graduate credit.

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EdCI 5120 Philosophy of Education (2) A critical analysis of the basic characteristics of alternative philosophical families of thought, with their implications and applications in the schools.

EdCI 5130 Comparative Education (2) Provides a broad understanding of educational organizations, practices, and developments in other countries, and the resulting influence upon contemporary American educational practice.

EdCI 6140 Education in the Social Order (3) A study of the school as a social institution in relationship to its role to the total society. Attention will be focused on the pluralistic uniqueness of American society and the resulting multicultural makeup of American society which may affect major educational issues. Prerequisite: EdCI 5900 or equivalent.

Reading

EdCI 3210 Methods of Reading Instruction (3) Fundamental concepts, skills, attitudes and methods of developing, promoting and managing reading instruction. The course includes tutoring and teacher-aide field experiences outside of class hours. Prerequisites: EdCI 2100 and Psy 2240.

EdCI 3220 The Teaching of the Language Arts (3) All aspects of communication will be considered--reading, writing, listening, and speaking. Prerequisites: EdCI 2100 and Psy 2240.

EdCI 4210 The Teaching of Reading in the Secondary School (2) Designed to prepare both the regular secondary teacher to handle reading problems common to his/her special subject matter area and the reading teacher to carry out a general reading program in the high school. Prerequisites: EdCI 2100 and Psy 2240.

EdCI 4215 Teaching Reading in Content Fields (3) An examination of reading comprehension strategies, study skills, concept development, and critical thinking, especially with regard to the reading demands of content subjects and the needs of typical and atypical learners. Prerequisite: EdCI 3210.

EdCI 4220 Analysis and Correction of Reading Disabilities* (2-3) A focus on assessment of students' reading abilities and selecting appropriate teaching methods and materials to meet individual needs in reading instruction. The course includes a practicum, or field experience component, which permits application of learning and instructional decision-making. Prerequisite: EdCI 4215 and must be taken concurrently with EdCI 4250.

EdCI 4250 Practicum in Reading* (1) A supervised field experience in the assessment of reading, analysis of reading difficulties, and educational decision-making in planning and teaching appropriate lessons. Prerequisite: EdCI 4215 and must be taken concurrently with EdCI 4220.

*Not available for graduate credit.

EdCI 5205 Evaluation of Reading Methods and Materials (3) Evaluation and comparison of the most recent approaches to reading instruction, as well as traditional approaches. Provides theoretical bases of developmental reading and prevention of reading difficulties, and evaluation of materials.

EdCI 5210 Diagnosis and Remediation of Reading Difficulties (3) Various syndromes of reading difficulty, the diagnostic instruments and techniques useful in identifying those syndromes, and the theory and use of remedial

methods in conducting a case study. Prerequisite: EdCI 5205 or consent.

EdCI 5220 Practicum in Diagnostic Techniques in Reading (3) Practice of administering, interpreting, and reporting of diagnostic test results of reading difficulties. Prerequisite: EdCI 5210.

EdCI 5230 Practicum in Remedial Techniques in Reading (3) Practice of using and reporting results of remedial methods in a case study of reading difficulties. Prerequisite: EdCI 5220.

EdCI 5240 Investigations in Reading (2) An intensive analysis of reading programs from the standpoint of current instructional and remedial methodologies. Prerequisite: a basic course in reading or consent.

EdCI 6240 Supervision of Instruction in Reading (2) Consideration of the supervisory problems concerned with reading, including grade placement, methods and materials, and evaluation of achievement. Prerequisites: EdCI 5240 and EdCI 5210.

Curriculum and Instruction

EdCI 2310 Computer/Technology in Education (2) Provides pre-service teachers with basic knowledge and skill in microcomputer and instructional media operation for instructional purposes in schools. Meets the proficiency requirement for microcomputer/audiovisual equipment that is a prerequisite for student teaching.

EdCI 4300 Educational Measurement and Evaluation* (2) Instruction in the use and interpretation of standardized tests, the construction of classroom tests, and the interpretation of tests results. Prerequisites: full admission to Teacher Education Program; should be taken concurrently with EdCI 4520 and special methods in the major field during the Professional Education Semester.

*Not available for graduate credit.

EdCI 4312 LOGO for Teachers (1) Provides teachers with a basic knowledge of the LOGO programming language, teaching strategies to incorporate LOGO into the school curriculum, and skills for teaching the programming language. Prerequisite: EdCI 2310 or consent of instructor.

EdCI 4314 Integrated Microcomputer Applications for Teachers (2) Develops knowledge and skill in using word processing, database, and spreadsheet in the classroom. Students may select Apple II, IBM, and/or Macintosh computers. Prerequisite: EdCI 2310 or consent of instructor.

EdCI 4318 Telecommunications in Education (2) Provides students in education with the concepts and skills needed in using telecommunications networks for instructional purposes, research, and information access and delivery. Prerequisite: EdCI 2310 or equivalent experience.

EdCI 4320 Classroom Discipline and Motivation (2) Designed to help teachers advance their knowledge and skills in general classroom management and in helping the apathetic and/or behaviorally troubled student.

EdCI 4340 Teaching Strategies in the Middle School (3) Middle school teaching strategies building upon middle level organization and curriculum, with particular emphasis on integration and interdisciplinary teaming. Prerequisites: Psy 4230 and EdAd 4130.

EdCI 5320 Elementary School Curriculum (3) Principles, techniques, and present trends in curriculum construction and evaluation for the elementary school.

EdCI 5330 Secondary School Curriculum (2) Principles, techniques, and present trends in curriculum construction and evaluation for the secondary school.

EdCI 5340 Improvement of Teaching (2) A comprehensive course in the development of plans for the improvement of teaching.

EdCI 5350 Supervision of Student Teaching (2) Designed to meet the practical needs of elementary and secondary teachers who are responsible for the supervision of student teachers.

EdCI 5360 Seminar in Curriculum and Instruction (2-3) An in-depth study of topics current in education such as multicultural education, competency-based education, values education, rural education, the improvement of instruction and instructional programs, and other topics relevant to education. *May be repeated with a different focus for a maximum of 6 semester hours.*

EdCI 6340 Curriculum Design and Construction (3) Designed to survey the theory and practice of curriculum development as determined by social and cultural change, learning theory, and the nature of knowledge. The processes of curriculum design and construction receive major emphasis. Prerequisite: EdCI 5320 or EdCI 5330.

Elementary Education

See pages 166-171 for specific policies and procedures governing the administration of the Teacher Education Program, and for requirements for eligibility for student teaching.

EdCI 3410 Children's Literature (3) Familiarity with various types of literature for children, principles for selection of children's books, and methods of presentation for integration of children's literature into the total elementary curriculum. Prerequisites: EdCI 2100 and Psy 2240 for Elementary Education functional majors.

EdCI 3420 The Teaching of Social Studies in the Elementary School (2) All aspects of social studies will be considered--teaching procedures; development of content, skills, and attitudes; and evaluative devices and techniques used. Prerequisites: EdCI 2100 and Psy 2240.

EdCI 4400 Teaching Strategies in the Elementary School* (3) Modern teaching procedures in the elementary school with reference to ideological, philosophical, psychological and methodological foundations. Prerequisites: full admission to the Teacher Education Program and should be taken the semester just prior to student teaching.

EdCI 4495 Student Teaching Elementary I* (3, 5, 6, 8) To be taken in the Professional Semester. For elementary majors, double majors in elementary education and special education, majors in speech pathology and elementary physical education. Prerequisites: full admission to the Teacher Education Program; EdCI 4400; should be taken concurrently with EdCI 4496 or EdCI 4596 or EdSp 4395, depending on sequence followed. (See description of Professional Education Semester.)

EdCI 4496 Student Teaching Elementary II* (4, 6, 8) To be taken in the Professional Semester. For elementary classroom majors and majors which provide K-12 certification (except speech pathology). Prerequisite: must be taken concurrently with EdCI 4495 or EdCI 4595.

*Not available for graduate credit.

Secondary Education

See pages 166-171 for specific policies and procedures governing the administration of the Teacher Education Program, and for requirements for eligibility for student teaching.

EdCI 4500 Secondary Teaching and Behavioral Management* (3) An analysis of the teaching/learning process with emphasis on instructional planning, component teaching skills and adolescent behavior management. This course should be taken no earlier than one semester prior to student teaching. Prerequisite: full admission to Teacher Education Program.

EdCI 4520 Secondary Field Experience II* (1) Experiences in the secondary school classroom that provide the teacher candidate more advanced involvement in the teaching-learning process. Prerequisites: full admission to Teacher Education Program; should be taken concurrently with special methods in the major field and EdCI 4300 during the Professional Semester.

EdCI 4595 Student Teaching Secondary I* (3, 5-6) To be taken in the Professional Semester. For secondary and K-12 majors (except speech pathology). K-12 majors will enroll in student teaching at both elementary and secondary levels. Prerequisites: full admission to the Teacher Education Program; EdCI 4500; should be taken concurrently with EdCI 4596 or EdCI 4496, or EdSp 4395, depending on sequence followed. (See description of Professional Education Semester.)

EdCI 4596 Student Teaching Secondary II* (4-5) To be taken in the Professional Semester. For secondary majors, K-12 majors in speech pathology, and K-9 majors in elementary physical education. Prerequisite: must be taken concurrently with EdCI 4495 or EdCI 4595.

*Not available for graduate credit.

Adult Education

EdCI 4620 Foundations and Organization of Adult Education (3) An analysis of the philosophy, objectives, nature, and scope of adult education as synthesized in the organization of adult education programs.

EdCI 4630 Curriculum and Instruction in Adult Education (2) A survey of the theory, development, and trends in designing programs of learning experience for adult education. Prerequisites: EdCI 4620 and Psy 4210.

EdCI 4640 Methods of Teaching Adults (2) Methodology (methods, techniques, and/or skills) to teach adults with functional illiteracy.

EdCI 5640 Teaching Reading to Adults (2) The teaching of basic reading skills to adults, especially nonreaders and functional illiterates.

EdCI 5650 Seminar in Adult Education (3) Current issues, problems and trends in adult education. Prerequisites: EdCI 4620, EdAd 5120 and Psy 4210.

Special Methods

Prerequisites for all Secondary Methods are: full admission to Teacher Education Program; double majors must take a methods course for each major; methods should be taken concurrently with EdCI 4300 and EdCI 4520 during the Professional Education Semester.

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EdCI 4700 Methods of Teaching Music* (2) Piano proficiency exam must have been passed prior to enrollment in this course.

EdCI 4710 Methods of Teaching Physical Education* (2)

EdCI 4720 Methods of Teaching Art* (2)

EdCI 4730 Methods of Teaching Business--General* (2)

EdCI 4740 Methods of Teaching Vocational Home

Economics* (3) A course for students preparing to teach vocational home economics. The organization and philosophy of vocational home economics, planning of home economics departments and determination of the contents of home economics programs at the elementary, secondary, and adult levels. Prerequisites: 15 semester hours of home economics with 5 semester hours of foods and nutrition, 5 semester hours of textiles and clothing, and 5 semester hours in related subjects; EdSp 2100; and EdCI 4300 or concurrently.

EdCI 4754 Methods of Teaching Foreign Languages* (2)

EdCI 4760 Principles of Teaching Industrial Education* (2)

Prerequisite: IA&T 3110.

EdCI 4770 Methods of Teaching Mathematics* (2)

EdCI 4774 Methods of Teaching Social Studies* (2)

EdCI 4780 Methods of Teaching Vocational Agriculture* (2)

EdCI 4784 Methods of Teaching Speech and Theatre* (2)

EdCI 4790 Methods of Teaching English* (2)

EdCI 4794 Methods of Teaching Science* (2)

*Not available for graduate credit.

Early Childhood Education

EdCI 2850 Creative Experiences for Young Children (3)

Focuses on materials, techniques, and resources for promoting effective cognitive and motor development. In addition to classroom work, students are involved with school children by planning and supervising creative experiences for them. A charge is made for expendable materials.

EdCI 4830 Early Childhood Education (3) Study of educational centers for young children: curriculum planning and teaching, organization and administration of early childhood centers.

EdCI 4850 The Child's Physical and Social World (3)

Experiences with materials, techniques, and resources for broadening the child's awareness and understanding of his/her physical and social environment. Prerequisite: Psy 2240 or equivalent.

Individual Study and Research

EdCI 5900 Introduction to Research (3) Overview and planning for graduate school with an introduction and study of the major principles, tools, and techniques employed in educational research, including the development of a research prospectus.

EdCI 6900 Readings in Education (1-5) For advanced students in education. Individual study and research regarding problems or areas of particular interest in education. A written report or reports will be required. *May be repeated for a maximum of 5 semester hours.*

EdCI 6960 Research Problems (2) Special investigation of an approved problem in the major field. A prospectus is required. *May be repeated for a maximum of 6 semester hours.* Prerequisite: EdCI 5900.

EdCI 6990 Thesis (3-6) Special investigation of an approved problem in classroom teaching resulting in a formal thesis. A prospectus is required.

Science Education

In the area of Science Education, the second digit in the course number stands for the following: 0--Unclassified, 1--General Science, 2--Astronomy, 3--Biology, 4--Chemistry, 5--Earth Science, 6--Mathematics, 7--Physics, 8--Science Education, 9--Research.

SCIENCE Minor, B.S. in Ed. Degree

(Certification available to teach science in grades 5-9 for elementary/middle school-junior high school functional majors only. Elementary education functional majors 1-6 may use this as an area of concentration. This minor is not available for secondary or K-12 education majors.)

(000821)

					Sem. Hours	
MINOR REQUIREMENTS					24	
ScEd	1110	Physics for Teachers	3	EaSc 3114	Meteorology	3
ScEd	1120	Biology for Teachers	3	Chem 1110	Elementary Chemistry	4
EaSc	1110	Introduction to Geology	4	Biol 3712	Field Natural History, 4 or	
EaSc	3010	Environmental Geology	3	Biol 1013	General Ecology, 4	4
GENERAL EDUCATION REQUIREMENTS (In the minor, Chem 1110 fulfills 4 s.h. of Group D)						

General Science

ScEd 1110 Physics for Teachers (3) A demonstration, laboratory, lecture and discussion course in physics designed for elementary and nonscience secondary teachers. Credit earned in this course may not be

substituted for any courses required for a secondary major or minor in the sciences.

ScEd 1120 Biology for Teachers (3) A demonstration, laboratory, lecture, and discussion course in biology designed for elementary and nonscience secondary teachers. Credit earned in this course may not be substituted for any courses required for a secondary major or minor in the sciences.

ScEd 4120 Elementary Science Teaching Strategies (3) Science concepts commonly developed in the elementary grades, with special emphasis on objective materials, field trips, experiments, laboratory and other activities. Enrollment is limited to students preparing to become elementary teachers. Prerequisites: ScEd 1110 and ScEd 1120.

Science Education

ScEd 4800 Special Projects in Science Education (1-3) *May be repeated for a maximum of 3 semester hours.*

ScEd 4820 Curriculum Development in Physical Science (3) The review and analysis of curriculum materials and laboratory strategies in physical science. Prerequisite: 20 semester hours of science.

ScEd 5800 Special Topics in Science Education (1-3) Individual work under supervision of a staff member. *May be repeated for a maximum of 3 semester hours.*

ScEd 5813 Problems in Elementary Science Education (3) Current problems in improving the teaching of science in the elementary school. Prerequisite: ScEd 4120.

Physical Education

In the Department of Physical Education, the second digit in the course number stands for the following: 0--Special Projects, 1--Foundations, 2--Applied Physical Education, 3--Curriculum and Instruction, 4--Elementary and Secondary Physical Education, 5--Coaching, 6--Athletic Training, 7--Administration and Supervision, 8--Professional Physical Education, 9--Individual Study and Research.

PHYSICAL EDUCATION Functional Major, B.S. Degree

(43 000817)

						Sem. Hours	
MAJOR REQUIREMENTS						48-60	
PE	1100	Orientation to Physical Education	..... 1	PE	2800	Human Anatomy	..... 3
PE	4110	History & Philosophy of Phys. Ed.	..... 2	PE	2850	Found. of Exercise Physiology	..... 3
PE	2303	Perf. & Teaching of Aerobic Cond.	..... 2	PE	3800	Kinesiology	..... 3
PE	4340	Adapted Physical Education	..... 2	Departmentally approved electives from one of the			
PE	4390	Eval. Procedures in Physical Ed.	..... 3	following areas (see departmental advisor)			..... 25-37
PE	3610	Care & Prevention of Injuries	..... 2	Area 1 Elementary certification PK-9			
PE	4740	Legal Liability in Fitness/Wellness,		Area 2 Secondary certification 9-12			
		Physical Education, Recreation, &		Area 3 Elementary-Secondary certification PK-12			
		Sports Settings	..... 2	Area 4 Fitness/Wellness I			
				Area 5 Fitness/Wellness II			
MINOR NOT REQUIRED							
GENERAL EDUCATION REQUIREMENTS--40-42 s.h. (In the major, physical education performance courses fulfill 2 s.h. of Group I)						38-40	
PoS	1510	Group F (required) or		M&C	2500	Group H (required)	..... 2
Soc	1800	Group F (required)	..... 3	PE	1200	Group I (required)	..... 1
FREE ELECTIVES						24-38	
MINIMUM TOTAL						124	

Students may earn teacher certification through careful choice of electives. See the Director of Clinical Services and Certification (Lov 205) and departmental advisor for specific course work in both general education and major requirements.

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COACHING Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor.
Certification to coach is not required in the state of Missouri.)
(000731)

				Sem. Hours
MINOR REQUIREMENTS				25
PE	4590	Adm. of Interscholastic Athletics	2	
PE	3610	Care & Prevention of Injuries	2	
PE	2800	Human Anatomy	3	
PE	2850	Foundations of Exercise Physiology	3	
PE	3800	Kinesiology	3	
PE	4830	Psychological Aspects of Physical Education	2	
PE	4500	Football Officiating, 1 or		
PE	4510	Basketball Officiating, 1	1	
Electives from the following				5
PE	2300	Perf. & Teaching of Soccer	1	
PE	2311	Performance & Teaching of Touch & Flag Football	1	
PE	2330	Perf. & Teaching of Track & Field	1	
PE	2340	Perf. & Teaching of Softball	1	
Electives (continued)				
PE	2350	Perf. & Tchg. of Gymnastics	1	
PE	3310	Perf. & Tchg. of Basketball	1	
PE	3331	Perf. & Tchg. of Volleyball	1	
PE	3390	Perf. & Tchg. of Wrestling	1	
Electives from the following				4
PE	4520	Theory & Coaching of Basketball	2	
PE	4530	Theory & Coaching of Track & Field	2	
PE	4541	Theory & Coach. of Football	2	
PE	4550	Theory & Coach. of Volleyball	2	
PE	4551	Theory & Coach. of Wrestling	2	
PE	4560	Theory & Coaching of Softball and Baseball	2	
PE	4561	Theory & Coach. of Soccer	2	
GENERAL EDUCATION REQUIREMENTS (In the minor, physical education performance courses fulfill 3 s.h. of Group I)				

FITNESS/WELLNESS Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor.)
(000841)

				Sem. Hours
MINOR REQUIREMENTS				22
PE	1204	Stress Management	1	
PE	1206	Lifetime Fitness	3	
PE	2303	Perf. & Tchg. of Aerobic Cond.	2	
PE	2320	Perf. & Tchg. of Weight Training	1	
PE	3610	Care & Prevention of Injuries	2	
PE	2800	Human Anatomy	3	
PE	2850	Foundations of Exercise Physiology	3	
PE	3800	Kinesiology	3	
PE	4850	Basic Fitness Assessment	2	
PE	4340	Adapted Physical Education, 2 or		
PE	4341	Physical Activity & the Older Adult, 2	2	
GENERAL EDUCATION REQUIREMENTS (In the minor, physical education performance courses fulfill 3 s.h. of Group I.)				

Special Projects

PE 4000 Special Projects in Coeducational Physical Education (1-5) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 5 semester hours.*

PE 5000 Special Projects in Physical Education (1-3) Individual or group study of selected topics. *May be repeated for a maximum of 8 semester hours.* Prerequisite: department chair consent.

Foundations

PE 1100 Orientation to Physical Education (1) Orients students to the profession of physical education and to the physical education program at Central.

PE 4110 History and Philosophy of Physical Education* (2) An investigation of the historical and philosophical development of physical education.

*Not available for graduate credit.

PE 5110 Philosophy of Sport (2) The nature, values and ethics of sport in society.

PE 6190 Trends and Issues in Physical Education (3) Directed reading and special investigation of selected problems. Identification, analysis, and discussion of on-the-job problems.

Applied Physical Education

PE 1200 Fitness Through Activity and Sport (1) Develops concepts of personal physical fitness as they relate to optimal healthful living.

PE 1201 Recreational Sports (1) Sidewalk tennis, shuffleboard, aerial darts, deck tennis, table tennis, volley tennis, paddle tennis.

PE 1202 Handball and Racketball (1) Basic and progressive fundamentals of handball and racketball.

PE 1203 Aerobic Conditioning (1) Preventive and corrective cardiovascular activities and programs.

PE 1204 Stress Management (1) Causes, effects and coping techniques vital to living successfully with personal stress and tension.

PE 1205 Aerobic Dance for Fitness (1) Aerobic routines for cardiovascular fitness.

PE 1206 Lifetime Fitness (3) Developing a healthy lifestyle through exercise and diet. Includes assessment of status, planning, and participating in a program based on the student's needs.

PE 1210 Badminton (1)

PE 1220 Beginning Bowling (1) Fundamentals and participation in bowling. (Recommended for the handicapped.)

PE 1230 Beginning Golf (1)

PE 1231 Archery for Women (1) Student must provide minimum of six arrows, arm guard, and finger tab.

PE 1232 Archery for Men (1) Student must provide a minimum of six arrows, arm guard, and finger tab.

PE 1240 Individual Physical Education (1) Designed for the physically disabled student to improve strength, endurance, functioning, and recreational skills. Prerequisite: medical certificate of classification of student disability from the Student Health Center.

PE 1241 Beginning Tennis (1)

PE 1250 Folk Dance (1) Representative folk dances from various countries, with emphasis on the social values of this activity.

PE 1251 Beginning Swimming (1) For nonswimmers only. Includes skills required in the American Red Cross Beginners test.

PE 1255 Jazz Dance (1) Basic jazz dance technique, warm-ups and variety of jazz movement phases.

PE 1260 Modern Dance I (1) Basic modern dance technique and incorporation into dance phrases.

PE 1270 American Ballroom Dance (1) Techniques in leading/following, basic positions and steps in the American waltz, fox trot, Lindy (single, double, triple), polka, and schottische.

PE 1271 Volleyball (1)

PE 1272 Intermediate Volleyball (1) Advanced offensive and defensive skills and strategies. Prerequisite: PE 1271 or consent of instructor.

PE 1273 Ballroom Dance II (1) Techniques in leading/following, basic steps and positions in the cha-cha-cha, rumba, samba, tango, and mambo. Prerequisite: PE 1270 or consent.

PE 1280 Basketball for Women (1)

PE 1281 Basketball for Men (1)

PE 1290 Tap Dance I (1) Fundamental skills, terminology, and history of tap.

PE 1291 Softball for Women (1)

PE 1292 Softball for Men (1)

PE 2200 Weight Training (1)

PE 2210 Wrestling (1)

PE 2220 Weight Control (1) The relationship between diet, exercise, and weight and the planning of weight control programs based on individual needs.

PE 2230 Beginning Fencing (1)

PE 2250 Springboard Diving (1) Includes the five fundamental dives: (1) forward, (2) backward, (3) reverse, (4) inward, (5) forward dive with half twist and optional dives from the various dive groups. Developing techniques and analysis of the approach, spring, and dive. Prerequisite: ability to swim at beginning level or better.

PE 2260 Gymnastics and Tumbling (1) Practice of gymnastic stunts, tumbling, and trampolining.

PE 2270 Water Safety Instructors (2) Students taking this course may complete requirements for the Water Safety Instructor's Certificate. Prerequisite: current Red Cross Senior Lifesaving Certificate.

PE 2280 Recreational Shooting--Rifle and Pistol (1)

Provides students with an appreciation of recreational shooting. The fundamentals of the safe and proper handling of firearms will be stressed. A charge is made for expendable materials.

PE 3200 Intermediate Bowling (1) More advanced fundamentals and participation in bowling.

PE 3210 Intermediate Tennis (1) Continuation of PE 1241 with emphasis on advanced strokes, technique, and strategy of singles and doubles. Prerequisite: PE 1241.

PE 3220 Advanced Beginning/Intermediate Swimming (1)

Basic skills for advanced beginners and skills required in the American Red Cross Intermediate swimmers test.

PE 3230 Lifeguard Training (1) American Red Cross certification for Advanced Lifesaving and Lifeguard Training. Prerequisites: Standard First Aid certification and 8 hours of C.P.R. training.

PE 3260 Modern Dance II (1) A continuation of PE 1260 at a more advanced dance technique level. Prerequisite: PE 1260 or consent.

PE 3270 Intermediate Golf (1) Advanced skills instruction in putting, approach shots, wood shots and playing experience. Prerequisite: PE 1230.

PE 5200 Analysis of Teaching in Physical Education (3) Present and analyze systems used in evaluating student behavior, teacher behavior, and student-teacher interaction. Study strategies for planning and implementing effective teaching and supervising in physical education.

Curriculum and Instruction

PE 2300 Performance and Teaching of Soccer (1)

PE 2303 Performance and Teaching of Aerobic Conditioning (2) Basic skills to participate in and instruct in the area of aerobic conditioning.

PE 2310 Ballet I (1) Basic ballet technique: barre' warm-ups, adagio center phrases, and locomotor patterns.

PE 2311 Performance and Teaching of Touch and Flag Football (1)

PE 2314 Performance and Teaching of Recreational Sports (1) Four square, floor table tennis, horseshoes, table tennis, wall paddle tennis, croquet.

PE 2320 Performance & Teaching of Weight Training (1)

PE 2330 Performance and Teaching of Track and Field (1)

PE 2340 Performance and Teaching of Softball (1)

PE 2350 Performance and Teaching of Gymnastics (1)

PE 2360 Basic Dance Skills (1) Introduction to basic skills in folk, square, disco, modern, and ballroom dance.

PE 3300 Teaching of Dance (2) Rhythmical analysis of dance forms and methods for teaching them.

PE 3310 Performance and Teaching of Basketball (1)

PE 3315 Performance and Teaching of Outdoor Leisure Skills (1) Introduction to orienteering and angling.

Prerequisite: physical education functional majors only.

PE 3320 Performance and Teaching of Archery and Bowling (1)

PE 3330 Performance and Teaching of Badminton (1)

PE 3331 Performance and Teaching of Volleyball (1)

PE 3340 Performance and Teaching of Modern Dance (1)

PE 3370 Performance and Teaching of Swimming and Diving (1)

PE 3380 Performance and Teaching of Handball and Racketball (1)

PE 3390 Performance and Teaching of Wrestling (1)

PE 4320 Choreography (2) Basic choreography as to forms, formations, lines, qualities, relationships, choreographic styles, choreographers of renown and their works, constructive criticism, notation. Prerequisite: consent.

PE 4340 Adapted Physical Education (2) A study whereby the full educational services of physical education may be made available to atypical students on all school levels.

PE 4341 Physical Activity and the Older Adult (2)

Principles of activity applicable to older adults, including recommended programs and evaluations.

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PE 4350 Physical Education for Special Education (2)

Activities and program development as an integral tool in the physical education of the mentally retarded, learning disabled, and emotionally disturbed.

PE 4351 Performance and Teaching of Golf* (1)

PE 4360 Performance and Teaching of Tennis* (1)

*Not available for graduate credit.

PE 4390 Evaluation Procedures in Physical Education (3)

The theory of measurement in health and physical education, including the selection, administration, and evaluation of appropriate tests and the interpretation of the results.

PE 5370 Advanced Curriculum and Supervision (3)

Advanced study of curriculum and techniques of supervision in physical education.

Elementary and Secondary Physical Education

PE 1450 Growth and Development in Elementary Physical Education (3)

The sequential and developmental phases of children and the relationship of movement to growth and development.

PE 2410 Movement Skills and Activities for Primary Grades (2)

Knowledge, understanding, and applications in teaching motor skills.

PE 3420 Elementary School Physical Education Activities (2)

Theory and practice in stunts and tumbling, self-testing activities, rhythms, skills, and games.

PE 3430 Creative Dance and Rhythms for the Elementary School (2)

Rhythmical activities in the elementary school, emphasizing basic movement and movement exploration.

Prerequisite: 1 semester hour of dance.

PE 3450 Techniques of Teaching Physical Education Activities in the Elementary and Secondary Schools (3)

Effective teaching knowledge, skill and techniques for physical education programs at the elementary and secondary levels.

PE 5420 Growth and Physical Performance of the Preschool and Elementary School Child (K-6) (3)

An in-depth study of the development and characteristic relations of children as they relate to movement and performance.

PE 5430 Theory and Practice for Elementary and Secondary Physical Education (3)

Analysis of current theories and practices in elementary and secondary physical education.

Coaching

PE 4500 Football Officiating* (1) Lectures, readings, class discussions, and field experience in the officiating of intramural, school, and college football games.

PE 4510 Basketball Officiating* (1) Lectures, readings, class discussions, and field experience in the officiating of intramural, school, and college basketball games.

*Not available for graduate credit.

PE 4520 Theory and Coaching of Basketball (2)

Coaching aids, techniques, strategy, and systems of the activity. Prerequisite: PE 3310.

PE 4530 Theory and Coaching of Track and Field (2)

Coaching aids, techniques, strategy, and systems of training.

PE 4541 Theory and Coaching of Football (2)

Coaching aids, techniques, strategy, and systems of the activity. Elective.

PE 4550 Theory and Coaching of Volleyball (2) Coaching theory and techniques, aids, strategy, and systems of volleyball. Prerequisite: PE 3331.

PE 4551 Theory and Coaching of Wrestling (2) Squad and practice organization, techniques, budget, equipment, match management, and strategy.

PE 4560 Theory and Coaching of Softball and Baseball (2)

Coaching aids, techniques, strategy, and systems of softball and baseball.

PE 4561 Theory and Coaching of Soccer (2)

Coaching theory and techniques, aids, strategy, and systems of soccer. Prerequisite: PE 2300.

PE 4590 Administration of Interscholastic Athletics (2)

Organization and management of a program of competitive athletics for schools and colleges.

Athletic Training

PE 3610 Care and Prevention of Injuries (2) Accepted athletic training procedure in the care and prevention of athletic injuries. Prerequisite: PE 2800.

PE 5600 Growth and Development and Athletic Injuries (2)

Growth and development of children and youth with emphasis on their vulnerability to athletic injury.

Prerequisite: PE 2800.

PE 5610 Advanced Athletic Training Techniques (3)

Advanced methods of injury prevention, recognition, and treatment of athletic injuries. Prerequisites: PE 3610, PE 3800, and PE 5830. PE 5830 may be taken concurrently.

PE 5620 Modalities and Rehabilitation of Athletic Injuries (2)

The use of therapeutic modalities and exercises in athletic injury rehabilitation. Prerequisite: PE 5610 or concurrently.

PE 5630 Internship in Athletic Training (2)

Provides clinical clock hour experience under the supervision of a N.A.T.A. Certified Athletic Trainer. *May be repeated for a maximum of 6 semester hours.* Prerequisite: PE 5610 or concurrently.

PE 6600 Seminar in Athletic Training (2)

Directed readings for the purpose of discussion and evaluation of selected problems in the area of sports medicine.

Administration and Supervision

PE 4740 Legal Liability in Fitness/Wellness, Physical Education, Recreation and Sport Settings (2) Acquaints the student with legal research and basic concepts of negligence in governing the school sport and fitness industries.

PE 4760 Physical Education Curriculum* (2) Problems involved in organization and design of physical education curricula.

PE 4765 Internship* (2-4) Practical experience in fitness/wellness programs in community centers, corporation settings, or businesses. Prerequisite: PE 4850 and approval of department.

*Not available for graduate credit.

PE 5730 Risk Management for Sport and Fitness Administration (2)

Strategies of risk control for sport and fitness industries.

PE 5740 Legal Liability for Sport and Fitness Administration (3)

Inspection of case law and legislative acts as they affect the conditions of sport and fitness activities. A major focus is on negligence theory.

PE 5750 Sports Administration and Management (3)

Administrative and management functions of the sports administrator. Prerequisite: PE 4590 or concurrently.

Professional Physical Education

PE 2800 Human Anatomy (3) Detailed study of the structure of the human body. Emphasis on gross and microscopic anatomy of the musculoskeletal, cardiovascular-respiratory, and nervous systems.

PE 2850 Foundations of Exercise Physiology (3) The study of cardiovascular, muscle, and nerve physiology. Prerequisite: PE 2800.

PE 3800 Kinesiology (3) Intensive investigation and analysis of human movements. The basic mechanical principles of force, motion, and aerodynamics as related to fundamental physical skills and their application to sports and dance. Prerequisite: PE 2800 and Math 1111 or Math 1620.

PE 3850 Motor Learning and Control (3) Parameters which influence the acquisition and control of movement skills. Conditions of practice as well as those predominant factors which effect motor learning, i.e., feedback, transfer, motivation, memory and attention.

PE 4830 Psychological Aspects of Physical Education (2) An application of psychological principles to physical education.

PE 4840 Social Aspects of Physical Activity (2) The application of sociological concepts and theories to the study of physical education and sport in American society.

PE 4850 Basic Fitness Assessment (2) The selection, administration, and interpretation of test and protocols for fitness assessment. Prerequisite: PE 2850.

PE 5830 Advanced Exercise Physiology (3) The effects of muscular activity with particular reference to the respiratory, circulatory, and nervous systems. Prerequisites: PE 5900, and Biol 2401 or PE 2850.

PE 5840 Principles of Motor Learning (3) The physical and psychological factors affecting the acquisition of motor skills. Prerequisite: PE 5900.

PE 5850 Fitness Assessment (2) Instruments and protocols used for fitness/wellness assessment; development of fitness programs; interpretation of results. Prerequisite: PE 5830.

PE 5870 Mechanical Analysis of Sport Skills (3) Anatomical and mechanical principles applied toward analyzing and evaluating the efficiency of human motion. Prerequisite: PE 3800.

Individual Study and Research

PE 5900 Introduction to Research in Physical Education, Exercise and Sport Science (3) Overview and planning for graduate school with an introduction and study of the major methods, tools, and laboratory and statistical techniques employed in research in physical education, including the development of a research prospectus.

PE 6900 Readings in Physical Education (1-5) Guided study in the literature of special and related fields in the area of physical education. *May be repeated for a maximum of 6 semester hours.* Prerequisite: PE 5900.

PE 6960 Research Problems (2) Special investigation of an approved problem in the major field. Prerequisite: PE 5900.

PE 6980 Internship (2-6) Practical experience in sports administration, sports business management, sports communication, fitness/wellness, or pedagogy in a school, business or hospital. *May be repeated for a maximum of 6 semester hours.* Prerequisites: PE 5850 for Fitness/Wellness specialization; PE 5750 for Athletic and Sports Administration specialization; and department approval.

PE 6990 Thesis (6) Special investigation of an approved problem in physical education resulting in a formal thesis. A prospectus is required. Prerequisite: PE 5900.

Psychology and Counselor Education

Psychology

In the section of Psychology, the second digit in the course number stands for the following: 0--Special Projects, 1--General-Experimental Psychology, 2--Educational and Developmental, 3--Personality-Social Psychology, 4--Clinical Psychology, 5--Psychometrics, 6--Industrial Psychology, 7--Rehabilitation, 9--Individual Study and Research.

PSYCHOLOGY Major, B.A. Degree
(42 000746)

		Sem. Hours
MAJOR REQUIREMENTS		30
Psy 1100	General Psychology	3
Psy 2130	Learning	3
Psy 4160	Research Design & Analysis I	3
Psy 4170	Research Design & Analysis II	3
Electives from the following		15
Psy 4110	Systems of Psychology	3
Psy 4130	Sensation & Perception	3
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the major, Psy 1100 fulfills 3 s.h. of Group F; the Modern Language Requirement fulfills 3 s.h. of Group G)		33-37
MODERN LANGUAGE REQUIREMENT		3-9
(Refer to Bachelor's Degree Requirements section for fulfillment options.)		
FREE ELECTIVES		23-40
MINIMUM TOTAL		124

Electives (continued)		
Psy 4140	Physiological Psychology	3
Psy 2220	Child Psychology	3
Psy 3340	Social Psychology	3
Psy 4310	Theories of Personality	3
Psy 4500	Intro. to Psy. Measurement	3
Elective in psychology		3

PSYCHOLOGY Major, B.S. Degree

(43 000747)

		Sem. Hours
MAJOR REQUIREMENTS		40
Psy 1100	General Psychology	3
Psy 2130	Learning	3
Psy 4110	Systems of Psychology	3
Psy 4140	Physiological Psychology	3
Psy 4160	Research Design & Analysis I	3
Psy 4170	Research Design & Analysis II	3
Psy 3340	Social Psychology	3
Psy 4310	Theories of Personality	3
Electives from the following		12
Psy 3110	Motivation	3
Psy 4130	Sensation & Perception	3
Psy 4150	Psychology of Thinking	3
Psy 2220	Child Psychology	3
Psy 4440	Abnormal Psychology	3
Psy 4500	Intro. to Psy. Measurement ...	3
Psy 4600	Industrial Psychology	3
Electives in psychology		4
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the major, Psy 1100 fulfills 3 s.h. of Group F)		36-40
FREE ELECTIVES		19-30
MINIMUM TOTAL		124

PSYCHOLOGY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000748)

		Sem. Hours
MINOR REQUIREMENTS		21
Psy 1100	General Psychology	3
Psy 2130	Learning	3
Psy 4310	Theories of Personality	3
Electives in psychology		12
GENERAL EDUCATION REQUIREMENTS (In the minor, Psy 1100 fulfills 3 s.h. of Group F)		

PSYCHOLOGY (REHABILITATION) Functional Major, B.S. Degree

(43 000750)

		Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS		60-65
Psy 1100	General Psychology	3
Psy 2130	Learning	3
Psy 4160	Research Design & Analysis I	3
Psy 4170	Research Design & Analysis II	3
Psy 4440	Abnormal Psychology	3
Psy 4500	Intro. to Psy. Measurement	3
Psy 3710	Interpers. Skills in Hum. Services	3
Psy 4701	Intro. to Rehabilitation Psychology	3
Psy 4705	Vocational Evaluation	3
Psy 4710	Voc. Adjustment & Placement	2
Psy 4770	Medical Aspects of Disability	3
Psy 4980	Field Experience in Rehabilitation	5
Electives from the following		16-17
Psy 3110	Motivation	3
Psy 4110	Systems of Psychology	3
Psy 4130	Sensation & Perception	3
Electives (continued)		
Psy 4140	Physiological Psychology	3
*Psy 4200	Psy. of Exceptional Children ..	2
Psy 3340	Social Psychology	3
Psy 4310	Theories of Personality	3
Psy 4600	Industrial Psychology	3
Psy 4720	Rehab. of the Ment. Retarded & Emotionally Disturbed	3
*Psy 4740	Rehab. of the Law Offender ...	3
Psy 4750	Rehab: Deaf Com. I	2
Psy 4760	Rehab: Deaf Com. II	2
Departmentally approved electives in HES, Nur, ET, Mf&C, IA&T, SpCm, SP&A, Biol, Soc, SoWk, Mgt, CIS, EdSp, Coun, PE, Rec, HEd, or CJ		7-11
MINOR NOT REQUIRED		
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, Psy 1100 fulfills 3 s.h. of Group F)		36-40
FREE ELECTIVES		19-28
MINIMUM TOTAL		124

*Course has prerequisite(s) not listed in the program.

Special Projects

Psy 4000 Special Projects in Psychology (1-5) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 5 semester hours.*

Prerequisite: consent of department chair.

Psy 5000 Special Projects in Psychology (1-3) Individual or group study of problems in special areas of need or interest. *May be repeated for a maximum of 3 semester hours.* Prerequisite: consent of department chair.

General-Experimental Psychology

Psy 1100 General Psychology (3) A general introduction to the science of behavior, surveying the broad field of psychology and the methods of investigation.

Psy 2130 Learning (3) A basic course for students planning to major in psychology. Emphasis on fundamental concepts and theoretical approaches to learning. Prerequisite: Psy 1100.

Psy 3110 Motivation (3) Consideration of the causal factors of human and animal behavior that impel

organisms to persist in goal-seeking behavior. Attention is given to the physiological and psychological motives, and the various theoretical positions. Prerequisite: Psy 2130.

Psy 4110 Systems of Psychology (3) Various systems of psychology as they affect the comprehensive viewpoint of contemporary psychology. Prerequisite: Psy 4310.

Psy 4130 Sensation and Perception (3) Relationship between sensory occurrences and the experiences of the person. Prerequisite: Psy 2130.

Psy 4140 Physiological Psychology (3) A survey of the relationship between physiological mechanisms and behavior. Course includes scheduled laboratory. Prerequisite: Psy 1100.

Psy 4150 Psychology of Thinking (3) An overview of current theories of processes involved in human thinking with emphasis on models of memory, information processing, language and mental representations. Prerequisite: Psy 2130.

Psy 4160 Research Design and Analysis I (3) Rationale and methods for designing, conducting, and analyzing research. Psy 4170 must be taken the following semester. Includes scheduled lab. Prerequisite: Psy 1100.

Psy 4170 Research Design and Analysis II (3) Rationale and methods for designing, conducting, and analyzing research. Continuation of Psy 4160. Includes scheduled lab. Prerequisite: Psy 4160.

Psy 4180 Seminar in Psychology (1-2) Selected issues not covered in theory-practicum courses. *May be repeated for a maximum of 6 semester hours.* Prerequisite: senior standing and consent of department chair.

Psy 5130 Psychology of Learning (3) The nine traditional theories of learning are emphasized with an introduction to the recent neurological and mathematical theories. For advanced psychology students. Prerequisite: 8 semester hours in psychology.

Psy 5140 Biological Bases of Behavior (3) Survey of recent research in fields of biology, physiology, pharmacology, and medicine that influences the psychological aspects of human behavior. Prerequisite: Psy 4140.

Educational and Developmental

Psy 2220 Child Psychology (3) Interaction of biological and environmental factors in the growth of the child from conception to maturity. Prerequisite: Psy 1100 or Psy 2240.

Psy 2240 Educational Psychology (3) Furnishes the prospective teacher with the psychological concepts, principles, theories, research findings, and techniques that are relevant to guiding the educative process. Prerequisite: should be taken concurrently with EdCI 2100 and EdCI 2150 during the sophomore year.

Psy 4200 Psychology of Exceptional Children (2) The identification, care, treatment, and guidance of exceptional children. Prerequisite: Psy 2240.

Psy 4210 Psychology of the Adult Learner (3) The nature of adults as learners with emphasis on psychological, sociological, physiological, and vocational factors of adulthood. Prerequisite: Psy 2240.

Psy 4230 Psychology of Adolescence (3) Developmental factors and problems common to the period from puberty to adulthood with emphasis upon conditions leading to optimal development. Prerequisite: 3 semester hours of psychology.

Psy 4240 Psychology of Aging (3) Introduces psychological problems of aged population including: physical functioning, age changes in perception, memory, learning, problem solving, personality, environmental influences, death and dying. Prerequisite: 6 semester hours of psychology or consent of instructor.

Psy 5200 Advanced Educational Psychology (3) Provides the graduate student in education with psychological principles, processes, theories, and research from learning, development, motivation, and measurements as they relate to the educative process.

Psy 5210 Advanced Educational Psychology: Classroom Behavior (2) An application of psychological principles and experimental findings to the behavioral problems involved in teaching and learning.

Psy 5220 Advanced Child Psychology (3) Development of the child with emphasis on the scientific viewpoint and theoretical conceptualization of child behavior. Prerequisite: Psy 2240 or Psy 2220.

Personality-Social Psychology

Psy 1320 Psychology of Personal Adjustment (3) Dynamics of adjustment and the means that an individual employs to maintain personality equilibrium.

Psy 3340 Social Psychology (3) Analysis of individual behavior in the social setting. Prerequisite: Psy 1100.

Psy 4310 Theories of Personality (3) Major theories of personality, past and present. Prerequisite: Psy 1100.

Psy 4320 Psychology of Women (2) An overview of the theories of personality as applied to women, biological determinants of feminine behavior, the dynamics of sex-role development, and the psychological implications of traditional versus modern roles for women.

Psy 5310 Dynamics of Personality (3) Contemporary, theoretical personality structures and their motivational systems. Prerequisite: Psy 4310.

Psy 5320 Advanced Mental Health (3) Introduces students to mental health issues and topics. Historical, philosophical, theoretical issues of mental health and mental illness are discussed along with a survey of mental health topics that represent the myriad of ways in which persons cope with and adjust to life stress and challenges.

Psy 5340 Social Bases of Behavior (3) Includes contemporary theory and research in several areas of social psychology (e.g., social cognition, social influence, aggression, social exchange and systems theory). Application to clinical settings is of special interest. Prerequisite: 15 semester hours of psychology or consent of instructor.

Clinical Psychology

Psy 4440 Abnormal Psychology (3) A descriptive course dealing with the etiology, diagnosis, and treatment of mental disorders of functional and organic origin. Prerequisite: Psy 1100.

Psy 5430 Drugs and Human Behavior (3) Basic mechanism of action of therapeutic drugs and drugs commonly abused. Includes operation and organization of nervous system functions, long and short term effects of drug use, patterns of abuse, and treatment programs.

Psy 5440 Psychopathology of Children and Youth (3) Attention to diagnostic efforts and therapeutic measures. Prerequisite: Psy 4200 or EdSp 2100.

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Psy 5460 Introduction to Psychotherapy (3) Designed to provide the student with an academic background from which to understand the dimensions, systems, and methods. Prerequisite: Psy 5310.

Psy 5470 Marriage and Family Therapy (3) An overview of the theory and practice of marital and family therapy concentrating on systems theory and interventional strategies. Practical applications are made through the use of role playing and demonstrations. Prerequisite: Psy 5460 or consent of instructor.

Psy 5480 Alcoholism, Its Etiology and Treatment (3) Addresses the physiological, social, and psychological aspects of alcoholism, specifically focusing on etiology and social sanction. Treatment methods are surveyed with emphasis on directive techniques. Prerequisite: Psy 5460 or consent of instructor.

Psychometrics

Psy 4500 Introduction to Psychological Measurement (1) An introduction to the basic psychometric theory, concepts, and procedures; familiarization with the major instruments in the field. Course includes scheduled laboratory. Prerequisites: Psy 4520 and rehabilitation functional majors must schedule Psy 3710, Psy 4705, Psy 4710 and Psy 4980 concurrently.

Psy 4520 Statistics for the Behavioral Sciences (3) Basic statistical methods. The techniques used to analyze frequency distributions, correlations, and tests of significance. Course includes scheduled laboratory. Prerequisite: Psy 1100.

Psy 5520 Advanced Statistics for the Behavioral Sciences (3) Inferential statistics, probability, and tests of the significance of difference will be introduced. Course includes scheduled laboratory. Prerequisite: Psy 4520.

Psy 5530 Personality Assessment (3) Making tentative diagnoses based on case histories, interviews, behavior observations and test data, including selecting, administering, scoring, and interpreting tests. Prerequisites: Psy 5310 and Psy 5520.

Psy 5550 Advanced Psychological Test Interpretation (2) Interpreting batteries of psychological tests and other relevant data sources as modality for teaching the clinician to make inferences about personality structure and adaptive function. Prerequisite: Psy 5530.

Psy 5560 Individual Intelligence Testing (3) The techniques of administering, scoring and basic interpretation of the Stanford-Binet and Wechsler Intelligence Scales. Each student will be required to administer a minimum of 25 tests and furnish their own materials. Prerequisite: Coun 5620 or EdCI 4300 or equivalent.

Industrial Psychology

Psy 4600 Industrial Psychology (3) Application of psychological principles and methods to the industrial setting. Prerequisite: Psy 1100.

Rehabilitation

Psy 3710 Interpersonal Skills in Human Services (3) Psychological, social, and vocational characteristics of the human services client with special attention to counseling theory and effective communication techniques. Prerequisite: rehabilitation functional majors must

schedule Psy 4500, Psy 4705, Psy 4710 and Psy 4980 concurrently.

Psy 4701 Introduction to Rehabilitation Psychology (3) An overview of the technical skills, history, legislation, sources of information, and resources for funding and support necessary to the rehabilitation psychologist.

Psy 4705 Vocational Evaluation (3) Presentation of vocational evaluation theory, specialized psychological tests, work samples, and other evaluation techniques.

Prerequisites: Psy 4500 or Psy 4701 or rehabilitation functional majors must schedule Psy 4500, Psy 3710, Psy 4710 and Psy 4980 concurrently.

Psy 4710 Vocational Adjustment and Placement (2) Examines theoretical perspectives and training techniques of vocational adjustment including methods of job placement and follow-up. Prerequisite: admission to rehabilitation program or consent of instructor. Rehabilitation functional majors must schedule Psy 4500, Psy 3710, Psy 4705 and Psy 4980 concurrently.

Psy 4720 Rehabilitation of the Mentally Retarded and Emotionally Disturbed (3) Basic principles and practical approaches to the rehabilitation of mentally retarded or handicapped and emotionally disturbed clients.

Prerequisites: Psy 1100 and 6 semesters hours of psychology.

Psy 4740 Rehabilitation of the Law Offender (3) History and philosophy of penology, theories of criminal personality, and rehabilitation procedures; course will include theory and practical work experience. Prerequisite: CJ 1000 or Soc 3890, or Psy 4701.

Psy 4750 Rehabilitation: Deaf Communication I (2) Promotes understanding and communication with the deaf. Basic principles, instruction, and practice in American Sign Language will be provided as well as various aspects of the Rochester Method of fingerspelling. Prerequisite: consent of instructor.

Psy 4760 Rehabilitation: Deaf Communication II (2) Increases the students' skills in deaf communication through the teaching of American Sign Language and the Rochester Method of fingerspelling. Prerequisites: Psy 4750 and consent of instructor.

Psy 4770 Medical Aspects of Disability (3) A basic medical information course which examines various disabling conditions as they relate to vocational placement and the rehabilitation process.

Individual Study and Research

Psy 4900 Readings in Psychology (1-5) For advanced psychology students. Individual research into problems and a written report or reports will be required. *May be repeated for a maximum of 5 semester hours.* Prerequisite: consent of department chair.

Psy 4980 Field Experience in Rehabilitation* (5) Placement in a professional field setting to provide 200 clock hours of observation and supervised experience in a rehabilitation agency. Prerequisites: admission to rehabilitation program or consent of instructor. Rehabilitation functional majors must schedule Psy 4500, Psy 3710, Psy 4705 and Psy 4710 concurrently.

*Not available for graduate credit.

Psy 5970 Practicum in Psychology (3) Supervised practice in psychological testing, personality assessment and treatment. *May be repeated for a maximum of 6 semester hours.* Prerequisite: Psy 5530 and consent of department chair.

Psy 5980 Internship (6) Consists of 500 clock hours in a facility that provides opportunities for practical experience in the student's area of emphasis. Supervised jointly by a

member of the University faculty and a member of the facility staff. *May be repeated for a maximum of 12 semester hours.* Prerequisite: recommendation of Internship Committee and approval by department chair.

Psy 5990 Thesis (6) Special investigation of an approved problem in the area of psychology resulting in a formal thesis. A prospectus is required. Prerequisite: Psy 5520.

Counselor Education

In the section of Counselor Education, the second digit in the course number stands for the following: 0--Special Projects, 1--Foundations, 2--Career Guidance, 3--Group Guidance, 4--School Counseling, 5--Secondary Counseling, 6--Testing, 7--Administration, 8--Techniques and Theories, 9--Individual Study and Research.

NOTE: For information regarding School Counseling certifications and programs, see the Graduate Catalog.

Special Projects

Coun 4000 Special Projects in Guidance and Counseling (1-5) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 5 semester hours.* Prerequisite: consent of department chair.

Foundations

Coun 4100 Foundations of Guidance (3) An overview of guidance services in schools, K-12, and in nonschool settings.

Coun 5100 Orientation to the Counseling Profession (3) Includes acquaintance with professional ethics, professional associations and their meetings and publications, areas of specialization and career opportunities, certification and licensure requirements, legal issues and liability, and current and future trends in the field.

Career Guidance

Coun 1200 Career Planning (1) Enables students to learn career decision making based on increased self-awareness and career awareness.

Coun 5200 Parent and Family Counseling (3) Provides knowledge concerning, and practice in, parent and family counseling. Prerequisite: Coun 4100 or concurrently or consent of instructor.

Coun 5210 Educational and Career Information (3) Instructs counselors-in-training and interested teachers in how to integrate career education into a school curriculum and/or how to utilize career information in noneducational work settings. Career development begins prior to kindergarten and is a lifelong process. Prerequisite: Coun 4100 or concurrently.

Group Guidance

Coun 5330 Group Process (3) Provides students with a better understanding of the dynamics of group interaction and the role of the counselor in helping individuals achieve self-direction. The socio-psychological influences on human behavior are emphasized. Prerequisite: Coun 4100 or Coun 5100 or concurrently.

Coun 6320 Advanced Group Procedures in Guidance (3) Provides counselors and counselors-in-training with a more intense experience in the dynamics of group interactions and procedures. Prerequisite: Coun 5450 or Coun 5470 or concurrently.

School Counseling

Coun 5400 Practicum in Counseling (3) Beginning course in the supervised practice of counseling. Prerequisite: Coun 5840.

Coun 5450 Practicum--Elementary School Counseling (3) Supervised practice in counseling. Prerequisite: Coun 5400.

Coun 5470 Practicum--Secondary School Counseling (3) Supervised practice in counseling. Prerequisite: Coun 5400.

Testing

Coun 5620 Group Testing (3) Commonly used standardized tests, including use, administration, scoring, recording, and interpretation. A charge is made for use of testing materials. Prerequisites: Coun 4100 or concurrently, and EdCI 4300.

Coun 5630 Analysis of the Individual (3) Sources, collection, organization, evaluation, and use of data about individuals in counseling. Each student, under supervision, will prepare a minimum of two systematic case studies. One of the case studies will be self-analysis. A charge is made for use of testing materials. Prerequisites: Coun 5620 and Psy 5320.

Administration

Coun 6700 Management of Guidance Services (3) Functions and procedures necessary in administering a guidance program.

Techniques and Theories

Coun 5840 Counseling Theories (3) Counseling theories, techniques and procedures appropriate for counseling school age individuals with regard to educational, vocational and personal planning. Prerequisite: Coun 4100 or Coun 5330 or concurrently.

Coun 6840 Advanced Counseling Theories (3) Advanced counseling and testing theories, practices, and the study of atypical behavior. Prerequisite: Coun 5470 or Coun 5450.

Individual study and research

Coun 6900 Readings in Guidance and Counseling (1-5) For advanced graduate students. Individual study and research concerning problems in guidance and counseling. Written report required. *May be repeated for a maximum of 5 semester hours.* Prerequisite: consent of department chair.

Coun 6990 Thesis (3-6) Special investigation of an approved problem in guidance and counseling resulting in a formal thesis. A prospectus is required.

Sociology and Social Work

In the Department of Sociology and Social Work, the second digit in the course number stands for the following: 6--Social Work, 8--Sociology.

Sociology SOCIOLOGY Major, B.A. Degree (42 000755)

		Sem. Hours
MAJOR REQUIREMENTS		30
Soc 1800	General Sociology	3
Soc 2805	Introduction to Social Research	3
Soc 3800	History of Social Thought	3
Soc 3870	Personality & Society	3
Soc 4860	Contemporary Sociological Thought ...	3
Soc 4890	Sociological Investigations	3
Anth 1820	Intro. to Anthropology II	3
Electives in sociology		4-6
Departmentally approved electives in Soc or in <u>one</u> of the following areas: Anth, SoWk, Psy, or corrections		3-5
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--38-43 s.h. (In the major, Soc 1800 fulfills 3 s.h. of Group F; the Modern Language Requirement fulfills 3 s.h. of Group G)		33-37
MODERN LANGUAGE REQUIREMENT		3-9
(Refer to Bachelor's Degree Requirements section for fulfillment options.)		
FREE ELECTIVES		23-40
MINIMUM TOTAL		124

SOCIOLOGY Major, B.S. Degree (43 000756)

		Sem. Hours
MAJOR REQUIREMENTS		40
Soc 1800	General Sociology	3
Soc 2805	Introduction to Social Research	3
Soc 3800	History of Social Thought	3
Soc 3870	Personality & Society	3
Soc 4860	Contemporary Sociological Thought ...	3
Soc 4890	Sociological Investigations	3
Anth 1820	Intro. to Anthropology II	3
Electives in sociology		7-10
Departmentally approved electives in Soc or in <u>one</u> of the following areas: Anth, SoWk, Psy, or corrections		9-12
MINOR REQUIREMENTS		18-25
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the major, Soc 1800 fulfills 3 s.h. of Group F; Anth 1820 fulfills 3 s.h. of Group G)		33-37
FREE ELECTIVES		22-33
MINIMUM TOTAL		124

SOCIOLOGY Functional Major, B.S. Degree (43 000759)

		Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS		63
Soc 1800	General Sociology	3
Soc 2805	Introduction to Social Research	3
Soc 3800	History of Social Thought	3
Soc 3870	Personality & Society	3
Soc 4860	Contemporary Sociological Thought ...	3
Soc 4890	Sociological Investigations	3
Anth 1820	Intro. to Anthropology II	3
Departmentally approved electives in two of the following areas		18-21
Math 1111	College Algebra	3
Math 1112	College Trigonometry	2
Math 3311	Statistics I	3
Math 1411	Intro. to FORTRAN Programming ..	1
*Math 2411	Intro. to Computer Science	3
Math 3700	Matrices & Applications	3
Econ 1010	Principles of Economics	3
Econ 1011	Principles of Economics	3
Electives (continued)		
Econ 3013	Public Finance	3
Econ 3065	Labor Economics	3
CJ 1000	Intro. to Criminal Justice	3
CJ 2300	Criminal Law	3
CJ 3303	Criminal Procedure	3
CJ 3400	Criminal Investigation	3
Psy 1100	General Psychology	3
*Psy 4110	Systems of Psychology	3
Psy 3340	Social Psychology	3
Psy 4440	Abnormal Psychology	3
Psy 4600	Industrial Psychology	3
Electives in sociology		4-6
Departmentally approved electives in three of the following areas: Anth, SoWk, Psy or corrections		15-20

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MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, Soc 1800 fulfills 3 s.h. of Group F;
 Anth 1820 fulfills 3 s.h. of Group G) 33-37
 If elected, Math 1111 fulfills 3 s.h. of Group C; Econ 1010 or Psy 1100 or CJ 1000 fulfills 3 s.h. of Group F.
 FREE ELECTIVES 24-28
 MINIMUM TOTAL 124

*Course has prerequisite(s) not listed in the program.

SOCIOLOGY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)

(000757)

		Sem. Hours
MINOR REQUIREMENTS		20
Soc 1800	General Sociology 3	Anth 1810 Intro. to Anthropology I, 3 or
Soc 3800	Hist. of Soc. Thought, 3 or	Anth 1820 Intro. to Anthropology II, 3 3
Soc 4860	Contemporary Soc. Thought, 3 3	Electives in sociology 11
GENERAL EDUCATION REQUIREMENTS (In the minor, Soc 1800 fulfills 3 s.h. of Group F; Anth 1820, if elected, fulfills 3 s.h. of Group G)		

Soc 1800 General Sociology (3) Understanding of the behavior of people in their various relations and social settings, attention to basic concepts and subfields in sociology.

Soc 1830 Social Problems (3) The sociology of social problems; background and analysis of selected social problems such as race, crime, population, civil rights, poverty; social changes in light of social controls and democratic values. Prerequisite: Soc 1800.

Soc 2800 The Community (2) The nature and characteristics of the community; variations in community life; emphasis on social process, social systems, and methods of studying communities. Prerequisite: Soc 1800.

Soc 2805 Introduction to Social Research (3) An examination of research designs, sampling techniques, scaling techniques, and nonparametric statistics.

Soc 2825 Marriage and the Family (3) The family, society, and the individual; background to American family patterns; premarital behavior; marriage and variations in family forms; problems of the family today. Prerequisite: Soc 1800.

Soc 2830 Population and Human Ecology (3) Human population patterns examined within an ecological framework, showing how they affect and are affected by both the environment and the diverse cultural ways human societies adapt to the ecological framework. Prerequisite: Soc 1800.

Soc 3800 History of Social Thought (3) Development of social origins of sociology; analysis and evaluation of social thought patterns as they relate to contemporary social problems. Prerequisite: 5 semester hours of sociology.

Soc 3825 Race and Ethnic Relations (3) Principles of intergroup relations; processes and consequences of interracial and ethnic contacts. Prerequisite: 5 semester hours of sociology.

Soc 3845 Social Inequality (3) A theoretical and methodological examination of the relationships between social class, inequality, and mobility. Prerequisite: 5 or more semester hours of sociology.

Soc 3870 Personality and Society (3) Interaction between the personality and its social environment; determinants of

personality with emphasis on social influences. Prerequisite: 5 semester hours of sociology.

Soc 3890 Criminology (3) Crime and criminals; the efforts of society to repress and prevent them; analysis of causation; law enforcement and criminalistics; philosophy and methods of correction.

Soc 4810 Urban Sociology (3) Urbanization, rise and growth of cities; attention to demography, ecology and changes in urban society; social problems such as land utilization, housing, slums, politics, crime, and living standards. Prerequisite: Soc 1800.

Soc 4815 Special Projects in Sociology (1-6) Study, interpretation, and discussion of special topics and problems in sociology. May be repeated for a maximum of 6 semester hours.

Soc 4820 Collective Behavior (3) An application of social-psychological principles to various forms of collective phenomena, including cults, civil disturbances, and social movements.

Soc 4825 Sociology of Education (3) Education as a social institution; its relationship to other institutions and the community. Prerequisite: 5 semester hours of sociology.

Soc 4830 Public Opinion and Communication (3) The social aspects of processes and agencies of mass communication; formation and measurement of public opinion; effects of mass media on society. Prerequisite: 5 semester hours of sociology.

Soc 4840 Sociology of Sport (3) An investigation and analysis of the relationships between sport and society. Focus will be upon the development and changing nature of sport as an institution in modern society.

Soc 4845 Juvenile Delinquency (3) The nature, extent, and causes of juvenile delinquency; types of juvenile offenders and their career patterns; institutional controls and treatment programs. Prerequisite: 5 semester hours of sociology.

Soc 4846 Corrections and Preventions (3) Views and methods of dealing with criminals and juvenile delinquents; types of correctional systems and prevention programs. Prerequisite: 3 semester hours of sociology.

Soc 4850 Industrial Sociology (3) The social aspects of industrial development in historic perspective; analysis of organizations in the fields of industry and labor.

Soc 4860 Contemporary Sociological Thought (3)

Assessment of current sociological thought as it is reflected by outstanding scholars in the field. Prerequisite: 5 semester hours of sociology.

Soc 4865 Sociology of the Family (3) The family in its social context. Prerequisite: 5 semester hours of sociology.

Soc 4872 Sociology of Organizations (3) A systematic study of the structural and interactional processes of work related organizations.

Soc 4875 Medical Sociology (3) Social factors and institutional settings for physical and mental health care; public needs and medical services; research in medical sociology. Prerequisite: 5 semester hours of sociology.

Soc 4880 Sociology of Law (3) The development of legal institutions; law as a system of social control; law and social change. Prerequisite: 5 semester hours of sociology.

Soc 4885 Sociology of Religion (3) The structure and function of religion in society; social sources of religions; religion and the individual. Prerequisite: 5 semester hours of sociology.

Soc 4890 Sociological Investigations (3) Examination of scientific methods in sociological research; evaluation of methods and procedures in research. Prerequisite: 5 semester hours of sociology.

Soc 4894 Sociology of Aging (3) The aging process and its consequences for the individual and society; an examination of the problem of aging in terms of demographic, economic, psychologic and sociologic implications; and emphasis on sociological principles and perspectives. Prerequisite: 5 semester hours of sociology or graduate standing.

Soc 5800 Sociological Theory (3) Examination of the principal sociological theoretical schools and systems with emphasis on contemporary theory.

Soc 5810 Methods of Sociological Research (3) Advanced analysis and application of methods of sociological research in the study of selected problems.

Soc 5820 Internship in Sociology (6) The application of theories and principles in the discipline, under the direction of the department and the supervising agency. Prerequisite: 10 semester hours of graduate credit.

Soc 5830 Causation and Prevention of Delinquent Behavior (3) Major theories regarding the causes of delinquent behavior and their implication for the prevention of delinquency.

Soc 5840 Applied Gerontology (3) Interdisciplinary survey of current theoretical and empirical knowledge of aging. Particular focus upon the social, emotional, economic and physical aspects of aging and the societal programs designed to enhance the well-being of the aged. Prerequisite: 5 semester hours of sociology or graduate standing.

Soc 5845 Readings in Social Gerontology (1-3) Directed readings in social gerontology. *May be repeated for a maximum of 6 semester hours.*

Soc 5850 Internship in Gerontology (6) The application of theories and principles in the field of aging under the direction of the department and the supervising agency. Prerequisite: 10 semester hours of graduate credit.

Soc 5860 Seminar in Deviance and Social Control (2) Directed research in deviant behavior and social control processes.

Soc 5882 Readings in Micro-Sociology (1-3) Directed readings in micro-sociology with emphasis on the small groups and interactional and interrelational processes.

Soc 5884 Readings in Sociological Theory (1-3) Directed readings in the growth and types of theoretical systems.

Soc 6830 Social Change (2) The processes of socio-cultural change; emphasis upon the rate of change, mechanisms of change, and planning change in modern society.

Soc 6890 Thesis (4-6) Research leading to the completion of a thesis.

Social Work

Social Work Statement of Policy

Admission Policy

Students entering Central as freshmen should indicate a pre-social work functional major. Transfer students must meet all requirements. Admission to the social work program is conditional upon the successful completion of all necessary requirements.

Requirements for Admission to the Social Work Program

1. Completion of those General Education courses listed as requirements of the social work functional major.
2. Cumulative grade-point average of 2.0.
3. A minimum grade of **C** for courses listed as curriculum requirements of the social work functional major.
4. Completion of SoWk 2600, SoWk 2610, and SoWk 2611.
5. Interview with social work adviser.

6. Submission of:

- a. Application for Admission to social work program.
- b. Transcript of all university work.
- c. A minimum of three letters of reference.
- d. Reference Form completed by social work faculty.

The necessary Application for Admission Forms and Reference Forms will be available in the student handbook obtained from the social work adviser.

7. Interview with Social Work Admissions Committee.

After admission, students will be permitted to continue in the Social Work functional major program by meeting certain "Criteria for Retention" as established by the department. For further information and a statement of these criteria, students are urged to visit a member of the social work faculty.

Retention Requirement

An earned grade of C or above in all courses listed as requirements or departmentally approved electives of the social work major.

Accreditation

The principal educational objective of the Social Work program is to prepare students for beginning social work practice. The Social Work baccalaureate program is accredited by the Council on Social Work Education, a specialized accrediting body recognized by the Council on Postsecondary Accreditation.

SOCIAL WORK Functional Major, B.S. Degree

(43 000761)

		Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS		67
SoWk 2600	Intro. to Soc. Welfare & Social Work ... 3	
SoWk 2610	Social Services	3
SoWk 2611	Social Work Field Observation & Participation	2
SoWk 3600	Intro. to Social Work Practice	3
SoWk 3610	Social Work Prac.: Basic Skills	3
SoWk 3611	Human Behav. & the Social Env.	3
SoWk 3620	Social Work Prac.: Interventive Tech. ...	3
SoWk 4610	Special Topics in Social Work	3
SoWk 4650	Social Welfare Policy	3
SoWk 4660	Field Practicum	8
SoWk 4661	Field Practicum Seminar	3
Soc 1800	General Sociology	3
Soc 2805	Introduction to Social Research	3
Soc 3825	Race & Ethnic Relations	3
Soc 3870	Personality & Society	3
Psy 1100	General Psychology	3
Psy 4440	Abnormal Psychology	3
Biol 2010	Human Biology	3
Departmentally approved electives from Soc, Psy, PolS, Nur, Mgt, Econ, CJ, HES		9
MINOR NOT REQUIRED		
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (In the functional major, Soc 1800 and Psy 1100 fulfill 6 s.h. of Group F		33-37
FREE ELECTIVES		20-24
MINIMUM TOTAL		124

SoWk 2600 Introduction to Social Welfare and Social Work

(3) Examines the nature of social welfare institutions, traces the historical development of social welfare programs and social work, and focuses on social problem issues in need of social service.

SoWk 2610 Social Services (3) Examines the social services delivery system with focus on the range of services available, the funding, and the structure of service programs. Open to social work majors only. Prerequisite: SoWk 2600 and must be taken concurrently with SoWk 2611.

SoWk 2611 Social Work Field Observation and Participation (2) Observation and participation in the fields of social work practice, under the direction of faculty and agency supervision. For social work majors only. Prerequisites: SoWk 2600 and must be taken concurrently with SoWk 2610.

SoWk 3600 Introduction to Social Work Practice (3) A comparative analysis of practice theories providing a framework for integrating the basic core of social work concepts with current available methods. Open to social work majors only. Prerequisite: SoWk 2600.

SoWk 3610 Social Work Practice: Basic Skills (3) Application of the process of professional practice including data gathering, differential assessment, planned change, and contracting. Prerequisites: SoWk 3600; must be taken concurrently with SoWk 3611.

SoWk 3611 Human Behavior and the Social Environment (3) Sequential phases of the human life cycle as a major perspective for exploring and understanding variance in social functioning. Open to social work majors only. Prerequisite: must be taken concurrently with SoWk 3610.

SoWk 3620 Social Work Practice: Interventive Techniques (3) Reviews the various theories in the behavioral sciences which influence the practice of social work. Primary focus is on implementing change in various client systems. Prerequisite: SoWk 3610.

SoWk 4610 Special Topics in Social Work* (1-6) Selected topics of contemporary interest in social work, or specialized fields of social work; variable content. *May be repeated for a maximum of 6 semester hours.* Prerequisite: 9 semester hours of social work or consent of instructor.

SoWk 4620 Social Services and the Elderly (3) Development of public policy and social service programming. Present and potential utility of individual, group and community intervention modalities as they are related to dealing with both the private troubles and public issues of aging. Prerequisite: 9 semester hours of social work, graduate standing or consent of instructor.

SoWk 4650 Social Welfare Policy* (3) Develops an operational understanding of social welfare policy and illustrates the interrelatedness of practice and policy analysis. Open to social work majors only. Prerequisite: SoWk 2610 and must be taken concurrently with SoWk 4660 and SoWk 4661.

SoWk 4660 Field Practicum* (8) Educationally directed field experience in a community agency under the supervision of qualified agency personnel. Prerequisites: social work major and recommendation of social work field coordinator. SoWk 3620 and must be taken concurrently with SoWk 4650 and SoWk 4661.

SoWk 4661 Field Practicum Seminar* (3) Assists students in strengthening and integrating their various field experiences. Examines the dynamics of actual practice while utilizing classroom knowledge. Prerequisites: social work major and recommendation of social work field coordinator. SoWk 3620 and must be taken concurrently with SoWk 4650 and SoWk 4660.

*Not available for graduate credit.

Special Services

School Administration and Higher Education

In the section of School Administration and Higher Education, the second digit in the course number stands for the following: 0--Special Projects, 1--Foundations, 4--Elementary School Administration, 5--Secondary School Administration, 7--School District Administration, 8--Higher Education, 9--Individual Study and Research.

Special Projects

EdAd 4000 Special Projects in Administration, Supervision, and Higher Education (1-5) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 5 semester hours.*

EdAd 5000 Special Projects (1-5) Individual or group study of selected problems/issues in special areas of interest. *May be repeated for a maximum of 5 semester hours.*

Foundations

EdAd 3120 Legal Problems of Teachers (2) Identifying for prospective teachers the legal challenges in the Missouri public schools.

EdAd 4130 The Middle School (3) An exploratory course which includes an introduction to philosophy, organization, curriculum and instructional strategies appropriate to the middle school learner.

EdAd 5110 Foundations of Education Administration (3) An introductory course in school administration. Prerequisite: EdCI 4500 or EdCI 4400.

EdAd 5120 School Law (3) An introductory class in school law for teachers and administrators with a special emphasis upon Missouri school law.

EdAd 5130 School Supervision (3) An intensive study of the problems, processes and techniques in the evaluation, supervision, and improvement of the institutional programs at the elementary and secondary levels of the school.

EdAd 5140 The Microcomputer in Education (2) The application of microcomputer technology to administrative, curricular, and instructional tasks. Prerequisite: basic knowledge of microcomputer use and consent of instructor.

EdAd 6120 Advanced School Law (3) School law for teachers and administrators plus a study of function and structure of courts and legal problems involving school finance, school property, and school board policy. Prerequisite: EdAd 5120.

EdAd 6140 Seminar in Educational Administration (2) An overview and critical analysis of problems common to educational administration. Prerequisite: 15 semester hours in school administration.

Elementary School Administration

EdAd 5420 Elementary School Administration (3) The organization, administration and problems relating to elementary school administration. Prerequisite: EdAd 5110 or consent.

Secondary School Administration

EdAd 5520 Secondary School Administration (3) The

organization, administration and problems relating to secondary school administration. Prerequisite: EdAd 5110 or consent.

School District Administration

EdAd 5710 Public School Finance (3) A basic course in theory and practice of public school finance.

EdAd 5730 School Personnel Administration (3) The organization and administration of school personnel activities and related problems.

EdAd 5750 Organization and Administration of Adult Education (3) The organization, administration, and supervision of adult education programs. Prerequisite: EdCI 4620.

EdAd 5760 School and Community Relations (2) Communication and related problems in education.

EdAd 6700 School District Administration (3) The administrative and related functions of the school superintendency. Prerequisite: EdAd 5420 or EdAd 5520.

EdAd 6710 Advanced School Finance (2) An advanced course in school finance and business management. Prerequisite: EdAd 5710.

EdAd 6720 School Facilities (3) School facilities: planning, construction, operation and maintenance. Prerequisite: EdAd 5420 or EdAd 5520.

Higher Education

EdAd 5800 Higher Education (3) The development, administration and current concerns of higher education in the United States.

EdAd 5810 The College Student (3) The college student in contemporary society; characteristics, attitudes, values, needs, pressures, and concerns.

EdAd 5820 College Teaching (3) Concerns, procedures, techniques, and evaluation in college teaching.

EdAd 5830 The Junior/Community College (3) History, development, and current concerns of the junior/community college.

EdAd 5840 The Law in Higher Education (3) Sensitizes students to a variety of legal issues in higher education and creates an awareness of areas within the student personnel field where potential litigation could result.

EdAd 5850 Student Development Theories and Practice (3) An in-depth examination of major theoretical models and their application. Prerequisite: EdAd 5810 or consent of instructor.

EdAd 5860 College Student Personnel Administration (3) Organization and administration of student personnel services in higher education.

EdAd 5870 Seminar in Higher Education (3) An overview and critical analysis of issues and concerns common to

higher education institutions.

EdAd 5880 Practica in College Student Personnel (2) A supervised work experience in college student personnel. *May be repeated with no more than 2 semester hours in a single student personnel functional area for a maximum of 8 semester hours.* Prerequisite: consent of instructor.

EdAd 6800 Curriculum in Higher Education (3) A study of curriculum in the junior and senior college: characteristics, issues, concerns, and trends.

Individual Study and Research

EdAd 6900 Readings in Higher Education (1-5) Individual study and research in higher education. *May be repeated for a maximum of 5 semester hours.*

EdAd 6960 Research Problems (3) A research investigation of an approved problem in school administration resulting in a research paper. A prospectus is required. Prerequisite: EdCI 5900.

EdAd 6970 Internship in School Administration (3) Practical experience in school administration under the supervision of public school administrator(s) and the student's adviser and/or advisory committee. *May be repeated for a maximum of 6 semester hours.* Prerequisite: adviser or departmental approval.

EdAd 6980 Internship in Higher Education (1-6) Practical experience in student personnel administration and/or other administrative experience in an institution of higher education. *May be repeated for a maximum of 6 semester hours.* Prerequisite: EdAd 5800 or EdAd 5830.

EdAd 6990 Thesis (3-6) Special investigation of approved problem in school administration resulting in a thesis. A prospectus is required. Prerequisites: EdCI 5900 and Psy 4520.

Health Education

In the section of Health Education, the second digit in the course number stands for the following: 0--Special Projects, 1--Foundations, 3--Curriculum and Instruction, 7--Administration.

HEALTH EDUCATION Minor, B.S. in Ed. Degree

(Certification to teach health education in PK-9. Certification for grades 9-12 requires 30 semester hours and certification for grades PK-12 requires 32 semester hours including the minor plus HEd 4320, HEd 4390, and additional HEd electives. Elementary Education Functional Majors 1-6 may use this as an area of concentration. See Director of Clinical Services and Certification for current requirements.)
(000804)

				Sem. Hours		
MINOR REQUIREMENTS				22		
HEd	1100	Personal Health	3	HEd 4310	Drugs & Youth	3
HEd	1350	Std. First Aid & Personal Safety	3	PE 2800	Human Anatomy	3
HEd	3360	School Health Education	2	PE 2850	Found. of Exercise Physiology	3
HEd	4300	Nutrition & Human Performance	2	Psy 1320	Psy. of Personal Adjustment	3

Biology majors may substitute Biol 2401 for PE 2850.
GENERAL EDUCATION REQUIREMENTS (In the minor, HEd 1100 fulfills 3 s.h. of Group I; Psy 1320 fulfills 3 s.h. of Group I)

Special Projects

HEd 4000 Special Projects in Health Education (1-5) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 6 semester hours.*

Foundations

HEd 1100 Personal Health (3) Health problems in today's society with special reference and application to the present and future life of the student.

Curriculum and Instruction

HEd 1350 Standard First Aid and Personal Safety (3) The first aid practice and theory for common emergencies. Certification for the American Red Cross Standard First Aid and Personal Safety course may be earned upon completion of all specific requirements.

HEd 3310 Health Education in the Elementary School (2) Curriculum and lesson plan development, basic health concepts, and methodology of teaching elementary health

education.

HEd 3360 School Health Education (2) Explores the current trends in curriculum development in health education and the legal aspects of school health. Prerequisite: Psy 2240.

HEd 4300 Nutrition and Human Performance (2) Nutrition as it applies to athletics, physical exercise, and health. Prerequisites: PE 2800 and PE 2850 or equivalent.

HEd 4310 Drugs and Youth (3) Use and abuse of alcohol and drugs; current problems relative to drug use, abuse, and control; programs in education, religion, welfare, law enforcement, and community agencies.

HEd 4320 Teaching Sex Education in the School (3) Prepares the teacher for course development, instruction, and integration of sex education into the school curriculum.

HEd 4330 First Aid and CPR for Educators* (1) Skills and principles of first aid and accident prevention in the schools. Students may receive national first aid and CPR certification.

*Not available for graduate credit.

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Hed 4350 Advanced First Aid and Emergency Care (3)

Emphasizes the essential knowledge and skills needed to develop the functional first aid capabilities required by policemen, firemen, emergency squad and rescue squad members, ambulance attendants, and other special interest groups. Students taking this course may complete requirements for the American Red Cross Advanced First Aid and Emergency Care Certificate.

Hed 4360 CPR Instructors Training (1) Procedures, theories, and techniques involved in the teaching of the American Red Cross CPR Modular System course. Students may complete requirements for the Red Cross CPR Modular System Instructor Certificate. Prerequisite: current Red Cross CPR Modular System Certificate.

Hed 4370 Human Diseases (3) An overview of the agents of disease, the processes of disease, and the effects of disease on humans. Prerequisites: PE 2850 or Biol 2401 or equivalent.

Hed 4390 School and Community Health Education (2) Various types of health programs conducted by private, volunteer, and official agencies.

Administration

Hed 4760 Organization and Administration of the School Health Program (2) The organization and administration of the school health program emphasizing the areas of healthful school living, health services, and health instruction. Prerequisites: HEd 3310 or HEd 3360.

Instructional Technology

In the section of Instructional Technology, the second digit in the course number stands for the following: 0--Special Projects, 1--Foundations, 3--Instructional Technology, 4--Audiovisual Production, 9--Individual Study and Research.

INSTRUCTIONAL MEDIA TECHNOLOGY Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor.
Preparation for teaching computer/technology literacy in schools.)
(000781)

MINOR REQUIREMENTS				Sem. Hours			
InsT	3100	Mediating Instruction	3	EdCI	4314	Integrated Microcomputer Applications for Teachers	2
InsT	4300	Prin. of Instructional Dev.	3	EdCI	4318	Telecommunications in Ed.	2
InsT	4400	Design & Prod. of Media for Instr.	3	LIS	4230	Sel. & Acquisition of Materials	3
InsT	4920	Practicum in Instructional Tech.	1	LIS	4740	Adm. of the Library Media Center	3
EdCI	2310	Computer/Technology in Ed.	2				
EdCI	4312	LOGO for Teachers	1				
							23

Special Projects

InsT 4005 Special Projects in Instructional Technology (1-5) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 5 semester hours.*

Foundations

InsT 3100 Mediating Instruction (3) The application of technology to the instructional development and delivery process. The selection, utilization, and evaluation of various media forms are studied. Laboratory experience includes preparation of instructional materials, equipment operation, and field experiences. A charge is made for expendable materials. Prerequisite: EdCI 2310.

InsT 3140 Audiovisual Equipment Proficiency (1) An in-depth study of the utilization of audiovisual equipment for instructional purposes. This course meets the audiovisual proficiency requirement for student teaching.

InsT 4130 Foundations of Instructional Technology (3) Issues which influence the nature and direction of the field of instructional technology. Prerequisite: InsT 3100.

Instructional Technology

InsT 4300 Principles of Instructional Development (3) Analysis and application of systematic approaches to the development of technology-based instruction. Includes the development of knowledge and skill in using hypermedia

and multimedia technology. Prerequisite: InsT 3100 or consent of instructor.

InsT 5330 Instructional Product Development (3) The application of the developmental procedures necessary to the design and validation of instructional products. Prerequisite: InsT 4130.

Audiovisual Production

InsT 4400 Design and Production of Media for Instruction (3) Design and production of print-based, computer-based, and video-based instructional materials that are related to subject areas or grade levels. Includes application of hypermedia and multimedia technology to the design and production of educational materials. A charge is made for expendable materials. Prerequisite: InsT 4300 or consent of the instructor.

InsT 5400 Advanced Production of Instructional Materials (3) Advanced techniques for the production of audiovisual materials and the integration and correlation of graphics, photographic and audio products as stimulus materials required for the production of a specific learner performance. A charge is made for expendable materials. Prerequisite: InsT 4400.

Individual Study and Research

InsT 4920 Practicum in Instructional Technology (1) Participation in field experiences that provide practice with teaching methodology applicable specifically to the

problems and procedures encountered when working with instructional technology. *May be repeated for a maximum of 4 semester hours.* Prerequisites: InsT 4400 and LIS 4740.

InsT 6920 Advanced Practicum in Instructional Technology (2) Practical experience in appropriate areas

of instructional technology. *May be repeated for a maximum of 6 semester hours.* Prerequisite: InsT 4920.

InsT 6960 Research Problems in Instructional Technology (2) Special investigation of an approved problem in the major field resulting in a research paper. A prospectus is required. *May be repeated for a maximum of 6 semester hours.* Prerequisite: EdCI 5900 or LIS 5610.

Recreation and Tourism

In the section of Recreation and Tourism, the second digit in the course number stands for the following: 0--Special Projects, 1--Foundations, 2--Leadership, 3--Commercial Recreation, 5--Camping and Outdoor Education, 6--Tourism, 7--Administration and Supervision, 8--Therapeutic Recreation, 9--Individual Study and Research.

GENERAL RECREATION Major, B.S. Degree*

(43 000814)

				Sem. Hours
MAJOR REQUIREMENTS				41
Rec 1100	Introduction to Recreation	3	Rec 4710	Managing Recreation & Tourism Enterprises
Rec 2200	Developing Rec. & Tourism Prog.	3	Rec 4720	Financing Recreation & Tourism Enterprises
Rec 3210	Leadership & Group Dynamics in Recreation & Tourism Services	3	Rec 4740	Sem. in Recreation & Tourism
Rec 3530	Outdoor Rec. Skills & Adventure	3	Rec 3830	Implications of Disabling Conditions for Therapeutic Rec.
Rec 4620	Planning & Dev. in Tourism & Rec.	3	Rec 4850	Leisure Education
Rec 4630	Marketing Tourism & Rec. Services ...	3	Rec 4980	Professional Field Experience
Rec 1700	Microcomputer Applications in Recreation & Tourism	3		
Students should see the Program Coordinator for certification requirements in specific areas of interest. Prior to enrollment in Rec 4980, the student must serve a minimum of six weeks of full-time field work in an approved recreation/tourism setting, have a minimum of 2.5 grade-point average in the major, and a minimum overall grade-point average of 2.25.				
MINOR REQUIREMENTS				18-25
GENERAL EDUCATION REQUIREMENTS				39-43
FREE ELECTIVES				15-26
MINIMUM TOTAL				124

*May lead to Missouri Park and Recreation Association Leader Certification and/or National Council on Therapeutic Recreation Certification as a Certified Therapeutic Recreation Specialist.

GENERAL RECREATION Functional Major, B.S. Degree*

(43 000801)

				Sem. Hours
FUNCTIONAL MAJOR REQUIREMENTS				60-67
Rec 1100	Introduction to Recreation	3	HEd 1350	Std. First Aid & Personal Safety
Rec 2200	Developing Rec. & Tourism Prog.	3	Mus 3301	Music for Elementary Schools
Rec 3210	Leadership & Group Dynamics in Recreation & Tourism Services	3	Grap 1010	Intro. to Graphic Arts, 3 or
Rec 3530	Outdoor Rec. Skills & Adventure	3	IA&T 4020	Crafts for Elementary Schools, 3 ...
Rec 4620	Planning & Dev. in Tourism & Rec.	3	Art 1110	Drawing I, 3 or
Rec 4630	Marketing Tourism & Rec. Services ...	3	Art 3910	Art for Elem. Schools, 3 or
Rec 1700	Microcomputer Applications in Recreation & Tourism	3	Mf&C 3120	Jewelry Making, 2
Rec 4710	Managing Recreation & Tourism Enterprises	3	Thea 4210	Creative Dramatics, 2 or
Rec 4720	Financing Recreation & Tourism Enterprises	3	SpCm 2130	Small Group Communication, 3 ..
Rec 4740	Sem. in Recreation & Tourism	2	Electives from the following or hold	
Rec 3830	Implications of Disabling Conditions for Therapeutic Rec.	3	PE 1251	Beginning Swimming
Rec 4850	Leisure Education	3	PE 3220	Adv. Beginning/Inter. Swim. ...
Rec 4980	Professional Field Experience	6	Electives from the following	
			PE 1250	Folk Dance
			PE 1260	Modern Dance I
			PE 1270	American Ballroom Dance
			PE 2360	Basic Dance Skills

(continued on next page)

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(continued from previous page)

Electives from the following	2-3
PE 1201 Recreational Sports	1
PE 1210 Badminton	1
PE 1220 Beginning Bowling	1
PE 1230 Beginning Golf	1
PE 1231 Archery for Women	1
PE 1232 Archery for Men	1
PE 1241 Beginning Tennis	1
PE 2230 Beginning Fencing	1

(Electives continued)

PE 1450 Growth & Development in Elementary Phys. Ed.	3
PE 3420 Elem. Sch. Phys. Ed. Act.	2
Electives from the following	3-4
Biol 3712 Field Natural Hist.	4
**Biol 3721 Wildlife Conservation	3
Geog 4291 Conservation of Natural Res.	3
Geog 4295 Land & Leisure	3

Students should see the Program Coordinator for certification requirements in specific areas of interest.

Prior to enrollment in Rec 4980, the student must serve a minimum of six weeks of full-time field work in an approved recreation/tourism setting, have a minimum of 2.5 grade-point average in the major, and a minimum overall grade-point average of 2.25.

MINOR NOT REQUIRED

GENERAL EDUCATION REQUIREMENT 39-43

Physical education activity courses, if elected in the major, may fulfill 2 or 3 hours of Group I.

FREE ELECTIVES 14-25

MINIMUM TOTAL 124

*May lead to Missouri Park and Recreation Association Leader Certification and/or National Council on Therapeutic Recreation Certification as a Certified Therapeutic Recreation Specialist.

**Course has prerequisite(s) not listed in the program.

GENERAL RECREATION Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor; Missouri Park and Recreation Association certification is not available with this minor.)
(000802)

				Sem. Hours
MINOR REQUIREMENTS				24
Rec 1100	Introduction to Recreation	3	Rec 4710	Managing Recreation & Tourism Enterprises
Rec 2200	Developing Rec. & Tourism Prog.	3		3
Rec 3210	Leadership & Group Dynamics in Recreation & Tourism Services	3	Rec 4720	Financing Recreation & Tourism Enterprises
				3
Rec 3530	Outdoor Rec. Skills & Adventure	3	Rec 3830	Implications of Disabling Conditions for Therapeutic Rec.
Rec 1700	Microcomputer Applications in Recreation & Tourism	3		3

TOURISM MANAGEMENT Minor for a Bachelor's Degree

(Central does not confer teacher certification for this minor)
(000822)

				Sem. Hours
MINOR REQUIREMENTS				24
Rec 2200	Developing Rec. & Tourism Prog.	3	HES 4800	Hotel & Restaurant Mgt.
Rec 1600	Introduction to Tourism	3	Rec 3610	Travel Agency Operations, 3 or
Rec 3600	Tourism Destinations	3	Rec 4600	Group Tour Operations, 3
				3
Rec 3630	International Tourism	3	Rec 4610	Conf. & Convention Planning, 3 or
Rec 1700	Microcomputer Applications in Recreation & Tourism	3	Rec 4630	Marketing Tourism & Recreation Services, 3
				3

Special Projects

Rec 4000 Special Projects in Recreation and Tourism (1-5)
Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 5 semester hours.*

Foundations

Rec 1100 Introduction to Recreation (3) Designed to introduce the student of recreation and leisure services to the philosophy, history, and significant social forces inherent in the growth and development of the leisure services field.

Rec 2150 Leisure Enhancement (2) The presentation of theories, concepts, and data from the field of leisure to students with no previous background in this area.

Rec 4100 Selected Topics in Recreation and Tourism (1)
An in-depth investigation of selected topics in leisure services. *May be repeated for a maximum of 5 semester hours.*

Leadership

Rec 2200 Developing Recreation and Tourism Programs (3) Provides an overview and practical experience with the program planning process for recreation and tourism services. Prerequisite: Rec 1100 or Rec 1600.

Rec 3210 Leadership and Group Dynamics in Recreation and Tourism Services (3) The basics of group dynamics and leadership as applied to techniques in recreation tourism environments. Prerequisite: Rec 1100 or Rec 1600.

Camping and Outdoor Education

Rec 3530 Outdoor Recreation Skills and Adventure (3) An introduction to experiential education through outdoor recreation adventure programs.

Tourism

Rec 1600 Introduction to Tourism (3) The course presents a basic understanding of travel and tourism and provides insight into the development and operations of the various components of the travel industry.

Rec 3600 Tourism Destinations (3) Includes the description of tourism related attributes of various countries.

Rec 3610 Travel Agency Operations (3) Details the technical and managerial requirements for travel agency operations. Prerequisite: Rec 3600.

Rec 3630 International Tourism (3) A presentation of the phenomena and relationships arising from the interaction of international tourists, business suppliers, host governments, and host communities in the process of attracting and hosting international tourists. Prerequisite: Rec 3600.

Rec 4600 Group Tour Operations* (3) Provides an overview of the group travel industry and the role of group tour operators in providing travel opportunities. Prerequisite: Rec 3600.

Rec 4610 Conference and Convention Planning* (3) Provides an insight into the planning techniques and management strategies used in conference and convention operations. Prerequisite: Rec 4600 or HES 4800.

Rec 4620 Planning and Development in Tourism and Recreation* (3) The processes involved in planning quality recreation and tourism destination areas. Prerequisite: Rec 4610 or Rec 4710.

Rec 4630 Marketing Tourism and Recreation Services* (3) An examination of the procedures involved in planning, developing, and implementing a tourism and recreation marketing campaign. prerequisite: Rec 4610 or Rec 4710.

*Not available for graduate credit.

Administration and Supervision

Rec 1700 Microcomputer Applications in Recreation and Tourism (3) Assists the student in becoming literate in the use of microcomputers in the recreation and tourism field.

Rec 4710 Managing Recreation and Tourism Enterprises* (3) Basic functions, management techniques, and operations procedures currently practiced in providing recreation and tourism related services. Prerequisite: Rec 3210.

Rec 4720 Financing Recreation and Tourism Enterprises* (3) Covers the basic methods and problems of financing public and private recreation and tourism services. Prerequisite: Rec 4710.

Rec 4740 Seminar in Recreation and Tourism* (2) Covers new and significant publications in the recreation and tourism industry and provides the student with an opportunity to develop basic research skills. Prerequisite: consent of instructor.

*Not available for graduate credit.

Therapeutic Recreation

Rec 3830 Implications of Disabling Conditions for Therapeutic Recreation (3) An overview of disabling conditions and the implications that these conditions have for the field of therapeutic recreation. Prerequisite: Rec 3210.

Rec 4800 Professional Foundations in Therapeutic Recreation* (3) Acquaints student with the philosophy, history, and principles of therapeutic recreation. Prerequisite: Rec 3830.

Rec 4820 Program Design and Evaluation in Therapeutic Recreation* (3) Prepares students to plan and evaluate therapeutic recreation activities. Prerequisite: Rec 3830.

Rec 4850 Leisure Education* (3) Theory, concepts and techniques of leisure education as applied in recreation services. The examination of leisure education models and instruments applicable to individuals in institutions and community based settings. Prerequisite: Rec 3210.

Rec 4860 Issues and Trends in Therapeutic Recreation* (3) Provides an overview of the issues and trends in therapeutic recreation. Prerequisite: Rec 3830.

*Not available for graduate credit.

Individual Study and Research

Rec 4980 Professional Field Experience* (6) Experience in recreation or tourism services while working in an approved agency under qualified and experienced supervision. Prerequisites: Rec 4740 and approval of the internship coordinator.

*Not available for graduate credit.

Special Education

In the section of Special Education, the second digit in the course number stands for the following: 0--Special Projects, 1--Foundations, 3--Curriculum and Instruction, 4--Special Methods, 6--Testing, 7--Administration, 9--Individual Study and Research.

SPECIAL EDUCATION/ELEMENTARY Functional Major, B.S. in Ed. Degree

(Certification to teach educable mentally handicapped PK-12; behaviorally disordered PK-12; severely developmentally disabled PK-12; or early childhood special education Preschool-Kindergarten)

(41 000784)

Sem. Hours

FUNCTIONAL MAJOR REQUIREMENTS		52-56
EdSp 3150	Community & Family Resources	2
EdSp 4140	Coun. Parents of Except. Children	2
EdSp 4360	Behavioral Mgt. Techniques	2
EdSp 4361	Practicum in Behav. Mgt. Tech.	1
EdSp 4620	Eval. of Abilities & Achievement	3
EdSp 4700	IEP Writing & The Law	3
HEd 3310	Health Ed. in the Elem. School	2
EdCl 3210	Methods of Reading Instruction	3
ScEd 1110	Physics for Teachers	3
ScEd 1120	Biology for Teachers	3
SP&A 4402	Lang. Dev. for the Handicapped	2
Art 3910	Art for Elementary Schools	3
Math 1811	Concepts & Methods in Elementary	4
Math 4890	Math. for Special Education	2
Elect at least one of the following special education certification areas--21		
Educable Mentally Handicapped--18		
EdSp 4150	Career Dev. for the Handicapped ..	2
EdSp 4300	Mentally Retarded Children	3
EdSp 4430	Tchg. the Mentally Handicapped ...	3
EdSp 4460	Teaching the Content Areas to the Mentally Handicapped	3
HEd 4330	First Aid & CPR for Educators	1
EdCl 4215	Tchg. Rdg. in Content Fields	3
EdCl 4220	Anlys. & Corr. of Rdg. Disabil.	2
EdCl 4250	Practicum in Reading	1
Behaviorally Disordered--18		
EdSp 4150	Career Dev. for the Handicapped ..	2
EdSp 4340	Behaviorally Disordered and/or Emotionally Disturbed Children	3
EdSp 4410	Tchg. the Child with Behav. and/or Emotional Disorders	3
MINOR NOT REQUIRED		
GENERAL EDUCATION REQUIREMENTS--39-43 s.h. (12-16 s.h. fulfilled by the functional major)		27
The following courses are required:		
SpCm 3000	Interpersonal Communication	3
Engl 1020	Rhetorical Writing	3
Engl 1030	Composition	3
PolS 1511	American Government	3
Geog 2212	World Geography	3
Art 1800	Ideas & the Visual Arts, 3 or	
Mus 1200	Music Appreciation, 3	3
PROFESSIONAL EDUCATION REQUIREMENTS		27-31
EdCl 2100	Foundations of Education	3
EdCl 2150	Introductory Field Experience	1
Psy 2220	Child Psychology	3
Psy 2240	Educational Psychology	3
Psy 4230	Psychology of Adolescence	3
EdSp 2100	Ed. of the Exceptional Child	2
EdSp 4395	Student Tchg. in Special Ed. I	6-8
EdSp 4396	Student Tchg. in Special Ed. II	6-8
Minimal computer literacy and proficiency in media technology are required prior to student teaching. These requirements may be met by (1) InsT 3100--3 hours and a no-credit laboratory in computer use, or (2) InsT 3140--1 hour and a no-credit laboratory in computer use, or (3) EdCl 2310--2 hours, or (4) a no-credit laboratory in audio-visual and computer literacy instruction. Students may select certification in elementary education through the Director of Clinical Services and Certification.		
FREE ELECTIVES		10-18
MINIMUM TOTAL		124

SPECIAL EDUCATION/SECONDARY Major, B.S. in Ed. Degree

(Certification to teach the educable mentally handicapped in grades 9-12; or the behaviorally disordered in grades 9-12; certification in selected secondary teaching field)

(41 000785)

		Sem. Hours
MAJOR REQUIREMENTS		35
EdSp 4140	Couns. Parents of Except. Children 2	
EdSp 4150	Career Dev. for the Handicapped 2	
EdSp 4360	Behavioral Mgt. Techniques 2	
EdSp 4361	Practicum in Behavioral Mgt. Tech. 1	
EdSp 4620	Eval. of Abilities & Achievement 3	
EdCl 3210	Methods of Reading Instruction 3	
EdCl 4210	Tchg. of Rdg. in the Sec. School 2	
EdCl 4220	Anlys. & Corr. of Rdg. Disabil. 2	
EdCl 4250	Practicum in Reading 1	
Psy 4230	Psychology of Adolescence 3	
SP&A 4402	Lang. Dev. for the Handicapped 2	
Math 1811	Concepts & Methods in Elem. School Math. I 4	
Math 4890	Math. for Special Education 2	
	Elect one of the following areas 6	
	Educable Mentally Handicapped	
EdSp 4300	Ment. Retarded Children 3	
EdSp 4430	Teaching the Mentally Hand. ... 3	
	Behaviorally Disordered	
EdSp 4340	Behav. Disord. and/or Emot. Dist. Children 3	
EdSp 4410	Tchg. the Child With Behav. and/or Emot. Disorders 3	
MAJOR IN A SECONDARY TEACHING FIELD		30
GENERAL EDUCATION REQUIREMENTS		39-43
Secondary Education students will be allowed to substitute Psy 4230 to fulfill 3 s.h. in Group F.		
PROFESSIONAL EDUCATION REQUIREMENTS		26
Students will enroll in 5 s.h. of student teaching in special education and 4 s.h. in the secondary teaching field.		
MINIMUM TOTAL		130

Special Projects

- EdSp 4000 Special Projects in Special Education (1-5)**
Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 5 semester hours.*
- EdSp 5000 Topics in Special Education (3)** Assists graduate students in researching current issues and trends in special education. *May be repeated with a different focus for a maximum of 6 semester hours.* Prerequisite: undergraduate major in special education or consent of instructor.
- EdSp 6000 Seminar in Special Education (3)** An in-depth study of topics current to the field of special education for the advanced graduate student. *May be repeated for a maximum of 9 semester hours.* Prerequisite: graduate degree in special education or consent of instructor.

Foundations

- EdSp 2100 Education of the Exceptional Child (2)**
Identification of exceptional children, methods and techniques for teaching them, as well as possible sources of referral which may be of assistance to teachers and parents of these children.
- EdSp 3150 Community and Family Resources (2)** Early clinical observations and experiences using community and family resources concerned with various kinds of exceptionality. *May be repeated for a maximum of 6 semester hours.* Prerequisite: EdSp 2100 or Psy 4200.
- EdSp 4140 Counseling Parents of Exceptional Children (2)**
A study of counseling and counseling theories, community resource agencies, and the use of the multidisciplinary team applied to counseling exceptional children and their parents. Prerequisite: EdSp 2100 or Psy 4200.
- EdSp 4150 Career Development for the Handicapped (2)**
Supportive services to special education students within a career development context. Prerequisite: EdSp 2100 or Psy 4200.

Curriculum and Instruction

- EdSp 4300 Mentally Retarded Children (3)** An introduction to and overview of the mentally retarded child of public school age. Prerequisite: EdSp 2100 or Psy 4200.
- EdSp 4310 Characteristics of the Severely Developmentally Disabled (2)** Basic information pertaining to the characteristics and care of the severely developmentally disabled. Prerequisite: EdSp 2100 or Psy 4200.
- EdSp 4320 Introduction to Early Childhood Special Education (3)** Basic information pertaining to the characteristics, care, treatment, and education of young children with special needs. Prerequisite: EdSp 2100 or Psy 4200.
- EdSp 4330 Education and Training of the Severely Developmentally Disabled (3)** The treatment and training strategies used in teaching the severely developmentally disabled. Prerequisites: EdSp 4310 and EdSp 4370.
- EdSp 4340 Behaviorally Disordered and/or Emotionally Disturbed Children (3)** Etiological factors, symptoms, and special problems associated with behaviorally disordered and/or emotionally disturbed children. Prerequisite: EdSp 2100 or Psy 4200 or Psy 4440.
- EdSp 4350 Augmentative and Alternative Communication (3)** Examines augmentative communication approaches and determines how they can best be used for the benefit of individuals with severe handicaps. Prerequisites: EdSp 2100 or Psy 4200; and SP&A 4402.
- EdSp 4360 Behavioral Management Techniques (2)**
Practical approaches to behavior management for the classroom teacher, special educator, or clinician. Prerequisite: EdSp 2100 or Psy 4200.
- EdSp 4361 Practicum in Behavioral Management Techniques (1)** Practical experience in designing behavioral management programs and environments under supervision. Prerequisite: EdSp 4360 or concurrently.
- EdSp 4370 Screening, Diagnosing and Prescribing Instructions (3)** Case finding, screening, diagnostic and assessment procedures to be utilized in prescriptive

educational planning for infants and preschool-aged children. Prerequisite: EdSp 2100 or Psy 4200.

EdSp 4380 Learning Disabilities (3) Characteristics, etiologies, definitions, legislation and issues related to the identification and educational planning for individuals with learning disabilities. Prerequisite: EdSp 2100 or Psy 4200.

EdSp 4390 The Gifted/Talented/Creative Child (3) Definitions, identification procedures, the nature and needs, concepts and issues concerning the gifted, talented, creative child. Not open to those who have had EdSp 4420.

Prerequisite: EdSp 2100 or Psy 4200.

EdSp 4395 Student Teaching in Special Education I* (5, 6, 8) Application for Student Teaching must be made with the Director of Clinical Services and Certification. This course should normally be taken with EdSp 4396. Its purpose is to give prospective special education teachers an opportunity to work with special education children. Credit in student teaching applies only toward the B.S. in Ed. and B.M.E. degrees. Prerequisites: special methods course in two special education certification areas (EdSp 4410, EdSp 4430, EdSp 4440, EdSp 4450) for elementary special education; special methods course in one special education certification area (EdSp 4430 or EdSp 4410) for secondary special education majors.

EdSp 4396 Student Teaching in Special Education II* (5, 6, 8) Prerequisite: must be taken concurrently with EdSp 4395.

*Not available for graduate credit.

EdSp 5350 Evaluation of the Handicapped (3) Involves a practicum directed teaching and clinical experience in the computer aided interpretation of individual intelligence tests, formal and informal assessments, and prescriptive teaching with emphasis on the processing of Individual Education Programs. Prerequisite: EdSp 4620 or consent of instructor.

Special Methods

EdSp 4410 Teaching the Child with Behavioral and/or Emotional Disorders (3) Classroom methods and materials used to educate children with behavioral and/or emotional disorders. Prerequisite: EdSp 4340.

EdSp 4430 Teaching the Mentally Handicapped (3) General problems in teaching mentally handicapped children, including materials and methods to be used. Prerequisite: EdSp 4300.

EdSp 4440 Curriculum and Methods in Early Childhood Special Education (3) The teaching methodologies and curricular formats used for educating young children with special needs. Prerequisites: EdSp 4320 and EdSp 4370.

EdSp 4450 Methods and Curriculum for Teaching the Severely Developmentally Disabled (3) Teaching methodologies and curricular formats used in programming for the severely developmentally disabled. Prerequisite: EdSp 4330.

EdSp 4460 Teaching the Content Areas to the Mentally Handicapped (3) Methods/materials used in teaching functional mathematics, social studies, and functional science to the mentally handicapped. Prerequisite: EdSp 4430 or EdSp 4410.

EdSp 4470 Perceptual Motor Training for the Handicapped (2) Overview of selected theories and assessment procedures for early childhood special education and severely developmentally disabled populations. Instruction in methods, materials, and equipment adaptations for selected populations. Prerequisite: EdSp 2100 or Psy 4200.

EdSp 4480 Teaching the Gifted/Talented/Creative Child (3) Teaching methods and curriculum design for the gifted,

talented, creative child. Prerequisite: EdSp 4390 or consent of instructor.

EdSp 5410 Learning Disabilities: Curriculum and Instruction (3) Curriculum and instructional planning and practice for persons with learning disabilities. Prerequisites: EdSp 4380 and EdSp 5350.

Testing

EdSp 4620 Evaluation of Abilities and Achievement (3) Instruction in interpretation of individualized intelligence tests, formal and informal diagnostic procedures, and in prescriptive instruction. A directed clinical experience in the diagnostic assessment process for Individual Education Programs is required. Prerequisite: EdSp 2100 or Psy 4200.

Administration

EdSp 4700 IEP Writing and the Law (3) Administrative procedures and policies needed in establishing a program of special education. Special emphasis is given to compliance with state and federal law. A directed clinical experience in the theory, process, and practice of IEP writing is included. Prerequisite: EdSp 4410 or EdSp 4430 or EdSp 4440 or EdSp 4450 or EdSp 5410 or equivalent.

EdSp 5700 Advanced Organization and Administration of Special Education (3) Provides practicing special educators, special education administrators, and regular division administrators with experience through simulations in dealing with common problems which arise in public school special education programs. Prerequisite: EdSp 4700.

EdSp 5710 Administration and Supervision of Program for the Gifted/Talented/Creative Child (3) Provides research into administration, supervision, organization, program planning and problems related to school administration of programs for the gifted, talented, creative child. Prerequisite: EdSp 4480.

Individual Study and Research

EdSp 6900 Readings in Special Education (1-5) Individual study and research regarding problems or areas of particular interest in special education. A written report or reports will be required. *May be repeated for a maximum of 5 semester hours.* Prerequisite: permission of graduate adviser.

EdSp 6970 Methods of Research in Special Education (3) Research organization, research instrument selection, methods of data collection, data interpretation, statistical design, and the design of an acceptable thesis prospectus. Prerequisite: EdCI 5900, Psy 4520 and 30 semester hours in special education.

EdSp 6980 Internship in Special Education (1-6) Practical experience in a school, clinic, or institution wherein handicapped children or youth are served in a program that the student proposes to follow. Provides work with administrative and nonadministrative personnel at several levels. A written report of the internship will be required. *May be repeated for a maximum of 6 semester hours.*

Prerequisites: EdSp 4410 or EdSp 4430 or EdSp 4440 or EdSp 4450 or EdSp 5410 or EdSp 5700, and consent.

EdSp 6990 Thesis (2-6) Special investigation of an approved problem in special education resulting in a thesis. A prospectus is required. *May be repeated for a maximum of 6 semester hours.* Prerequisite: EdCI 5900.

Speech Pathology and Audiology

In the Department of Speech Pathology and Audiology, the second digit in the course number stands for the following:
 0--General Education, 1--Professionalism, 3--Speech Science, 4--Language, 5--Speech Pathology, 7--Audiology, 8--Clinical Practicum, 9--Directed Studies.

NOTE: The Bachelor of Science degree in Speech Pathology and Audiology is a pre-professional degree. Since the Master's Degree is the recognized entry-level degree for both professions in all employment settings, the purpose of the degree is to prepare students to enter graduate programs in either Speech-Language Pathology or Audiology. Completion of an undergraduate degree does not prepare students for employment as speech-language pathologists or audiologists. Students selecting Speech Pathology and Audiology as a major should be aware that successful completion of the B.S. degree does not guarantee admission to the graduate program at Central or any other college or university. Admission to graduate programs in Speech-Language Pathology and Audiology is highly competitive because of the limited number of students that may be admitted in order for programs to meet accreditation standards of the American Speech-Language-Hearing Association.

SPEECH PATHOLOGY, B.S. Degree

	Sem. Hours
CORE REQUIREMENTS	42
SP&A 4101 Spch.-Lang.-Hearing Serv. in the Sch. 3	SP&A 4701 Introduction to Audiology 3
SP&A 2301 American Phonetics 3	SP&A 4706 Hearing Measurement 3
SP&A 3301 Anatomy & Neurology of Spch./Lang. 3	SP&A 3802 Observ. of Clin. Prac. in
SP&A 3304 Speech Science 3	Spch.-Lang. Path. & Aud. 1
SP&A 4401 Language Development 3	SP&A 4803 Clin. Practice in Language
SP&A 3501 Intro. to Comm. Disorders 3	Disorders of Children 1
SP&A 3503 Principles of Clinical Mgt. 3	SP&A 4804 Clin. Practice in Speech
SP&A 4504 Assessment & Intervention I:	Disorders of Children 1
Articulation 3	Psy 4520 Statistics for the Behavioral Sci. 3
SP&A 4505 Assessment & Intervention II:	Engl 4110 Linguistics 3
Language 3	

SPEECH PATHOLOGY Functional Major Option I, B.S. Degree (43 000806)

	Sem. Hours
FUNCTIONAL MAJOR OPTION I REQUIREMENTS	48
Core Requirements 42	Electives (continued)
Electives from the following 6	Psy 4770 Medical Aspects of Disability . . . 3
SP&A 4403 Early Childhood Lang. Disorders 2	SoWk 2600 Intro. to Social Welfare
Psy 2130 Learning 3	& Social Work 3
Psy 4110 Systems of Psychology 3	EdSp 4300 Ment. Retarded Children 3
Psy 4130 Sensation & Perception 3	HES 3222 Early Childhood 3
Psy 4140 Physiological Psychology 3	Nur 4020 Grief & Loss 2
Psy 3340 Social Psychology 3	Nur 4405 Aging of Self & Others 2
Psy 4310 Theories of Personality 3	Biol 2401 Anatomy & Physiology I 4
Psy 4440 Abnormal Psychology 3	Engl 3110 English Grammar 3
Psy 4750 Rehabilitation: Deaf Com. I 2	CIS 1600 Prin. of Comp. Info. Sys. 3
MINOR NOT REQUIRED	
GENERAL EDUCATION REQUIREMENTS	43-46
SpCm 1000 Group B (required) 3	PolS 1510 Group F (required) 3
Biol 1013 Group D (required) 4	Psy 1100 Group F (required) 3
Phys 1611 Group D (required) 3	
PROFESSIONAL EDUCATION REQUIREMENTS	24
EdCl 2100 Foundations of Education 3	EdSp 2100 Ed. of the Exceptional Child, 2 or
EdCl 4495 Student Tchg. Elementary I 5	Psy 4200 Psy. of Except. Children, 2 2
EdCl 4596 Student Tchg. Secondary II 4	EdCl 4210 Tchg. of Rdg. in the Sec. Sch. 2
Psy 2220 Child Psychology 3	
Psy 2240 Educational Psychology 3	
EdSp 4140 Couns. Parents of Except. Children 2	
Proficiency in use of audiovisual equipment and computer literacy is required prior to student teaching. May be met by a no-credit laboratory in audiovisual or InsT 3100 or InsT 3140 and a no-credit laboratory in computer literacy or EdCl 2310.	
FREE ELECTIVES	6-9
MINIMUM TOTAL	124

SPEECH PATHOLOGY Major Option II, B.S. Degree (43 000833)	Sem. Hours
MAJOR OPTION II REQUIREMENTS	42
Core Requirements	42
MINOR REQUIREMENTS	18-25
GENERAL EDUCATION REQUIREMENTS (See Option I)	43-46
PROFESSIONAL EDUCATION REQUIREMENTS (See Option I)	24
MINIMUM TOTAL	127

General Education

SP&A 2000 The Bases of Speech and Language (2) The nature and function of speech and language from the standpoint of normal development. Provides a basis for understanding communicative disorders of a pathological and/or psychological nature.

Professionalism

SP&A 4101 Speech-Language-Hearing Services in the Schools (3) Administration of speech, language, and hearing programs in school settings. Prerequisite: full admission to the Teacher Education Program and enrollment in the Professional Education Semester, or consent of the instructor.

Speech Science

SP&A 2301 American Phonetics (3) Sound system of American English with emphasis on the international phonetic alphabet and dialects.

SP&A 3301 Anatomy and Neurology of Speech/Language (3) The anatomical, neural, and endocrinological bases for production of normal speech.

SP&A 3304 Speech Science (3) An introduction to basic physiological and acoustical properties of human communication. Prerequisite: SP&A 3501.

Language

SP&A 4401 Language Development (3) Theories and sequence of normal language acquisition.

SP&A 4402 Language Development for the Handicapped (2) Theories and sequence of language acquisition with emphasis on language development and deficiencies of handicapped children.

SP&A 4403 Early Childhood Language Disorders (2) Emphasis on diagnostic procedures, management/treatment principles and procedures, transdisciplinary programming, behavior management, and implementation of a cognitively based preschool for language delayed children. Prerequisites: SP&A 3503 or concurrently, 2.5 undergraduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5402 Language Disorders of Children (3) Types of language disorders, identification and management of the problem. Prerequisite: SP&A 3501 or SP&A 4401.

Speech Pathology

SP&A 3501 Introduction to Communication Disorders (3) Etiology, incidence, and characteristics of communicative disorders.

SP&A 3503 Principles of Clinical Management (3) Fundamental clinical concepts as a foundation for diagnosis and intervention in communication disorders. Prerequisite: SP&A 3501.

SP&A 4504 Assessment and Intervention I: Articulation (3) Specific methodologies and competencies in both diagnosis and treatment planning for individuals with phonological defects. Prerequisite: SP&A 3503.

SP&A 4505 Assessment and Intervention II: Language (3) Types of language disorders; formal and informal assessment procedures of language leading to a diagnosis of language disability; prescriptive intervention procedures for the remediation of language disabilities including both commercially available programs and clinician-made material. Prerequisite: SP&A 3503.

SP&A 5501 Articulation Disorders (2) Phonetic, physical, and physiological aspects of the articulation of speech and the etiology of articulation disabilities.

SP&A 5502 Fluency Disorders (3) Major theories of the etiology and treatment of fluency disorders.

SP&A 5503 Voice Disorders (3) Voice disorders which result from laryngopathologies and psychoneuroses.

SP&A 5504 Aphasia Rehabilitation (3) Aphasia, its possible etiology, characteristics, diagnostic evaluations and therapy; head trauma, the language of confusion, and other language problems of the aging population.

SP&A 5505 Cleft Palate Habilitation (2) Etiology, associated problems, the relationship of dental and surgical success to speech development, and the treatment of speech problems associated with cleft palate.

SP&A 5506 Neurogenic Speech Disorders (3) Clinical evaluation and treatment of persons with speech disorders with neurogenic etiology, including developmental dysarthria, the acquired dysarthrias, oroverbal apraxia, traumatic brain injury, and dysphagia. Special consideration is included for persons who require augmentative communication devices.

SP&A 5507 Special Projects in Speech Pathology (2) Individual study and/or research in speech pathology. Prerequisite: approval of graduate adviser.

Audiology

SP&A 4701 Introduction to Audiology (3) Hearing impairment as related to basic acoustics and psychoacoustics, anatomy and physiology of the ear, and theories of hearing.

SP&A 4706 Hearing Measurement (3) Hearing measurement procedures including pure tone and speech audiometry and some site of lesion testing. Prerequisite: SP&A 4701 or concurrently.

SP&A 5701 Clinical Audiology I (3) The theory and practice of advanced audiological testing.

SP&A 5702 Industrial Audiology (2) A study and practicum of the measurement of noise and vibration and their effect on man. The organization and administration of programs for safety control of environmental noise and for hearing conversation.

SP&A 5703 Hearing Aids (3) Hearing aids, their function and use in aural rehabilitation. Includes practicum experience in hearing aid fittings.

SP&A 5704 Impedance Audiometry (2) Measurement and interpretation of tympanometry, static compliance, stapedial reflex, reflex decay and SPAR. The study of the theory of impedance and admittance.

SP&A 5705 Special Projects in Audiology (2) Individual study and/or research in audiology. Prerequisite: approval of graduate adviser.

SP&A 5706 Clinical Audiology II (3) Theory, administration, and interpretation of electro-physiological tests of auditory and vestibular function. Prerequisite: SP&A 5701.

SP&A 5707 Hearing Science (2) In-depth study of the anatomy and physiology of the auditory periphery with a review of basic acoustics and physical concepts.

Prerequisite: SP&A 4701.

SP&A 5708 Aural Rehabilitation (3) Effects of hearing impairment of verbal communication. Principles and methods of aural rehabilitation. Prerequisite: SP&A 4706.

SP&A 5709 Pediatric Audiology (3) Prenatal and postnatal development of the auditory system, assessment of auditory disorders in infants and children. Prerequisite: SP&A 4701.

SP&A 5710 Medical Audiology (3) In-depth study of the anatomy and physiology of the ear. The pathology, incidence, etiology, otologic, and audiologic findings and treatment for hearing impairments. Prerequisite: SP&A 4701.

SP&A 5711 Clinical Audiology III (2) Regulations and procedures required in the calibration of audiometric equipment. Prerequisite: SP&A 5707.

Clinical Practicum

SP&A 3802 Observation of Clinical Practicum in Speech-Language Pathology and Audiology (1) Supervised observation of evaluation and treatment of children and adults with disorders of speech, language, or hearing. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3501 or concurrently, 2.5 undergraduate GPA in departmental courses, and a speech and hearing screening.

SP&A 4803 Clinical Practice in Language Disorders of Children (1) Specialized practice in management of language disorders of children. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 2301, SP&A 4504 or SP&A 4505 or concurrently, 2.5 undergraduate GPA in departmental courses, and a speech and hearing screening.

SP&A 4804 Clinical Practice in Speech Disorders of Children (1) Specialized practice in management of speech disorders of children. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 2301, SP&A 4504 or SP&A 4505 or concurrently, 2.5 undergraduate GPA in departmental courses, and a speech and hearing screening.

SP&A 4805 Introduction to Clinical Practice in Audiology (1) Specialized practice in screening, air and bone conduction thresholds, and rehabilitation. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3503, 2.5 undergraduate GPA in departmental courses and a speech and hearing screening.

SP&A 5801 Internship in Speech Pathology-Audiology (6) This internship will be taken at regional medical hospitals. Students will provide full-time service with patients who require speech and/or hearing therapy. Internships will be scheduled.

SP&A 5805 Treatment of Hearing Disorders in Children/Adults (1-2) Specialized practice in management of communication disorders accompanying hearing loss. Twenty-five clock hours are required for one semester hour credit. *May be repeated for a maximum of 2 semester hours.* Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5806 Clinical Practice: Hearing Evaluation in Children (1-2) Specialized practice in the evaluation of hearing disorders in children. Twenty-five clock hours are required for one semester hour of credit. *May be repeated for a maximum of 2 semester hours.* Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5807 Clinical Practice: Hearing Evaluation in Adults (1-2) Specialized practice in the evaluation of hearing disorders in adults. Twenty-five clock hours are required for one semester hour of credit. *May be repeated for a maximum of 2 semester hours.* Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5808 Clinical Practice: Amplification and Assistive Devices for Children (1-2) Specialized practice in the evaluation and use of amplification and assistive devices for children. Twenty-five clock hours are required for one semester hour of credit. *May be repeated for a maximum of 2 semester hours.* Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5809 Clinical Practice: Amplification and Assistive Devices for Adults (1-2) Specialized practice in the evaluation and use of hearing aids and assistive devices for adults. Twenty-five clock hours are required for one semester hour of credit. *May be repeated for a maximum of 2 semester hours.* Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5811 Advanced Clinical Practice in Language Disorders of Children (1) Advanced specialized practice in management of language disorders of multiply and severely handicapped children. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5812 Advanced Clinical Practice in Speech Disorders of Children (1) Advanced specialized practice in management of speech disorders of multiply and severely handicapped children. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5813 Clinical Practice in Speech Disorders of Adults (1) Specialized practice in management of speech disorders of adults. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5814 Clinical Practice in Language Disorders of Adults (1) Specialized practice in management of language disorders of adults. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

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SP&A 5815 Advanced Clinical Practice in Public Schools

(1) Advanced specialized practice in diagnosis and management of speech, language, and hearing disorders in the schools. Twenty-five clock hours are required for one semester hour of credit. *May be repeated for a maximum of 2 semester hours.* Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5816 Clinical Evaluation: Speech Disorders in Children (1) Specialized practice in diagnosis of speech disorders in children. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5817 Clinical Evaluation: Speech Disorders in Adults (1) Specialized practice in diagnosis of speech disorders in adults. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5818 Clinical Evaluation: Language Disorders in Children (1) Specialized practice in diagnosis of language disorders in children. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

SP&A 5819 Clinical Evaluation: Language Disorders in Adults (1) Specialized practice in diagnosis of language disorders in adults. Twenty-five clock hours are required for one semester hour of credit. Prerequisites: SP&A 3503 or concurrently, 3.0 graduate GPA in departmental courses, and a speech and hearing screening.

Directed Studies

SP&A 5900 Seminar in Speech Pathology and Audiology (2) Studies in a specialized area of speech pathology or audiology. *May be repeated for a maximum of 12 semester hours.*

SP&A 5902 Research Design in Speech Pathology and Audiology (3) An introduction to research design strategies in communication disorders. Prerequisite: Psy 4520.

SP&A 6901 Thesis (1-5)

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Personal Skills Development

In the section of Personal Skills Development, the second digit in the course number stands for the following: 0--College Skills, 1--Project Advance, 8--Individual Study and Projects.

College Skills

Pers 1000 Introduction to College Writing (3) Classroom and tutorial instruction in the process of developing paragraphs and longer essays with emphasis placed on mechanics, usage, and sentence structure.

Pers 1010 Textbook Reading Techniques (3) Using computer-assisted instruction, the course emphasizes development of vocabulary, comprehension, and speed for reading college textbooks.

Pers 1012 Speed Reading (1) Principles and applications of speed reading to textbooks, research materials, and other types of reading material. Prerequisite: reading test score of 12th grade level or better.

Pers 1020 College Study Skills (2) Principles of time management, note taking, memory, and test taking techniques applied to studying for college courses.

Pers 1030 Introductory Algebra (3) Designed to review or improve basic algebra skills. Includes integers, equations, inequalities, polynomials, factoring, quadratic equations, and some work with rational expressions.

Pers 1035 Review of Introductory Algebra (1.5) Designed for students who have a mathematical weakness but may not need an entire semester of introductory algebra. Includes word problems, graphing, polynomials, factoring, and quadratic equations. Prerequisite: high school credit in basic algebra.

Project Advance

Pers 0101 Fundamentals of Writing I AP (3) Review and application of English grammar and basic writing techniques. Prerequisite: acceptance into the Advance Program. Not applicable to graduation requirements.

Pers 0111 Fundamentals of Reading I AP (3) Review and application of methods for vocabulary, comprehension, and reading rate development. Prerequisite: acceptance into the Advance Program. Not applicable to graduation requirements.

Pers 0131 Fundamentals of Math I AP (3) Review of fractions and decimals with an introduction to negative numbers and linear equations. Prerequisite: acceptance into the Advance Program. Not applicable to graduation requirements.

Pers 1102 Fundamentals of Writing II AP (3) Continuation and further application of grammar and writing techniques through paragraph and essay development. Prerequisite: acceptance into the Advance Program and Pers 0101 or demonstrated skill level. This course substitutes for Pers 1000.

Pers 1112 Fundamentals of Reading II AP (3) Continuation and further application of vocabulary, comprehension, and reading rate development, in addition to flexibility and methods for reading college textbooks. Prerequisite: acceptance into the Advance Program and Pers 0111 or demonstrated skill level. This course substitutes for Pers 1010.

Pers 1125 College Success Strategies AP (1) Focus on personal responsibility to enhance academic achievement. Prerequisite: acceptance into the Advance Program; Univ 1000 or consent.

Pers 1132 Fundamentals of Math II AP (3) Continuation and further application of math skills through an introduction to algebra, including properties of numbers, linear equations, graphing, polynomials, factoring, and

quadratic equations. Prerequisite: acceptance into the Advance Program and Pers 0131 or demonstrated skill level. This course substitutes for Pers 1030.

Individual Study and Projects

Pers 1800 Special Projects (1, 1.5, 2) Individual or group study of material in special areas of interest. *May be repeated for a maximum of 6 semester hours.*

University Orientation

In the section of University Orientation, the second digit in the course number stands for the following: 0--General.

General

Univ 1000 Student Development Seminar (1) An introduction to university academics and university life. Intended for all new students at Central. Open only to students with fewer than 25 Central Missouri State University credits.

Interdisciplinary Studies

Interdisciplinary Studies at Central Missouri State University enable students to interrelate various bodies of knowledge, encouraging integration of thought by combining expertise across disciplines. By exposure to varying perspectives, a deliberate attempt is made to fuse bodies of knowledge, allowing students to synthesize knowledge in a multifaceted manner.

In the area of Interdisciplinary Studies, the second and/or third digits in the course number stand for the following: 0--General, 1--Music/Art, 2--Literature/Language/Theatre/Philosophy, 3--History/Anthropology/Sociology, 4--Political Science/Criminal Justice/Safety, 5--Speech Communication/Mass Communication, 6--Psychology/Education/Physical Education, 7--Mathematics/Science, 8--Business/Economics/Home Economics, 9--Special Projects/Individual Study/Research.

IndS 2340 Introduction to Asian Societies and Civilization (3) A survey of the culture, history, politics and societies of the major countries of Asia. (Listed also in History and Political Science.)

International Studies

In the area of International Studies, the second digit in the course number stands for the following: 0--General.

ISP 4000 Study Abroad (3-4) This course allows students to enroll at Central Missouri State University while attending classes in a sponsored study abroad program. The variable credits are based on the number of credit hours the student plans to complete at the foreign institutions. The actual credit recorded represent those credits completed by the student and transferred back to Central. *May be repeated for a total of 12-16 semester hours in one semester.* Prerequisite: approval of the Director of International Programs.

Library Services

Library Science and Information Services

In the Department of Library Science and Information Services, the second digit in the course number stands for the following: 0--Special Projects, 1--Foundations, 2--Librarianship, 6--Library Literature, 7--Administration, 8--Technical Processes, 9--Individual Study and Research.

NOTE: For information regarding Library Science and Information Services certifications and programs, see the Graduate Catalog.

Special Projects

LIS 4000 Special Projects in Library Science (1-5) Individual or group study of problems in special areas of interest. *May be repeated for a maximum of 5 semester hours.*

LIS 5000 Special Projects in Learning Resources (1-5) Directed individual study to address current issues in

and/or special interests of the student. *May be repeated for a maximum of 5 semester hours.*

Foundations

LIS 1100 Library and Information Resources (2) Exploration, retrieval, and use of general and discipline-

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specific information resources available in print and electronic formats that are used primarily in academic environments.

Librarianship

LIS 4200 Libraries and Librarianship (2) Introduces the student to the development of the library as an institution and to the role of the library and the librarian in today's society.

LIS 4230 Selection and Acquisition of Materials (3) Critical analysis of selection tools in developing a comprehensive media collection with emphasis on selection for small to medium sized libraries and media centers.

LIS 5220 Introduction to Reference (3) The selection, evaluation and use of traditional and electronic reference sources for school library media centers.

LIS 5230 History of Books and Libraries (3) The development of books and libraries from the ancient world to the present and the effects of printed information on communication and cultural development in societies.

LIS 5250 Advanced Bibliography (2) Reference concepts related to learning resource centers and specialized materials in various subject matter fields. Prerequisite: LIS 5220.

Library Literature

LIS 2600 Introduction to Legal Research (2) Legal reference materials with emphasis on manual searching techniques and on introduction to automated legal databases.

LIS 5610 Research Theory and Practice (2) Research methodology applicable to librarianship and instructional media technology.

LIS 5640 Library Materials for Children and Youth (3) An examination and evaluation of books and nonbook materials with emphasis on informational materials.

LIS 5660 Government Publications (2) Sources, classifications, and utilization of government documents. Prerequisite: LIS 5220.

Administration

LIS 4740 Administration of the Library Media Center (3) Principles of organization and administration of the library and media center and its relationship to its many publics.

LIS 5712 Integration and Utilization (3) The integration of information literacy skills and current technologies into PK-12 instructional strategies. Prerequisites: InsT 4400, LIS 4230.

LIS 5760 Information Technologies for Library Media Centers (3) Investigation, manipulation, and evaluation of current technologies that affect the production, storage, dissemination, retrieval, and use of information.

Prerequisite: LIS 5840 or equivalent.

LIS 6730 Seminar (2) A seminar designed to address various current topics in libraries and information services. Topics will be announced annually. *May be repeated for a maximum of 6 semester hours.*

Technical Processes

LIS 5829 Cataloging and Classification I (3) Principles and practices of organizing information and creating bibliographic records including MARC formats.

LIS 5830 Cataloging and Classification II (2) Complex problems of organizing school library media collections. Emphasis on cataloging and classification of nonbook media. Prerequisite: LIS 5829.

LIS 5840 Microcomputers in Libraries (3) The application of small computers in the collection, organization, and dissemination of information including the evaluation of hardware and software applicable to library functions.

LIS 5850 Online Information Retrieval (2) Exploration of data storage and retrieval systems with emphasis on the characteristics of bibliographic databases most useful in school library media centers. Experience in the use of remote database systems. Prerequisite: LIS 5220.

Individual Study and Research

LIS 5920 Practicum in Library Media Centers (1-4) Involves practical experience in processes of library media centers. *May be repeated for a maximum of 4 semester hours.*

Prerequisites: LIS 4230, LIS 4740, LIS 5220 and LIS 5829.

LIS 6920 Advanced Practicum in Library Media Centers (2) Practical experience in an appropriate library or information agency. *May be repeated for a maximum of 4 semester hours.* Prerequisite: LIS 5920.

LIS 6960 Research Problem (2) Special investigation of an approved problem in the field resulting in a research paper. A prospectus is required. *May be repeated for a maximum of 4 semester hours.* Prerequisite: LIS 5610.

LIS 6990 Thesis (3-6) Investigation of an approved topic in library or information service resulting in a formal thesis. A prospectus is required. Prerequisite: LIS 5610 and consent.

SECTION III

POLICIES AND REGULATIONS

ACCIDENT AND ILLNESS PROVISIONS

The following benefits accrue to every student at Central with a validated ID while on campus from the first day through the last day of a semester in which he/she is duly enrolled. **Any financial benefits stated under (1) and (2) below will accrue to the benefit of the student concerned only after family or personal health and accident insurance has been applied.**

1. **Illness.** The University does not pay the non-college physician's fees of those hospitalized nor does it assume responsibility for the student's hospital charges.
2. **Accident.** Limited health care costs will be paid for students injured in a University credit-based program, intercollegiate athletics or an organized intramural activity which is under the direction of a member of the University staff. Under no circumstances will the total coverage under this agreement exceed \$250 for each injury. Injury occurring on the campus but not in credit-bearing programs, intercollegiate athletics, or organized and supervised intramural activities will be regarded as an illness.
3. In the case of either accident or illness, the University will not be responsible for expenses incurred for any type of non-University medical services unless the student has prior referral by the University physician. The University reserves the right to adjust benefits to the students within the limits of the funds made available for the accident and illness program through fees paid by students.

The University does not assume responsibility for:

1. Expenses due to medical conditions existing before enrollment in the University.
2. Expenses incurred with hospitals, physicians, or pharmacies other than those participating in the regular University program.
3. Expenses incurred for illness or injury resulting from the student's misconduct or irresponsible behavior.
4. Expenses incurred for injuries in accidents off campus.
5. Expenses incurred while the student is not actually enrolled.
6. Expenses incurred because of pregnancy, childbirth, or miscarriage.
7. Expenses incurred with hospitals, physicians, or pharmacies without prior referral by the University physician.

In the event of a severe accident of an emergency nature occurring on campus, report as indicated below:

1. Residence hall and adjacent areas: Call 911.
2. Main campus: Call 911.
3. Outlying campuses: Call 911.

ALCOHOL AND OTHER SUBSTANCES

The University has established and enforces clear policies that promote an educational environment free from the abuse of alcohol and other substances. The University expects students, employees, visitors, and organizations to adhere to state statutes prohibiting individuals under the age of 21 from drinking or having alcohol in their possession. Drinking or possession of alcoholic beverages is prohibited in University buildings, on University grounds, and in University residence halls except in those places where an explicit exception has been granted. The University also expects students, employees, and visitors to adhere to federal, state, and local statutes prohibiting or limiting the use, possession, or sale of legal and illegal substances on the campus. Individuals found in violation of these policies and laws will be subject to appropriate action through established procedures. Anyone wanting information or help concerning alcohol- or drug-related problems is encouraged to seek confidential assistance as provided by the University Health Center or Counseling and Psychological Services.

ASSESSMENT

Periodic measurements of student perceptions and intellectual growth are obtained as one means for the University to assess and to improve its academic programs and student learning. Every student is required to participate in the University's assessment program. This program may include examinations in general education, intellectual skills, and the major field of study, as well as opinion surveys regarding the total University experience. The information obtained through the assessment program is used to measure student competency and to improve the quality of the educational experience for future students in the aforementioned areas.

DEGREE REVOCATION POLICY

Purpose

The purpose of the degree revocation policy is to describe the conditions under which a degree granted by Central may be revoked.

Definition

It is the policy of Central Missouri State University that degrees may be revoked when:

1. Evidence is presented which verifies that a degree had been erroneously conferred when all requirements had not been satisfied at the time the degree was granted.
2. Evidence is presented which verifies that a degree had been erroneously conferred as a result of an act of academic dishonesty.

Guidelines and Responsibility

Upon the receipt of evidence suggesting the erroneous conferral of a degree, the Associate Provost will convene the Degree Review Committee to investigate the

circumstances and to make initial recommendations. The committee membership will consist of the following: the Registrar, the Associate Provost, the Dean(s) of the college(s) responsible for the major program(s), and the Dean of the Graduate School, if a graduate degree is involved. The committee will be augmented by the department chair(s), faculty, and graduate advisor when the requirements of a specific major, minor, or course were not met. The committee chair will be elected from the assembled membership.

If the Degree Review Committee finds the charge unfounded and, therefore, decides not to recommend revocation of the degree, the matter will be closed.

If the Degree Review Committee concludes that the degree was improperly granted and recommends that the degree be revoked, the chair of the committee will forward this recommendation to the Provost.

The Provost shall ensure that the appropriate levels of procedural due process be extended to the degree recipient. If, upon the conclusion of this investigation, the Provost concurs that the degree be revoked, this recommendation will be forwarded to the President for consideration. If the President deems the evidence warrants degree revocation, that recommendation will be forwarded to the Board of Regents for action.

**DEPARTMENT OF HIGHER EDUCATION POLICY
FOR HIGHER EDUCATION STUDENT
RESIDENCY STATUS DETERMINATION
EFFECTIVE MARCH 1, 1989**

PURPOSE: This rule sets forth the criteria and requirements for decisions by institutions of higher education relating to the residency status of students, including the determination of student fee charges and of student eligibility for financial aid administered by the Coordinating Board for Higher Education.

1. DEFINITIONS

- a. "Coordinating Board" or "Board" shall mean the Coordinating Board for Higher Education created by section 173.005, RSMo.
- b. "Domicile" shall mean presence within a state with an intent of making said state a permanent home for an indefinite period.
- c. "Residency" or "Resident Status" shall mean that status which is achieved when sufficient proof of a domicile within a state is presented.
- d. "Adult Student" shall mean any student having attained the age of twenty-one (21) years.
- e. "Unemancipated Minor Student" shall mean any student not having attained the age of twenty-one (21) years, and under the care, custody, or support of the individual or individuals having legal custody of said students.
- f. "Emancipated Minor Student" shall mean any student not having attained the age of twenty-one (21) years and who is not under the care, custody, and support of an individual or individuals having legal custody.

2. ADULT STUDENTS

If an adult student, not a resident, shall present sufficient proof of the establishment of a domicile within the State of Missouri, such student shall be granted resident status at the first enrollment following establishment of said domicile.

3. UNEMANCIPATED MINOR STUDENTS

The domicile of an unemancipated minor is presumed to be that of the individual or individuals having legal custody of said student. If those having legal custody of the student establish a Missouri domicile, that student shall be granted resident status at the first enrollment following the establishment of the Missouri domicile. Once an unemancipated minor student has established resident status under this rule, he/she may continue to qualify for resident status so long as he/she remains continuously enrolled, excluding summer terms, in a Missouri institution of higher education, even if the individual or individuals having legal custody of the unemancipated minor student cease to hold Missouri resident status.

4. EMANCIPATED MINOR STUDENTS

The domicile of emancipated minor students shall be determined as if they were adults. A minor may become emancipated through marriage, formal court action, abandonment, or positive action of alienation on the part of the minor. In all instances, alienation from care, custody, and support shall be complete, and the burden of satisfactory proof of emancipation shall be that of the minor student. Mere absence of the student from the domicile of the individual or individuals having legal custody of that minor student shall not constitute proof of emancipation. In no instance shall a minor student be eligible for emancipation when that student is taken as an income tax deduction by a second party other than a spouse.

5. MEMBERS OF THE MILITARY FORCES

Students shall neither gain nor lose residency status solely as a consequence of military service. For the purposes of student resident status, military personnel, when stationed within the State of Missouri pursuant to military orders, their spouses, and unemancipated minor children shall be regarded as holding Missouri resident status. However, a member of the military forces who is specifically assigned, under orders, to attend a Missouri institution of higher education as a full-time student, shall be classified, along with his/her spouse and unemancipated minor children, as if he/she had no connection with the military forces.

6. NONCITIZENS OF THE UNITED STATES

Students who are not citizens of the United States must possess resident alien status, as determined by federal authority, prior to consideration for resident status. Aliens present within Missouri as representatives of a foreign government or at the convenience of the United States or Missouri governments and holding G visas shall be entitled to resident status, except for those who are government-funded students. Aliens and their dependents holding A or L visas may be granted resident status if determined to be individually designated as representatives of their governments and whose education is not government funded.

7. PUBLIC COMMUNITY JUNIOR COLLEGE RESIDENCY

Missouri public community junior college districts have legal geographic boundaries within the State, and only residents of each district are eligible for the in-district student fee charge. For purposes of establishing district residency, a Missouri resident who

resides out-of-district shall meet the same criteria as set forth in this administrative rule for establishing Missouri residency by a person not a resident of Missouri. However, Missouri residency is the only residency requirement germane to student eligibility for financial aid programs restricted to Missouri residents.

8. FACTUAL CRITERIA IN DETERMINATION OF RESIDENT STATUS

- a. Attendance at an institution of higher education shall be regarded as a temporary presence within the State of Missouri; therefore, a student neither gains nor loses resident status solely by such attendance.
- b. The burden of proof of establishing eligibility for Missouri resident status shall rest with the student.
- c. In determining the resident status for the State of Missouri, either of the following shall be sufficient proof of domicile of a person and his/her dependents within the State of Missouri:
 - (1) Presence within the State of Missouri for a minimum period of the twelve (12) immediate past consecutive months coupled with proof of intent to make the State of Missouri a permanent home for an indefinite period; or
 - (2) Presence within the State of Missouri for the purposes of retirement, full-time employment, full-time professional practice, or to conduct a full-time business.
- d. In determining whether a student holds an intent to make the State of Missouri a permanent home for an indefinite period, the following factors, although not conclusive, shall be given heavy weight: continuous presence in the State of Missouri during those periods not enrolled as a student; presence within the State of Missouri upon marriage to a Missouri resident and the maintenance of a common domicile with the resident spouse; substantial reliance on sources within the State of Missouri for financial support; former domicile within the state and maintenance of significant connections while absent; and ownership of a home within the State of Missouri. The twelve-month period of presence within the state, as stipulated in paragraph 8(c.1) of this rule, does not, in and of itself, establish status in the absence of the required proof of intent.
- e. The following factors indicating an intent to make the State of Missouri a permanent home for an indefinite period shall be given less weight than those in subsection 8(d) above and include: voting or registration for voting; part-time employment; lease of living quarters; a statement of intention to establish a domicile in Missouri; automobile registration or operator's license obtained in Missouri; and payment of income, personal, and property taxes in Missouri. The factors listed in this subsection have applicability only as they support the intent to make the state of Missouri a permanent home for an indefinite period.
- f. Resident status is one criterion of eligibility for student grant awards administered by the Coordinating Board. There are additional criteria of eligibility, and the establishment of resident

status by a student does not guarantee that the student will be awarded a student grant.

- g. The waiver of forgiveness of a nonresident student fee, in full or in part, shall have no bearing on the residency status of a student and shall not be a basis for classification of a nonresident student as a resident.
 - h. For those nonresidents who pay Missouri income tax, the nonresident student shall receive a credit against the nonresident student fee in an amount equal to the actual Missouri income tax paid for the previous calendar year except that the remaining obligation shall not be less than the amount of the resident student fee. Unemancipated minor students are eligible by reason of payment of Missouri income tax by the nonresident individual or individuals having legal custody of said students. Students entering in January shall be regarded as entering in the immediately preceding fall for purposes of determining previous calendar year. For students entering after January, previous year means immediate past calendar year.
9. ADMINISTRATIVE AND COMPLIANCE
- a. Each institution shall establish procedures for the determination of institutional decisions in accordance with this rule. Such procedures shall adhere to the guidelines set forth in this rule and to the concepts of procedural fairness and reasonableness to the students, to the institution, and to the taxpaying public of the state. The procedures shall provide for at least two levels of institutional appeal review, and the last stage of the procedure shall be considered final by the institution.
 - b. Compliance with the guidelines set forth in this rule is required of institutions of higher education in order to be determined as eligible institutions under student financial aid programs administered by the Coordinating Board and for which student eligibility is restricted to residents. Institutions must be in compliance by August 1, 1986, and earlier compliance is encouraged.
 - c. On complaint of any student or other indication of possible institutional noncompliance with the guidelines set forth in this rule, the Coordinating Board may review the eligibility of an institution for student financial aid programs, or any other funds administered by the Board, and may take such actions or make such recommendations relating to the institution's eligibility as the Coordinating Board deems appropriate. Such actions shall be consistent with any other administrative rules the Board has established pertaining to the review of institutional eligibility.
- Petitions for changing from a non-resident status to that of a Missouri Resident may be obtained at the Office of the Director of Admissions. Completed petitions must be returned to this Office for approval prior to the first day of instruction of the semester for which reclassification is requested.

MISSION AND GOALS

Central Missouri State is a comprehensive, public university dedicated to providing personalized higher education experiences for a diverse body of students. Through its commitment to service and excellence, Central seeks to meet the educational needs of its 21-county region, with extended responsibility to meet state, national and international needs through selected programs. In fulfilling its responsibilities, the University:

- 1) admits graduates of accredited high schools based on selective admission criteria, actively recruits traditionally under-represented students, and offers a strong merit-based scholarship program to attract highly capable students.
 - a) broaden the geographic base for the recruitment of students who possess special academic talents
 - b) improve the academic preparation of incoming students through cooperative efforts with elementary and secondary schools and community colleges
 - c) address the special needs of physically challenged and economically and culturally disadvantaged students
 - d) provide an opportunity for learners returning to further their education for career enhancement and/or career change
 - e) increase scholarships and awards aimed at attracting and retaining academically talented students
 - f) expand the scope and quality of the Honors Program
 - g) strengthen programs to retain students and increase degree completions
- 2) demands excellence in teaching at all levels while expecting faculty members to continually enhance their teaching through scholarship, research, creative activities, and public service, with particular emphasis on faculty-student interaction.
 - a) attract and retain a quality and diverse faculty
 - b) provide an active and effective, well-funded professional development program to keep faculty competitive and current in their respective disciplines, constantly expanding their knowledge and abilities
 - c) advance excellence in teaching by supporting peer collaboration, research, scholarship, creative activity, and public service
 - d) foster collaborative investigations by faculty from different disciplines and institutions
 - e) provide opportunities and financial support for the continuing education of faculty
 - f) encourage student/faculty interactive research
 - g) promote participatory learning strategies in the classroom by incorporating and supporting new instructional resources
 - h) expand the use of mainframe and micro-computer equipment and related software to enhance classroom instruction
 - i) support the implementation of outcome-based education to improve teaching and learning
 - j) provide positive role models and mentors to assist students in their personal and educational development
- 3) provides an undergraduate liberal arts and sciences foundation with an emphasis on integrating critical thinking, communication skills, and technological applications into the curriculum across all disciplines.
 - a) establish a University Studies curriculum based upon research and practice
 - b) offer instruction that includes the following emphases throughout the curricula: (1) international contexts, influences, and applications; (2) ethical dimensions of decision-making and behavior; (3) communication skills, analytical ability, and critical reflection; (4) computer literacy; and (5) cross-cultural and diversity (women, minority, handicapped, international, and nontraditional students)
 - c) create educational programs that bridge the gap between theory and practice by incorporating the social, affective, economic, and intellectual ramifications of technology into the curricula
 - d) integrate the computer, along with other technological systems and concepts, through such non-classroom activities as residence hall programs, library services, and other similar projects
 - e) enhance information technology capabilities, including better accessibility and coordination of all resources and services
- 4) meets the needs of a changing workforce in its region through responsive pre-professional, professional, and career-oriented education, e.g., through traditionally strong programs in business and the arts.
 - a) provide a responsive curricular process that facilitates and expedites changes to meet current educational needs
 - b) develop and maintain quality course offerings, academic programs, and extra-curricular activities in high demand academic areas
 - c) improve existing and develop innovative academic programs to the status of regional or national prominence
 - d) seek and support national accreditation for appropriate programs
 - e) provide and maintain current technology needed for quality course content and pedagogy throughout all academic programs
 - f) develop areas of prominence and excellence and a reputation for leadership in business, the arts, and other professional programs
- 5) fulfills particular state, national, and international workforce needs through its distinctive programs in applied technology, safety, and selected human services professions.
 - a) strengthen high demand applied technology and human resources programs such as aviation, safety, graphics, criminal justice, speech pathology and audiology, social work, and nursing and identify specific programs for development/expansion
 - b) insure that the many nationally accredited/potentially accredited programs in applied technology and human services are aggressively supported
 - c) expand the physical facilities and resource materials vital to a growing university and citizens in the Information Age, integrating modern technological advancements into all areas of the University
 - d) continue to implement leading edge technology with equipment and facilities dedicated to the distinctive programs

- e) encourage the development and submission of grants to conduct applied research
- 6) prepares elementary, secondary, and post-secondary educators for Missouri.
 - a) recruit talented students, with a special emphasis on minorities and under-represented groups, for careers as educators
 - b) refine procedures which will identify the behaviors, teaching strategies, and personality profiles of successful teachers
 - c) develop innovative, technology-sensitive curricula for the preparation of educators
 - d) evaluate teacher education curricula systematically throughout the University to ensure high standards and coherence
 - e) increase the number of educators prepared in fields of critical shortage
 - f) prepare professional educators who are academically and technically proficient, reflective in practice, committed to the intellectual empowerment of others, and knowledgeable about the role of education in a democratic and global society
- 7) provides advanced graduate studies and research in areas of particular strength and need.
 - a) provide graduate programs in selected disciplines and high demand professional fields to meet existing and anticipated needs for leadership and expertise in society and the economy
 - b) promote scholarship that enhances knowledge, effective teaching and curricular development, demonstrates critical and creative thinking, and is of national significance
 - c) identify and initiate development in areas in which the University should offer doctoral degrees
 - d) promote graduate programs nationally through appropriate and effective marketing to educational and professional constituencies
 - e) provide funding and the organizational infrastructure for research and for scholarships, awards, leaves, and assistantships to support faculty and graduate students
- 8) promotes and cultivates global awareness and an appreciation for human diversity through the study of other cultures, international exchanges, and a campus environment sensitive to individual needs and cultural backgrounds.
 - a) develop and maintain student, faculty, and staff populations characterized by gender, ethnic, and cultural diversity
 - b) provide a social and physical environment conducive to learning, overall personal development, and a sense of community
 - c) support and/or create centers and institutes which are responsive to the cultural and educational needs of the region
 - d) develop collaborative efforts with the broader community to increase the educational attainment of cultural/ethnic minorities and to identify and address demographic changes
 - e) integrate contributions of minorities and women into existing curricula as well as into special programs and courses
 - f) promote global awareness by expanding international opportunities for students and faculty
- 9) assesses institutional programs and student academic achievement in order to improve teaching and learning.
 - a) implement an assessment system that validates the relevancy, effectiveness, and efficiency of all academic programs, to include adequacy of personnel, facilities, and equipment
 - b) establish policies and procedures to insure that faculty demonstrate excellence in teaching
 - c) provide continuous assessment of the management structure and student-support systems in achieving the institutional mission and goals
 - d) identify student outcomes for all undergraduate and graduate programs
 - e) integrate total quality effectiveness and continuous process improvement throughout all academic and management functions
 - f) solicit input from businesses, industry, government, and non-profit agencies for program assessment through appropriate advisory committees and practicing professional alumni
 - g) implement an assessment procedure for documenting the capabilities of incoming students that provides a relevant base for placement
- 10) shares its expertise with schools, businesses, and public agencies through cooperative and outreach efforts, and serves as the informational, cultural, and artistic center for the citizens of the region.
 - a) expand public relations efforts through various media to inform the public about opportunities that are provided through higher education
 - b) encourage Central's constituents to provide feedback through various advisory boards and assessment projects
 - c) provide quality graduates who demonstrate competence in technical, communication, and interpersonal skills
 - d) provide educational opportunities that assist constituents in lifelong learning activities
 - e) develop and maintain extensive and high quality extended campus offerings in degree-granting academic programs, certification programs, and programs specifically designed for workforce improvement needs
 - f) advance and support centers of excellence which will contribute to the needs of our constituents
 - g) sponsor cultural events for faculty, staff, students, and the community
 - h) share unique faculty expertise and talents with constituents outside the University

NONDISCRIMINATION / EQUAL OPPORTUNITY STATEMENT

Central Missouri State University actively follows a policy of nondiscrimination in regard to age, race, color, religion, sex, national origin, Vietnam Era veterans, and persons with handicaps and disabilities. This policy applies to all employment practices, the awarding of student financial aid, and the recruitment, admission, housing, placement, and retention of students, faculty and staff. The University is in compliance with the regulations implementing Title VI and Title VII of the Civil Rights Act of 1964 regarding race, color, national origin, religion and sex discrimination; Title IX of the Education Amendments Act of 1972 regarding sex

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discrimination; the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973 regarding discrimination based on disabilities and handicaps; the Age Discrimination in Employment Act; and other state and federal laws and regulations. Persons having inquiries concerning the University's compliance with the regulations implementing any of the above are directed to contact Bettie J. Rusher, the AA/EEO Officer and ADA Coordinator, Administration 201, Central Missouri State University, Warrensburg MO 64093, 816-543-4730. The Relay Missouri number for TDD callers is 800-735-2966 and 800-735-2466 for voice callers.

RESEARCH

RESEARCH INVOLVING ANIMALS. Federal law requires that all research projects involving the use of warm-blooded animals be conducted to insure humane treatment of the animals. To ensure proper care and treatment, all such projects, regardless of the funding source, must be approved in advance by the Institutional Animal Care and Use Committee, administered by the Director of Sponsored Research and Projects, Humphreys 410.

RESEARCH INVOLVING HUMAN SUBJECTS. University policy, and in some instances federal law, requires that research projects involving the use of human subjects be approved by the Human Subjects Committee before the research is undertaken. All human subjects research, including questionnaires, must be approved by the chair of the department and the dean of the college, and where appropriate, the Human Subjects Committee. The dean of the college will determine when human subjects research will be referred to the Human Subjects Committee.

STANDARDS AND REGULATIONS CONCERNING UNDERGRADUATE STUDENTS

Philosophy of Academic Standards

To maintain standards which foster an atmosphere of academic excellence:

Central admits individuals who have demonstrated a potential for successful academic achievement in a university community. Admission is without regard to age, race, creed, color, religion, sex, national origin, or handicap status.

Central retains students who, through periodic University administered assessment and evaluation, meet or exceed established University academic standards.

Central grants degrees to students who fulfill prescribed program requirements and meet or exceed the minimum academic standards established by the University and the State of Missouri.

Central assesses former students to determine to what extent the university experience has helped them attain an intellectual orientation by which they can develop, throughout their lifetimes, the capacity for self improvement, career achievement, and responsible living in a free society.

Student Responsibility

Central, through action of the faculty, administration, and Board of Regents, establishes and maintains requirements for its various degrees. These requirements must be completed before a degree is granted. The staff

of the University will assist students in understanding and meeting these requirements, but the individual student ultimately is responsible for fulfilling them. Therefore, it is important for each student to be familiar with the requirements pertaining to the degree being sought and to remain currently informed throughout the period of enrollment. The academic advisors, faculty and Registrar can be of assistance in this process.

Academic Load

Enrollment of all students at Central Missouri State University is done on an individual basis. Following admission, each student will be granted an appointment with an advisor in the Office of Academic Advisement and will be assisted in building an academic program of study and making a schedule of courses.

The normal load per semester for an undergraduate student is fifteen or sixteen semester hours. A full-time undergraduate student is one pursuing twelve or more semester hours of work per semester. The maximum academic load is eighteen semester hours; however, upperclass students in good academic standing may enroll for as many as nineteen semester hours without special permission. Freshmen and sophomores desiring to exceed eighteen semester hours must have an application for overload approved. Such application should be initiated with an academic advisor. Requests to carry overloads will not be considered by the University Committee on Undergraduate Exceptions unless the student has the recommendation of an academic advisor. Students on academic probation may not enroll in more than fifteen semester hours during any semester of academic probation.

If students are enrolled for course work at other institutions of higher education while concurrently enrolled at Central, the total number of semester hours taken in any enrollment period may not exceed the maximum specified for a full-time, resident student at Central.

Students will not be admitted after the last dates for enrollment as listed in the official University calendar except by written approval of the appropriate Department Chair and College Dean. If approved, late enrollees may register for credit not to exceed one semester hour for each full week remaining in the semester.

Academic Standards

GRADING SYSTEM. The marking system used in evaluating a student's work is as follows:

- A** - Work of marked excellence.
- B** - Work of superior quality.
- C** - Work of average quality.
- D** - Work of inferior quality.
- F** - Failure to do work of passing quality.
- NC** - No credit granted for course.
- P** - Work of passing quality in a Pass/Fail Course.
- U** - Course not completed for justifiable reasons.
- W** - Course dropped during withdrawal period.*
- WP** - Work was of passing quality at time of approved withdrawal.*
- WF** - Work was of failing quality at time of approved withdrawal.*

*Refer to the section Changes in Schedules, and either the Calendar or the Student Handbook.

UNFINISHED WORK. Any student receiving a **U** grade in a course must complete the requirements during the first semester (or summer session) of re-enrollment in the University or an **F** is automatically recorded. A student having more than one **U** grade is expected to reduce his/her course load accordingly in order to complete the unfinished work. It is the student's responsibility to contact his/her instructor concerning the removal of the **U** grade.

Re-enrollment in a course for the purpose of removing a **U** grade is not considered appropriate. Permission to do so may be granted only by the University Committee on Undergraduate Exceptions.

QUALITATIVE GRADE STANDARDS. Each student who is a candidate for teacher certification or a degree must maintain a specified qualitative grade average on all work for which he/she has enrolled. (Check the grade average requirements under REGULATIONS APPLYING TO UNDERGRADUATE DEGREES AND CERTIFICATES.)

Grade Requirements for Acceptance Into Programs. In addition to the general requirements applicable to all areas, several academic programs specify special qualitative grade standards. For example, a cumulative average of 2.50 is necessary after taking specified courses in order to be admitted to the Teacher Education Program and the Nursing Program, and a cumulative average of 2.25 is necessary after taking specified courses to be admitted to B.S. in Business Administration degree programs in the College of Business and Economics. Such special standards are listed under the major programs.

The Pass-Fail Program. Any undergraduate student may enroll in a maximum of eight semester hours of course work to be evaluated on a pass or fail basis in areas other than his/her major, minor, professional certification or General Education requirements. Courses, to be taken under the Pass-Fail plan must be so designated prior to the final date for changing class schedules as announced in the official calendar. Instructors are not informed of students enrolled in their courses on the Pass-Fail basis. Final grades are converted to this system in the Office of the Registrar. If a failing grade is submitted for a Pass-Fail enrollment, it will usually be converted to a designation of **NC** (no credit). Exception to this is in the event the **F** grade is given for specific reasons such as dishonesty or non-attendance. In such instances, the **F** will be recorded.

Students taking double majors, and thus using all elective credit, may elect Pass-Fail in any area outside the specific majors. Students who have fulfilled all General Education requirements in a specific area may elect to take additional General Education courses in the same area on the Pass-Fail basis.

The primary objective of the Pass-Fail opportunity is to encourage students to experience courses they normally might avoid because of lack of confidence or initial competence.

Audit Courses. A student may audit a class for no grade and no credit. Acceptable performance, attitude and attendance as determined by the instructor in charge are expected. Regular fees and enrollment procedures are required. Courses to be taken as an audit must be so designated prior to the final date for changing class schedules as announced in the official calendar. Audit

enrollments generally do not fulfill requirements for load considerations.

Computation of Grade Average. In order to compute the cumulative grade-point average, total honor points earned are divided by total hours attempted. Each semester hour is assigned a grade-point value as indicated below:

1. Each semester hour of **A** is assigned 4 honor points.
2. Each semester hour of **B** is assigned 3 honor points.
3. Each semester hour of **C** is assigned 2 honor points.
4. Each semester hour of **D** is assigned 1 honor point.
5. Each semester hour of **F** or **WF** is assigned 0 honor points.
6. Each semester hour of **P**, **W**, **WP**, or **NC** is not considered.
7. Each semester hour of **U** is not considered until complete.

Repeat Enrollment in Courses. A student receiving a grade lower than **C** in an undergraduate course may repeat the course at Central. The higher of the two grades will be utilized in computing the cumulative grade-point average; however, the lower grade will remain as a matter of transcript record. THIS PROCESS IS NOT AUTOMATIC AND WILL BE INITIATED ONLY UPON A STUDENT'S REQUEST WHICH SHOULD BE FILED WITH AN ACADEMIC ADVISOR.

The following specific stipulations apply to the above policy:

1. Courses taken at another institution and subsequently repeated at the same institution are transferred using the same rules applicable for Central courses which have been repeated.
2. A course may be taken more than twice only if a grade of **F** has been earned both times unless departmental requirements stipulate otherwise.
3. If two consecutive grades of **D** are earned, or if two consecutive grades of **F** are earned, only the second will be used in computing the cumulative grade average.
4. If it becomes necessary for a course to be taken a third time, the second **F** will not be discounted but will be averaged into the cumulative grade average.
5. A course may not be repeated for the purpose of raising a grade average if a more advanced course in a sequence has been completed.
6. Repeating a course under the Pass-Fail option will not negate the initial grade received.

Dean's List. To be eligible for the Dean's List, a student must be an undergraduate who earns twelve or more semester hours of residence credit with a grade-point average for the semester of 3.50 or above.

Students in Good Standing. Central students are in good standing if eligible to enroll for classes.

Academic Probation. A student whose Central or cumulative GPA or total Central GPA drops below 2.00 will be **placed on academic probation**. A transfer student will be placed on academic probation at the time of admission if his/her cumulative GPA is less than 2.00. Students placed on academic probation may continue to enroll in

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classes. However, students are encouraged to seek advice from the Office of Academic Advisement and/or Counseling and Psychological Services about future enrollments. Students on academic probation may not enroll in more than 15 semester hours during any semester of academic probation.

Removal From Probation. A student placed on academic probation will be **continued on probation** until both his/her total Central GPA and his/her cumulative GPA is 2.00 or higher, unless for academic reasons he/she is suspended or dismissed. When students on academic probation raise both their total Central GPA's and cumulative GPA's to 2.00 or above, they are removed from probation. Transfer credit may not be used to raise a total Central GPA.

Academic Suspension. A student who has been placed or continued on academic probation will be **suspended** from Central at the conclusion of his/her next semester/enrollment period if his/her semester/enrollment period GPA is less than 2.00. A transfer student who was admitted on probation will be **suspended** from Central at the conclusion of his/her first semester/enrollment period if his/her semester/enrollment period GPA is less than 2.00. Academic suspension is for a period of one full semester, after which, students may apply for readmission.

Academic Dismissal. A student who has been suspended and later readmitted and continued on probation but does not achieve a semester GPA of 2.00 or higher in a subsequent semester/enrollment period will be **dismissed**. Academic dismissal is for a period of one calendar year, after which, a student may apply for readmission.

Readmission. The readmission of students who have been suspended or dismissed from Central is not automatic. Such students may apply for **readmission** as follows:

1. Students who have been **suspended** may apply for readmission after one semester excluding Summer Session. Students who have been **dismissed** may apply for readmission after one calendar year. Requests for readmission should be sent to the Director of Admissions.
2. A student with extenuating circumstances who has been suspended or dismissed may apply for immediate (or early) readmission. A letter should be written to the University Committee on Undergraduate Exceptions, c/o Director of Admissions. This letter should include (1) a request for readmission, (2) an explanation of any extenuating circumstances for earlier poor performance, and (3) an explanation of activities and plans which may lead to improved scholastic performance at Central. Other substantiating evidence may also be submitted. The Committee does not normally readmit students until after one full semester following suspension or one calendar year following dismissal.

COURSE PREREQUISITES. A student is expected to have satisfied prerequisites required of any course in which he/she is enrolled. Students without prerequisites should not enroll in these classes and may be dropped from the class rolls if they do enroll. A student will not be allowed

to enroll in a course that is a prerequisite to a course he/she has already successfully completed with a grade of C or better, except as an audit enrollment.

CLASS ATTENDANCE. Students are expected to attend all lectures, seminars, laboratories, and field work for each registered class and to complete all work assigned by the instructor for the course. Advance arrangements for unavoidable absences should be made with the instructor whenever possible. Neither absence nor notification of absence relieves the student of the responsibility for meeting all course requirements.

The only arrangements at Central whereby a student may enroll and receive credit while not actively in class attendance are those under the direct and regular supervision of a Central faculty member assigned to a student who has enrolled for a readings, thesis, special problems or a similar arranged course.

Make-up of course requirements missed because of extenuating circumstances shall be worked out between the instructor and the student upon the student's initiative. Instructors are required to allow for such make-up when a student is absent because of participation in approved University activities, University programs (that the student is required to attend) or when absence is required by order of a qualified physician. A student must contact his/her instructor on the first day the student returns to class. The instructor may have special attendance/requirement policies for particular classes, whenever those policies are not in conflict with the student's right to make up missed requirements as described above.

When absent for three days or more, a student may ask the Office of Student Affairs to send an informational note to his/her instructors; however, excused absences may only be granted by the instructor of the class.

The Student Health Center does not provide medical excuses and/or Time-In Time-Out slips to students for the purpose of being excused from class. The only medical excuse provided will be for those students who have a physical disability and cannot participate in a class activity. This excuse will be for the activity only and not from attending the class.

CHANGES IN SCHEDULES. Changes in class schedule should be made during the Drop and Add period (first five class days of the semester). Such changes will not be entered on the permanent record. Courses may not be added after the initial Drop and Add period.

During the Withdrawal period (second week through the tenth week), a student may withdraw from any class following consultation with an Academic Advisor. Consultation with the course instructor is also recommended. A grade of **W** is recorded on the final grade sheet. Exception to this will be effected in the event that a failing grade is given for cause such as academic dishonesty. In this instance, a **WF** will be recorded.

After the tenth week of the semester, withdrawal from a class is normally not allowed. In enrollment periods other than semester, withdrawal from classes is not permitted during the last one-third of the period. With unusual and extenuating circumstances, a student may submit a written petition to the University Committee on Undergraduate Exceptions (signed by an Academic Advisor) for a late withdrawal from a course. If the Committee approves, the instructor will be asked to assign a **WP** (Withdrawal Passing) or a **WF** (Withdrawal Failing) for the course being dropped.

REGULATIONS APPLYING TO UNDERGRADUATE DEGREES

COURSE NUMBERS. The courses offered on the undergraduate level are divided into five categories.

In general the following may be considered as guidelines:

1. 0000 level courses are primarily used for skills development and are not used to satisfy degree requirements.
2. 1000 level courses are primarily for freshman students.
3. 2000 level courses are primarily for sophomore students and those students with essential prerequisites or backgrounds.
4. 3000 level courses are primarily for junior students and those students with essential prerequisites or backgrounds.
5. 4000 level courses are primarily for senior students and those students with essential prerequisites or backgrounds.

CLASSIFICATION OF STUDENTS. Freshmen are defined as those students who have completed zero through 29.5 semester hours of college credit. Sophomores are those who have completed 30 through 59.5 semester hours. Juniors must have completed 60 through 89.5 semester hours. Seniors are defined as all students who have completed more than 89.5 semester hours.

UPPER-LEVEL CREDIT. Candidates for bachelor's degrees must satisfactorily complete a minimum of 35 semester hours of upper-level work (3000 and 4000 level courses), of which 12 hours must be in the major subject.

DEGREE AUDITS. Each student should file an application for an official degree program audit during the semester in which his/her total hours of credit exceed 30 semester hours. The year of the catalog (See Date of Catalog for Checking Degree Requirements) under which the student expects to qualify for graduation, as well as, the student's degree, major and minor must be indicated on the degree audit. Applications may be obtained in the Office of Academic Advisement and must be signed by the Chair of the department in which the student is majoring.

A student who plans to obtain a Bachelor of Science in Education or a Bachelor of Music in Education must have his/her application approved by the Director of Clinical Services and Certification before a degree audit will be made. A student planning to obtain a B.S. in Business Administration degree must have been accepted into the B.S. in Business Administration degree program before a degree audit application will be approved by his/her department.

The application, after completion, will be returned to an academic advisor, who will prepare a degree audit showing the requirements previously met and the courses remaining for completion of the program.

Any deviation from the major or minor requirements listed must be approved by the Department Chair and the Dean of the College concerned. The changes become part of the student's program requirements.

GRADE AVERAGE. In order to receive a degree, a student must earn a minimum grade-point average of 2.00 (C) in each of the following areas:

1. All work attempted at Central and on all work attempted.
2. All work taken to satisfy major requirements at Central and on all major work attempted at all colleges and universities attended.
3. All work taken to satisfy minor requirements at Central and on all minor work attempted at all colleges and universities attended.
4. All courses bearing the prefix of the major attempted at Central and at all colleges and universities attended.
5. All courses bearing the prefix of the minor attempted at Central and at all colleges and universities attended.

For B.M.E. and B.S. in Ed. degree programs, a minimum cumulative grade-point average of 2.50 based upon total hours attempted is required.

GRADUATION WITH HONORS. To be eligible for graduation with honors a student must have earned a cumulative grade average of 3.50 and must have completed a minimum of 60 semester hours of credit at Central. Those with a cumulative grade average of 3.50 to 3.74 graduate Cum Laude; 3.75 to 3.84, Magna Cum Laude; and 3.85 and above, Summa Cum Laude.

RESIDENCE. A candidate for any bachelor's degree must have earned a minimum of 30 semester hours with Central. Candidates for the degrees must have earned at least 20 semester hours with Central during the junior and senior years, including upper-level courses in both the major and minor areas.

The last ten semester hours required for the degree must have been earned from this institution.

For an associate degree, the student must earn at least 20 semester hours with Central.

STATE LEGISLATION REQUIREMENT. Section 170.011 RSMo Supp (1988) prescribes that all candidates for a degree issued by the colleges and universities in Missouri must have completed courses of instruction in and "satisfactorily passed an examination on the provisions and principles of the Constitution of the United States and of the State of Missouri, and in American history, including the study of American institutions."

Students may comply with the law (1) by completing courses embracing the subject matter specified by the law and receiving credit therein, preferably before admission to upper-level work, or (2) by certification of the completion of such requirements in another collegiate institution.

Students in the following categories will have fulfilled the requirements of this law.

1. All Central majors in the social studies.
2. All Central minors in the social studies and all transfer students who have completed an American history course covering and including the constitutional period and one of the following:
 - a. State Government (from a Missouri college) or
 - b. Missouri History.
3. All students who have completed the General Education requirement in Group F at Central.

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CORRESPONDENCE AND EXTENSION. Not more than one-fourth of the total number of semester hours required for a degree may be earned by correspondence and extension.

CREDIT FROM MISSOURI INSTITUTIONS. Central follows guidelines of the Council on Public Higher Education as described in *Credit Transfer: Guidelines for Student Transfer and Articulation Among Missouri Colleges and Universities* (Missouri CBHE, October 1987).

CONCURRENT CREDIT FROM OTHER INSTITUTIONS. Students desiring extension, correspondence, examination, and/or residence credit earned from another institution while concurrently enrolled at Central should receive prior approval from the Registrar. The University reserves the right to evaluate and accept or not accept academic credits from any institution.

EDUCATIONAL TOURS. Credit for not more than nine semester hours earned as part of tours will be acceptable toward an undergraduate degree.

SPECIAL CREDIT ASSESSMENTS. The total credit earned by way of Advanced Placement Examinations (AP), College-Level Examination Program (CLEP), official certification, military service, Defense Activity for Non-Traditional Education Support (DANTES), and similar assessments will not exceed 30 semester hours for a bachelor's degree or 15 semester hours for an associate degree.

Advanced Placement Examinations. Credit may be granted for successful performance on Advanced Placement Examinations. These are available in a number of subject areas and are of two types: (1) those given by the College Entrance Examination Board which must be taken prior to or during a student's first semester at Central; and (2) those prepared and administered by departments of the University. Upon notification of eligibility for credit, a fee of \$5 per semester hour granted must be paid. Additional information may be obtained from the Office of Admissions.

College-Level Examination Program (CLEP). All CLEP examinations must be taken prior to the earning of college course credit in the subject. General examinations must be taken prior to the completion of 30 semester hours of college credit; subject examinations may be taken at any time prior to graduation.

Credit obtained by successfully taking the general examinations or subject examinations of the College-Level Examination Program may be used to satisfy electives or requirements on some programs. To receive and apply such credit, it is necessary for scaled scores or scaled subscores to be at or above the level set by the University. A recording fee of \$5 per semester hour is required for CLEP credit awarded by Central.

For further information on evaluation and acceptance of CLEP credit and procedures for obtaining such credit, contact the Director of Admissions. For information regarding taking the tests at Central, contact the Director of Institutional Research and Testing Services.

Credit for Official Certifications. In certain instances, academic departments will evaluate official certifications, licenses, and diplomas granted by fully accredited national and state boards and officially recognized professional

organizations to determine whether or not undergraduate credit may be assigned by the Provost and Vice President for Academic Affairs toward the fulfillment of degree requirements in specific major or minor related areas. Appropriate departments of the University reserve the right to test competencies and performances in these areas and to determine the hours and the nature of the credit to be assigned, if any. All requirements as stated in the *General Catalog* must be met before a degree is conferred.

Military Service Related Credit. Credits earned by service personnel through correspondence under the United States Armed Forces Institute or in specialized training programs of the United States armed services under certain circumstances may be accepted. The guidebook published by the American Council on Education and DANTES is used to determine the credit value of the latter programs. The applied physical education requirement of Group I, General Education Program, may be met by veterans upon presentation of evidence of 12 months or more active military training in a U.S. service. Students who have completed six months of active military service, although not considered veterans, may meet two semester hours of the physical education requirement through presentation of appropriate evidence of their service experience.

DATE OF CATALOG FOR CHECKING DEGREE REQUIREMENTS. Students are always subject to current administrative, academic and general policies and regulations. The *1995-96 General Catalog* becomes effective Summer 1995.

In most instances a candidate may use as a basis for degree requirements the General Catalog issued for any year following the date of his/her first enrollment in the University so long as it is dated not more than five years prior to the date the degree is conferred. A student must earn academic credit at Central during the year of the catalog chosen. Central follows the catalog agreement described in *Credit Transfer: Guidelines for Student Transfer and Articulation Among Missouri Colleges and Universities* (Missouri CBHE, October, 1987). However, the University reserves the right to add, change, delete, and interpret policies at any time and to require these be met by those seeking degree candidacy and/or conferral.

CHOICE OF DEGREES. Upon application and approval of an official degree audit for a degree program, a student may pursue a second degree different from that of the initial degree granted. Two identical degrees are not available for students completing double majors. The second degree requires a minimum of 30 additional semester hours beyond the requirements of the first degree.

The University Committee on Undergraduate Exceptions interprets policies relative to degrees.

APPLICATION FOR DEGREES. An application for each undergraduate degree to be awarded must be made in the Registrar's Office. Such applications **must be received by the Registrar not fewer than 30 days** before the date the degree is to be conferred. Reports showing satisfactory completion of all degree requirements must have been received by the Registrar **not fewer than 48 hours** before the commencement exercises are scheduled to begin.

FINAL EXAMINATIONS. Final examinations are given at the end of each semester according to an announced schedule. Permission for an examination out of scheduled hours is granted only in special cases, with the approval of the instructor of the class and the Vice President for Student Affairs. A fee of \$10 per final is charged for rescheduling of final examinations. Any student who has three final examinations scheduled on any one day may request permission to move one of the examinations to another day during the final examination period. There is no charge for this, but approvals must be secured as described above. Resolution of conflicting examination schedules, as well as arranging make-up examinations, must be made with class instructors.

GRADE REPORTS AND TRANSCRIPTS. A grade report is prepared for each student at the close of each semester (or summer session). Transcripts in a reasonable number may be furnished to a student without charge.

FIELD TRIPS. At times, field trips are planned in conjunction with course assignments. Students in classes for which such trips are planned are to be given sufficient advance notice to make necessary arrangements for absence from the campus. Field trips are not scheduled during final examination periods nor can they be required by an instructor. Work missed in other classes may be made up, although instructors are not required to provide tutoring. All arrangements are subject to the limitations of University liability coverage.

WITHDRAWAL FROM THE UNIVERSITY. Students who leave the University must withdraw officially through the Office of Student Affairs. In the event that the student fails to clear with the necessary offices, his/her withdrawal is not complete and grades of **F** will be recorded for failure to attend classes. Withdrawal during the last five weeks of a semester while receiving a failing grade in a course will result in the recording of a **WF** on the permanent record. Regulations governing credit for room and board payments are found in the housing contract. (See Credit Policy for information on credit of fees.)

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT. Central adheres to the federal Family Educational Rights and Privacy Act (FERPA). Copies of the full policy implementing the FERPA may be obtained from the Office of Academic Advisement Center, the Registrar's Office or the Office of Student Affairs.

SECTION IV

FACULTY AND STAFF

Listing as of January 1, 1995

ADMINISTRATIVE OFFICERS

ED M. ELLIOTT--*President and Professor of Higher Education and Professor of Physical Education.* A.B., William Jewell College; M.A., Columbia University; Ed.D., University of Northern Colorado.

DOLORES M. KITTERMAN--*Assistant to the President and Assistant Secretary to the Board of Regents.* B.S., Central Missouri State University; C.P.S.

ANNE ZEMEK de DOMINGUEZ--*General Counsel.* A.B., University of Chicago; J.D., DePaul University College of Law.

Academic Affairs

JOHN P. MEES--*Provost and Vice President for Academic Affairs and Professor of Curriculum and Instruction.* B.S. in Ed., M.S. in Ed., Southern Illinois University; Ed.D., Indiana University.

LEANNA R. DEPUE--*Director of the Missouri Safety Center.* B.S., M.S. in Education, Ph.D., Southern Illinois University at Carbondale.

KATHLEEN D. EASTER--*Assistant Provost and Professor of Art.* B.S., University of Wisconsin-Madison; M.A., Ed.D., Arizona State University.

RICHARD D. FOSTER--*Assistant Provost for Academic and Technological Services, and Associate Professor of Business Administration.* B.S., Southern Illinois University; M.S. in Ed., Central Missouri State University; Ed.D., University of Missouri-Columbia.

JOSEPH D. HUBER--*Dean of the College of Education and Human Services and Professor of Curriculum and Instruction.* B.S. in Ed., M.A., Ed.D., University of Nebraska-Lincoln.

PALADUGU V. RAO--*Dean of Library Services and Professor.* B.A., Andhra University-India; M.S., Southern Illinois University; M.S.L.S., University of Illinois; Ph.D., Southern Illinois University.

ARTHUR J. ROSSER--*Dean of the College of Applied Sciences and Technology and Professor of Manufacturing and Construction.* B.S., Wilmington College; M.A., Kent State University; Ph.D., Ohio State University.

ROBERT G. SCHWARTZ, JR.--*Dean of the College of Arts and Sciences and Professor of English.* B.A., University of Colorado; M.A., Ph.D., University of Missouri.

PAUL L. SHAFFER--*Dean of the College of Business and Economics and Professor of Management.* B.A., University of Kansas; M.S., Wichita State University; Ph.D., University of Oklahoma.

W. FRAN WALLER--*Associate Provost, Interim Dean, Graduate Studies and Professor of Management.* B.S. in Ed., Northeast Missouri State University; M.S. in Ed., Ed. Specialist, Central Missouri State University; Ph.D., University of Missouri-Columbia.

214 Faculty and Staff

Business Affairs

TOM D. EDMUNDS--*Senior Vice President--Business Affairs and Professor of Administration, Supervision and Higher Education.* B.S. in Ed., M.S. in Ed., Central Missouri State University; Ed.D., University of Kansas.

Finance and Administration

JUDY VICKREY--*Vice President for Finance and Administration and Professor of Administration and Higher Education.* B.S., Southwest Missouri State University; M.E., Ph.D., University of Missouri-Columbia.

J. MARVIN BENNETT--*Associate Vice President for Finance/Controller.*

JERRY REINERS--*Director of Physical Plant.*

LAWRENCE F. FISCHER--*University Facilities Coordinator.* B.S. in Ed., Kansas State College; M.S., Central Missouri State University.

JAMES A. HUFF--*Director of Public Safety and Instructor in Criminal Justice.* B.S., Northeast Missouri State University; M.S., Ed. Specialist, Central Missouri State University.

JOHN T. SARANTAKOS--*Director of Printing Services.* B.S. in Ed., M.S., Illinois State University.

Student Affairs

STEPHEN H. PETERSEN--*Vice President for Student Affairs and Adjunct Associate Professor of Higher Education.* B.A., M.S. in Ed., Ed.D., Indiana University.

LUCY BLACKBURN--*Director of Counseling and Psychological Services, Counseling Psychologist and Assistant Professor of Counseling Psychology.* B.S. in Ed., M.A., Northeast Missouri State University; Ph.D., University of Missouri.

MERLE H. CHARNEY--*Director of Student Health Services.* B.B.A., University of Minnesota; M.S., Northwestern University.

MICHAEL G. DeVRIES--*Senior Director of Food Services.* B.A., Luther College.

WALTER R. HICKLIN--*Assistant Vice President for Student Affairs and Assistant Professor of Mathematics.* B.S., Missouri Valley College; M.S. in Ed., Ed. Specialist, Central Missouri State University.

LUANN L. KRAGER--*Assistant Vice President for Student Affairs and Director of Student Life.* B.A., Midland Lutheran College; M.A., Ph.D., University of Nebraska at Lincoln.

J. PHILLIP SHREVES--*Director of Financial Aid and Veteran Services.* B.S., Kansas State University; M.S., Central Missouri State University.

University Advancement

TERESA FINE ALEWEL--*Director of Career Planning and Placement.* B.E.S., University of Missouri-Columbia; M.S., Central Missouri State University.

DELORES A. HUDSON--*Director of Admissions.* B.S. in Ed., M.S. in Ed., Emporia State University.

JOHN M. INGLISH--*University Advancement Coordinator and Director of Public Relations.* B.A., M.A., Central Missouri State University.

MARILYN I. LANDERS--*Director of Development.* B.A., Eastern Illinois University.

DONALD PETERSON--*Director of Broadcasting Services.* B.S., Wayne State College; M.S., Indiana State University; Ph.D., University of Nebraska-Lincoln.

VIRGINIA M. STEWART--*Director of Alumni Relations.* B.S., M.S., Central Missouri State University.

Planning, Government and Information Services

DUANE R. STERLING--*University Director for Planning, Government and Information Services and Professor of Physical Education.* B.S. in Ed., Southwest Missouri State University; M.S., Ph.D., Louisiana State University.

MELVIN A. FRANZ--*Interim Director of Information Services and Professor of Computer and Office Information Systems.* B.S., Fort Hays Kansas State College; M.S., Emporia State University; Ph.D., Ohio State University.

DONALD N. NIMMER--*Director of Institutional Research.* B.A., University of Northern Iowa; M.N.S., Ed.D., University of South Dakota.

ADMINISTRATIVE STAFF

Athletic Staff

RUSSEL A. BLOOM--*Assistant Athletic Director for Facilities and Events Management.* B.S., University of Wisconsin; M.S., University of North Dakota.

JEFFREY D. FLOYD--*Assistant Head Football Coach and Defensive Coordinator.*

RANDY HEDBERG--*Assistant Head Football Coach and Offensive Coordinator.* B.S., Minot State University; M.Ed., University of North Dakota.

BRADLEY L. HILL--*Head Baseball Coach and Coordinator of Spectator Support.* B.S. in Ed., Emporia State University.

JERRY HUGHES--*Director of Intercollegiate Athletics.* B.S. in Ed., M.S. in Ed., Central Missouri State University.

MICHAEL KNIGHT--*Head Wrestling Coach and Assistant Program Coordinator.* B.A., University of Northern Iowa; M.A., Northeast Missouri State University.

PEGGY E. MARTIN--*Head Volleyball Coach and Assistant Professor of Physical Education.* B.S., Indiana University; M.S.P.E., The University of North Carolina; P.E.D., Indiana University.

JEFFREY D. MARTIN--*Assistant Men's Basketball Coach.* B.S., Central Missouri State University.

TERRY NOLAND--*Head Football Coach.* B.S. in Ed., Southwest Missouri State University; M.A., Northeast Missouri State University.

TIMOTHY POE--*Pertle Springs Manager/Golf Professional and Head Golf Coach.* B.A., Central Missouri State University.

JONATHAN H. PYE--*Head Women's Basketball Coach.* B.S., University of New Mexico; M.A., Central Missouri State University.

CAROLYN S. RICHARD--*Assistant Women's Basketball Coach.* B.S.E., Emporia State University; M.S.E., Austin Peay State University.

LESTER L. STEVENS--*Track and Field/Cross Country Coach.* B.S., M.A., The University of Iowa.

RHESA S. SUMRELL--*Head Softball Coach and Assistant Volleyball Coach.* B.S., M.S., Middle Tennessee State University.

ROBERT A. SUNDVOLD--*Head Men's Basketball Coach.* B.S., South Dakota State University; M.Ed., University of Missouri-Columbia.

MARK B. THOMAS--*Assistant Football Coach.*

CRISTA D. TROESTER--*Assistant Athletic Director for Student Athlete Services and Coordinator of Spirit Groups.* B.S., M.B.A., Central Missouri State University.

BILL TURNAGE--Assistant Athletic Director for Communications and Public Relations. B.S., Southern Illinois University.

Academic Affairs

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DAVID CARD--Airport Director and Chief Flight Instructor, and Assistant Professor of Power and Transportation. B.S., M.S., Central Missouri State University.

RONALD D. CORDER--Coordinator for Extended Campus. B.S.E., Central Missouri State University; M.A., Pepperdine University.

GLENN A. CARRIKER--Coordinator of Instruction, Missouri Safety Center. B.S., M.S., Ed. Specialist, Central Missouri State University.

WILLIAM H. CASKEY--Director of Sponsored Research and Projects/Associate to the Dean of Graduate Studies and Research. B.S., Louisiana Tech University; M.S., Texas A & M University; Ph.D.; Michigan State University.

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MALLOY C. GOULD--Director of Academic Professional Development and Special Programs, Research and Publication Specialist, Missouri Safety Center, and Assistant Professor of Speech Communication. B.S. in Ed., M.A., University of Texas-Austin; Ph.D., Ohio State University.

LINDA SUE GUIN--Academic Advisor. B.S. in Ed., M.S. in Ed., Central Missouri State University.

ANNA HENNESSY--Director, INFORM. B.S., Central Missouri State University.

DORIS HUBER--Academic Advisor. B.S., University of South Dakota.

DENTON D. HUMPHREY--Academic Advisor. B.A., Alderson-Broaddus College; M.S., West Virginia University.

MARY ALICE LYON--Director, TRIO Programs. B.A., B.S. in Ed., M.A., Ed. Specialist, Central Missouri State University.

SUSAN K. MAIER--Academic Advisor. B.S.E., Central Methodist College; M.Ed., University of Missouri-Columbia.

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CAROLINE R. ROSSER--Director, Workshop on Wheels. B.A., Wilmington College-Ohio; M.A. in Ed., Southeast Missouri State University.

BERNARD L. SARBAUGH--Technology/Business Coordinator. B.G.S., University of Nebraska-Omaha; M.B.A., Central Missouri State University.

WESLEY A. SAVAGE--Assistant Director for Technology/Small Business Development Center. B.S., University of Missouri-Rolla; M.B.A., Butler University.

RAYMOND EUGENE SMITH--Academic Advisor. B.S. in Ed., Central Missouri State University; M.A. in Ed., University of Kentucky.

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Finance and Administration

W. FRANCES BEHM--Support Services Manager, Public Safety.

DONNA C. BODENHAMER--Manager of Accounts Receivable. B.S., M.S. in Ed., Central Missouri State University.

TERESA J. BOND--Supervisor of Accounts Payable/Order Processing.

DIANNA CARTER--Manager Operations and General Accounting. B.S. in B.A., M.B.A., Central Missouri State University.

TENA R. DUNCAN--Manager of Payroll.

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JERRY D. ELLIOTT--Business Manager for Revenue and Assistant Professor of Administration, Supervision and Higher Education. B.S. in Ed., M.S. in Ed., Specialist, Central Missouri State University; Ed.D., University of Missouri-Columbia.

H. TOM FAUBION--Assistant Support Manager, Physical Plant. B.S., Central Missouri State University.

RICHARD G. GILLESPIE--Police Operations Commander. B.S.B.A., University of Missouri-Columbia.

SHARON GOBBER--Director of Purchasing.

DOROTHY KRAUSE--Manager, Ancillary Accounting. B.S., Northwestern State University of Louisiana.

JAMES D. MATTHEWS--Manager of Capital Development.

BETTIE RUSHER--Affirmative Action/Equal Employment Opportunity Officer. B.S., Central Missouri State University.

ROBERT P. SHOWERS--Assistant to the Treasurer/Assistant to the Controller. B.S.B.A., Morningside College; M.B.A., University of South Dakota.

RICHARD ANDREW SMITH--Budget Analyst. B.A., Occidental College; M.S., Air Force Institute of Technology; M.A., Pepperdine University Extension; Ed. Specialist, Central Missouri State University.

JANICE WOOD--Employee Benefits/Risk Management Manager.

Student Affairs

- CHARLES A. BOONE**--*Coordinator of Conference Housing/Area Coordinator.* B.A., Cornell College; M.S., Western Illinois University.
- TONI Y. BOYD**--*Assistant Director of Financial Aid.* B.S., University of Kansas.
- WENDELL BRANDES**--*Assistant Director of Campus Activities for Outdoor Recreational Programs and Intramural Sports and Assistant Professor of Administration, Supervision, and Higher Education.* B.S. in Ed., M.S. in Ed., Ed. Specialist, Central Missouri State University.
- KIM M. COLLIER**--*Counseling Psychologist.* B.A., Otterbein College; M.A., Ph.D., Miami University.
- LORRIE CRISAFULLI**--*Counseling Psychologist.* B.S., M.Ed., Montana State University; Ph.D., University of Wyoming.
- EDGAR L. CURTIS**--*Manager, University Union.* B.S. in B.A., M.B.A., Central Missouri State University.
- CHARLES J. DAHLSTROM**--*Counseling Psychologist.* B.A., M.A., University of North Dakota.
- POLLY FISK**--*Administrative Director of the Child Care Center.* B.S.E., Central Missouri State University.
- KATHRYN A. FLIERL**--*University Housing Area Coordinator.* B.A., Marquette University; M.A., Michigan State University.
- STEVEN E. HARRIS**--*Interim Director of Campus Diversity.* B.S., William Jewell College; J.D., University of California at Berkeley.
- DEBORAH L. HOBSON**--*Assistant Director University Union Programs and Services.* B.S., Evangel College.
- ALFRED IANTORNO**--*Director of Campus Activities.* B.S., State University of New York College at Potsdam; M.S. in Ed., State University of New York at Oneonta; Ed.D., University of Virginia.
- DARLENE LAUBENSTEIN**--*Assistant Director of University Housing for University Apartments, and Assistant Professor of Administration, Supervision and Higher Education.* B.S. in Ed., M.S. in Ed., Ed. Specialist, Central Missouri State University.
- MICHELLE MONTON**--*Coordinator of Greek Life.* B.S., Missouri State University; M.S., Central State University.
- REBECCA M. NERISON**--*Counseling Psychologist.* B.A., California State University-Long Beach. Ph.D., University of Iowa.
- ALAN R. NORDYKE**--*Interim Assistant Director of University Housing Facilities and Fiscal.* B.S., Western Illinois University; M.A., Bowling Green State University.
- PAUL D. POLYCHRONIS**--*Counseling Psychologist.* B.A., University of Vermont; M.A., Ph.D., University of Missouri-Kansas City.
- CHARLES D. RUTT**--*Manager, University Store and Textbook Department.* B.S. in B.A., M.S., Central Missouri State University.
- MARY ANN RYAN**--*Director of University Housing.* B.A., Quincy College; M.S., Western Illinois University.
- ELIZABETH SCHULTE**--*Assistant Director Agreements and Operations.* B.A., Aquinas College; M.S., Western Illinois University.
- EUGENE C. STILLMAN**--*Campus Advocate for Students.* B.S., Northwest Missouri State University.
- A. JOY STEVENSON**--*International Student Advisor.* B.A., University of Texas; M.A., Ph.D., University of Colorado.

University Advancement

- DANIEL B. BAKER**--*Assistant Director of Admissions for Application and Processing.* B.S., M.S., Emporia State University.
- RHONDA BORUM**--*Placement Coordinator.* B.S., M.A., Central Missouri State University.
- SEAN M. CHRISTY**--*Admissions Representative.* B.S. in Ed., Central Missouri State University.
- ROBYN CRISWELL-BLOOM**--*Assistant Director of Development.* B.S., University of North Dakota, M.S., Central Missouri State University.
- TRINA J. CUTTER**--*Programming/Production Manager KMOS-TV.* B.S., Arizona State University.
- JAMIE M. HULET**--*Admissions Representative.* B.S., Central Missouri State University.
- TERRI G. HUNTER**--*Admissions Representative.* B.S.B.A., Central Missouri State University.
- DARLENE MERRIOTT**--*Promotional Publications Manager.* B.S. in Ed., M.A., Central Missouri State University.
- JEFFREY MURPHY**--*News Bureau Manager.* B.S., Central Missouri State University.
- CHRISTINA M. NIEMEIER**--*Admissions Representative.* B.S. in Ed., Central Missouri State University.
- ANN M. PEARCE**--*Editor and Projects Manager.* B.S., Central Missouri State University.
- CHARLES W. PETENTLER**--*Assistant Director of Admissions for Recruitment.* B.S., M.A., Central Missouri State University.
- WILLIAM C. POYNTER**--*Coordinator of Special Activities and Instructor in Administration, Supervision and Higher Education.* B.S. in Ed., M.S., Central Missouri State University.
- KARIN W. SMITH**--*Recruitment Events Coordinator.* B.M., Louisiana State University.
- MICHAEL J. THEOBALD**--*Career Counselor.* B.S. in Ed., Northwest Missouri State University; M.S., Kansas State University.
- DEBORAH J. TURNBOW**--*Scholarships and Awards Officer.* B.S., Central Missouri State University; M.S., University of Nebraska-Lincoln.

INSTRUCTIONAL AND LIBRARY STAFF

Listing as of January 1, 1995

- DAVID E. AABERG**--*Associate Professor of Music (24).* B.A., M.M., Central Washington University; D.M.A., University of Texas at Austin.
- RANDALL T. ABNER**--*Instructor in Military Science (22).*
- SHARON ABNEY**--*Library Assistant.* B.S. in Ed., M.S. in Ed., Central Missouri State University.
- ERNESTINE ADAMS**--*Coordinator of the Educational Development Center Learning Lab and Assistant Professor (11).* B.A., Arizona State University; M.S., Ed. Specialist, Central Missouri State University.
- L. JEROLD ADAMS**--*Professor of Political Science (27).* B.S., Arizona State University; M.A., Ph.D., University of Washington.
- W. CLIFTON ADAMS**--*Professor of Speech Communication (6).* B.A., University of Alabama; M.S., Ph.D., The Florida State University.
- JAMES W. AGEE**--*Library Assistant.* B.S.B.M., Mary Baldwin College; M.S., Central Missouri State University.
- JOSETTE M. AHLERING**--*Assistant Professor of Mathematics in the Educational Development Center (11).* B.S. in Ed., Loyola University of Chicago; M.S. in Ed., Ed. Specialist, Central Missouri State University.

- ROBERT F. AHLERING**--*Professor of Psychology (29)*. B.S., Loyola University of Chicago; M.A., Ph.D., Northern Illinois University.
- JAMIE L. AIKEN**--*Instructor in Physical Education (26)*. B.A., Kansas State University; B.A., M.A., University of Oregon.
- M. SAIED AKHTAR**--*Associate Professor of Industrial Technology (19)*. B.A., DeMontmorancy College, Pakistan; M.Ed., The University of Punjab, Pakistan; Ph.D., Purdue University.
- DIANE E. ALBRIGHT**--*Assistant Professor of Psychology and Counselor Education (29)*. B.S.M.E., Eastern Nazarene College; M.S. in Ed., Plymouth State University of New Hampshire; Ph.D., Ohio University.
- DENSIL E. ALLEN**, *Professor of Agriculture (2)*. B.S., D.V.M., University of Missouri.
- CRAIG ANDERSON**--*Professor of Military Science and Chair of the Department (22)*. B.S., Northern Arizona University; M.A., East Tennessee State University.
- REBECCA ANDERSON**--*Library Assistant*. B.S., Central Missouri State University.
- PATRICIA ANN ASHMAN**--*Professor of History (15)*. B.A., Webster College; M.A., Ph.D., Saint Louis University.
- EVA ASPEGREN**--*Associate Professor of Human Environmental Sciences (16)*. Teacher's Diploma, The Domestic College, Sweden; M.S., Ph.D., Iowa State University.
- PAMELA J. AUMAN**--*Assistant Professor of Nursing (25)*. B.S.N., M.S.N., University of Missouri-Kansas City; R.N.
- NOORULLAH BABRAKZAI**--*Professor of Biology (4)*. B.S., M.S., University of Peshawar, Pakistan; Ph.D., The University of Arizona, Tucson.
- DUANE P. BACHMANN**--*Professor of Marketing (20)*. B.S. in Ed., Northeast Missouri State University; M.A., Central Missouri State University; Ph.D., Kansas State University.
- GORDON S. BACHUS**--*Professor of Education Administration and Adult Education (32)*. B.A., M.A., Ouachita Baptist University; Ed.D., University of Arkansas.
- KEVIN J. BACON**--*Assistant Professor of Agriculture (2)*. B.S., M.S. in Ed., University of Missouri-Columbia; Ph.D., Oklahoma State University.
- B. JOYCE BAILEY**--*Professor of Physical Education (26)*. B.S. in Ed., M.S. in Ed., Central Missouri State University; Ph.D., University of Iowa.
- BARBARA L. BAKER**--*Assistant Professor of Speech Communication (6)*. B.S., M.S., North Texas State University; Ph.D., University of Southern California.
- DONNA T. BAKER**--*Assistant Professor of Nursing (25)*. B.S.N., Montana State University; M.S.N., University of Missouri-Columbia; R.N.
- WANDA BATTLE**--*Library Assistant*. B.S., East Carolina University.
- HAROLD D. BEARD**--*Professor of Psychology (29)*. B.A., University of Missouri; M.S., Ed.D., The University of Tennessee.
- WANDA RUTH BEARD**--*Assistant Professor of Human Environmental Sciences (16)*. B.S. in Ed., University of Missouri; M.S. in Ed., Central Missouri State University; Ed. Specialist, University of Missouri-Columbia.
- D. CHRISTOPHER BELCHER**--*Assistant Professor of Secondary Education (9)*. B.S. in Ed., M.S. in Ed., Ed. Specialist, Central Missouri State University; Ed.D., University of Missouri-Columbia.
- JOHN F. BELSHE**--*Professor of Biology (4)*. B.S., Central Missouri State University; M.S., Ph.D., University of Miami.
- EDWARD G. BENSON**--*Professor of Modern Languages (23)*. A.B., Princeton University; M.A., Ph.D., Brown University.
- CAROL L. BENTON**--*Associate Professor of Speech Communication (6)*. B.A., M.A., Eastern Michigan University; Ph.D., Southern Illinois University.
- JASON BERGER**--*Assistant Professor of Mass Communication (6)*. B.A., Hunter College of the City University of New York; M.A., University of Virginia; Ph.D., City University of New York.
- TERRILL R. BERKLAND**--*Professor of Earth Science Education (4)*. B.S., Loras College; M.A., Drake University; Ph.D., University of Iowa.
- ADRIAN J. BERNAGOZZI**--*Professor of Applied Sciences and Technology (14)*. B.S., M.S., Rochester Institute of Technology; Ed.D., Rutgers University.
- MICHAEL D. BERSIN**--*Assistant Professor of Music (24)*. B.M., University of Arizona; M.M., University of Hartford; D.M.A., University of Arizona.
- NORMAN J. BETZ**--*Associate Professor of English (13)*. B.A., Loyola University of Chicago; M.A., University of Detroit; Ph.D., The University of North Carolina.
- RENEE T. BETZ**--*Associate Professor of English (13)*. B.A., Ursuline College; M.A., Marquette University; M.A., University of Michigan-Ann Arbor; Ph.D., University of Illinois at Chicago.
- ZINNA L. BLAND**--*Assistant Professor of Computer and Office Information Systems (7)*. B.S., Alcorn State University; M.Ed., University of Southern Mississippi; Ph.D., Iowa State University.
- MARK BLUMBERG**--*Professor of Criminal Justice (8)*. B.A., M.A., University of Kansas; M.A., Ph.D., State University of New York-Albany.
- FREDERIC W. BOCK**--*Professor of Legal Studies (20)*. B.A., Carleton College, Northfield, Minnesota; J.D., State University of Iowa; LL.M., New York University.
- JANET PAIGE BONSALE**--*Professor of Graphics (14)*. B.S., Rochester Institute of Technology; M.A., Ed.D., West Virginia University.
- CHARLES E. BOOKER**--*Assistant Professor of Power and Transportation (Assistant Chief Flight Instructor) (28)*. B.S., M.S., Central Missouri State University.
- STEVEN R. BOONE**--*Assistant Professor of Chemistry (5)*. B.S., California Polytechnic State University; Ph.D., University of Colorado at Boulder.
- RAJA BOUZOUITA**--*Assistant Professor of Finance (10)*. M.A., University of Pennsylvania.
- TIM BRADY**--*Professor of Power and Transportation and Chair of the Department (28)*. B.S., Troy State University; M.S., Abilene Christian University; Ph.D., St. Louis University.
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- OLIN D. BRIGGS**--*Assistant Professor of Mass Communication (6)*. B.A., Presbyterian College; M.A., University of South Carolina; Ph.D., University of Alabama.
- C. JAMES BRITTON**--*Professor of Sociology (31)*. B.S.C., J.D., State University of Iowa; Ph.D., University of Missouri.
- BAIRD A. BROCK**--*Professor of Economics (10)*. B.A., M.A., Central Missouri State University; Ph.D., University of Arkansas.
- KENNETH L. BROOKENS**--*Professor of Instructional Technology (32)*. B.S. in Ed., University of Missouri; M.S., Ed.D., Oklahoma State University.
- DEEMS M. BROOKS**--*Professor of Speech Communication (6)*. B.A., David Lipscomb College; M.A., Ph.D., Southern Illinois University.

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- 1--Accounting
- 2--Agriculture
- 3--Art
- 4--Biology and Earth Science
- 5--Chemistry and Physics
- 6--Communication
- 7--Computer and Office Information Systems
- 8--Criminal Justice
- 9--Curriculum and Instruction
- 10--Economics and Finance
- 11--Educational Development Center
- 12--Electronics Technology
- 13--English and Philosophy
- 14--Graphics
- 15--History and Anthropology
- 16--Human Environmental Sciences
- 17--Library Science and Information Services
- 18--Management
- 19--Manufacturing and Construction
- 20--Marketing and Legal Studies
- 21--Mathematics and Computer Science
- 22--Military Science
- 23--Modern Languages
- 24--Music
- 25--Nursing
- 26--Physical Education
- 27--Political Science and Geography
- 28--Power and Transportation
- 29--Psychology and Counselor Education
- 30--Safety Science and Technology
- 31--Sociology and Social Work
- 32--Special Services
- 33--Speech Pathology and Audiology
- 34--Theatre

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