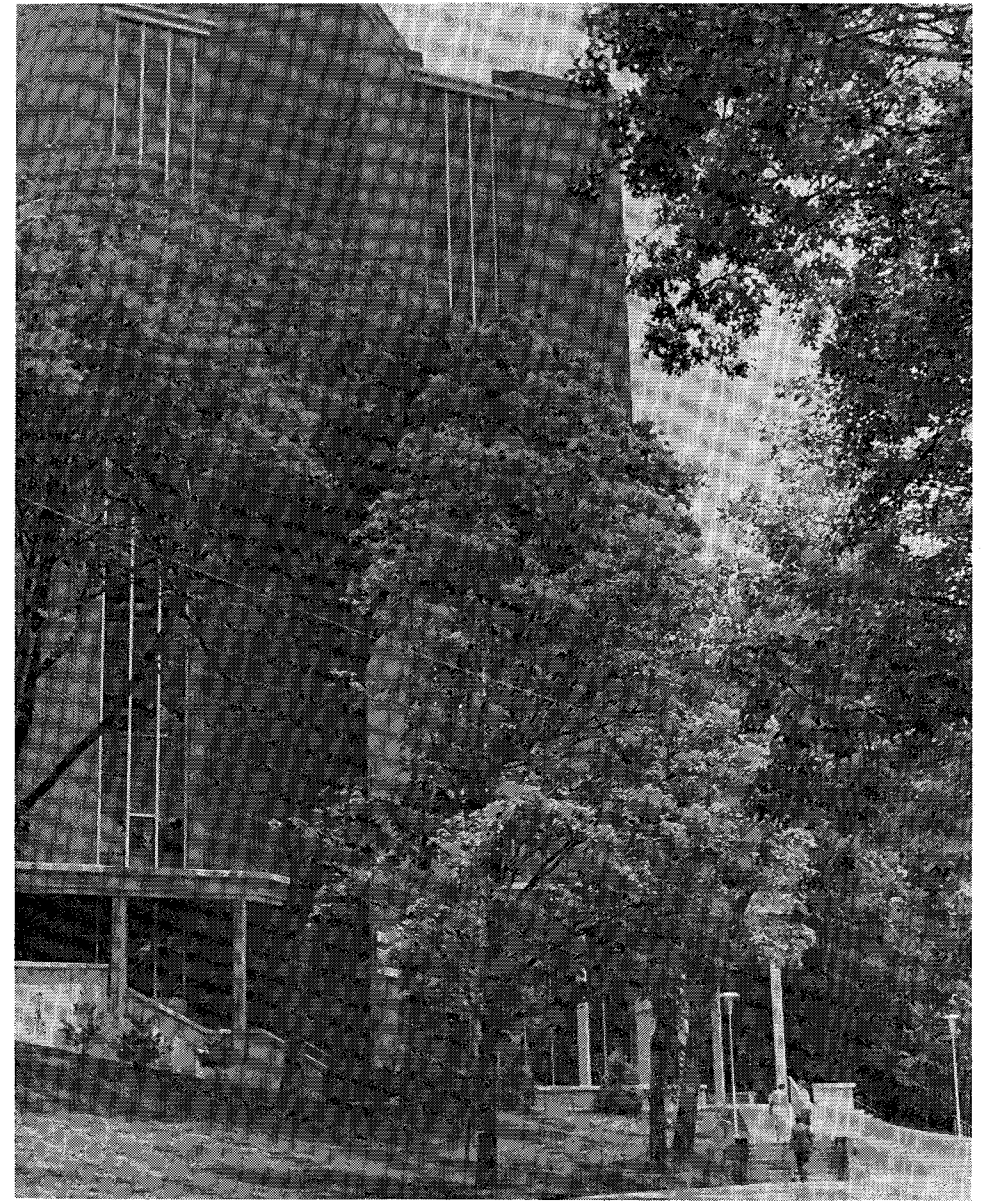




bulletin of the

# Graduate College

Western Kentucky University



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**American Council on Education**



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## **HISTORY OF WESTERN KENTUCKY UNIVERSITY**

Western Kentucky University, located in Bowling Green, was established by act of the 1906 Kentucky General Assembly. Prior to 1906, there had existed in Bowling Green the Southern Normal School and Bowling Green Business University, whose president was Dr. Henry Hardin Cherry. In 1907 the Southern Normal School was transferred to the state, and Dr. Cherry was selected as the first president of Western Kentucky State Normal School. In 1922 the Kentucky Legislature changed the school's name to Western Kentucky State Normal School and Teachers College and empowered the College to award degrees to its graduates. In 1930 the school's name was changed to Western Kentucky State Teachers College, and in 1948 to Western Kentucky State College.

In 1964 the Bowling Green College of Commerce was organized into an academic division of Western, and the Graduate Division was changed to the Graduate School. In 1965 Western's Board of Regents approved the formation of three new colleges, the College of Education, the Potter College of Liberal Arts, and the Ogden College of Science and Technology. In 1969 the name of the Graduate School was changed to the Graduate College, and the college of Applied Arts and Health was added, creating a total of six colleges in the structure of Western. In 1972 the Bowling Green College of Commerce was renamed the Bowling Green College of Business and Public Affairs, and the Potter College of Liberal Arts was renamed Potter College of Arts and Humanities. The Kentucky General Assembly in 1966 designated Western as a University and changed the name to Western Kentucky University.

## **FACILITIES AND CULTURAL PROGRAMS**

**Computer Center.** The University maintains a computer facility which is used by students and faculty in the conduct of research involving large data samplings and complex mathematical analysis. Most analysis can be accomplished through the use of programs already available in the systems library, but consultation services are available to those whose projects involve original programming. Some consultation services are available in the matter of data formatting and organization, but primary responsibility for research design and project organization rests with the individual and his departmental advisers. When required for proper handling of a project, operation of the computer by qualified students

and faculty is permitted after orientation as to standards and procedures of the center.

**Cultural Opportunities.** The Department of Music sponsors a number of musical presentations including special seasonal concerts. In addition, many faculty and student recitals are given throughout the year.

The Department of Speech and Theatre and the Western Players present a series of programs during the academic year. Summer Theatre programs are also scheduled during the summer sessions. A small fee is charged for admission to major productions; however, there is no admission charge for one act plays produced by the Department.

The Department of Art has a gallery on the ground floor of Cherry Hall where a display is usually on exhibit.

**Dial Access Information Retrieval Center.** This facility, installed in the Margie Helm Library, provides forty listening carrels and has a capacity for sixty-four programmed audio sources. Commercial tapes have been purchased for use in addition to tapes prepared by professors for specific assignments.

**Hardin Planetarium.** The Hardin Planetarium is a circular unit adjacent to the Thompson Science Complex. The Planetarium contains a Projection Hemisphere Room and a roof-top observatory which houses a 12½-inch Cassegrain reflector and associated photoelectric equipment.

**Kentucky Museum.** The Kentucky Museum, located on two floors of the Kentucky Building, houses natural history, Civil War relics, furniture, art, musical instruments, toys, jewelry, and textiles as well as pioneer relics, early types of lighting, tools and weapons, and models of Kentucky forts and historic homes.

The Museum holdings have been given by individuals interested in preserving Kentucky history and making it available for educational purposes. Trees and shrubs native to Kentucky are found on the Kentucky Building grounds.

**Lecture Series.** The Rodes-Helm Lecture Series was endowed in 1961 by Mr. and Mrs. Harold Helm of Montclair, New Jersey. The lecture series is named in honor of the late Judge John B. Rodes, father of Mrs. Helm and former Circuit Judge of Warren County, and Miss Margie Helm, sister of Mr. Helm and former Director of Library

Services at Western. The endowment fund is to be kept intact and the income from it is to be devoted to bringing distinguished lecturers to the Western campus.

The University Lecture Series brings to the campus three or four nationally known lecturers each school year. Students, faculty, and the general public are admitted to all lectures free of charge.

Numerous other opportunities for cultural development are available at Western through the University and the city of Bowling Green. These include literary societies, religious organizations, civic clubs, and special-interest colloquiums.

**Recreational Opportunities.** Encouragement is given to students and faculty to use the Athletic Complex facilities regularly. Facilities for swimming, dancing, tumbling, gymnastics, table tennis, judo, karate, wrestling, basketball, volleyball, badminton, tennis, weight training, conditioning, handball, squash tennis, and archery are available. Equipment is made available on a non-charge basis to students, faculty, and staff.

**Religious Life.** Western Kentucky University is a state-supported institution and therefore non-denominational, but it is distinctly interested in the religious life of its students. The Western Religious Council serves as the coordinating organization for religious activity on campus.

**Summer Quarter in Mexico.** Western Kentucky University has a contract with the University of the Americas whereby qualified students from Western and other institutions may participate in various summer programs on the campus of the University of the Americas in Puebla, Mexico. The basic programs are the Summer Quarter (nine weeks) and Workshops (four and one-half weeks each) in the Mexican Way of Life and in Mexican Culture. Additional programs, including other workshops during the summer or the Junior Year Abroad, may be added if the demand arises. Undergraduate and graduate students may obtain from six to ten semester hours (or more, with special permission) resident credit at Western Kentucky University under the present programs in several areas of study.

Information about specific courses in any of the areas may be obtained from Dr. Paul Hatcher, Dean of the Potter College of Arts and Humanities and Chairman of the committee for admission to the Summer Quarter in Mexico Program.

## UNIVERSITY LIBRARIES AND RESOURCE CENTERS

**Helm-Cravens Library.** The main library complex is located near the center of the campus and is housed in two adjoining buildings, the Margie Helm Library and the Raymond Cravens Graduate Center and Library. Together, these buildings have a book capacity of 800,000 volumes and provide seating for 2,400 students.

The divisional arrangement of resources allows maximum benefits for research and reference service among the 500,000 volumes and 2,500 journal titles within the library. A completely computerized on-line circulation system with video displays facilitates the location of materials by the library patron. The Graduate Center has individual carrels for students engaged in thesis or research projects and rooms are provided for graduate seminars.

The library offers aid to researchers through extensive bibliographies, indexing and abstracting services, and interlibrary loans. The Division of Library Services is a depository for federal, state and selected United Nations documents. Significant collections of research material in several fields are available in various forms of micro-reproductions. Under the terms of a cooperative arrangement between the University and the Warren County Law Association, the library of the Association is housed in the Helm Library. The Library subscribes to various computer-based research services and retrieval of these primary resources is accomplished through cooperation with the University Computer Center.

**Science Library.** The Science Library, located in the Kelly Thompson Science Complex, provides books, periodicals, and services necessary for instruction and research in the subject areas of agriculture, astronomy, biology, chemistry, engineering technology, mathematics, and physics. The collection includes 18,000 volumes and 600 current subscriptions to journals, abstracts, and indexes.

**Kentucky Library.** The Kentucky Library, located in the east wing of the Kentucky Building, contains research materials in all phases of Kentuckiana. There are 22,000 books, a large number of early newspapers and periodicals, state documents, broadsides, photographs, maps, microfilm, original cartoons, oral tapes, and art prints. Also available are church records, clippings, sheet music, and scrapbooks.

There are a number of outstanding collections in the manuscript division, such as the Lewis-Starling papers, the Jospeh R. Underwood

papers, the Procter Knott collection, the Calvert-Younglove collection, the Frank Chelf collection, the Helm-Carson family papers, and the Janice Holt Giles manuscripts, among others. Notable also are the Courtney Ellis river collection and the H. O. Potter Daviess County collection.

The Kentucky Library also houses the Western Kentucky folklore collection, which includes the Gordon Wilson Linguistic Study of the Mammoth Cave area, the Allan Trout Collection, and the South Union Shaker materials.

**Educational Resources Center.** This center, located on the third and fourth floors of the Educational Complex, provides research materials and instructional resources which support the curricula of the several departments in the College of Education and the Teacher Training Program.

## SERVICES

**Housing Facilities.** The securing of housing is the responsibility of the student and the following information is provided to aid the student in obtaining housing.

University dormitories accommodate 2,050 graduate and undergraduate men and 2,632 graduate and undergraduate women at an approximate cost of \$150 per semester and \$80 per summer session. (No meals are included.) In addition, off-campus housing may be obtained. Address all inquiries concerning university and off-campus housing to the Director of Housing.

**Food Service.** The University maintains a variety of food services on the campus including: two cafeterias on the first floor of the Paul L. Garrett Conference Center and one in the Dero Downing University Center. Other facilities include a Snack Bar in the Garrett Conference Center and one in the Downing University Center, and a sandwich shop (complete vending and self-service facilities) on the ground floor of Terrace Hall.

**Student Health Service.** The L. Y. Lancaster Hospital Clinic, located in the Academic Complex, is a modern facility providing out-patient and in-patient services with two full-time physicians and other appropriate personnel. It contains an adequate number of hospital beds and

is designed to facilitate handling of most acute illnesses not requiring surgery.

The out-patient service is fully operational Monday through Friday from 8 a.m. until 4 p.m. Emergency care is available after 4 p.m. during the weekdays and the in-patient service is staffed 24 hours a day.

**Other Services.** The University maintains other services, including Student Health Insurance, Bookstore, Laundry Service, and Post Office.

## FEES

### Fees for Graduate Work

Registration Date	Full-time Students		Part-time Students (per credit hour)	
	Resident	Non-Resident	Resident	Non-Resident
1972-73	\$193.00	\$450.00	\$22.00	\$50.00
1973-74	235.00	500.00	27.00	56.00
Summer 1973	96.00	225.00	22.00	50.00
Summer 1974	118.00	250.00	27.00	56.00

Note: Graduate students are considered to be full-time students if they are taking 9 or more hours during the regular semester or 5 or more hours during the summer session.

## FINANCIAL ASSISTANCE

The following financial aid programs are available:

### Loans:

**National Defense Loan.** This loan is designed to assist the student whose family income and total assets place limitations upon other resources (bank loan, family savings, etc.) from which he can make educational funds available. This is a long-term loan, interest free while in school with 3% interest charged during the repayment period. In addition to the interest-rate advantage during the repayment period, a borrower may discount 15% of the loan each year, up to 100% of the total loan, by teaching in an elementary or secondary school in an economically deprived area.

**Federally Insured Bank Loan.** A program of borrowing through your local bank, this is a long-term, interest-free loan while in school.

Seven to ten percent interest is charged during the repayment period. Applications (available in the Student Aid Office) are completed by the student, certified by the Student Aid Office, and presented to the bank by the student.

**College Heights Foundation Loan.** A program of borrowing, this low-interest loan is usually repayable on a short-term basis. Applications are available in the College Heights Foundation Office, W. J. Craig Alumni Center.

## Workships:

The University participates in both a work-study and regular program of employment, whereby a student may work 15 hours per week during the regular term of study, providing such work is needed to balance his college expense budget. Summer employment is offered through the work-study program whereby a student may work 40 hours per week. Eligibility to participate in a work-study program is based on family income. Assistance in obtaining off-campus employment is also available.

**How to Apply:** Obtain an Application for Financial Assistance  
**by writing:** Office of Student Financial Aid  
Western Kentucky University  
Bowling Green, Kentucky 42101

**When to Apply:** The following deadlines must be observed for maximum consideration of Financial Aid Applications:  
March 15—Fall Semester only  
March 15—Fall and Spring Semesters Combined  
December 1—Spring Semester only  
March 15—Summer Session only

## Veterans Administration Benefits:

**G. I. Bill.** Students who served actively with the Armed Forces more than 180 days after January 31, 1955, or less than 181 days but were discharged for service-connected disability with an honorable discharge, are eligible for educational assistance under the Veterans Readjustment Benefits Act of 1966. Applications are made directly to the Veterans Administration, 600 Federal Place, Louisville, Kentucky. Application forms are available in the Student Financial Aid Office.



War Orphans and Widows of Deceased Veterans and Children and Wives of Disabled Veterans should contact the Veterans Administration nearest their hometown for determination of eligibility for educational assistance.

Applications received after these dates can be considered only if available funds are not exhausted. Early applications are encouraged.

## **GRADUATE ASSISTANTSHIPS**

Graduate assistantships are available in various departments to well-qualified students. Appointments are made for the academic year only, and the stipends range upward from \$1,400, depending upon the student's qualifications and duties assigned. In addition to the remuneration in the form of the stipend, the out-of-state portion of the graduate assistant's fees is awarded in the form of a scholarship.

Assistants are permitted to carry a maximum of 12 hours per semester and some departments require graduate assistants to attend seminars in teaching. Graduate assistants have a dual role as graduate student and member of the University instructional staff, and as a member of the instructional staff, they have professional responsibilities to the University. They should familiarize themselves with University policies and responsibilities and are expected to faithfully fulfill their obligation in this respect. Stipends are paid at the middle of each working month.

To be eligible for a graduate assistantship, the student must meet all criteria for admission to the Graduate College except for the Graduate Record Examination which may be taken during the period of first enrollment. The student must have a minimum 2.5 (4.0) undergraduate grade point average to be considered for an assistantship. Applications, including the formal application and three letters of recommendation (to be requested by the student, not the Graduate College), must be sent to the Dean of the Graduate College. Appointments are based upon the recommendation and approval of the head of the department and the dean of the college in which the assistantship is granted. To receive maximum consideration, the application for an assistantship must be in the Graduate Office by February 1.

## **ACADEMIC YEAR, REGISTRATION PROCEDURES, AND SCHEDULE CHANGES**

**Academic Year.** The University provides a year-round instructional

program consisting of the fall and spring semesters, May term, and summer term. A wide offering of graduate courses is available to students during the regular semesters and summer term; a limited offering of graduate courses is available during the May term.

**Registration Procedures.** The process of registering for classes at Western is completed with the aid of the Computer Center. It is therefore necessary that a student wishing to register follow the designated procedures for getting a registration packet. For regular semesters and summer terms, registration packets will be prepared without request for those students who were enrolled on campus either full-time or part-time during the preceding summer term, preceding May term, or during one or more of the three most recent semesters. Packets will not be prepared automatically for persons who have taken only Western extension courses prior to the spring semester of 1972. Students who do not qualify for a packet under the above conditions or students who complete a degree at the end of a term and plan to continue taking courses should obtain a packet request form from the Office of the Dean of the Graduate College. This form must be completed by the student and returned to the Graduate College.

Registration packets for the May term are provided only on request by the student. Students enrolled on campus may obtain the May term registration packet at the Office of the Registrar. Students not enrolled on campus may obtain the registration packet by contacting the Office of the Dean of the Graduate College. May term registration may be completed by mail.

**Schedule Changes.** The institution reserves the privilege at all times of cancelling any course for which the enrollment is not sufficient to justify its continuation and to make any other adjustments in the schedule that seem necessary.

## **FOREIGN STUDENTS**

Foreign students having adequate preparation for graduate study are invited to apply for admission to the Graduate College. In addition to general requirements and major-departmental requirements, all students from non-English-speaking countries must submit evidence of adequate training in the use of English. An acceptable score on the Test of English as a Foreign Language (TOEFL) is required as a condition for admission.

(For information regarding non-academic matters, write Mr. Robert Wurster, Advisor to Foreign Students.)

## GRADUATE COLLEGE

**History.** Western began offering the Master of Arts Degree in 1931. This program was discontinued from 1936 to 1941 but was resumed in 1941 and has enjoyed continuous growth since. The granting of University status in 1966 gave the Graduate School increased opportunity both to strengthen the present programs and to offer an even wider choice of program areas as faculty and resources became available. The name was changed in 1969 from Graduate School to Graduate College to be consistent with the other colleges in the University organization.

**Organization.** The Dean of the Graduate College is charged with the administration of policies regulating and relating to graduate studies. He is responsible for determining and certifying candidates who have fulfilled requirements for advanced degrees.

The Graduate Council recommends and reviews policies pertinent to the operation of the Graduate College. In addition, it receives, reviews, and makes recommendations regarding new graduate programs and alteration of existing programs.

The Graduate Faculty consists of faculty recommended by department heads, college deans, and the Graduate Council, and approved by the Vice President for Academic Affairs.

## POLICIES AND PROCEDURES

### Admissions.

1. **Non-Degree Students.** Any person who holds a bachelor's or master's degree from a college or university of recognized standing is eligible for admission to graduate study on a non-degree basis at Western.
2. **Master's Degree Students.** Applicants for graduate study with the objective of earning a master's degree must meet the following requirements:
  - a. The applicant must hold a bachelor's degree from a college or university of recognized standing.
  - b. He must have adequate preparation in the field of specialization

in which he proposes to study (adequacy of preparation will be determined by the departmental admissions committee).

- c. He must (1) have a grade point average of not less than 2.5 in his last sixty semester hours of undergraduate study, or (2) score not less than 700 on the aptitude test of the Graduate Record Examination (verbal and quantitative). Requirements for admission to certain programs; however, may be higher than these minimum standards.
3. **Specialist Degree Students.** An applicant for a Specialist Degree program must meet the following requirements:
    - a. He must hold a master's degree from an accredited college or university.
    - b. He must have adequate preparation in the proposed field of specialization (to be determined by the appropriate department).
    - c. He must score not less than 800 on the aptitude test (verbal and quantitative) on the Graduate Record Examination.
    - d. He must hold a grade point average of not less than 3.25 on his master's program.
    - e. He must present letters of recommendation from graduate faculty and professional associates.
  4. **Doctoral Students.**

**Cooperative-Doctoral Program with the University of Louisville.** Admission to the cooperative program in Aquatic Biology requires concomitant admission to the Graduate School of the University of Louisville and the Graduate College of Western Kentucky University. Eligibility for admission to the cooperative program is dependent upon:

    - a. the transmission of one official transcript to each Graduate College Office,
    - b. the transmission of copies of two letters of recommendation to each Graduate College Office,
    - c. achievement of a combined score on the Aptitude Section of the Graduate Record Examination of at least 1,000 (to be sent to the University of Louisville),
    - d. achievement of a score on the Miller Analogies Test at or above 40 (to be sent to the University of Louisville),

- e. (Foreign Students only) Satisfactory completion of the (TOEFL) Test of English as a Foreign Language (to be sent to the University of Louisville),
- f. approval by the graduate faculty members in Biology at both institutions,
- g. completion of the appropriate application forms at each institution and the payment of a non-refundable fee of five (\$5.00) dollars for application to the University of Louisville.

**Joint-Doctoral Program with the University of Kentucky.** To be eligible for admission to this program a student must be admitted to the Graduate College at Western and to the Graduate School and doctoral program at the University of Kentucky. These admission forms are available from the Graduate College Office at Western, and upon completion are returned to the Dean of the Graduate College, Western Kentucky University. If the student is considered clearly qualified, his credentials will be forwarded to the University of Kentucky.

Specific application requirements include the following:

- a. Test scores:
    - (1) Graduate Record Examination (1,000 combined on verbal and quantitative sections of the Aptitude test)
    - (2) National Teachers' Exam (acceptable)
    - (3) Miller Analogies Test (acceptable)
  - b. Personal references
  - c. Transcripts of all work
  - d. Statement of educational goals and brief autobiography.
5. **Admission from Non-Accredited Institutions.** Applicants from non-accredited institutions may be admitted conditionally provided they have an undergraduate grade point average of 2.5 or better and present a score of 800 or above on the combined aptitude section of the Graduate Record Examination. Upon the completion of twelve hours of graduate credit with a grade point average of above 3.0, the conditional status may be removed.
6. **Admissions Procedures.** Students desiring admission to the Graduate College must obtain Form A (Application for Admission) from the

Graduate College Office. This form must be completed and returned to the Dean of the Graduate College. Applicants who are graduates of Western Kentucky University are not required to request transcripts of their work at Western. Graduates of other institutions must forward to the Graduate College two official transcripts from the degree-granting institution showing the completed degree. Those applicants who have not completed their undergraduate degrees should forward only one official transcript at the time of application and two official transcripts after the degree is completed.

Transient students who are working toward a degree at another institution must complete Form A, but they are not required to have transcripts forwarded. Transient students must obtain Form H from the Graduate College Office and have it completed by an appropriate official at the institution where the student is pursuing a degree. This form must be completed and returned to the Dean of the Graduate College at Western prior to enrollment.

Special students, who are not seeking an advanced degree at Western, must complete Form A and, if not a Western graduate, have one official transcript of the undergraduate degree work forwarded to the Graduate College.

**Application for Degree.** A degree application form is necessary to initiate a degree check for graduation. The candidate is expected to complete and return a degree application to the Graduate College by February 1 for a degree to be awarded at the May Commencement, and by May 1 for a degree to be awarded at the Summer Commencement.

#### **Candidate's Graduate Committee.**

- 1. **Master of Arts in Education Degree.** Upon admission to the Graduate College the candidate is assigned a graduate advisor from his major area of study and an advisor from his minor area of study. These advisors assist the student in the development of his graduate program of study. In case the candidate elects to write a thesis or chooses an oral comprehensive examination in lieu of the written examination, the two advisors, along with a third member chosen from the major area of study by the major advisor, become the candidate's graduate committee.
- 2. **Master of Arts Degree.** At the time of admission, the major department will select three members of that department to serve as the candidate's graduate committee.

3. **Master of Science Degree.** Same as Master of Arts Degree.
4. **Master of Arts in College Teaching Degree.** Same as Master of Arts Degree.
5. **Master of Public Service Degree.** At the time of admission, the department offering the option will select the major advisor who will assist the candidate in the preparation of the graduate degree program. Prior to Admission to Candidacy, the advisor will select two additional members, one from the option area and one from the core area to serve as the graduate committee.
6. **Master of Business Administration Degree.** Same as Master of Arts Degree.
7. **Master of Music Degree.** Same as Master of Arts Degree.
8. **Master of Science in Engineering Physics.** Same as Master of Arts Degree.

**Degree Candidacy.** After having been admitted to graduate study with a degree objective, the student must apply for and be admitted to degree candidacy. This may be done by completing Form D, Admission to Candidacy, which may be obtained from the graduate advisor or from the Graduate College. Degree Candidacy is subject to the following requirements.

1. The student must have a degree plan on file in the Graduate College.
2. At the time of degree candidacy, any provisional or conditional status must have been removed.
3. The student must have completed at least twelve and not more than twenty semester hours on his program of study at Western.
4. The student's advisors and/or graduate committee must sign the candidacy form.
5. The Graduate Council must approve all applications for candidacy.

**Degree Plans.** All degree candidates are required to file an approved degree plan, Form C, prior to or upon completion of nine hours of graduate credit or prior to the completion of the first semester of enrollment if enrolled in more than nine hours. The Graduate College reviews all degree plans to determine that only approved graduate courses are included.

1. All 400-level courses must have been approved by the Graduate Council. No 300-level courses will be accepted unless accompanied by a letter of justification signed by the department head, dean of the academic college, and approved by the Dean of the Graduate College.
2. The planned program must include at least 15 semester hours of courses open only to graduate students. (The Specialist degree requires 21 semester hours of courses open only to graduate students).
3. The master's degree program may not include more than six hours of transfer credit and no more than twelve hours of extension and transfer credit combined. Specialists programs may contain no more than six semester hours of transfer and/or extension credit.

**Examinations, Written and Oral.** All graduate degree programs require either a written or an oral examination to be completed during the candidate's last period of enrollment prior to graduation.

1. **Written Examinations.** Some programs within the Master of Arts in Education degree require a written comprehensive examination. Candidates for this degree should contact the College of Education for information regarding comprehensive examinations.
2. **Oral Examinations.** Most other degree programs including the Specialist degree require an oral examination.
  - a. The scheduling of the oral examination is the responsibility of the candidate's major advisor.
  - b. The examining committee will consist of the graduate committee appointed from the major department at the time of admission. In the case of the Master of Arts in Education the examining committee will consist of the major advisor, the minor advisor, and one additional member selected from the major department by the major advisor.
  - c. The major advisor will arrange a time and place acceptable to both the student and the committee for the examination. He will notify the Graduate College of the results of the examination through the use of Form E which provides for the signature of each committee member.

#### **Grades.**

1. Candidates for graduate degrees are required to have an average

grade of "B" in all courses, and a minimum grade of "B" on the thesis, if written. Grades lower than "C" do not contribute any quality points and may not be used in meeting degree requirements.

2. Candidates for the Specialist degree are required to obtain at least a "B" grade in all courses used to meet degree requirements.
3. Courses to be transferred from another institution must carry a grade of "B" or better.

#### **Graduate Courses.**

1. Courses numbered 500 and above are open to graduate students only.
2. Courses numbered at the 400-level are open to seniors and to graduate students if the course (1) has been approved by the Graduate Council and (2) is taught by a member of the Graduate Faculty. In classes open to both graduates and undergraduates, graduate students are expected to complete additional course requirements to be prescribed by the instructor.
3. Courses numbered at the 300-level are considered to be undergraduate courses and will not be accepted for graduate credit unless the request to enroll in a 300-level course is accompanied by a letter of justification from the department head and the college dean and approved in advance of enrollment by the Graduate Dean.
4. At least 15 hours of the master's degree program must be earned in courses open only to graduate students.
5. The Specialist's degree requires a minimum of 21 hours of graduate course work open only to graduate students.

**Graduate Record Examination.** All students pursuing master's degrees are required to complete twenty hours after completion of the Graduate Record Examination. Students pursuing the Specialist degree must complete the Graduate Record Examination prior to admission.

#### **Residence, Transfer, and Extension Credit.**

1. A degree candidate may meet residence requirements only by taking course work at Western Kentucky University. A minimum of 18 hours of residence course work is required for the master's degree, and 24 hours is required for the Specialist's degree.
2. The number of semester hours of credit which may be earned during

a given term may not exceed the number of weeks of instruction except in the summer term in which nine semester hours may be earned in eight weeks. Exceptions must be approved by the Graduate Dean.

3. A graduate student who is employed full-time may earn no more than eight hours of graduate credit during the period, September through May, in any one academic year.
4. A minimum of 9 hours during a regular semester and 6 hours during a summer session are required to be a full-time student.
5. Graduate credit is not given for correspondence study.
6. Six hours of transfer work from institutions of recognized standing may be accepted toward degree programs.
  - a. Transfer courses will not be accepted which exceed the eight-year time limit for master's degrees or the four-year time limit for the Specialist degree.
  - b. Upon the recommendation of the advisor and the approval of the Graduate Dean, certain extension courses from other institutions of recognized standing may be accepted toward degree programs.
7. Twelve semester hours of extension work earned from Western Kentucky University may be applied toward master's degree programs. Six hours of extension may be applied toward the Specialist degree program.
8. A maximum of 12 hours of extension and transfer credit may be applied to the master's degree and a maximum of six hours of extension and transfer credit may be applied to the Specialist degree.

**Seniors Earning Graduate Credit.** Seniors at Western may enroll in graduate courses during their last semester of enrollment provided: (1) they have a minimum of 2.5 undergraduate grade point average at the time of application, (2) they complete a formal application for graduate study, (3) they do not need the courses designated as graduate credit to apply to the undergraduate degree, and (4) the combined undergraduate and graduate course load does not exceed fifteen hours.

**Thesis.** The thesis in final form and approved by the student's Graduate Committee must be submitted to the Dean of the Graduate College at least two weeks prior to the date of graduation. Guidelines for the Preparation of Theses are available in the Graduate College Office.

## GRADUATE DEGREES AVAILABLE AT WESTERN

Western Kentucky University has been authorized to offer the following degrees: Master of Arts, Master of Arts in Education, Master of Arts in College Teaching, Master of Science, Master of Business Administration, Master of Music, Master of Public Service, and Master of Science in Engineering Physics.

**Master of Arts** degrees are offered in the following fields: child development and family living, economics, English, folk studies, government, history, humanities, psychology, sociology, Spanish, and speech.

**Master of Arts in Education** degrees permit majors in the following fields: agriculture, biology, business education and office administration, chemistry, economics, education, English, English and allied language arts area, French, geography, German, government, history, home economics, industrial education, library science, mathematics, math-science area, music, physical education, psychology, science area, social science area, Spanish, and speech.

This degree permits minors in the following areas: agriculture, art, biology, business education and office administration, chemistry, economics, education, English, French, geography, German, government, health, health and safety, history, home economics, industrial education, library science, mathematics, music, physical education, physics, psychology, sociology, Spanish, and speech.

**Master of Arts in College Teaching** degrees are offered in the following fields: biology, chemistry, geography, humanities, mathematics, and Spanish.

**Master of Science** degrees are offered in the following fields: agriculture, biology, chemistry, geography, library science, mathematics, physical education, and physics.

**Master of Business Administration** (see Department of Business Administration).

**Master of Music** (see Department of Music).

**Master of Public Service** degrees are offered with options in: administration, agriculture, child development and family living, counseling, recreation and park administration, and regional development.

**Master of Science in Engineering Physics** (see Department of Physics).

**Specialist Degree** (see page 22)

## Procedures for changing from one graduate degree program to another:

A student holding a Master's Degree from Western and wishing to pursue a second Master's Degree at Western will:

- (1) Be required to satisfy the admissions requirements of the new program if they differ from those of the previous program.
- (2) Be required to satisfy all requirements for the new program except as indicated below.
- (3) Be allowed to use all applicable courses if the change is made before the halfway point, or if the change is made after the halfway point but before the program is completed, the student's advisor will work out with him the coursework from the previous program which will be accepted.

## Guidelines for obtaining a second Master's Degree:

A student pursuing a second Master's Degree from Western Kentucky University will:

- (1) Be required to satisfy admissions requirements of the new degree if it differs from the previous one.
- (2) Be required to satisfy all requirements for the new program except as indicated below.
- (3) Be required to earn a minimum of twelve hours of new course work toward the degree.
- (4) Write a thesis or satisfy any option used in lieu of a thesis (six additional hours).

## OUTLINE OF REQUIREMENTS FOR GRADUATE DEGREES

Some graduate degrees offer both Plan A (with thesis) and Plan B (without thesis). This point is clarified in the departmental description of degrees.

### Requirements for the Master of Arts, Master of Arts in College Teaching, and Master of Science Degrees:

**Admission:** In addition to the requirement of a good standing admission to the Graduate College, the student in these degree programs must submit at least a minor or its equivalent in the



department in which he intends to study with a point standing of approximately 2.7 (some departments require a 3.0).

**Coursework:** A total of thirty hours is required with no more than six of the thirty being credit given for the thesis.

**Research Tool:** The student may meet the research tool requirement by either: (1) demonstrating a reading ability sufficient to do scholarly research in a foreign language appropriate to his major area, or (2) demonstrating that he has mastered appropriate research techniques that have been recommended by his departmental advisor(s) and approved by the Dean of the Graduate College. Some departments, however, require a foreign language. No course credit earned in meeting research tool requirements will apply toward the credit hours required for the degree.

**Thesis:** Some departments offer both Plan A (with thesis) and Plan B (without thesis). If Plan A is chosen, a thesis on a topic approved by the student's advisor and the head of the department is required. The thesis must conform to basic research and must indicate evidence of a judicious use of source materials.

**Teaching:** Since the emphasis in the Master of Arts in College Teaching is for preparation to teach in junior colleges or at the lower levels of senior colleges, the students must do some supervised college teaching under the direction of a member of the department involved.

**Final Examination:** A final examination over courses, thesis (if chosen), and related materials must be satisfactorily passed.

#### **Requirements for the Master of Arts in Education Degree:**

**Admission:** All candidates for the Master of Arts degree in Education must meet state requirements for certification in the appropriate area. The requirements for the degree and for certification must be satisfied by either Plan A (with a thesis) or by Plan B (without a thesis).

**Coursework:** All candidates for the degree under Plan A must present a minimum of thirty semester hours of graduate credit, twenty-four of which must be in course work. All candidates

for the degree under Plan B must present a minimum of thirty hours of course work. In both Plans A and B at least nine hours (exclusive of credit for research) must be in professional education. The candidate must have no fewer than twenty-nine semester hours of credit in professional education at the undergraduate and/or graduate level. The remainder of the coursework required for the degree will be determined by the University in terms of the needs of the student, provided that it shall be in graduate courses.

All candidates must have a major and a minor. The student may choose to take a minimum of nine hours (under the Secondary Education program) or a maximum of eighteen hours in Education and a minimum of twelve or a maximum of twenty-one hours in a subject-matter area.

**Research Tool:** Students under this degree program are not required to demonstrate proficiency in a research tool.

**Thesis:** Students under Plan A must register for research credit to a maximum of six semester hours in his major field. Research culminating in the writing of a satisfactory thesis upon some problem approved by the student's Graduate Advisory Committee is required. Students under Plan B may substitute six hours of coursework for the thesis, thus making a total of thirty semester hours of coursework.

**Final Examination:** A final examination over courses, thesis (if chosen), and related materials must be satisfactorily passed. In some areas a written examination is required.

#### **Requirements for the Master of Public Service Degree:**

**Admission:** The student must submit evidence of sufficient background in the area of the option being pursued.

**Coursework:** A minimum of 30 hours is required, of which 9 or 12 hours must be selected from a core area common to all options.

**Research Tool:** No research tool is required.

**Thesis:** The thesis is optional.

**Final Examination:** A final examination over the option and the core must be satisfactorily completed.

**Other Degrees:** The Master of Business Administration, Master

of Music, and Master of Science in Engineering Physics are summarized in their respective departments.

#### **Requirements for Specialist Degree**

- A. A minimum of thirty semester hours of graduate credit in a planned program beyond the master's degree, or its equivalent, must be completed.
- B. A minimum of fifteen semester hours must be full-time residence credit.
- C. A minimum of nine semester hours of residence credit must be completed before admission to candidacy and a minimum of fifteen semester hours of credit must be completed after admission to candidacy.
- D. Candidates may take a maximum of six semester hours, approved by the student's advisory committee, through extension and/or transfer from an institution with an accredited advanced graduate program.
- E. At least twenty-one semester hours must be in courses numbered 500 or above.
- F. Minimum full-time residence requirements may be met through two semesters, or a semester and a summer, or two summers.
- G. The specialist project is considered to be an integral part of the specialist program. It shall carry three to six hours of credit with the exact number of hours to be determined by the student and his graduate committee. The project shall be planned with reference to the student's field of specialization and professional goals. It may take the form of a field project, a creative study, or a more formal research study. Regardless of the form of the project, the study shall culminate in a written, scholarly report. This report must be approved by the student's graduate committee and by the Graduate College. Copies of the written report will be bound and retained by the Graduate College and the University Library.
- H. The time limit for the completion of all requirements for the specialist degree is four years from the date of first registration in the specialist degree program.

## **AREAS OF STUDY**

### **ACCOUNTING**

#### **Graduate Faculty:**

Professor: Lange (Head of Department)

Associate Professor: Cloud

Accounting is an integral part of the Master of Business Administration curriculum. In addition, graduate courses in accounting are significant supporting areas in other graduate programs.

#### **Graduate Courses in Accounting:**

##### **518. Investigations in Accounting. Three hours.**

Designed primarily for secondary education teachers of bookkeeping. Provides an updating of terminology and practice in accounting.

##### **560. Controllership. Three hours.**

An examination of the control function in corporate enterprise. Accounting and financial control concepts and techniques as applied to current and long-term assets are emphasized. Control measures for production and marketing decisions are examined in terms of their financial consequences. Risk and uncertainty in the decision-making process are considered briefly.

The following 400-level courses may be taken for graduate credit:

##### **420. Managerial Cost Analysis. Three hours.**

Prerequisite: Accounting 310.

##### **421. Advanced Tax Accounting. Three hours.**

Prerequisite: Accounting 311.

##### **422. Advanced Accounting. Three hours.**

Prerequisite: Accounting 219.

##### **423. Advanced Accounting Theory. Three hours.**

Prerequisite: Accounting 218.

##### **431. Auditing. Three hours.**

Prerequisite: Accounting 422 or 423.

### **AGRICULTURE**

#### **Graduate Faculty:**

Professors: Brown (Head of Department), Gray, Hourigan, Stroube



## Agriculture

Associate Professors: Johnson, McGuire, Normand, Zimmer

Assistant Professor: Jones

Master of Science in Agriculture; Master of Arts in Education (Agriculture major or minor); Master of Public Service (Agriculture option)

### Master of Science in Agriculture

Applicants for this degree should have an undergraduate major in agriculture or related science. There is no language requirement for this degree, but the student must satisfy the research tool requirement by demonstrating competency in research techniques as recommended by his Graduate Committee and approved by the Dean of the Graduate College. There are two plans by which the requirements for this degree may be satisfied:

Plan A. A minimum of thirty hours of approved graduate course work, including a maximum of six hours of thesis credit for a suitable thesis, must be earned. The thesis consists of the report of the findings of an approved research project conducted under the direction of the student's Graduate Advisory Committee. Students who expect to continue graduate work toward an advanced degree should pursue this program.

Plan B. This program is designed for those students who desire additional training in agriculture or agriculturally-related professions. Admission and other requirements are the same as those for Plan A, except that no thesis is required. Students must complete six hours of course work in lieu of the thesis.

### Master of Arts in Education (Agriculture major or minor)

This program provides additional graduate coursework in agriculture while being designed for the public school teacher. The student following this program must meet all requirements for Standard High School certification. The student majoring in agriculture shall take a minimum of 18 hours, and the student minoring in agriculture shall take a minimum of 12 hours in agriculture and related areas as designated by the Graduate Advisory Committee. A minimum of 9 hours of approved coursework will be taken in professional Education.

### Master of Public Service (Agriculture Option)

## Agriculture

This interdisciplinary degree program is designed for students with an undergraduate degree in agriculture or a closely related area and who expect to work in areas of public service. For specific requirements see Master of Public Service Degree, p. 155

### Graduate Courses in Agriculture:

#### 514. Advanced Plant Breeding. Three hours.

Prerequisites: Agriculture 414 and 491 or consent of instructor. Problems and methods of improvement of cereal, forage, fiber, vegetables and other crop species, pathological and physiological relationships. Lecture and recitation, three hours.

#### 529. Quantitative Genetics. Three hours.

Prerequisites: Agriculture 491, Biology 327 or consent of instructor. Genetic and biometric principles underlying genetic characters which exhibit continuous variation. Lecture, three hours.

#### 533. Physiology of Lactation. Three hours.

Prerequisites: Agriculture 243, 330 or Biology 430 or consent of instructor.

Anatomy of the mammary gland, hormonal control of mammogenesis, initiation and maintenance of milk secretion, factors affecting level and composition of milk, synthesis of milk, physiology and mechanics of the milking process. Lecture, two hours; laboratory, two hours.

#### 545. Ruminant Nutrition. Three hours.

Prerequisites: Ag. 448, Biology 446 or equivalent, or consent of instructor.

Rumen development and function, products of fermentation, nutrient requirements, absorption and metabolism, symptoms of deficiency and toxicity, basic principles of ruminant nutrition and their application to the production of milk, meat and wool. Lecture, three hours.

#### 546. Advanced Animal Breeding. Three hours.

Prerequisites: Agriculture 446 and 428 or consent of instructor. Application of population genetics to the economic improvement of farm animals, phenotypic and genetic relationships, selection aids and role of selection in changing populations, systems of mating, formulation and application of breeding plans. Lecture, two hours; laboratory, two hours.

#### 547. Advanced Animal Nutrition. Three hours.

Prerequisites: Agriculture 448, Biology 446 or equivalent, or consent of instructor.

A study of the individual nutrient requirements of monogastric animals, structure, metabolism and function of each nutrient class,

## Agriculture

interrelationship of nutrient classes, deficiency and toxicity symptoms, practical application to current nutritional problems. Lecture, three hours.

### 550. Advanced Soil Chemistry. Three hours.

Prerequisites: Ag. 450, Chemistry 212 and 230 or consent of instructor. Chemical and mineralogical properties of soil colloids; ion exchange and soil reaction; nature of soil organic matter and biochemical transformations. Lecture, two hours; laboratory, two hours.

### 551. Advanced Soil Fertility. Three hours.

Prerequisite: Agriculture 351 or consent of instructor. Evaluation of soil fertility and fertilizers, theory and application; soil-plant relationships; composition and properties of soil in relation to ion intake, nutrition and growth of plants. Lecture, three hours.

### 553. Soil Genesis, Morphology and Classification. Three hours.

Prerequisites: Ag. 453 and Geology 111 or consent of instructor. Genesis and morphology of soils as related to classification systems; functional analysis of soil characteristics, categories, genetics and interrelationships; geographical distribution of soils of the world. Lecture, two hours; laboratory, two hours.

### 561. Agricultural Production Economics. Three hours.

An economic analysis of agricultural production including production functions, cost functions, programming and decision-making principles, and the application of these principles of resource allocation in Agriculture. Lecture, three hours.

### 583. Curriculum Development and Determining Content in Vocational Agriculture. Three hours.

For beginning teachers of Vocational Agriculture who have a teaching contract.

### 589. Special Problems in Agriculture Education. One to three hours.

Prerequisite: Student teaching completed or concurrent. Supervised individual study in selected fields of vocational agriculture education. May be repeated to a maximum of six hours.

### 590. Experimental Design and Data Analysis. Three hours.

Prerequisite: Agriculture 491 or consent of instructor. Statistical considerations in design of experiments; covariance, multiple regression, factorial experiments, individual degrees of freedom, incomplete block designs, experiments repeated over space and time; tests of reliability, significance and confidence levels. Lecture, three hours.

### 598. Seminar. One hour.

Reports and discussion of problems and research in agriculture. Required of all graduate students, may be repeated to a maximum of three credits.

## Agriculture

### 599. Special Problems in Agriculture. One to three hours.

Prerequisite: Graduate standing and permission of the instructor. Supervised individual study in selected fields of agriculture. May be repeated to a maximum of nine credits.

### 675. Advanced Topics in Agriculture. One to three hours.

Prerequisites: Graduate standing and permission of the instructor. Special topics to acquaint the advanced student with the more significant problems and scientific developments of current interest in agriculture. Special topic titles assigned. Lecture and assignments variable with credit. May be repeated to a maximum of ten credits. May be repeated with change in title and content.

### 699. Research. One to six hours.

Prerequisite: Consent of graduate advisor. Directed research on approved projects investigating selected fields of agriculture. May be repeated with permission.

The following 400-level courses may be taken for graduate credit:

### 400. Plant Physiology. Three hours.

### 410. Crop Protection. Three hours.

### 411. Turfgrass Management. Three hours.

### 412. Modern Fruit Production. Three hours.

### 413. Plant Propagation. Three hours.

### 414. Plant Breeding. Three hours.

### 418. Ornamental Horticulture and Landscape Design. Three hours.

### 419. Vegetable Production. Three hours.

### 421. Forage Crops. Three hours.

### 422. Field Crops. Three hours.

### 428. Population Genetics. Three hours.

### 430. Dairy Technology. Three hours.

### 438. Dairy Microbiology. Four hours.

### 443. Physiology of Reproduction in Domestic Animals. Three hours.

### 446. Animal Breeding. Three hours.

### 448. Principles of Animal Nutrition. Three hours.

### 449. Laboratory Methods and Techniques in Animal Nutrition. Three hours.

### 450. Soil Chemistry. Three hours.

### 452. Soil Microbiology. Four hours.

### **Agriculture/Art**

- 453. Soil Formation, Classification and Mapping. Three hours.
- 454. Land-Use and Conservation. Three hours.
- 455. Soil Physics. Three hours.
- 460. Agricultural Policy. Three hours.
- 461. Advanced Farm Management. Three hours.
- 463. Agricultural Finance. Three hours.
- 470. Agricultural Materials Handling. Three hours.
- 471. Farm Machinery. Three hours.
- 475. Selected Topics in Agriculture. One to three hours.
- 478. Geography of Agriculture. Three hours.
- 482. Development of Agricultural Resources for Recreation. Three hours.
- 486. Agriculture Sales and Service. Three hours.
- 488. Young Farmer and Adult Education in Agriculture. Four hours.
- 489. Special Problems in Agricultural Education. One to three hours.
- 491. Data Analysis and Interpretation. Three hours.

## **ART**

### **Graduate Faculty:**

Professors: Monroe, Peterie

Associate Professor: Shelton (Head of Department)

### **Master of Arts in Education (Art minor)**

This program provides additional graduate coursework in art while being designed for the public school teacher. The student following this program must meet all requirements for Standard High School certification. The student minoring in art may take as few as 12 hours and as many as 15 hours in art while the remaining hours are to be taken in professional education.

Art areas from which courses may be selected include art education, art history, and studios. No studio area may be selected if the student has not had undergraduate experience in it.

### **Art/Biology**

### **Graduate Courses in Art:**

#### **500. History of Architecture and Sculpture. Three hours.**

A study which attempts to build through investigation upon the student's general background knowledge of art history. Art history 312 or its equivalent is a prerequisite.

#### **501. History of Painting. Three hours.**

A study which attempts to build through investigation upon the student's general background knowledge of art history. Art history 323 or its equivalent is a prerequisite.

#### **511. Investigations in Art Education. Three hours.**

Both Art 511 and 512 are designed specifically to direct the student deeply into the literature of this field and are entirely research in nature.

#### **512. Investigations in Art Education. Three hours.**

Art Education 511 is a prerequisite.

The following 400-level courses may be taken for graduate credit:

420, 421, 422 Ceramics

450, 451, 452 Printmaking

460, 461, 462 Painting

470, 471, 472 Sculpture

480, 481, 482 Weaving

490, 491 Special Problems

## **BIOLOGY**

### **Graduate Faculty:**

Professors: Beal. (Head of Department), Bailey, Puckett, Shadowen

Associate Professors: Dillard, Elliott, Ford, Hoyt, Nicely, Prins,

Skean, Toman, Winstead, Yungbluth

Assistant Professors: Gleason, Houston

Master of Science in Biology; Master of Arts in College Teaching in Biology; Master of Arts in Education (Biology major or minor), and Doctor of Philosophy with a research specialization in aquatic biology (in cooperation with the University of Louisville).

## Biology

Admission to departmental programs typically requires the equivalent of an undergraduate major in biology including two laboratory courses each in inorganic chemistry and physics and one course in organic chemistry. Exceptions are made on admissions in favor of superior students whose undergraduate degrees are in allied subject-matter fields.

### Master of Science

#### Plan A (with thesis)

The program leading to the M.S. in Biology (with thesis) is designed for those students whose vocational goals require specialization within biology and a related research experience.

Candidates must complete at least thirty semester hours of course work, excluding the research tool. A maximum of six hours in Thesis Research (Biology 699) may be applied toward the degree. The thesis is based upon original research performed under the direction of a member of the Graduate Faculty of the Department of Biology.

A research tool, the exact nature of which is determined by the candidate's Graduate Advisory Committee with approval of the Dean of the Graduate College, is required. Examples of a research tool are the demonstration of a reading knowledge of a foreign language or competency in statistical methodology or computer programming.

#### Plan B (without thesis)

The program leading to the M.S. in Biology (without thesis) is designed for those students who desire additional training to acquire a higher level of competence in biological or biologically related professions before or after entering their field of employment.

Candidates must complete at least thirty semester hours of course work in biology or related subject-matter fields, excluding the research tool. A research tool, as outlined in the preceding description of the M.S. (with thesis), is required.

### Master of Arts in College Teaching

The program leading to the M.A.C.T. in Biology is designed especially for the preparation of community and junior college teachers.

## Biology

Candidates must complete at least thirty semester hours of course work, excluding the research tool, of which a minimum of twenty-four must be in biology. The remaining hours may be selected from graduate level professional education courses or from the graduate offerings of other departments. A research tool, as outlined in the preceding description of the M.S. (with thesis), is required.

Although a thesis is not required and credit in Biology 699 is not allowed, M.A.C.T. candidates are required to take two to three hours of Investigations in Biology (Biology 516) as an introduction to research.

All M.A.C.T. candidates are required to have teaching experience as a non-credit part of their program. This requirement is usually met by supervised instruction in a general biology lecture-laboratory course.

### Master of Arts in Education (Biology Major or Minor)

The program leading to the M.A. in Ed. with a major or minor in Biology is designed for the preparation and strengthening of secondary school science teachers.

To qualify for a subject-matter major in biology, the M.A.Ed. candidate must complete a minimum of twenty-one hours of course work in biology and nine hours in professional education courses. Students in the M.A.Ed. program minoring in biology must complete twelve to fifteen hours of course work in biology and fifteen to eighteen hours in professional education courses.

Students who desire a breadth of course work in the sciences may major in the Science Area of Concentration under the M.A.Ed. program. The courses in biology those students take must be approved by the chairman of the Department of Biology.

There is no thesis, research experience, nor research tool requirement for the M.A.Ed. program in Biology.

### Doctor of Philosophy

A cooperative graduate program leading to the Doctor of Philosophy with specialization in aquatic biology is administered by the departments of biology of Western Kentucky University and the University of Louisville. Interested students may obtain detailed information about the program from Dr. E. O. Beal, Department of Biology, Western

## Biology

Kentucky University or from Dr. B. L. Monroe; Department of Biology; University of Louisville; Louisville, Kentucky.

### TECH AQUA BIOLOGICAL STATION

Western Kentucky University is a charter member of the Tech Aqua Development Consortium which operates a biological station on Center Hill Lake near Cookeville, Tennessee. A variety of field biology courses is offered during two five-week sessions each summer. Interested students should contact Dr. G. E. Dillard of the Department of Biology for additional information about the Station Program.

#### Graduate Courses in Biology:

- 504. Advanced Electron Microscopy. Three hours.**  
Prerequisite: Biology 404 or consent of instructor.  
A study of advanced techniques used in electron microscopy. Lecture, two hours; laboratory, two hours. (Offered fall '73 and alternate years.) Mr. McCurry
- 505. Biogeography. Three hours.**  
See Department of Geography and Geology.
- 511. Limnology. Four hours.**  
Prerequisite: Consent of instructor.  
A study of the physical, chemical, and biological aspects of bodies of freshwater with emphasis on water as a biological environment. Lecture, two hours; laboratory, four hours. (Offered fall '72 and alternate years). Mr. Prins
- 514. Advanced Plant Breeding. Three hours.**  
See Department of Agriculture.
- 515. Plant Ecology. Four hours.**  
Prerequisites: Biology 248 and consent of instructor.  
A study of ecological concepts and their application to experimental approaches for studying the interaction of plants with their environment. Emphasis will be on population studies involving biochemical, physiological, and phenological approaches. Lecture, two hours; laboratory, four hours. (Offered spring '72 and alternate years). Mr. Winstead
- 516. Investigations in Biology. One to three hours.**  
Prerequisite: Consent of research project director.  
A study for graduate students involving a research project under faculty supervision (not applicable to M.S. Plan A). (Offered every semester and summer). Staff

## Biology

- 520. Aquatic Vascular Plants. Four hours.**  
Prerequisite: Biology 248 and consent of instructor.  
A study of the higher plants of aquatic and marsh habitats; their collection and identification, association of species, adaptations to the aquatic environment, and ecological factors limiting their distribution. Lecture, two hours; laboratory, four hours. (Offered summer '73 and alternate years). Mr. Beal
- 525. Insect Morphology and Systematics. Four hours.**  
Prerequisite: Biology 325 or consent of instructor.  
A lecture-laboratory course emphasizing classification and evolutionary relationships of insects. Lecture, two hours; laboratory, four hours. (Offered fall '73 and alternate years). Mr. Shadowen
- 527. Advanced Genetics. Four hours.**  
Prerequisite: Biology 327 or consent of instructor.  
A study of advanced Mendelian principles and post-Mendelian genetics with emphasis on recently developing areas of research. Lecture, two hours; laboratory, four hours. (Offered fall '73, summer '74 and alternate years). Mr. Yungbluth
- 539. Phytoplankton Ecology. Three hours.**  
Prerequisite: Biology 438 or consent of instructor.  
A qualitative-quantitative study of freshwater phytoplankton communities with an emphasis on seasonal periodicity, distribution, and succession. Lecture, one hour; laboratory, four hours. (Offered spring '73 and alternate years). Mr. Dillard
- 550. Aquatic Invertebrates. Three hours.**  
Prerequisite: Biology 408 or consent of instructor.  
A study of the taxonomy and ecology of invertebrates in lakes, ponds, and streams. Lecture, one hour; laboratory, four hours. (Offered spring '74 and alternate years). Mr. Prins
- 552. Experimental Physiology. Four hours.**  
Prerequisites: Biology 330 and 432.  
A study of the various systems of the vertebrate from an experimental standpoint. Experimental procedures will be used to induce variations from normal function and the results studied. Special emphasis will be placed on the control systems and homeostatic mechanisms of the body. Lecture, two hours; laboratory, four hours. (Offered on demand).
- 556. Experimental Embryology. Four hours.**  
Prerequisites: Biology 323 and a course in Biochemistry.  
A study of gametogenesis, fertilization, and embryonic differentiation from an experimental approach. Special emphasis will be placed on the roles that metabolism, polarity, and gene action play in the development of vertebrate and invertebrate eggs and embryos. Lecture, two hours; laboratory, four hours. (Offered fall '72 and alternate years). Mr. Puckett

## Biology

- 560. Advanced Parasitology. Four hours.**  
Prerequisite: Biology 460 or consent of instructor.  
An intensive study on the culture, determination of physiological requirements, experimental infection of hosts, and host-specificity of parasites. Lecture, two hours; laboratory, four hours. (Offered spring '73 and alternate years). Mr. Gleason
- 562. Intermediary Metabolism. Three hours.**  
Prerequisites: Biology (Chemistry) 466 or Biology (Chemistry) 446 and consent of instructor.  
An intensive study of the metabolic pathways for carbohydrates, lipids, and proteins. Lecture, three hours. (Offered fall semesters). Mr. Hartman
- 563. Enzymology. Three hours.**  
Prerequisites: Biology (Chemistry) 446 and 447 or Biology (Chemistry) 466 and 447.  
An intensive study of enzymes including kinetics and mechanisms for reactions of biological significance. Lecture, three hours. (Offered spring semesters). Mr. Toman
- 564. Enzymology Laboratory. One hour.**  
Corequisite or prerequisite: Biology (Chemistry) 563.  
A laboratory study of the techniques of enzyme isolation and purification coupled with kinetic studies. Laboratory, three hours. (Offered spring semesters). Mr. Toman
- 570. Immunology. Four hours.**  
Prerequisite: Consent of instructor.  
An introduction to the biology of the immune response. Deals with the mechanism, manipulation, and effects of this major means by which higher animals maintain their organismic integrity. Lecture, two hours; laboratory, four hours. (Offered spring '73 and alternate years). Mr. Skean
- 580. Plant Biochemistry. Three hours.**  
Prerequisite: Chemistry 314 or 342.  
A study involving the occurrence, properties, function, and metabolism of many organic compounds found in plants; includes a detailed study of enzymes, carbohydrates, plant pigments, photosynthesis, nitrogen metabolism, and plant growth regulators. Lecture, three hours. (Offered summer '73 and alternate years). Mr. Toman
- 590. Experimental Design and Data Analysis. Three hours.**  
See Department of Agriculture.
- 591. Aquatic Biology. Four hours.**  
Prerequisite: Consent of instructor.  
An ecological and systematic study of the plant and animal com-

## Biology

- munities of freshwater lotic and lentic habitats. Lecture, two hours; laboratory, four hours. (Offered fall '73 and alternate years). Mr. Prins
- 592. Freshwater Ecology. Six hours.**  
Prerequisite: Admission to NSF Summer Institute in Freshwater Ecology.  
A study of the principles of ecology employing the aquatic ecosystem as the area of investigation. Messrs. Hoyt, Dillard, Prins
- 598. Graduate Seminar. One hour.**  
A study of special topics in Biology with student participation. (Offered every semester). Staff
- 675. Advanced Topics in Biology. One to three hours.**  
A course of study at the graduate level covering special or selected topics in Biology. (Offered on demand). Staff.
- 699. Thesis Research. One to six hours.**  
A course in which the graduate student is directly engaged in research leading to completion of the thesis requirement for the M.S. (Plan A) in Biology. (Offered every semester and summer). Staff
- The following 400-level courses may be taken for graduate credit:**
- 400. Plant Physiology. Three hours.**  
Prerequisites: Biology 248, 249 and two semesters of Chemistry. (Offered fall semesters). Mr. Toman
- 404. Techniques and Theory of Electron Microscopy. Three hours.**  
No prerequisite at the graduate level. (Offered every semester). Mr. McCurry
- 405. Paleontology. Four hours.**  
See Department of Geography and Geology.
- 407. Virology. Three hours.**  
Prerequisite: Biology 158 and 159 or consent of instructor. (Offered alternate years). Mr. Ford
- 408. Invertebrate Zoology. Four hours.**  
Prerequisites: Biology 258, 259. (Offered fall semesters). Mr. Prins
- 411. Cell Biology. Three hours.**  
Prerequisites: Biology 148, 149, and Organic Chemistry. (Offered every semester and summer). Mr. Houston
- 412. Cell Biology Laboratory. One hour.**  
Corequisite or prerequisite: Biology 411. (Offered every semester). Mr. Houston
- 414. Plant Breeding. Three hours.**  
See Department of Agriculture.

## Biology

416. **Systematic Botany. Four hours.**  
Prerequisite: Biology 348 or consent of instructor. (Offered fall '73 and alternate years). Mr. Nicely
418. **Mycology. Four hours.**  
Prerequisites: Biology 158, 159. (Offered fall '72 and alternate years). Mr. Jenkins
425. **Medical Entomology. Three hours.**  
Prerequisites: Biology 258 and 259 or consent of instructor. (Offered spring '73 and alternate years). Mr. Gleason
428. **Population Genetics. Three hours.**  
See Department of Agriculture.
432. **Advanced Animal Physiology. Three hours.**  
Prerequisites: Biology 330, 331. (Offered spring semesters). Mr. Bailey.
435. **Biological Instrumentation. Three hours.**  
Prerequisites: Biology 148, 149 and consent of instructor. (Offered on demand). Mr. Houston
438. **Psychology. Four hours.**  
Prerequisite: Biology 158, 159. (Offered fall semesters). Mr. Dillard
446. **Biochemistry. Three hours.**  
Prerequisites: Chemistry 314 or 340 and consent of instructor. (Offered spring semesters and summers). Messrs. Hartman and Toman
447. **Biochemistry Laboratory. One hour.**  
Corequisite or Prerequisite: Biology 446. (Offered every semester). Messrs. Hartman and Toman
451. **Protozoology. Four hours.**  
Prerequisites: Biology 158, 159. (Offered alternate years). Mr. Gleason
456. **Ichthyology. Four hours.**  
Prerequisites: Biology 258, 259 and consent of instructor. (Offered fall semesters). Mr. Hoyt
457. **Herpetology. Four hours.**  
Prerequisite: Biology 258, 259. (Offered spring '73 and alternate years). Mr. Hoyt
458. **Fishery Biology. Three hours.**  
Prerequisite: Biology 456 or consent of instructor. (Offered spring '72 and alternate years). Mr. Hoyt
459. **Mammalogy. Four hours.**  
Prerequisite: Biology 258, 259. (Offered fall '73 and alternate years). Mr. Shadowen

## Biology/Business Administration

460. **Parasitology. Four hours.**  
Prerequisite: Biology 258, 259. (Offered fall semesters). Mr. Gleason
462. **Bioinorganic Chemistry. Three hours.**  
See Department of Chemistry.
464. **Endocrinology. Four hours.**  
Prerequisite: Biology 330, 331. (Offered on demand). Mr. Puckett
466. **Biochemistry I. Three hours.**  
See Department of Chemistry.
467. **Biochemistry II. Three hours.**  
See Department of Chemistry.
470. **Pathogenic Microbiology. Four hours.**  
Prerequisite: Biology 309 and 310 or consent of instructor. (Offered fall '72 and alternate years). Mr. Elliott
472. **Food Microbiology. Four hours.**  
Prerequisites: Biology 309 and 310 or consent of instructor. (Offered spring '72 and alternate years). Mr. Elliott
475. **Selected Topics in Biology. One to three hours.**  
Prerequisite: Consent of instructor. Offered every semester and summer). Staff
477. **Morphology of Non-Vascular Plants. Four hours.**  
Prerequisite: Biology 158, 159. (Offered spring '72 and alternate years). Mr. Dillard
478. **Morphology of Vascular Plants. Four hours.**  
Prerequisite: Biology 248 and 249 or 477. (Offered fall '72 and alternate years). Mr. Nicely
491. **Data Analysis and Interpretation. Three hours.**  
See Department of Agriculture.

## BUSINESS ADMINISTRATION

### Graduate Faculty:

Professors: Hays (Head of Department), Evans

Associate Professor: Ahmed

### Master of Business Administration

The program is designed to provide professional education for



### **Business Administration**

successful careers in management. It is general in approach and emphasizes the relevance of economics, quantitative methods and the behavioral sciences.

Admission to the program requires the approval of the Graduate College and the Master of Business Administration Admissions Committee. Applicants will be evaluated on the basis of their academic records, professional experience, and scores of the Admission Test for Graduate Study in Business (ATGSB). The ATGSB scores must be submitted prior to admission. ATGSB registration forms and information bulletins can be obtained by contacting the University Counseling Services Center in the College of Education Building at Western or by writing to Educational Testing Service, Princeton, New Jersey, 08540.

The following courses or their academic equivalents are program prerequisites: Statistical Analysis for Economics and Business (Economics 306) and Financial Statement Analysis (Accounting 460). A minimum academic average of 3.0 (4.0) must be achieved in these courses.

The M.B.A. program requires the student to complete thirty semester hours of approved graduate course work including a significant paper in an area of special interest to him, or twenty-four hours of such course work and a thesis. All students are required to complete the following twenty-four hour core:

**Accounting 560.** Controllership (see description under Accounting).

**Bus. Ad. 500.** Business, Government, and Law.

**Bus. Ad. 510.** Organization Theory.

**Bus. Ad. 513.** Production and Operations Management.

**Bus. Ad. 520.** Advanced Marketing.

**Bus. Ad. 530.** Finance and Valuation of Corporations.

**Econ. 520.** Advanced Microeconomic Theory (see description under Economics).

**Econ. 525.** Advanced Macroeconomic Theory (see description under Economics).

Evening classes are available for those wishing to pursue the degree on a part-time basis.

### **Graduate Courses in Business Administration:**

**500. Business, Government, and Law. Three hours.**

### **Business Administration**

An examination of the development, implementation, and impact of major public policies toward business, including antitrust, public utility regulation, consumer protection, conservation and environmental control.

#### **503. International Business. Three hours.**

A broad survey of the institutions, organizations, and procedures of international business.

#### **510. Organization Theory. Three hours.**

Investigation of analytical concepts and models derived from the classical, behavioral, decision-making, and systems approaches to the study of administrative organization.

#### **511. Management Science I. Three hours.**

Use of calculus in business decisions: matrices and extrema; linear programming and simplex; duality theorems; two phase and big M method; Kuhn-Tucker theorems; gradient projection method; quadratic programming; dynamic programming; Markov chains; Howard's policy iteration method and Markovian systems.

#### **512. Management Science II. Three hours.**

A study of the basic Markov process, systems analysis of linear processes, systems analysis of Markov processes, reward structure for discrete-time processes, dynamic programming and semi-Markov decision processes, computer simulation of Markovian system.

#### **513. Production and Operations Management. Three hours.**

The course presents an organized body of knowledge concerning the design, operation and control of production systems. It draws upon the mathematical, physical and behavioral sciences in developing generalized decision rules for the integration of men, machines and material into functioning systems.

#### **520. Advanced Marketing. Three hours.**

Intensive analytical study of important aspects of marketing principles, institutions, policies, and operations. This course presents information from the quantitative and behavioral sciences which is important to understanding the theory, philosophy, and operation of integrated marketing systems.

#### **530. Finance and Valuation of Corporations. Three hours.**

An examination of financing policies of corporate entities. Planning the capital structure, measuring and controlling the costs of alternative sources of funds, dividend policy, capital budgeting, and growth through mergers and acquisitions are the topics upon which emphasis is placed.



*Business Administration/Business Education and Office Administration*

The following 400-level courses may be taken for graduate credit with the approval of the M.B.A. Advisor:

**Bus. Ad. 442. Management Systems. Three hours.**

**Economics 440. American Industry; Structure, Performance, and Policy. Three hours.**

**Economics 460. Business Cycles. Three hours.**

**Economics 465. Introduction to Econometrics. Three hours.**

**Mathematics 470. Introduction to Operations Research. Three hours.**

## **BUSINESS EDUCATION AND OFFICE ADMINISTRATION**

### **Graduate Faculty:**

Professor: Sharpe (Head of Department)

Associate Professors: Inman, Keck, Ray

Master of Arts in Education (Business Education and Office Administration major or minor).

The student majoring in Bus. Ed. and Off. Adm. may take a minimum of 18 and a maximum of 21 hours in that department, and the student minoring in business education and office administration may take a minimum of 12 hours and a maximum of 15 hours in that department.

### **Graduate Courses in Business Education and Office Administration:**

**525. Modern Stenographic Techniques. Three hours.**

Provides symbol shorthand teachers with touch shorthand theory. Teaching methods and development of the basic speed on the stenograph.

**530. Modern Data Processing. Three hours.**

An introduction to the field of electronic data processing, its hardware, languages, and applications.

**535. Survey of Distribution. Three hours.**

A survey embracing all business activities involved in moving goods from production to consumption. Emphasis is given to developing a philosophy of the role of marketing in the American economy.

**540. Consumer Financial Problems. Three hours.**

A presentation of eight basic elements of money management and a conceptual relationship of these elements to family units and corporate citizenship.

*Business Education and Office Administration*

**544. Current Problems in Business Education. Two to six hours.**

Course to be taught either as independent study, workshops, or in regularly organized classes. Current problems in business education and significant research related to such problems will form the basis of this course.

**545. Principles of Business Education. Three hours.**

Advanced study of principles, practices, and problems in business education with special reference to the needs and trends in this field. Topics emphasized include standards; guidance; job placement and follow-up; equipment; supervision; and business curricula of the secondary school, the private business school, the junior college, and the collegiate school of business.

**550. Contemporary Office Administration Problems. Three hours.**

Prerequisite: Business Education 462 or permission of instructor.

Examination, in depth, of basic problems in office administration through individual and group analysis and presentation of case problems and current literature; problems areas covered include: office systems analysis and design, office procedures and methods, office cost control, office personnel, office environmental factors, and office automation.

**575. Administration and Supervision in Business Education. Three hours.**

Study of the roles and functions of administration and supervision in business education on the high school level, city level, and state level, and in colleges and universities.

### **The following 400-level courses may be taken for graduate credit:**

**461. Report Writing. Three hours.**

**462. Office Management. Three hours.**

**463. Records Management. Three hours.**

Prerequisite: Business Education 241.

**471. Business and Office Internship. Three hours.**

**481. Advanced Business Communications. Three hours.**

## **CHEMISTRY**

### **Graduate Faculty:**

Professors: Wilson (Head of Department), Lloyd, Wilkins

Associate Professors: Farina, Reasoner

Assistant Professors: Hartman, Hendrickson, Holy, Hunter, Shank

Master of Science in Chemistry; Master of Arts in College Teach-

## Chemistry

ing in Chemistry; Master of Arts in Education (Chemistry major or minor).

### Master of Science in Chemistry

Candidates for admission to this program in chemistry must submit evidence of satisfactory completion of undergraduate curricula in chemistry. Graduates of American colleges and universities are urged to submit, at the time of application, test scores from the Graduate Record Examination Advanced Test in Chemistry and the Graduate Record Examination Aptitude Test. Students admitted without these test scores should take them during their first semester on campus. Graduates of foreign colleges and universities are required to submit test scores from Graduate Record Exam (Aptitude Test), Graduate Record Exam (Advanced Test in Chemistry), and the Test of English as a Foreign Language (TOEFL) as a part of their applications for admission to graduate studies in chemistry.

At the beginning of each semester the Department administers a series of entrance examinations to all incoming graduate students in chemistry. These examinations cover the areas of undergraduate instruction in analytical, inorganic, organic, and physical chemistry. Students whose test scores indicate weakness in one or more areas will be required to complete satisfactorily the appropriate undergraduate courses (for no graduate credit).

Graduate course requirements for the M.S. degree in chemistry constitute a minimum of twenty-four hours of coursework other than research, including one course acceptable for graduate credit in each of four of the five major areas of chemistry; analytical, inorganic, organic physical, and biochemistry. Students electing biochemistry must take or have taken Chem. 466 and 467 or equivalent to satisfy this requirement. In addition, Chem. 435 is required of all students who have not submitted evidence of successful completion as an undergraduate of an instrumental methods course. All graduate students will take Chem. 598 (seminar) each semester; a minimum of two seminars must be given by each graduate student with only one semester hour of credit being allowed toward the master's degree.

Candidates for the M.S. degree in chemistry will be expected to take at least eighteen of their twenty-four hours of coursework within the Department of Chemistry. (However, a student wishing to pursue

## Chemistry

an interdisciplinary program of study may obtain permission from the Head of the Department of Chemistry to take less than eighteen hours in chemistry, provided that the "outside" coursework is in an allied science and that all other departmental requirements are met.) At least half of all chemistry credit hours earned in coursework shall be obtained in courses numbered above 500. M.S. candidates must maintain a grade point average of at least 3.00 in their chemistry courses in order to remain in good academic standing.

A thesis is required for the M.S. degree in Chemistry and is based on the results of an experimental laboratory investigation performed under the direction of a member of the Graduate Faculty within the Department of Chemistry. At the conclusion of the thesis, the M.S. candidate must give a satisfactory oral defense of his thesis work.

The ability to translate a modern foreign language (restricted to German, Russian, or French) must be demonstrated. The determination of language competence is made by the Department of Foreign Languages as specified by the office of the Graduate College. If the M.S. candidate elects a research tool in lieu of the language requirement, it must have the approval of the research advisor of the candidate and the Head of the Chemistry Department.

### Master of Arts in College Teaching in Chemistry

The Master of Arts in College Teaching (M.A.C.T.) program is designed especially for the preparation of community college and junior college instructors. Admission requirements and entrance examinations are the same as those for M.S. degree candidates.

Candidates for the M.A.C.T. degree are expected to complete a minimum of eighteen hours of graduate coursework in chemistry if no thesis is undertaken, or a minimum of fifteen hours graduate coursework in chemistry if a thesis is elected. Chemistry coursework will include Chem. 435, unless an equivalent course has been completed satisfactorily, and at least one graduate level course in four of the following areas of chemistry: analytical, biochemistry, inorganic, organic and physical. M.A.C.T. candidates will also take Chem. 570, and will be expected to complete a program of supervised college teaching.

Students in the M.A.C.T. program must meet research tool requirements as stipulated by and acceptable to the student's graduate advisor and the Dean of the Graduate College.

## Chemistry

M.A.C.T. candidates have the option of completing a research project and submitting a thesis in the area of chemical education, along with a total of twenty-four hours of graduate coursework, or of electing to complete thirty hours of graduate coursework with no thesis. At least half of all hours earned in chemistry coursework shall be in courses numbered above 500.

### Master of Arts in Education (Chemistry major or minor)

This program is designed especially for the preparation and strengthening of secondary school science teachers. Students pursuing this program should confer closely with their advisors in the Department of Secondary Education.

To qualify for a subject-matter major in chemistry, the M.A. in Education student must complete a minimum of 12 hours of coursework in chemistry (the remaining 6 hours may be taken in chemistry or in a related subject-matter area). The student in the M.A. in Education program getting a major in an allied subject-matter area may qualify for a minor in chemistry with the completion of a minimum of 8 hours of coursework in chemistry. Students who have not previously completed a year of physical chemistry are strongly urged to take Chemistry 350 and 352, which may be counted for credit toward the M.A. in Education degree.

Students who desire a breadth of coursework in the sciences may major in the Science Area of Concentration under the M.A. in Education degree program. The courses in chemistry these students take must be approved by their advisor in the Science Area (Dr. W. H. Stroube), by their advisor in Secondary Education, and by the Head of the Chemistry Department.

### Graduate Courses in Chemistry:

#### 500. Fundamentals of Chemistry. Three hours.

Prerequisites: Undergraduate minor in chemistry.

A study of the fundamental principles, theories, and laws of chemistry. Such topics as atomic and molecular structure, stoichiometry, acid-base theory, molecular and ionic equilibrium, and elementary thermodynamics will be discussed. This course does not meet requirements for the M.S. or M.A.C.T. degrees.

#### 502. Fundamentals of Modern Chemical Analysis. Three hours.

Prerequisites: Undergraduate minor in chemistry.

A study of modern methods of chemical analysis including an intro-

## Chemistry

duction to instrumental analysis. Such instruments as the automatic titrator, gas chromatograph, emission spectrograph, and absorption spectrophotometers will be discussed. Other methods of analysis such as thin layer chromatography, electrodeposition, and various potentiometric methods will be studied. This course does not meet requirements for the M.S. or M.A.C.T. degrees.

#### 503. Fundamentals of Modern Chemical Analysis Laboratory. One hour.

Prerequisites: Concurrently with Chemistry 502.

This laboratory is to accompany Chemistry 502 and includes experiments using the instruments and techniques discussed in the lecture course.

#### 516. Investigations in Chemistry. One to three hours.

A critical and comprehensive study of chemical literature dealing with a special topic of interest to the student, including reports and proposals for further research. (It is not applicable to the M.S. degree.)

#### 520. Advanced Inorganic Chemistry I. Three hours.

Prerequisites: Chemistry 352 and 420 or equivalent.

This course will consist of the study of various aspects of coordination chemistry. Topics covered will include the chemical bonding, stability, and stereochemistry of coordination and organometallic compounds.

#### 521. Advanced Inorganic Chemistry II. Three hours.

Prerequisites: Chemistry 520 or consent of instructor.

The course content will consist of a study of various current theories of inorganic reaction mechanisms. Modern techniques of studying inorganic reaction rates, as well as other selected topics, will be included.

#### 530. Instrumental Analysis I. Three hours.

Prerequisites: Chemistry 435 or consent of instructor.

A study of the theory and applications of modern instrumental methods of analysis.

#### 531. Instrumental Analysis II. Three hours.

Prerequisite: Chemistry 530.

A continuation of the study of modern instrumental methods of analysis.

#### 540. Organic Reactions. Three hours.

Prerequisites: Chemistry 440 or consent of instructor.

A study of modern synthetic methods used in organic chemistry.

#### 541. Theoretical Organic Chemistry. Three hours.

Prerequisites: Chemistry 352 and 440 or consent of instructor.

A study of modern theories of organic reaction pathways.

- 550. Chemical Thermodynamics. Three hours.**  
Prerequisites: Chemistry 352 and Math 228 or equivalents.  
The study of thermodynamics with emphasis on chemical applications.
- 551. Chemical Kinetics. Three hours.**  
Prerequisites: Chemistry 352 and Math 228 or equivalent.  
A general consideration of chemical reaction rates and theory of reaction rates.
- 562. Intermediary Metabolism. Three hours.**  
Prerequisite: Chemistry (Biology) 466 or Chemistry (Biology) 446 and consent of instructor.  
An intensive study of the metabolic pathways for carbohydrates, lipids, and proteins.
- 563. Enzymology. Three hours.**  
Prerequisite: Chemistry (Biology) 446 or Chemistry (Biology) 466.  
An intensive study of enzymes including kinetics and mechanisms for reactions of biological significance.
- 564. Enzymology Laboratory. One hour.**  
Prerequisites: Chemistry (Biology) 563 or concurrent with this course.  
The techniques of enzyme isolation and purification coupled with kinetic studies on enzymes will be carried out.
- 570. Lecture Demonstration Techniques. One hour.**  
Prerequisite: Chemistry 352 or equivalent.  
A practical course in the design and operation of meaningful lecture demonstrations in chemistry. Required of all M.A.C.T. candidates; does not meet requirements for the M.S. degree.
- 598. Graduate Seminar. One hour.**  
Prerequisites: graduate standing.  
Reports and discussions of recent research in chemistry. Required of all graduate students each semester but only once for credit.
- 632. Principles of Analytical Chemistry. Three hours.**  
Prerequisite: Chemistry 435 or consent of instructor.  
A study of the theory and practice of modern quantitative analysis.
- 652. Introductory Quantum Mechanics. Three hours.**  
Prerequisites: Chemistry 352 and Math 228 or equivalent.  
Introduction to quantum mechanics with emphasis on the aspects most related to chemistry.
- 675. Advanced Topics in Chemistry. One to three hours.**  
Prerequisite: consent of instructor.  
Modern topics in the fields of analytical, biological, inorganic, organic and physical chemistry offered on demand. Course may be repeated for credit provided topics differ for each semester.

- 699. Research in Chemistry. One to five hours.**  
Experimental work in analytical, biological, inorganic, organic, or physical chemistry. May be repeated indefinitely.

The following 400-level courses may be taken for graduate credit: (See undergraduate catalog for more detailed course descriptions).

- 412. Introduction to Physical Chemistry. Four hours.**  
Prerequisites: Chemistry 230 and Mathematics 125 or equivalents.  
Acceptable towards M.A. in Education; does not meet requirements for M.S. or M.A.C.T. degrees.
- 413. Introductory Physical Laboratory One hour.**  
Prerequisites: Chemistry 412 co-requisite.  
Acceptable towards M.A. in Education; does not meet requirements for M.S. or M.A.C.T. degrees.
- 420. Inorganic Chemistry. Three hours.**  
Prerequisites: Chemistry 352 or concurrently with Chemistry 352.
- 421. Inorganic Chemistry Laboratory. Two hours.**  
Prerequisites: Chemistry 420 or concurrently with Chemistry 420.  
Not acceptable for M.S. degree.
- 430. Advanced Quantitative Analysis. Two hours.**  
Prerequisite: Chemistry 332 or Chemistry 435.  
Not acceptable for M.S. degree.
- 431. Advanced Quantitative Laboratory. Two hours.**  
Prerequisite: Chemistry 332 or Chemistry 435.  
Not acceptable for M.S. degree.
- 435. Analytical Chemistry. Four hours.**  
Prerequisite: Chemistry 352 or concurrently with Chemistry 352.
- 440. Advanced Organic Chemistry. Two hours.**  
Prerequisites: Chemistry 342 and 343 or equivalents.
- 441. Advanced Organic Laboratory. Two hours.**  
Prerequisites: Chemistry 342 and 343 or equivalents.  
Not acceptable for M.S. degree.
- 442. Quantitative Organic Analysis. Four hours.**  
Prerequisites: Chemistry 342 and 343 or equivalents.
- 446. Biochemistry. Three hours.**  
Prerequisite: Chemistry 314 or Chemistry 340 and consent of instructor.  
A study of biochemical compounds and their role in intermediary metabolism. Special topics include biochemical energetics and co-enzyme mechanisms. Not acceptable for M.S. degree in chemistry.

## Chemistry/Economics

### 447. Biochemistry Laboratory. Two hours.

Prerequisite: Chemistry (Biology) 446 or Chemistry (Biology) 466 or concurrent with one of these courses.

Selected experiments which illustrate biochemical principles including separation, identification and chemical properties of carbohydrates, lipids, proteins and enzymes will be carried out.

### 450. Advanced Physical Chemistry. Two hours.

Prerequisites: Chemistry 352 or equivalent.

### 462. Bioinorganic Chemistry. Three hours.

Prerequisites: Chemistry 314 or equivalent.

This course is a study of the coordinating properties and reactivity of metal ions in living organisms. Metal ion toxicity and detoxification, clinical uses of metal chelates in biological systems and functions of various metalloenzymes will be discussed.

### 466. Biochemistry I. Three hours.

Prerequisite: Chemistry 342-343 or Chemistry 314 and consent of instructor.

This course is the first portion of a two semester introduction to biochemistry including a study of the classes of compounds of importance to biological systems. Must be followed by Chemistry 467 to earn graduate credit.

### 467. Biochemistry II. Three hours.

Prerequisite: Chemistry (Biology) 466 or Chemistry (Biology) 446 and consent of instructor.

A study of the reactions characteristic of living systems and an introduction to the mechanisms and energetics of metabolism.

## ECONOMICS

### Graduate Faculty:

Professor: Yeager

Associate Professors: Cann (Head of Department), Blumberg, Wassom

Master of Arts in Economics; Master of Arts in Education (Economics major or minor).

**Master of Arts in Economics** The Master of Arts in Economics program is designed to prepare students for further graduate work leading to the Ph.D. degree, for teaching at the junior college level, or for employment in business or government.

## Economics

In order to pursue the M.A. in Economics the student must secure good standing admission to the Graduate College, a satisfactory score on the Graduate Record Examination, and submit an official transcript showing the completion of at least 21 semester hours, or equivalent, in undergraduate courses in economics with a 2.7 grade point average from an accredited college or university. Students having less than a 2.7 average may be admitted on a probationary basis upon recommendation of the Department of Economics. The applicant is expected to have completed six semester hours in intermediate economic theory (microeconomics and macroeconomics) beyond the principles level, three hours in elementary statistics, and have an appropriate background in mathematics or quantitative skills. Deficiencies in undergraduate preparation may be removed by satisfactorily completing the appropriate courses during the first semester(s) after admission.

Foreign students must demonstrate the ability to use English and submit an acceptable score on the Test of English as a Foreign Language (TOEFL).

The student must complete the following steps to be eligible for graduation:

1. Earn 30 hours of credit with a B average
2. Demonstrate skill in doing research, or the ability to use research tools
3. Pass a final written or oral examination covering the thesis and/or major areas of study

Steps one and two must be completed under either Plan A or Plan B.  
Plan A: 30 hours with thesis

1. 24 hours of approved course work in Economics
2. 6 hours of thesis credit for a research project and written report

Plan B: 30 hours without thesis

1. 24 hours of approved course work in Economics
2. In lieu of thesis 6 additional hours of course work in quantitative areas selected from Economics, Mathematics, Computer Science, or Business Administration; and demonstrate reading ability in a foreign language sufficient to do scholarly research in Economics

All students are required to complete a nine-hour core consisting of Economics 520, 525, and either 464 or 465. The remaining 15 to 21 hours of course work may be selected from the list of courses approved for graduate credit in economics. Normally, no more than six hours of 400-level courses, not including Economics 464 and 465 may be included, and no more than six hours may be taken outside the Department of Economics.

#### Master of Arts in Education (Economics major or minor)

This program provides additional graduate work in Economics within the program designed for the public school teacher. The student following this program must meet all requirements for Standard High School certification. The student majoring in Economics may take a minimum of 18 semester hours or a maximum of 21 hours in the Department of Economics. The student minoring in Economics may take a minimum of 12 hours or a maximum of 15 hours in Economics. The remaining hours of course work will be taken in professional education.

#### Graduate Courses in Economics:

##### 501. Survey of Public Theory. Three hours.

Prerequisite: Economics 310

A study of the theoretical aspects of government finance and its influence on public and private decision making. Emphasis is on the impact, incidence, and effects of alternative tax instruments at local, state and federal levels.

##### 502. Seminar in Economic History. Three hours.

Prerequisite: Consent of instructor.

Concentrated research and writing projects in the economic history of the United States and/or western Europe.

##### 520. Advanced Microeconomic Theory. Three hours.

Prerequisites: Economics 302 or consent of instructor.

An analysis of advanced topics and the results of recent research in microeconomic theory in the areas of consumer behavior, price and market theory, production, distribution, and welfare.

##### 525. Advanced Macroeconomic Theory. Three hours.

Prerequisites: Economics 303 or consent of instructor.

An analysis of advanced topics and the result of recent research in macroeconomic theory dealing with consumption, savings, investment, interest, and money.

##### 530. Monetary Theory. Three hours.

Prerequisites: Economics 250 or 450.

Advanced treatment of classical, neoclassical, Keynesian, and modern quantity theory, and a consideration of the effects of alternative monetary policies on the national economy.

##### 540. Land Economics. Three hours.

Prerequisite: Consent of instructor.

An analysis of factors determining the allocation and use of land and natural resources with emphasis on the application of economic theory to problems of land use and the determination of land values in rural and urban areas.

##### 550. Government Financial Administration. Three hours.

Prerequisites: Economics 310 or 410 or consent of instructor.

Deals with the institutional and economic factors associated with the management of government revenues and expenditures, including such topics as capital budgeting, public debt, and fiscal policy.

##### 560. Seminar in Economic Theory. Three hours.

Prerequisites: Economics 520 and 525.

An intensive study of selected theoretical topics in economics with emphasis on a comparison of recent developments and research findings with conventional propositions.

##### 570. Economic Development. Three hours.

Prerequisite: Economics 470 or consent of instructor.

A study of the significant economic, social, and institutional factors associated with economic development in the less developed countries, emphasizing the identification of barriers to the development process.

##### 575. Advanced International Economics. Three hours.

Prerequisites: Economics 302 and 380, or consent of instructor.

The standard (Heckscher-Ohlin) two country, free-trade model and its variants. Theory of the effects of tariffs and other forms of trade intervention. Customs unions. Trade and economic growth. Balance of payments and the market for foreign exchange. Capital movements and transfer problems.

##### 598. Directed Studies. Three hours.

Prerequisite: Consent of instructor.

An intensive investigation by students of selected economic topics in theory, monetary and fiscal theory and policy, economic development and fluctuations, economic history, economic thought, and other areas.

##### 599. Economic Research and Report Writing. Three hours.

Prerequisite: Consent of instructor.

Research projects dealing with the evaluation of primary data, and training in the techniques of formal research reporting and writing.

##### 699. Thesis Research. One to six hours.



### **Economics/Education**

The following 400-level economic courses may be taken for graduate credit within the allowable limits and with the approval of the student's advisor:

- 410. Economics of Government Expenditures. Three hours.
- 430. Comparative Economic Organization. Three hours.
- 440. American Industry; Structure, Performance, and Policy. Three hours.
- 450. Central Banking Theory and Monetary Policy. Three hours.
- 460. Business and Economic Fluctuations. Three hours.
- 464. Introduction to Mathematical Economics. Three hours.
- 465. Introduction to Econometrics. Three hours.
- 470. Economic Growth and Development. Three hours.
- 475. Regional Economics. Three hours.
- 490. History of Economic Thought to 1870. Three hours.
- 491. History of Economic Thought Since 1870. Three hours.

The following courses may be taken for graduate credit outside of the Department of Economics within the allowable limits and with the approval of the student's advisor:

- Math 470. Introduction to Operations Research. Three hours.
- Math 570. Advanced Topics in Operations Research. Three hours.
- Bus. Ad. 500. Business, Government, and Law. Three hours.
- Bus. Ad. 511. Management Science I. Three hours.
- Bus. Ad. 512. Management Science II. Three hours.

## **EDUCATION, FOUNDATIONS AND CURRICULUM**

### **Graduate Faculty:**

- Professors: Broach, C. Clark, Deeb, Page
- Associate Professors: Constans, Harryman, Rees
- Assistant Professor: Adams

The Educational Foundations and Curriculum Area administers the core or foundation courses for all graduate education programs and those courses that are interdepartmental in nature. Also administered

### **Counselor Education**

through this area are those courses presently unassigned to a department which are part of a developing program. Such courses are listed along with all other courses in the area of Education.

## **CAREER AND VOCATIONAL TEACHER EDUCATION**

### **Graduate Faculty:**

- Associate Professors: Ehresman, Nave
- Assistant Professor: Feck

The Center for Career and Vocational Teacher Education coordinates and offers a program leading to certification for administrators, coordinators, and supervisors of vocational education. The program, designed to provide knowledge and competencies needed by vocational administrators, includes a minimum of 15 hours which may be planned into a master's degree or other graduate programs in Secondary Education

## **EDUCATION, COUNSELOR**

### **Graduate Faculty:**

- Professor: Burkeen, (Head of Department)
- Associate Professors: Brumfield, McKee, Mitchell, Schnacke, Sheeley, Updike

Master of Arts in Education leading to Provisional Certification in Counseling; Master of Public Service degree with Counselor Education option (see page 156); Thirty-Hour Post-Master's program leading to a Standard Certificate for Counselors (see page 162.)

The major purpose of Counselor Education programs is to provide qualified personnel opportunities to develop the necessary competencies required of professional workers in the area of guidance and counseling.

Counselor Education programs are available at Western to prepare school and professional personnel for the following positions:

1. Elementary School Counselor
2. Secondary School Counselor

## Counselor Education

3. Junior College Counselor
4. Employment Counselor
5. Vocational Counselor
6. Student Personnel Workers in Higher Education

**The School Counselor Curriculum.** This program leads to the Master of Arts degree and the Provisional Certificate for School Counselors.

### I. Pre-Admission Course Requirements:

#### A. Professional Education Requirements:

Students shall complete two of the following four courses prior to admission to the program for school counselors:

Education 577—History and Philosophy

Education 580—The Curriculum

Education 576—Foundations of Education

Education 500—Research Methods

6 sem.hrs.

#### B. Counselor Education Requirement:

Students shall complete the following three hour course prior to admission to the program for school counselors:

Education 550—Introduction to Guidance ----- 3 sem. hrs.

TOTAL ----- 9 sem. hrs.

### II. Requirements for Admission to the School Counselor Program:

Admission to the school counselor program requires the approval of the Department of Counselor Education admissions committee. This approval will be based upon the following:

- A. Successful completion of the pre-admission requirements including the attainment of full graduate standing.
- B. The possession of a teaching certificate.

## Counselor Education

C. One year's satisfactory teaching experience in public or private school. This requirement can be waived with the understanding that it is completed prior to or completed concurrently with program completion, or in some limited instances it can be waived upon the determination of the staff in the Department of Counselor Education. The Department of Counselor Education staff has the responsibility of assessing the level of maturity of the candidates and can require additional experiences in the world of work generally, in the teaching field, and/or including additional course work. Recommendation for provisional certification will not be made until the teaching and work experience requirements are met.

D. Demonstration of potential for developing effective relationships with students, teachers, administrators, and parents, and a familiarity with themselves and the objectives of the Counselor Education program. This potential will be determined through a program of self-evaluation by the candidate and an evaluation of the student by the Department of Counselor Education staff. Specific activities and experiences provided in the introductory guidance course will play a key role in this determination as well as securing of information from other sources as employers, supervisors, graduate instructors, and others as needed. Admission to the school Counselor Program does not insure successful completion of the program.



### Counselor Education

#### III. Post-Admission Course Requirements:

Upon the student's admission to the school counselor program, the schedule below will be followed:

##### A. Course Requirements in the Department of Counselor Education:

###### 1. ELEMENTARY SCHOOL COUNSELOR:

Education 552—Individual and Group Analysis .....	3 sem. hrs.
Education 554—Group Guidance .....	3 sem. hrs.
Education 558—Counseling Theory and Practice .....	3 sem. hrs.
Education 560—Counseling Practicum .....	3 sem. hrs.
(Experiences in the Practicum must be obtained at the elementary school level)	
<b>TOTAL</b> .....	12 sem. hrs.

###### 2. SECONDARY SCHOOL COUNSELOR:

Education 552—Individual and Group Analysis .....	3 sem. hrs.
*Education 556—Informational Services .....	3 sem. hrs.
Education 558—Counseling Theory and Practice .....	3 sem. hrs.
Education 560—Counseling Practicum .....	3 sem. hrs.
(Experiences in the Practicum must be obtained at the secondary school level)	
<b>TOTAL</b> .....	12 sem. hrs.

##### B. Course Requirements in the Subject Matter Area (minor):

###### 1. ELEMENTARY SCHOOL COUNSELOR:

Guided related subject matter courses in the area of psychological, physical and social development of children .....	9 sem hrs.
<b>TOTAL (after admission)</b> .....	21 sem. hrs.
<b>TOTAL Semester Hours</b> .....	30 sem. hrs.

\*In some special cases Education 554, Group Guidance, may be used to meet this requirement.

### Counselor Education/Elementary Education

#### 2. SECONDARY SCHOOL COUNSELOR:

Guided related subject matter courses other than professional education .....	9 sem. hrs.
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**TOTAL (after admission)** ..... 21 sem. hrs.

**TOTAL Semester Hours** ..... 30 sem. hrs.

For a description of Counselor Education courses, see pages 67-79.

## EDUCATION, ELEMENTARY

### Graduate Faculty:

Professors: Sleamaker (Head of Department), Englebright, Hardin, Hicks

Associate Professors: Gibbs, Munson, Reese, Stevenson, Watts

Assistant Profesors: Panchyshyn, Ritter

### Master of Arts in Education (Elementary Education major)

The Standard Elementary Certificate, valid for ten years, shall be issued to a person who meets the requirements of law and general regulations of the State Board of Education and files a transcript of credits showing the completion of the four-year curriculum for the training of elementary teachers as prescribed by the Council on Public Higher Education and who, in addition thereto, completes the requirements for a Master's Degree in a standard graduate school, as prescribed.

The curriculum leading to the Standard Elementary Certificate shall be based upon the following:

1. Completion of the requirements for the Master's Degree which shall be based upon at least thirty semester hours of graduate work. For students who write a thesis, a minimum of 24 semester hours shall be required.
2. At least fifteen of the thirty hours required for the degree must be in courses open only to graduate students. (This includes the nine hours required in professional education).
3. At least twelve semester hours of the required work shall be in professional education. Nine hours of the required twelve must be in courses open only to graduate students and must be

### Elementary Education

selected from the following areas: (a) a general study of curriculum development, (b) research methodology, (c) advanced study in reading (required unless waived on basis of previous advanced study in reading), (d) advanced study in human growth and development, (e) the psychology of learning, (f) a seminar in instruction devoted to the method of teaching, (g) foundations in education-sociological, psychological, philosophical, historical. These courses will be chosen according to the student's needs after consultation with the student's graduate advisor in education.

4. At least twelve semester hours of the total hours required for the degree shall be non-professional subject matter courses. These courses must be selected from the fields of study required in general education and/or in subject matter courses used in partial fulfillment of the four-year elementary curriculum for elementary certification.

### Special Emphases

Within the guidelines outlined above an elementary teacher may elect an area of specialization. Some of those programs available are:

1. Early Childhood Education.
2. Reading.
3. Special Education (emphasis in teaching the educable, retarded child)—See pp. 58-60.
4. Elementary Librarian (Provisional Certification)

The student in elementary education may take a distributed subject matter graduate minor which may include courses in as many as three different subject fields.

### Special Education

The graduate program in special education is open to teachers who are certified in elementary or secondary education and are seeking endorsement to teach the educable mentally retarded child. The endorsement certifies the holder to teach the educable child, kindergarten, and grades one through twelve.

The curriculum leading to either a Standard Elementary or a Standard High School Certificate endorsed to teach the educable mentally retarded child shall be based upon the following:

### Elementary Education

1. Completion of the requirements for the Master's degree which is based upon at least thirty-six hours of graduate work. For students who write a thesis, a minimum of thirty semester hours is required.
2. At least fifteen of the thirty-six hours required for the Master's degree must be in courses open only to graduate students.
3. At least twelve semester hours must be chosen from professional education courses selected from the following areas:
  - a. a general study of curriculum development
  - b. research methodology
  - c. advanced study in reading (required unless waived on basis of previous advanced study in reading)
  - d. advanced study in human growth and development
  - e. the psychology of learning
  - f. a seminar in instruction devoted to the method of teaching
  - g. foundations in education — sociological, psychological, philosophical, historical

These courses will be chosen according to the student's needs after consultation with the student's graduate advisor.

The curriculum to be followed for graduate work in special education is as follows:

### Prerequisites:

1. Personal interview with the coordinator of special education
2. Admission to the Graduate College
3. Admission to the graduate program in the College of Education

### General Professional Core Courses:

Ed. 500 Research Methods 3 hrs.

### One of the following:

Ed. 576 Foundations of Education  
Ed. 577 History and Philosophy of Education  
Ed. 580 The Curriculum

3 hrs.

## Elementary Education/Secondary Education

### Special Education Sequence and Related Courses:

Ed. 516	Research and Issues: The Exceptional Child	3 hrs.
Ed. 517	Problems in Mental Retardation	3 hrs.
Ed. 441	Methods and Materials of Teaching the Educable Handicapped	3 hrs.
Ed. 442	Methods and Materials of Teaching the Educable Handicapped Young Adult	3 hrs.
Ed. 519	Foundations of Reading Instruction	3 hrs.
Ed. 520	Clinical Diagnosis of Reading Disabilities	3 hrs.
Ed. 518	Seminar: Problems in Special Education	3 hrs.
Ed. 492	Student Teaching: Educable Mentally Handicapped	0 hrs.
or		
Ed. 492L	Lecture in Lieu of Student Teaching	0 hrs.

### Electives:

Course work totaling nine hours must be chosen from Psychology, Child Development, Sociology, and Industrial Education. Faculty advisement required.

9 hrs.

36 hrs.

For a description of Elementary and Special Education courses, see pages 67-79.

## EDUCATION, SECONDARY

### Secondary Education

Professors: Power (Head of Department), Brenner, Laman, Scarborough

Associate Professors: Estes, Johnson, Koper, McGuire, Melville, Nolan, Taylor

Assistant Professors: DeMars, Dillingham, Hanes

### Master of Arts in Education (Secondary Education major or minor)

The Standard High School Certificate, valid for ten years, shall be issued to a person who meets the requirements of law and general

## Secondary Education

regulations of the State Board of Education and files a transcript of credits showing the completion of the four-year curriculum for the training of high school teachers as prescribed by the Council on Public Higher Education, and who, in addition thereto, completes the requirements for a Master's Degree in a standard graduate school as prescribed.

The curriculum leading to the Standard High School Certificate is based upon the following:

1. Completion of the requirements for the Master's Degree which shall be based upon at least thirty semester hours of graduate work. For students who write a thesis, a minimum of twenty-four semester hours is required.
2. At least fifteen of the thirty hours required for the Master's Degree must be in courses open only to graduate students.
3. At least nine semester hours of the required work shall be in professional education courses designed to develop the recommended competencies. If only nine hours in professional education are completed, all nine hours must be in courses open only to graduate students. These courses will be chosen according to the student's needs after consultation with the student's graduate advisor in education, and they shall be selected from the following areas:
  - a. A general study of curriculum development.
  - b. Research Methodology.
  - c. Advanced study in human growth and development.
  - d. The psychology of learning.
  - e. A seminar in instruction devoted to the method of teaching.
  - f. Foundations in education—sociological, psychological, philosophical, historical.

At least twelve of the thirty semester hours required for the degree shall be non-professional subject matter courses. These courses should be selected from areas that will strengthen the academic specialization of the secondary teacher and/or to further develop the general education background. Persons holding the Provisional High School Certificate for Vocational Agriculture may satisfy this section of the requirements with a minimum of six semester hours graduate credit rather than twelve.

### **Secondary Education/School Administration**

The remaining courses should be selected on the basis of the individual needs of the student in keeping with policies developed by the institution. For other majors and minors in the Master of Arts in Education see page 18.

### **Special Education**

A program in special education is available for persons certified in secondary education. For a description of the program, see pp. 58-60.

For a description of Secondary and Special Education courses, see pages 67-79.

## **EDUCATION, SCHOOL ADMINISTRATION**

### **Graduate Faculty:**

Professor: Christenson (Head of Department)  
Associate Professors: Farley, Frady, Williams  
Assistant Professor: Ball

### **Leading to a Professional Certificate for School Administration and Supervision**

The curriculum in School Administration Programs is designed (1) to give qualified personnel the opportunity to acquire attitudes, advanced knowledge, understandings, and skills in their fields of interest, and (2) to prepare qualified personnel to perform effectively the leadership responsibilities in the elementary and secondary schools.

The courses and experiences provided are designed to meet professional certification standards in school administration and supervision. Programs are offered and the certificate may be endorsed in the following areas: Elementary Principal, Secondary Principal, Supervisor of Instruction, Director of Pupil Personnel, School Business Administrator, and Superintendent. The Professional Certificate for School Administration and Supervision shall be issued initially upon completion of a program of preparation for one of the previously-mentioned school

### **School Administration**

leadership positions. The certificate shall be endorsed for the specific position for which the program of preparation has been completed. When the Professional Certificate for School Administration and Supervision has been issued and endorsed for one position it may be further endorsed for any of the other positions upon completion of that particular program.

All School Administration Programs, with the exceptions of School Business Administrators, require additional study above and beyond the Master's Degree. To be endorsed for the Superintendency a minimum of thirty hours beyond the Master's degree is required.

Application for admission to School Administration Programs (except School Business Administrators) should be made after the completion of the M.A. degree. Acceptance in these programs will be based on the recommendations of a selection committee, using as a basis for approval the following criteria:

- 1 Satisfactory experience in public or private schools.
- 2 Recommendations from school officials where the experience was obtained.
- 3 Recommendations from graduate faculty members with whom the candidate has had courses.
- 4 Satisfactory standardized test scores indicating achievement and a potential for growth.
- 5 Satisfactory scholastic record.
- 6 Personal interview.

### **Curriculum for School Business Administrators Leading to a Master's Degree and Standard Certification:**

#### **Provisional Certificate:**

- 1 Completion of a Bachelor's Degree.
- 2 Completion of eighteen hours toward Standard Certificate.
- 3 Two years successful experience in Government, Business, or Education.

#### **Standard Certificate:**

- 1 Completion of M.A. Degree.
- 2 Three years experience as a School Business Administrator.

## **School Administration**

### **Required Courses in Education:**

- 577 History and Philosophy of Education
- 585 Fundamentals of School Administration
- 677 School Law
- 676 School Finance
- 678 School Building
- 580 Curriculum

Additional Required Courses or Demonstrated Competency in the following:

- Office and Personnel Management
- Accounting
- Public Finance
- Taxation
- Business Law
- School Business Management
- Data Processing

### **Curriculum for Elementary School Principal Endorsement:**

The professional Certificate for School Administration and Supervision may be endorsed for the position of Elementary School Principal when the following conditions have been met:

1. Completion of the requirements for the Standard Elementary Certificate.
2. Admission to the curriculum for the elementary school principalship in accordance with selection and admission criteria.
3. Completion of a minimum of forty-five semester hours of graduate credit including the Master's degree.
4. Three years of successful teaching experience.

### **Required Courses in Education**

- 500—Research Methods
- 550—Introduction to Guidance
- 585—Fundamentals of School Administration

Fifteen hours of departmental electives with emphasis in elementary education are to be selected from the following areas:

## **School Administration**

- Administration
- Curriculum
- Supervision
- Behavioral Sciences

### **Curriculum for Secondary School Principal Endorsement:**

The Professional Certificate for School Administration and Supervision may be endorsed for the position of Secondary School Principal when the following conditions have been met:

1. Completion of the requirements for the Standard High School Certificate.
2. Admission to the curriculum for the secondary school principalship in accordance with selection and admission criteria.
3. Completion of a minimum of forty-five semester hours of graduate credit including the Master's degree.
4. Three years of successful teaching experience.

### **Required Courses in Education**

- 500—Research Methods
- 550—Introduction to Guidance
- 585—Fundamentals of School Administration

Fifteen hours of departmentally approved electives with emphasis in secondary education are to be selected from the following areas:

- Administration
- Curriculum
- Supervision
- Behavioral Sciences

### **Curriculum for Director of Pupil Personnel Endorsement:**

The Professional Certificate for School Administration and Supervision may be endorsed for the position of Director of Pupil Personnel when the following conditions have been met:

1. Completion of the requirements for either the Standard Elementary Certificate or the Standard High School Certificate.

### **School Administration**

2. Admission to the curriculum for Director of Pupil Personnel in accordance with selection and admission criteria.
3. Completion of a minimum of forty-five semester hours of graduate credit including the Master's degree.
4. Three years of successful teaching experience.

#### **Required Courses in Education**

500—Research Methods  
550—Introduction to Guidance  
583—Accounting for Pupil Personnel  
585—Fundamentals of School Administration

Nine hours of departmentally approved electives are to be selected from the Behavioral Sciences.

### **Curriculum for Supervisor Endorsement:**

The Professional Certificate for School Administration and Supervision may be endorsed for the position of Supervisor of Instruction when the following conditions have been met:

1. Completion of the requirements for either the Standard Elementary Certificate or the Standard High School Certificate.
2. Admission to the curriculum for Supervision of Instruction in accordance with selection and admission criteria.
3. Completion of a minimum of forty-five semester hours of graduate credit including the Master's degree.
4. Three years of successful teaching experience.

#### **Required Courses in Education**

500—Research Methods  
585—Fundamentals of School Administration  
—Advanced Reading

Departmentally approved electives are to be selected from the following areas:

- 6 hours in Curriculum (elementary or secondary)
- 6 hours in Supervision
- 3 hours in Administration
- 9 hours in approved subject-matter areas

### **School Administration/Education Courses**

### **Curriculum for Superintendent Endorsement:**

The Professional Certificate for School Administration and Supervision may be endorsed for the position of School Superintendent when the following conditions have been met:

1. Completion of the requirements for either the Standard Elementary Certificate or the Standard High School Certificate.
2. Admission to the curriculum for the Superintendency in accordance with selection and admission criteria.
3. Completion of a minimum of sixty semester hours of graduate credit including the Master's degree.
4. As a general rule, a minimum of twenty-one graduate hours outside of education must be completed within the sixty hour minimum.
5. As a general rule, thirty-nine graduate hours in professional education must be completed in the sixty-hour minimum.
6. Five years of successful experience in teaching or administration.

For a description of School Administration courses, see below through page 79

#### **Required Courses in Education**

676—School Finance  
677—School Law  
678—School Plant Administration

Approved electives to be selected in professional education, behavioral sciences and/or subject-matter fields in order to complete certification requirements and satisfy administrative competencies.

### **Graduate Courses in Education**

#### **500. Research Methods. Three hours.**

Application of scientific method to educational research including theory of research, experimental design, techniques in data gathering and the interpretation of results. To include research reporting and bibliographical techniques.

#### **501. Educational Statistics. Three hours.**

Graphic and tabular arrangement of data; measures of central tendency; measures of relationship.

#### Education Courses

- 503. Organization of the Elementary School Curriculum. Three hours.**  
An advanced study of principles and practices in curriculum construction in the elementary school. Emphasis is placed on forces affecting curriculum and current innovations and trends.
- 505. Advanced Materials and Methods in Modern Mathematics for Elementary Teachers. Three hours.**  
Mathematics for grades kindergarten through grade eight is taught with an attempt to blend the conceptual, the computational and application aspects of mathematics. Emphasis is placed on the structural aspects of mathematics and an attempt is made to show the "why" of arithmetic computation. An extension of Education 305.
- 506. Seminar in Elementary School Science. Three hours.**  
A graduate seminar in methods and materials appropriate to the teaching of science in the elementary school.
- 508. Child Development and Child Study for Elementary Teachers. Three hours.**  
A study of the educational implications of major theories of child development. The course includes an intensive study of a child or children with interpretations of the collected data in terms of educational techniques and practices. Prerequisite: Education 500 or permission of instructor.
- 509. Curriculum Trends in Early Childhood Education. Three hours.**  
A study of current national and international issues and problems in preschool and early elementary education with emphasis on program planning for curriculum improvement.
- 510. Seminar in Early Childhood Education. Three hours.**  
A study of the research findings, as reported in scientific literature, about young children and early childhood education.
- 516. Research and Issues: The Exceptional Child. Three hours.**  
An in-depth review of the characteristics and needs of children who are mentally retarded, gifted or behaviorally disordered or who have visual, speech or motor handicaps. Particular attention will be directed toward current issues relating to overall programming for these children in school and society.
- 517. Problems in Mental Retardation. Three hours.**  
The course will examine the issues involved in mental retardation from the standpoint of etiology, manifestations and programming. Emphasis will be placed on the social implication of mental retardation as it affects the educational and economic system.
- 518. Seminar: Problems in Special Education. Three hours.**  
Seminar for advanced students in special education. Designed to provide in-depth study of specific issues in special education. Research paper required of all students.

#### Education Courses

- 519. Foundations of Reading Instruction. Three hours.**  
An analysis of the reading process with special emphasis upon the psychological and physiological foundations of the reading act. Required in the program leading to Standard Certification unless an advanced course in reading has been completed on the undergraduate level.
- 520. Clinical Diagnosis of Reading Disabilities. Three hours.**  
A study of the nature and causes of reading disabilities and investigation of general and specific principles and approaches to diagnosis. Through actual case studies students will use both group and individual tests in diagnosis. The interpretation of these tests and recommendations for remediation will be developed.
- 521. Correction of Reading Difficulties (Practicum). Three hours.**  
The three primary areas of study in this course are: Development of instructional techniques for use with individuals or groups involved in remedial reading instruction; investigations into materials and procedures for remedial reading instruction; participation in clinical experiences with remedial students.
- 522. Investigations in Reading. One, two, or three hours.**  
A comprehensive investigation of the research and descriptive literature in the field of reading on an individual basis. Permission of the instructor required.
- 523. Diagnostic Reading Procedures for Classroom Teachers. Three hours.**  
Emphasis is on practical methods of reading appraisal, diagnostic procedures, and materials essential for developing teaching strategies in reading instruction to meet the needs of children on individual, small group, and large group bases.
- 528. Seminar in the Teaching of Secretarial Subjects. Three hours.**  
Materials, methods, techniques, and devices for teaching typewriting, shorthand, and related skilled subjects. Required of graduate students majoring in business education. Review and application of research findings to this area.
- 529. Seminar in the Teaching of Bookkeeping and Basic Business. Three hours.**  
Purposes, materials, methods, and techniques for teaching bookkeeping and basic business. Required of graduate students majoring in business education. Review and application of research findings to this area.
- 530. Seminar in English Education. Three hours.**  
A graduate seminar designed primarily for experienced English teachers. Exploration of current methods and materials for junior and senior high school English courses; research and professional trends including rhetoric, psycholinguistics, lexicographics and transformational grammars.  
Prerequisite: Prior permission of the instructor.



## Education Courses

### 531. Seminar in Art Education. Three hours.

A graduate seminar designed primarily for experienced art teachers and art specialists (supervisors, consultants, coordinators, and directors of art). Exploration of curricular trends in art education; methods and materials of teaching and supervising art in the public schools. Prerequisite: Prior permission of the instructor.

### 532. Seminar in Foreign Language Education. Three hours.

A graduate seminar designed primarily for experienced foreign language teachers. Exploration of trends in foreign language education methods and materials for teaching a foreign language at the secondary and advanced levels of instruction. Prerequisite: Prior permission of the instructor.

### 533. Seminar in Industrial Arts Education. Three hours.

A graduate seminar designed primarily for experienced Industrial Arts teachers. Course content includes historical development, exploration of curricular trends and innovations, methods and materials of teaching, and current research and problems relating to the teaching of industrial arts. Prerequisite: Prior approval of the instructor.

### 534. Seminar in Mathematics Education. Three hours.

A graduate seminar designed primarily for experienced secondary school mathematics teachers. Designed to make teachers aware of newer concepts in curriculum and methods of instruction, current research and problems in mathematics education. Prerequisite: Prior approval of the instructor.

### 535. Seminar in Music Education. Three hours.

A graduate seminar designed primarily for experienced music teachers. A consideration of the historical, philosophical and psychological foundations of music education: the application of the principles of education to the music program. Major emphasis is placed on current trends in educational thought and their implications for instruction, supervision, administration and evaluation in music education.

### 536. Seminar in the Teaching of Physical Education. Three hours.

A detailed study and integration of traditional and recent techniques, methods, and knowledge in the practical application of scientific principles to the teaching of physical education and the coaching of sports and games. Opportunities for intensive investigation in specific pedagogical problems are afforded through the modalities of lectures, discussion groups, demonstrations, participation and use of audio-visual aids.

### 537. Seminar in Science Education. Three hours.

A graduate seminar primarily for experienced science teachers. Designed to keep the career science teacher up-to-date on the changes in the teaching of science. Areas considered include the history and

## Education Courses

comparative study of science teaching, curricular and course content changes, materials available, evaluation, methods in science teaching, professional organizations, and research in science education. Prerequisite: Prior approval of instructor.

### 538. Seminar in Social Studies Education. Three hours.

A graduate seminar designed primarily for experienced secondary school social studies teachers. Deals with newer concepts in curriculum and methods of instruction and with current research in social studies education. Prerequisite: Prior approval of the instructor.

### 539. Seminar in Agriculture Education. Three hours.

Study of current and advanced problems in the organization, teaching, supervision, administration and evaluation of agricultural education programs. Investigation, papers, and reports.

### 540. Seminar in Home Economics Education. Three hours.

A graduate seminar designed primarily for experienced home economic teachers. Current trends in family life education with emphasis on individualized instruction, team teaching and audio-visual aids and their use in improving learning. Prerequisite: Home Economics 572 or consent of instructor.

### 541. Seminar in School Libraries. Three hours.

A graduate seminar designed primarily for experienced school librarians. Areas considered include historical development, exploration of curricular trends and innovations relating to school library services, organizations for library services, materials and equipment available, physical facilities, professional organizations, and current research and problems in school librarianship.

### 542. Seminar in Speech Education. Three hours.

A graduate seminar designed primarily for experienced teachers. Course content includes historical development, exploration of curricular trends and innovations and current research and problems related to the teaching of speech.

### 547. Classroom Test Construction. Three hours.

Construction and use of classroom tests; application of testing programs to research problems in classroom teaching.

### 548. Research in Curriculum and Instruction. One to Three hours.

Research in instructional problems in reading, mathematics, science, social studies, and English. Research in the area of the elementary and secondary curriculum.

### 550. Introduction to Guidance. Three hours.

A basic course designed to present an over-all view of the philosophy, organization, administration and operation of guidance and personnel

## Education Courses

services rendered at all education levels and to develop an understanding of the functions of personnel and guidance services in modern society.

### **Spec. Ed. 550. Seminar: Problems in Special Education. Three hours.**

This seminar is designed for advanced students in special education, and it provides in-depth study of specific issues in special education. Research paper required of all students.

### **552. Individual and Group Analysis. Three hours.**

A study of the methods, techniques and instruments used by guidance and personnel workers in the assessment and evaluation of individuals and groups. Attention is given to methods and administering, scoring, and interpreting both objective and subjective instruments. A survey is made of research design, statistics and computer utilization. Opportunities are provided for observation and participation in use of instruments.

### **553. Field Laboratory Experience in Group and Individual Analysis. One hour.**

This course is taken concurrently with Education 552. These directed activities are designed to provide field laboratory experiences in the theories and practices of the group and individual analysis area.

### **554. Group Guidance. Three hours.**

A study of the dynamics and processes within group structures; experiences in the formation of groups and their utilization in group counseling procedures and in the guidance aspects of career development and vocational choice. Opportunities are provided for observations and participation in group work.

### **555. Field Laboratory Experience in Group Guidance. One hour.**

This course is taken concurrently with Education 554. These directed activities are designed to provide field laboratory experiences in the theories and practices of the group guidance area.

### **556. Informational Services. Three hours.**

A study of the sources, types, and uses of educational and occupational information applicable to a program of developmental guidance and counseling.

### **557. Field Laboratory Experience in Informational Services. One hour.**

This course is taken concurrently with Education 556. These directed activities are designed to provide field laboratory experiences in the theories and practices of the informational services area.

### **558. Counseling Theory and Practice. Three hours.**

A study of the major contemporary theories of counseling along with the implementation of the various methods and procedures followed in individual and group counseling. Attention is also given to laboratory demonstration and participation.

## Education Courses

### **559. Field Laboratory Experience in Counseling Theory and Practice. One hour.**

This course is taken concurrently with Education 558. These directed activities are designed to provide field laboratory experiences in the theories and practices of the counseling area.

### **560. Counseling Practicum. Three hours.**

Provides for supervised experiences in actual work with students in the appropriate education setting in which the individual plans to seek certification or employment. These experiences include both guidance and counseling activities with students. This practicum also provides experiences for students planning to enter employment in governmental business and industry.

### **570w. Workshops in Education. One-three hours.**

Special short courses on educational problems.

### **571. Junior High School Curriculum. Three hours.**

This course provides an opportunity for teachers, supervisors, curriculum consultants, and administrators to study the educational programs especially designed for the young adolescent. Emphasis is placed on functions organization, planning and evaluation of the junior high/middle school curriculum with attention to special curriculum areas.

### **576. Foundations of Education. Three hours.**

An examination of past and contemporary factors in American education.

### **577. History and Philosophy of Education. Three hours.**

Survey of the historical roots of dominant philosophies of education.

### **578. Basic Education for Adults. Three hours.**

A graduate course designed especially for present and prospective teachers of Adult Basic Education. This involves a study of the unique aspects of teaching the disadvantaged adult. Emphasis is given to an examination of the characteristics of and factors affecting the under-educated adult student; curriculum planning; methods of instruction and evaluation.

### **579. Deprivation and Education. Three hours.**

A study of the cultural and social forces which deprive students of the experimental tools necessary for successful classroom learning. An investigation of experimental education programs currently operating in impoverished areas.

### **580. The Curriculum. Three hours.**

The philosophy, the principles, the problems, and the practices of curriculum making.

#### Education Courses

**581. Organization and Administration of Occupational Education Programs. Three hours.**

A study of the organization, administration, and implementation of occupational education programs as an integral part of the total education system.

**582. Adult Education Program Planning Principles. Three hours.**

This course deals with the basic principles of adult learning, decision making, and considerations for planning, executing and evaluating adult education programs.

**583. Accounting for Pupil Personnel. Three hours.**

Problems of personnel accounting with special attention to the work of director of pupil personnel, and to records and reports incident to the Minimum Foundation Program.

**584. Comparative Education. Three hours.**

Historical and international factors influencing the development of national systems of education; methodology and research approaches to international, comparative, developmental, and cross-cultural education.

**585. Fundamentals of School Administration. Three hours.**

An introductory course concerned with the organization and administration of American schools. Principles of effective leadership are explored, and the roles and responsibilities of the various administrative — supervisory positions are examined.

**587. Programmed Instruction. Three hours.**

Overview to the field of programmed learning; its relation to research in learning theory and to audio-visual communication. Students will engage in individual research and programming of curriculum content in the field of major competence.

**588. School Business Management. Three hours.**

The principles of efficient and effective operation of the fiscal and business aspects of school administration are studied as they affect the educational program.

**590. Administration of School Personnel. Three hours.**

The concept of the personnel administrator is one of allocating human resources to accomplish the purposes of the school organization.

**591. The Administration, Management and Finance of Federal-State Occupational Education Programs. Three hours.**

This course involves a study of the types, sources, standards and management functions and procedures concerned with financing and operating numerous federal-state, occupational education programs.

#### Education Courses

**592. Program Planning in Occupational Education. Three hours.**

This course involves methods of determining the need for occupational education programs, development of programs and curriculums, evaluating and improving existing programs, and annual and long-range program planning.

**593. Planning and Equipping Occupational Education Facilities. Three hours.**

This course involves a study of techniques and procedures in determining occupational facilities needs, evaluating existing facilities, planning for new construction, renovation of existing buildings and maximum utilization of existing facilities.

**594. Seminar on Leadership in Occupational Education. Three hours.**

This course involves a study of principles and practices of leadership related to involving community resources in the development and operation of occupational education programs.

**595. Supervised Practice in the Administration of Occupational Education Programs. Three to six hours.**

Supervised practice in the administration of occupational education programs in the work setting with emphasis on the development of administrative leadership and management skills.

**596. Readings in Education. One to Three hours.**

Opportunity for advanced students in education to do reading and research in the field of major interest under the guidance of the major professor. Registration only by permission of the major professor.

**597. Problems in Administration and Supervision. One to Three hours.**

Students identify and solve administrative problems of concern to them in their own school districts. Permission of instructor required.

**598. The Organization and Supervision of Student Teaching. Three hours.**

Designed to acquaint teachers with the philosophy, theory, and practices which are essential in an effective student teaching program. Attention is given to both State and NCATE standards for teacher education, personal and professional relationships, common problems of student teachers and evaluation of student teachers.

**599. a, b, Thesis Research. One to Three hours each.**

Special research problems in education.

**603. Research and Experimentation Affecting the Elementary School. Three hours.**

A study of major research studies and reports of experimentation that have had or are currently having an impact on the elementary school and its curriculum.

## Education Courses

- 620. Advanced Diagnosis of Reading Problems. Three hours.**  
A laboratory course designed to give experience in advanced testing materials in diagnosing severely retarded readers.
- 621. Advanced Reading Correction Practicum. Three hours.**  
A laboratory course designed to give individual and small group instruction to children with severe reading problems.
- 623. Organization and Administration of Reading Programs. Three hours.**  
Organizational patterns in various kinds of reading programs and their implementation on a system-wide as well as a local school basis. Permission of the instructor required.
- 624. Seminar in Reading Problems. Three hours.**  
An in-depth study of the research and descriptive literature related to specific reading problems.
- 625. Field Experience in Reading. Three, six, or nine hours.**  
Full time supervised experience in a public school system working with reading problems.
- 650. Utilization of Community Resources in Guidance. Three hours.**  
This course provides for individual community surveys of all resources which may be used in the processes and procedures of guidance and counseling to assist students in the proper choice of educational programs to qualify them for careers of their own selection. Based upon surveys actually made, ways and means of utilization of resources surveyed are discussed and applied where practicable.
- 652. Research in Guidance and Counseling. One to three hours.**  
Research problems relating to the organization and administration of the guidance program.
- 654. Mental and Aptitude Testing. Three hours.**  
Administration and interpretation of standard mental and aptitude tests as tools of educational and occupational guidance.
- 655. Seminar in Guidance Services in the Elementary School. Three hours.**  
An exploration and determination of the guidance services for the elementary school that are congruent with the philosophy, curricula and student patterns within the elementary school; and the means for instituting and maintaining them in practice.
- 656. Seminar in Vocational Guidance and Occupational Adjustment. Three hours.**  
This seminar provides for the intensive study of vocational guidance and occupational adjustment and application at all levels — schools and colleges, business and industry, and government.
- 658. Seminar in Guidance and Counseling. Three hours.**  
The purpose of this seminar is to provide an opportunity for the systematic involvement of the student in the presentation and

## Education Courses

- critical discussion of research and important studies made in the area of counseling and guidance. Both theoretical and practical criticism of relevant research studies in the field of guidance are emphasized.
- 660. Organization and Administration of Guidance Services. Three hours.**  
This course provides an analysis of the guidance services in elementary and secondary schools and the appropriate organization for making effective these services. Attention will also be given to the basic principles and postulates underlying the justification of guidance services. Emphasis is placed upon problems such as: initiating guidance programs; developing related services; staffing; physical facilities; providing adequate budget; etc.
- 662. Advanced Counseling Practicum. Three to six hours.**  
The purpose of the advanced counseling practicum is to function as a training facility for supervised on-campus experiences in the counseling of elementary, junior and senior high school students, and their parents. Emphasis is placed upon educational, vocational, and social-personal planning and problems. The practicum also provides for an understanding of and for practice in relating the other main guidance services (individual inventory, information services, placement, and follow-up) to the heart of the guidance process . . . counseling. It also involves opportunities for experience in providing consultative services to professional people working with children who might be teachers, principals, counselors, agency workers and others.
- 675. Higher Education in America. Three hours.**  
An examination of the history, purpose, philosophy, organization, curriculum, student personnel services, financial services, and trends of the American system of higher education.
- 676. Public School Finance. Three hours.**  
Local school finances; school budgets, accounting for school money. Unit costs and cost accounting; accounting for school property, insurance, business procedure and office practice.
- 677. School Law. Three hours.**  
Clinical study of existing school code; judicial decisions; administrative problems and school code.
- 678. School Plant Administration. Three hours.**  
Prerequisite: Education 585.  
Educational needs and school building planning; architect service; standards of construction; types of buildings; building surveys.
- 679. Seminar in Foundations of Education. Three hours.**  
An inter-disciplinary seminar for advanced students. Registration by permission of instructor.
- 680. Advanced Studies in Elementary School Curriculum. Three hours.**  
Intensive analysis of the educational content and methodology of the elementary school curriculum, including the experimental approach to the curriculum.

## Education Courses

- 681. Secondary School Curriculum. Three hours.**  
Critical issues in the secondary school curriculum and ways of resolving these issues for an improved program of secondary education.
- 682. School-Community Relations. Three hours.**  
A study of the background, need, and techniques of acquiring a wholesome working relationship with the laymen. Special emphasis is placed on lay involvement in school programs.
- 683. Seminar and Curriculum Development. Three hours.**  
An advanced seminar for the consideration of factors influencing curriculum development. Registration by permission of instructor.
- 684. Supervision of Elementary School Subjects. Three hours.**  
Application of principles of supervision to problems of instruction in the elementary grades.
- 686. Principles of Supervision. Three hours.**  
The instructional side of school administration; organization, problems, principles, and techniques of improving teachers in service.
- 688. Evaluating the Elementary School. Three hours.**  
A study of the techniques of evaluation of the elementary school. Special emphasis will be given to approaches to evaluating the school for accreditation purposes as well as for general school improvement programs. This course is designed specifically for those preparing for administrative and/or instructional leadership roles.
- 691. Elementary School Organization and Administration. Three hours.**  
Prerequisite: Education 585.  
Problems of organization and administration of elementary schools with special emphasis on the problems of instruction; classification, promotion, and guidance of pupils; custodial services, and relationships with patrons and community.
- 692. Secondary School Organization and Administration. Three hours.**  
Prerequisite: Education 585.  
Problems of organization and administration of secondary schools with special emphasis on programs of instruction; classification, promotion, and guidance of pupils; relation of principal to non-professional personnel; and relationship with patrons and community.
- 693. Programs of Continuing Education. Three hours.**  
A general survey of adult education with emphasis upon the philosophy, organization and administration of continuing education programs.
- 694. Seminar in Educational Administration. Three hours.**  
Emphasis on current research and identification of research needed in educational administration. For advanced graduate students in administration and supervision.

## Education Courses/English

- 695. School Surveys. Three hours.**  
Techniques of making school surveys; gathering and interpretation of data; evaluation of educational programs, evaluation of facilities; prediction of future enrollment, and presentation of school authorities.
- 696. Advanced Theory in Education Administration. Three hours.**  
Theoretical approaches to the study of administration and leadership with particular reference to theories of education administration. For advanced graduate students. Registration by permission of instructor.
- 697. Research in Administration and Supervision. One to three hours.**  
Special research projects in administration and supervision.
- 698. Practicum in Administration and Supervision. Three to six hours.**  
Internship of other field experience for administrators and supervisors. Permission of instructor required.

The following 400-level courses may be taken for graduate credit:

- 404. Adult Education: Historical and Contemporary Perspectives. Three hours.**
- 412. Materials and Methods of Preschools. Three hours.**
- 417. Speech and Hearing Problems of Children. Three hours.**
- 420. Reading in the Primary Grades. Three hours.**
- 421. Reading in Intermediate Grades. Three hours.**
- 441. Materials and Methods of Teaching the Educable Mentally Retarded. Three hours.**
- 442. Materials and Methods of Teaching the Educable Handicapped. Young Adult. Three hours.**
- 444. Reading in the Secondary School. Three hours.**
- 445. Audio-Visual Materials and Methods. Three hours.**
- 446. Selection, Acquisition, and Evaluation of Non-Print Material. Three hours. (see also Library Science 446)**
- 455. Junior High School. Three hours.**
- 477. Materials and Methods in Library Science. Three hours.**

## ENGLISH

### Graduate Faculty:

Professors: K. Clarke, M. Clarke, Little, McCelvey, W. McMahon, Wood

## English

Associate Professors: Davis, Fridy, D. McMahon, Miller, Steele

Assistant Professor: Ward

Folklore: Professor: K. Clarke

Associate Professor: Montell

Master of Arts in English; Master of Arts in Education (English major or minor, English and Allied Language Arts Area major, Folk Studies minor); Master of Arts in Folk Studies; Master of Arts and Master of Arts in College Teaching in Humanities (of which English is a significant part)

A student interested in working toward one of these degrees should confer with the Graduate Advisor in the Department of English.

### Master of Arts in English

This program is designed for students who are preparing to teach in the secondary schools or junior colleges, or who expect to continue graduate work toward an advanced degree at another institution.

In addition to admission requirements of the Graduate College, a candidate must submit a transcript showing a minimum of twenty-seven hours of undergraduate English with an average point standing of not less than 3.0. A satisfactory score on the aptitude section of the Graduate Record Examination must be presented.

To complete this program, a student must do a minimum of twenty-four semester hours of classwork (six of which may be in a related field or fields such as dramatics, English history, foreign literature, mass media, philosophy and speech). A thesis under the direction of a member of the graduate faculty is required. This thesis will carry six semester hours of credit, making the minimum for the degree thirty semester hours.

A student must meet the research tool requirement by demonstrating the ability to read a modern foreign language; he must also pass a final examination over courses, thesis, and related materials.

### Master of Arts in Education (English major or minor)

This program is designed for people who expect to work in the public schools at any level from elementary to junior college. Students majoring in English may take a maximum of 21 or a minimum of 18

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hours in English; the student minoring in English may take a maximum of 15 or a minimum of 12 hours in that department.

### Master of Arts in Folk Studies

The interdisciplinary graduate program in Folk Studies is designed for students who desire to teach at the college level; for teachers who desire to add new vistas of public school classroom instruction in the arts, humanities, and social sciences; as enrichment for persons interested in employment with public agencies in such areas as welfare and social work, and in school administration; for those persons who desire to continue their education on a personal or a vocational basis; and for students who expect to pursue doctoral studies at another institution.

Since folklore deals with the entire traditional culture of man as manifested in his customs and beliefs, verbal traditions and material cultural forms, the discipline has close affinities with literature, anthropology, sociology, history, geography, philosophy, and psychology. A good undergraduate record in any of the disciplines listed will be acceptable for admission to graduate study in Folk Studies. The student without sufficient background may be required to take additional courses.

A minimum of twelve hours of folklore at the 500 level (this must include English or Anthropology 577 and 578), plus twelve additional hours of folklore or selected courses in related disciplines, plus six hours of thesis credit, constitutes the minimum requirements for the program. The thesis requirement may be satisfied by substituting an extended, fully-documented collection project.

The student must additionally meet the research tool requirement by demonstrating the ability to read a modern foreign language, generally French or German; he must also pass a two-part comprehensive written examination over theory and techniques, and one area to be selected in consultation with the advisor.

### Master of Arts in Education (Folk Studies minor)

This program is designed to enrich the teaching content in the public schools in the arts, humanities, and social sciences, and to broaden the teacher's general education background. Admission requirements for this program are the same as for the Master of Arts in Folk Studies. The student pursuing this program must meet all requirements for a



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Standard Certificate, and in doing so, will take a minimum of twelve hours in folklore courses, six hours of which must include English/Anthropology 577 and 578. The additional six hours may be elected from any of the 400 or 500-level folklore courses; or one course from a related discipline may be substituted for the fourth folklore course.

### Graduate Courses in English:

- 503. Linguistics and Transformational Grammar. Three hours.**  
History and development of modern grammar and linguistic principles. A review of current professional writers and an introduction to the various "new" grammars.
- 508. Studies in Language Development. Three hours.**  
This course is concerned with a study of the nature and function of language, the processes and stages of language learning, and the development of functional language skills.
- 509. Standard English as a Second Dialect. Three hours.**  
This course offers an examination of the contrasting differences of standard and nonstandard English, a presentation of second language teaching techniques for speakers of nonstandard English, and a review of the literature on teaching materials for the teaching of the language arts to culturally disadvantaged children.
- 520. Bibliographical and Methodological Studies in Literature. Three hours.**  
A systematic study of basic bibliography and bibliographical problems; research methods requisite for the M.A. thesis and scholarly publications; and the craft and methodologies of recent critical essays.
- 553. Restoration and Eighteenth Century Drama. Three hours.**  
Careful study of representative plays. Evaluation of influences, movements, and productions. Wide reading and individual study.
- 560. Literary Criticism II. Three hours.**  
A survey of critical theory and practice of the significant literary critics of the Western world from the Romantic period to the present.
- 570. Appalachian Folklore and Folklife. Three hours.**  
Prerequisites: graduate status, plus a personal interview with the instructor prior to registration. A study of the folklife and culture of the Upland South, with emphasis on verbal and material traditions. Includes a cursory investigation of the Ozark region. (Same as Anthropology 570).
- 572. Applied Folklore. Three hours.**  
Prerequisites: graduate status; humanities, social, or behavioral science background preferred. The study of folklore items and genres as they exist and function in their cultural context in both oral and printed communications channels. (same as Anthropology 572).

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- 577. Techniques and Materials in Folklore Studies. Three hours.**  
Prerequisites: graduate status; must also be pursuing a graduate program of study in folklore or in a discipline which is distinctly related to folklore.  
A course dealing with recent folklore theories, ethnographic procedures, field collection of folklore and folklife, identification and documentation procedures necessary in the preparation of folkloristic materials for archiving and studying. (Same as Anthropology 577.)
- 578. Folklore and Folklife Research. Three hours.**  
Prerequisite: English 577.  
An interdisciplinary consideration of diverse topics related to fieldwork and research in folklore and folklife. Problem statement, advance preparation, interviewing techniques, documentation of data, etc. (Same as Anthropology 578).
- 579. Directed Study and Research in Folklore. Three hours.**  
Prerequisites: graduate status; also English 577 or demonstrated ability to work independently. A qualified student may study a particular area in depth under the direction of a member of the folklore faculty. The student meets with his faculty director at prearranged times to discuss readings, research, or field project. (Same as Anthropology 579).
- 581. Readings in Old English. Three hours.**  
Introduction to Anglo-Saxon vocabulary, grammar, and literary devices. Some readings in the original and some in translation.
- 582. Middle English Literature. Three hours.**  
A generous sampling of non-Chaucerian English literature of the Middle English period. Some attention will be given to the language of the period.
- 583. Shakespeare II. Three hours.**  
Selected comedies and histories studied in depth. Attention given to individual research in literary criticism.
- 585. Milton. Three hours.**  
A general study of John Milton's poetic works with some attention to his prose.
- 587. Wordsworth and Keats. Three hours.**  
A study of the major works of these two writers and an evaluation of their contributions to the Romantic Movement.
- 588. Modern British Poetry. Three hours.**  
This course studies in detail the work of major twentieth century British poets.



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591. **Emerson, Thoreau, and Whitman. Three hours.**  
A study of their selected works, their cultural backgrounds, their contributions, biographical and critical material.
592. **The Age of Twain and James. Three hours.**  
A study of realism and naturalism in American literature with special emphasis on Twain and James and their contemporaries.
593. **Poe, Hawthorne, and Melville. Three hours.**  
A study of their selected works, their cultural backgrounds, their contributions, biographical and critical material.
594. **Contemporary Fiction. Three hours.**  
A study of selected major figures and their works. Consideration of movements, influences, developments since 1900.
596. **Seminar in American Writers. Three hours.**  
This is an intensive course dealing with a small group of writers, or perhaps one major writer. It will vary in content from time to time according to the instructor assigned and the apparent needs of the students.
597. **Investigations in English. Two or three hours.**  
An intensive review of articles in professional journals dealing with certain problems relative to the teaching of English.
598. **Problems in English. Two or three hours.**  
Supervised research on literary or linguistic problems.
599. **Thesis Research. Six hours.**

The following 400-level courses may be taken for graduate credit:

401. **Advanced Composition. Three hours.**
404. **The History of the English Language. Three hours.**
405. **Phonetics. Three hours.**
406. **American Dialects. Three hours.**
407. **Descriptive Linguistics. Three hours.**
455. **American Drama. Three hours.**
456. **Elizabethan Drama. Three hours.**
458. **The Modern British Novel. Three hours.**
459. **Modern Drama. Three hours.**
460. **Literary Criticism I. Three hours.**
476. **Anglo-American Folksongs. Three hours.**
477. **Folk Art and Technology. Three hours.**
478. **Folklore in Literature. Three hours.**
481. **Chaucer. Three hours.**
482. **Shakespeare I. Three hours.**

## English/Foreign Languages

483. **The English Renaissance. Three hours.**
484. **The Romantic Period. Three hours.**
485. **The Seventeenth Century. Three hours.**
486. **The Eighteenth Century. Three hours.**
487. **Victorian Prose. Three hours.**
488. **Victorian Poetry. Three hours.**
489. **The English Novel. Three hours.**
490. **The American Novel. Three hours.**
493. **Major American Poets. Three hours.**
494. **Kentucky Literature. Three hours.**
495. **Southern Literature. Three hours.**
496. **Comparative Literature. Three hours.**

Note: Some advanced courses in Speech and Theatre and Mass Communications may be used with advisor's approval.

## FOREIGN LANGUAGES

### Graduate Faculty:

Professors: Brown (Head of Department), Hatcher, Miller  
Associate Professors: Babcock, Nolan  
Assistant Professor: Padilla, Walls

French: Master of Arts in Education (French major or minor)  
Other graduate degree programs in French are expected in the near future.

German: Master of Arts in Education (German major or minor)

Spanish: Master of Arts; Master of Arts in College Teaching;  
Master of Arts in Education (Spanish major or minor)

### Master of Arts in Spanish

This program is designed for those who wish to teach Spanish on the junior or senior college level, as the initial stage on the graduate level for those intending to pursue a doctoral degree, for secondary school teachers who desire such a program in addition to meeting certification standards, and for those whose vocational objective includes a high degree of proficiency in Spanish.

## Foreign Languages

In addition to general Graduate College requirements, the student must have completed the equivalent of an undergraduate minor in Spanish (eighteen hours above the elementary year), including an introductory course in Hispanic literature, with approximately a 3.0 (4.0) average in this field. Deficiencies must be made up within one year without graduate credit.

Under Plan A, a minimum of 24 hours of acceptable course work and a thesis, equivalent to six graduate hours, are required. Under Plan B, a minimum of 30 hours of acceptable course work must be completed; the thesis is not required. Of the 24 hours under Plan A and 30 hours under Plan B, 6 hours may be taken in the following related fields, with the approval of the Graduate Adviser: another foreign language (modern or classical), English, history (Spain or a Spanish-speaking area), and other fields which clearly relate to the Hispanic interest. Of the minimum of 18 hours of course work in Hispanic literature or language, at least nine hours must be at the 500-level or above, and of the additional six hours, three hours must be numbered 500 or above.

An examination over course work and the thesis, if elected, must be satisfactorily completed.

Prior to taking his final examination the student must demonstrate reading ability sufficient to do scholarly research in another language, modern or classical. The language chosen must meet the approval of the head of the Department.

### Master of Arts in College Teaching in Spanish

This program is designed especially to prepare students for the teaching of Spanish on the junior or senior college level. In addition to admission standards for the Master of Arts in Spanish, a commitment to college teaching is required of candidates for this degree program.

A total of 24 hours of course work is required, which must include 18 hours in the field of Hispanic literature and language. With the approval of the Graduate Adviser, a maximum of six semester hours may be taken in the following related fields: another foreign language (modern or classical), English, history of Spain or of a Spanish-speaking area, professional education, and other fields which clearly relate to the Hispanic interest. Of the minimum of 18 hours of course work in Hispanic literature or language, at least nine hours must be numbered

## Foreign Languages

500 or above, and of the additional six hours, three hours must be numbered 500 or above.

A course in foreign language materials and methods or its equivalent is required. If the student has not already completed such a course, he may enroll in it for graduate credit and take it concurrently with a required period of supervised teaching.

A thesis is optional. However, if the thesis is elected, it will carry six semester hours of credit, completing the thirty hours required for the degree. The topic must be approved by the student's adviser and the head of the Department. The student may elect to do additional course work in Hispanic literature or language in lieu of writing a thesis. Three hours of this work must be at the 500-level or above.

The student must do some supervised college teaching under the direction of a member of the Department of Foreign Languages. An examination over course work and the thesis, if elected, must be satisfactorily completed.

**Master of Arts in Education** (French major or minor; German major or minor; Spanish major or minor)

This program provides additional graduate coursework in French, German, or Spanish for the public school teacher. The student following this program must meet all requirements for Standard High School certification. The student majoring in French, German, or Spanish may take a minimum of 18 or a maximum of 21 hours in his chosen major, while the student minoring in French, German, or Spanish may take a minimum of 12 or a maximum of 15 hours in his chosen field. The remaining hours will be taken in professional education courses.

### Graduate Courses in Foreign Languages

- 520. Seminar in French Literature or Language. Three hours.
- 522. Old French Philology. Three hours.
- 525. French Poetry to Baudelaire. Three hours.
- 526. Modern French Poetry. Three hours.
- 527. Renaissance French Literature. Three hours.
- 529. Seminar in French Literature. Three hours.
- 538. Seminar in German Literature. Three hours.

*Foreign Languages*

**539. Seminar in German Literature or Language. Three hours.**

**570. Golden Age Prose. Three hours.**

A study of the prose literature of Spain during the period 1479 to 1635 with an emphasis on *Don Quijote*.

**571. Golden Age Poetry and Drama. Three hours.**

A study of the poetry and drama of Spain during the period 1479 to 1635 with emphasis on the contributions of the leading writers: Garcilaso de la Vega, Lope de Vega, Góngora, and Calderón de la Barca.

**572. Nineteenth Century Prose. Three hours.**

A survey of the nineteenth-century peninsular Spanish novel and the *costumbrista* sketches.

**573. Nineteenth Century Poetry and Drama. Three hours.**

A study of Romantic poetry of the period together with a parallel study of Romantic drama and of the ensuing Realistic tendency in drama.

**575. Twentieth Century Prose. Three hours.**

A study of the novel and the essay of the Generation of '98 and of the novel of the post-civil war period in Spain.

**576. Twentieth Century Poetry and Drama. Three hours.**

A study of the drama of Spain from the Generation of '98 through the contemporary period with emphasis on Jacinto Benavente and García Lorca. Poetry is studied beginning with the Modernists through the contemporary period, with emphasis on Juan Ramón Jiménez, Antonio Machado, and García Lorca.

**578. Seminar in Hispanic Literature or Language. Three hours.**  
(May be repeated for a total of six hours.)

**599. Thesis. Six hours. (Spanish)**

**599. Thesis. Six hours. (French)**

The following 400-level courses may be taken for graduate credit:

**420. Advanced French Composition and Stylistics. Three hours.**  
Prerequisite: French 320.

**421. Advanced French Conversation. Three hours.**  
Prerequisite: French 321.

**422. History of the French Language. Three hours.**  
Prerequisite: French 221.

**424. Nineteenth Century French Literature. Three hours.**  
Prerequisite: French 324 or equivalent.

*Foreign Languages*

**425. Twentieth Century French Novel. Three hours.**

Prerequisite: French 326 or permission of instructor.

**426. Twentieth Century French Drama. Three hours.**

Prerequisite: French 326 or permission of instructor.

**428. Seventeenth Century French Literature. Three hours.**

Prerequisite: French 325 or permission of instructor.

**429. Studies in French Literature or Language. Three hours.**

Prerequisite: Senior standing and permission of the instructor.  
(May be repeated for a total of six hours of credit.)

**432. History of the German Language. Three hours.**

Prerequisite: German 330 or permission of the instructor.

**433. Survey of Nineteenth Century German Drama. Three hours.**

Prerequisite: German 334 or equivalent.

**434. Survey of Nineteenth Century German Prose. Three hours.**

Prerequisite: German 334 or equivalent.

**435. Twentieth Century German Literature. Three hours.**

Prerequisite: German 334 or equivalent.

**436. German Literature of the Classical Period. Three hours.**

Prerequisite: German 334 or equivalent.

**437. Survey of the German Lyric from the Beginnings to 1800. Three hours.**

Prerequisite: German 334 or equivalent.

**438. Survey of the German Lyric from 1800 to the Present. Three hours.**

Prerequisite: German 334 or equivalent.

**439. Studies in German Literature or Language. Three hours.**

Prerequisite: Senior standing and permission of the instructor.  
(May be repeated for a total of six hours of credit.)

**440. Seminar in Greek Literature. Three hours.**

Prerequisite: Greek 240 or equivalent.

**450. Seminar in Latin Literature. Three hours.**

Prerequisite: Latin 252 or equivalent.

**457. Roman Authors of the Republic. Three hours.**

Prerequisite: 6 to 12 hours of Latin beyond 251.

**458. Roman Authors of the Empire. Three hours.**

Prerequisite: 6 to 12 hours of Latin beyond 251.

**464. Nineteenth Century Russian Literature. Three hours.**

Prerequisite: Russian 261 or equivalent.

### Foreign Languages/Geography

465. **Soviet Literature. Three hours.**  
Prerequisite: Russian 261 or equivalent.
469. **Studies in Russian Literature or Language. Three hours.**  
Prerequisite: Russian 261 or equivalent. (May be repeated for a total of six hours of credit.)
496. **Russian Literature in Translation. Three hours.**  
Prerequisite: Russian 261 or equivalent.
470. **Advanced Oral Spanish. Three hours.**  
Prerequisite: Spanish 370 or equivalent.
471. **Advanced Spanish Syntax. Three hours.**  
Prerequisite: Spanish 371 or equivalent.
472. **Background of Modern Spanish. Three hours.**  
Prerequisite: Spanish 371 or permission of the instructor.
475. **Literature of Spain, I. Three hours.**  
Prerequisite: Spanish 374 or equivalent.
476. **Literature of Spain, II. Three hours.**  
Prerequisite: Spanish 374 or equivalent.
477. **Literature of Spanish America, I. Three hours.**  
Prerequisite: Spanish 374 or equivalent.
478. **Literature of Spanish America, II. Three hours.**  
Prerequisite: Spanish 374 or equivalent.
479. **Studies in Hispanic Literature or Language. Three hours.**  
Prerequisite: Senior standing and permission of the instructor.  
(May be repeated for a total of six hours of credit.)

## GEOGRAPHY

### Graduate Faculty:

Professors: Hegen (Head of Department), Ahsan, Davis, McGregor, Pickard, Taylor

Associate Professors: Cockrill, Foster, Hoffman, Seeger

Assistant Professor: Petersen

The following degree programs are offered in geography:

Master of Science in Geography; Master of Arts in College Teaching in Geography; Master of Arts in Education (Geography major or minor)

### Geography

These graduate programs in geography provide a solid background for students who plan to continue advanced studies toward the Ph.D. degree; for careers in junior (community) college teaching; and for teaching in middle and high school. Master's degree graduates are prepared to pursue careers in a wide variety of employment areas. They may enter governmental services as regional and city planners, national park rangers or naturalists, cartographers or airphoto interpreters, and similar services in business and industry.

For admission, students must meet the general requirements of the Graduate College and present an academic record giving evidence of preparation and ability necessary to pursue graduate studies in geography.

### Master of Science in Geography

The requirements for the Master of Science degree in geography includes course work, a research tool, a comprehensive examination, and a thesis. A minimum of thirty semester hours of graduate credit approved by the student's graduate advisory committee will be taken. This includes six hours for the thesis which is based upon original research performed under the direction of the student's graduate advisor.

At least half of the course work must be completed in courses open only to graduate students. The graduate level course work includes six hours of thesis credit (699) and twelve hours core program (500, 502, 504, and 491 or 590). With the approval of his graduate advisory committee, a student may take a maximum of six hours outside the department.

Prior to the comprehensive Master's examination the applicant must meet the research tool requirement by either: (1) demonstrating reading ability sufficient to do scholarly research in a foreign language appropriate to his major area; or (2) demonstrating that he has mastered appropriate research techniques approved by the student's graduate committee, the department head, and the Dean of the Graduate College.

### Master of Arts in College Teaching in Geography

This degree is designed for those students who intend to pursue careers in junior college or college teaching. The courses constituting a student's degree program will include the core program courses (500, 502, 504, and 491 or 590) and other courses as determined by his

## Geography

graduate advisory committee. A thesis is optional, but is strongly recommended. A minimum of 24 semester hours of coursework must be successfully completed if the thesis option is chosen, or thirty semester hours if the non-thesis option is taken. A comprehensive examination is part of the degree requirements. The graduate students in this degree program will have an opportunity for practice teaching under the guidance of their graduate advisory committee.

### Master of Arts in Education (Geography major or minor)

This program is designed for those interested in public school teaching who wish to major or minor in geography. Students interested in teaching must meet all requirements for standard high school certification including a minimum of nine hours of professional education courses. Those majoring in geography will take a minimum of 18 hours in geography including 500, 502, 504, and 491 or 590, while those minor in geography will take a minimum of 12 hours.

Geography is also an integral part of the course program leading toward the Master of Public Service Degree. For a description of this program, please see pages 153-159.

### Graduate Courses in Geography:

#### 500. Introduction to Geographic Research. Three hours.

Frequency: Every fall.

Development of skills for geographic research. Skills emphasized include posing of research problems, bibliography, documentation, organization, and presentation of geographic problems.

#### 501. Geography, Science, Civilization. Three hours.

Prerequisite: Consent of instructor.

Frequency: Alternate spring semesters.

A topical seminar which examines current issues and trends of the discipline and related fields, surveys recent research, and introduces the participants to the broad concerns of the role of science in society, technology and culture, and other similar selected topics.

#### 502. Geographic Techniques for Field Investigations. Three hours.

Prerequisite: Consent of instructor.

Frequency: Alternate spring semesters.

Practical applications of geographic field techniques.

#### 504. Historical and Philosophical Bases of Geography. Three hours.

Prerequisites: Major in Geography or permission of instructor.

Frequency: Every fall semester.

A critical survey of the evolution of geography as a distinct discipline

## Geography

through the study of the writings of outstanding scholars from the Greek period to the present time.

#### 505. Biogeography. Three hours.

Prerequisite: Introductory courses in Geography and/or Biology, and consent of instructor.

Frequency: Alternate falls.

A study of the evolutionary, geographical, ecological, pedological, and edaphic factors that have been involved in the naturalization, acclimatization, and distribution of plant life with some emphasis on animal life.

#### 510a, b, c. Selected Topics in Geography. Three hours.

Prerequisite: Consent of instructor.

Frequency: On demand.

Seminar course whose subtitles will vary from semester to semester depending upon student needs.

#### 521. Advanced Studies in Geomorphology. Three hours.

Prerequisites: Geomorphology 420, or equivalent; and 3 additional hours in related upper-level physical geography or geology.

Frequency: Alternate years beginning with spring, 1974.

The first half of the course will consist of a review of topics in advanced geomorphology, selected field and laboratory procedures, and an introduction to research in landform analysis. The second half of the course will be devoted to student research in instructor-approved geomorphic topics. Progress reports and discussion will culminate in the presentation of a student research paper.

#### 522. Advanced Studies in Climatology. Three hours.

Prerequisites: Geography 422, and consent of instructor.

Frequency: Alternate springs.

Development of skills in studying the effects of climatic controls on microclimates and climatic anomalies. Detailed use of environmental characteristics, i.e., rainfall patterns, etc., in distributional studies stress the use of climatology as a research tool.

#### 525. Advanced Political Geography. Three hours.

Prerequisites: Geography 425 and consent of instructor.

Frequency: Alternate falls, 1973.

Selected topics or problems in political geography, with examples drawn from local, metropolitan, regional, national, and international levels.

#### 530. Selected Problems in Cultural Geography. Three hours.

Prerequisites: Geography 430 or consent of instructor.

Frequency: Alternate years.

A seminar-field experience designed to study in the area of cultural origins and dispersals and in the area of environmental perception and behavior with resulting consequence upon the geographic land-

## Geography

scape. Emphasis will be placed upon an examination of the local landscape through individual field projects.

### 532. Studies in Geographic Exploration. Three hours.

Prerequisite: Permission of instructor.

Frequency: Alternate years.

18th, 19th, and 20th century scientific exploration of the "terrae incognitae" through examination of first hand accounts. Emphasis will be placed upon landscape description and mapping by governmental sponsored scientific 'voyages of discovery'. Study will involve the processes of human landscape discovery with their cultural, economic, and political ramifications.

### 540. Advanced Regional Geography. Three hours.

Prerequisites: Geography 360 and one of Geography 400, 453, 454, 455, 462, 464, 465, 466, and consent of instructor.

Frequency: Yearly.

The study of the regional method as one of the basic approaches to geographic research through the vehicle of one or more major regional units. The regional emphasis will be announced each time the course is offered.

### 541. Seminar in Tropical Geography. Three hours.

Prerequisites: Geography 210 or 422 or 430 and consent of instructor.

Frequency: Once every academic year.

A seminar which analyses the specific problems of the man-environment relationships of the American, African, and Asian Tropics.

### 550. Advanced Studies in Economic Geography. Three hours.

Prerequisites: Geography 250 and 478 or 479 and consent of instructor.

Frequency: Alternate springs, 1974.

An examination of the major theories in economic geography. Attention will be directed to the relationship of these theories to spatial activities and problems in the various sectors of the economy.

### 560. Settlement Geography. Three hours.

Prerequisites: Geography 430 or consent of instructor.

Frequency: Alternate falls.

An introduction to sources and philosophies of settlement studies. Investigations of selected settlement patterns with emphasis on rural and rural non-farm settlement: farmstead, hamlet, village and town, and functionally related features, architectural style, and functional rationale. Student research will center on local (or home) settlement phenomena. Field research normally will be included.

### 571. Quality of Life: Environmental Problems and Ecological Solutions. Three hours.

Prerequisites: Graduate standing in Geography, or consent of instructor.

Frequency: Once every academic year.

## Geography

A seminar designed to develop critical ecological sensitivity through analysis of past and present environmental problems, implemented and alternative solutions. Includes a research project directed toward preventive application of ecological solutions to impending environmental problems.

### 580. Problems in Urban Geography. Three hours.

Prerequisites: Geography 480, and consent of instructor.

Frequency: Alternate falls (1973)

Analysis of selected problems in urban geography.

### 585. Advanced Studies in Population Geography. Three hours.

Prerequisites: Geography 485 and consent of instructor.

Frequency: Alternate falls.

A seminar approach to regional and world problems in human population. Selected problem areas identified in Geography 485 are studied in depth, and seminar reports given and discussed.

### 590. Experimental Design and Data Analysis. Three hours.

Prerequisite: Geography 480, or consent of instructor.

Frequency: Every spring.

Statistical considerations in design of experiments; covariance, multiple regression, factorial experiments, individual degrees of freedom, incomplete block designs, experiments repeated over space and time; test of reliability, significance and confidence levels. Lecture three hours. (Cross-listed with Agriculture, 590).

### 699. Thesis Research. One to six hours.

The following 400-level courses may be taken for graduate credit:

### 402. Physiography of North America. Three hours.

### 410. Cartography. Three hours.

### 415. Airphoto Interpretation. Three hours.

### 420. Geomorphology. Four hours.

### 421. Advanced Geomorphology. Three hours.

### 422. Climatology. Four hours.

### 423. Transportation (Logistics of Distribution). Three hours.

### 425. Political Geography. Three hours.

### 430. Cultural Geography. Three hours.

### 452. Field Studies in Geography. One to three hours.

### 453. Geography of the Soviet Empire. Three hours.

### 454. Geography of Middle America. Three hours.



#### Geography/Government

- 455. Geography of Australia and Islands of the Western Pacific. Three hours.
- 462. Geography of South America. Three hours.
- 464. Geography of Europe. Three hours.
- 465. Geography of Asia. Three hours.
- 466. Geography of Africa. Three hours.
- 467. Geography of the Bible Lands. Three hours.
- 471. Conservation of Natural Resources. Three hours.
- 478. Geography of Agriculture. Three hours.
- 479. Industrial and Commercial Geography. Three hours.
- 480. Urban Geography. Three hours.
- 485. Population and Resources. Three hours.
- 491. Data Analysis and Interpretation. Three hours.

### GOVERNMENT

#### Graduate Faculty:

Professors: Martin (Head of Department), Jenkins, Neuber, Thomson

Associate Professors: Bluhm, Carroll, Chelf, Kearney, Madron, Masannat, Uveges

Master of Arts in Government; Master of Public Service (Public Administration option); Master of Arts in Education (Government major or minor)

#### Master of Arts in Government

This program is designed to prepare students who expect to continue graduate work for a higher degree or who expect to apply for positions in junior college or university teaching; to provide an academic foundation for students who wish to pursue a career in professions such as journalism, public service, and politics; to increase the knowledge of secondary education teachers who desire such a program.

In order to pursue this program, a student must be eligible for admission to the Graduate College in good standing. The applicant for admission should have a B average in his major undergraduate field and/or all undergraduate courses in government.

#### Government

Under Plan A, a minimum of 24 hours of acceptable coursework and a thesis, equivalent to six graduate hours, are required. The thesis will be under the supervision of the chairman of the student's graduate advisory committee. Under Plan B, a minimum of 30 hours of acceptable coursework must be completed; the thesis is not required.

Prior to the comprehensive Master's examination the applicant must meet the research tool requirement by either (1) demonstrating reading ability sufficient to do scholarly research in a foreign language appropriate to his major area; or (2) demonstrating that he has mastered appropriate research techniques approved by the Graduate College.

A final examination over courses, thesis, and related materials must be satisfactorily passed.

#### Master of Public Service (Public Administration option)

This degree is an interdisciplinary program consisting of offerings from several departments. It is designed to prepare individuals to serve in government positions which require administrative training as well as knowledge of the particular areas they are to administer.

All candidates for the M.P.S. (regardless of the option chosen) are required to complete a core area of nine to twelve hours including Government 540 — Public Administration.

The Government Department offers two plans under the M.P.S. (Public Administration option): a general administration plan and an urban administration plan.

For more details, see page 154.

#### Master of Arts in Education (Government major or minor)

This program provides additional graduate coursework in government while being designed for the public school teacher. The student following this program must meet all requirements for Standard High School certification. The student majoring in government may take a minimum of 18 or a maximum of 21 hours in government, while the student minoring in government may take a minimum of 12 or a maximum of 15 hours in that department. The remaining hours will be taken in professional education courses.



## Government

### Graduate Courses in Government

510. **Problems in National Government. Three hours.**  
Research, reports, and discussion of selected aspects of national government.
511. **Seminar in State and Local U.S. Government. Three hours.**  
A study of selected problems at all levels of U.S. Government.
520. **Seminar in Public Law. Three hours.**  
A systematic exposition, discussion, and analysis of selected concepts and issues in jurisprudence, and/or in administration, constitutional, and international law.
540. **Seminar in Public Administration. Three hours.**  
Research and discussion of selected problems in Public Administration. Required in Master of Public Service degree.
550. **Seminar in International Relations. Three hours.**  
Advanced study, individual and group, of theories and practical applications of international relations in the modern world.
560. **Seminar in Comparative Government. Three hours.**  
Advanced study and research in the areas of democratic and totalitarian governments.
580. **Directed Study. Three hours.**  
Faculty guidance of student research and study of one or more selected fields of political science.
- 590, 591—Thesis Writing. Three hours each.

The following 400-level courses may be taken for graduate credit:

401. **Methods of Political Inquiry. Three hours.**
410. **Seminar in National Government. Three hours.**
411. **Seminar in State and Local Government. Three hours each.**
403. **Field Studies in Politics. One to four hours credit.**
417. **Urban Political Systems. Three hours.**
421. **International Law. Three hours.**
423. **Jurisprudence. Three hours.**
431. **Normative and Empirically Related Theory. Three hours.**
432. **Early Political Theory. Three hours.**
433. **Modern Political Theory. Three hours.**
435. **American Political Theory. Three hours.**

## Government/Health and Safety

440. **Public Administration. Three hours.**
441. **Public Personnel Administration. Three hours.**
461. **Governments and Politics of the USSR and Soviet Sphere. Three hours.**
462. **Latin American Governments and Politics. Three hours.**
463. **Politics of the Developing Nations. Three hours.**
464. **African Governments and Politics. Three hours.**
465. **Middle Eastern Governments and Politics. Three hours.**
466. **Far Eastern Governments and Politics. Three hours.**
467. **South and Southeast Asian Governments and Politics. Three hours.**
468. **International Relations of the Middle East. Three hours.**

## HEALTH AND SAFETY

### Graduate Faculty:

Professor: Kirchner

Associate Professor: Dunn (Head of Department)

Assistant Professor: Lohr

Master of Arts in Education (Health minor); Master of Arts in Education (Health and Safety minor)

The program leading to the Master of Arts in Education with a minor in health is designed to prepare students for positions as: (1) health educators in junior and senior high schools, (2) coordinators of school health programs, (3) administrators and supervisors of school health programs, and (4) health educators in community health agencies. *The following courses are required: Health 545, and 567.* Other courses must be selected from those listed below to total 12 to 15 hours in health education. The program leading to the Master of Arts in Education with a minor in health and safety is designed to prepare students for positions as: (1) teachers of driver education and health in high schools, (2) coordinators of school health and safety programs, and (3) administrators of health and driver education programs. *The following courses are required: Health 545 and 567, and Safety 471 and 570.* An additional course may be selected from the courses listed below.

## Health and Safety

Students following either of these programs must meet all requirements for Standard High School certification.

### Graduate Courses in Health and Safety Education

#### Health Courses

- 501. Analysis of Research in Health. Three hours.**  
A critical analysis and review of selected studies in health literature related to methods, materials, techniques, and planning of research studies used and conducted by the profession.
- 520. Interpretation of Health Data. Three hours.**  
Application of statistical techniques to health data. Basic principles and techniques in designing and analyzing health problems are emphasized.
- 530. Independent Investigations in Health. One to three hours.**  
Prerequisite: Health and Safety 520.  
Special research problems or projects of organizational, administrative, or supervisory nature in the area of health.
- 545. The Health Education Curriculum. Three hours.**  
Prerequisite: Education 580.  
For health educators and administrators. Consideration of various health curriculum guides and curriculum studies in health education. Laboratory work in construction of curriculum guides.
- 546. Field work in Community Health Programs. Three hours.**  
Study of the philosophy, organization, and services of community health organizations. Includes observation of, and participation in, local community health programs in voluntary and governmental health agencies.
- 567. Administration and Supervision of Health Programs. Three hours.**  
This course examines the responsibilities, activities, and problems of administering and supervising health programs. Emphasis will be placed on coordinating all health programs within, and among, the school and other community agencies.

The following 400-level courses may be taken for graduate credit:

- 460. School and Community Health Workshop. Three hours.**
- 461. School Health Organization. Three hours.**
- 469. Critical Issues in Health and Safety. Three hours.**  
Prerequisites: Health 260, 361, Psychology 250.
- 481. Environmental Factors of Health Problems. Three hours.**
- 482. Principles of Epidemiology. Three hours.**

## Health and Safety/History

### Safety Courses

- 570. Administration and Supervision of Safety Programs. Three hours.**  
This course examines the responsibilities, activities, and problems of administering safety programs. School and community safety programs, driver and traffic safety programs, and bus transportation will be discussed. A thorough examination of the operational procedures of safety programs on the high school, college, city, and state levels will be conducted.
- 470. Driver Education and Traffic Safety II. Three hours.**  
Prerequisite: Safety 370 or equivalent.
- 471. Advanced Studies in Driver Education. Three hours.**  
Prerequisite: Safety 370 or equivalent.

## HISTORY

### Graduate Faculty:

Professors: Troutman (Head of Department), Bennett, Calloway, Crowe, Harrison, Jackson, Minton

Associate Professors: Lucas, Neat, Thacker

Master of Arts in History, Master of Arts in Education (History major or minor).

### Master of Arts in History

This program is designed to prepare students for the teaching of history on the junior or senior college level; to provide the initial stage on the graduate level for those people who intend to pursue a doctoral degree; and to enhance the preparation of secondary teachers of history who desire such a program while meeting certification requirements.

In addition to meeting general Graduate College requirements, a student must present a major or minor in history with approximately a B average in this field, and a 2.5 (4.0) overall average.

Unity of purpose in planning the program is a necessity. A student who has an undergraduate major in history may be permitted to take nine hours of his graduate work in a related field in courses approved by his graduate advisory committee. A student who presents an undergraduate minor in history must complete the entire Master's program in the field of history.

## History

At least one seminar type course, which includes historiography, training in methods of graduate study, and instruction in history, must be completed.

A minimum of twenty-four hours acceptable course work must be completed with a grade-point average of 3.0. In addition, an acceptable thesis equivalent to six graduate hours is required. This thesis will be directed by the chairman of the student's graduate committee. It must conform to basic rules of historical research and must indicate use of primary resources.

The ability to use a modern foreign language must be demonstrated in accordance with rules of the Graduate College.

A final examination over courses, thesis, and related materials must be satisfactorily passed.

### Master of Arts in Education (History major or minor)

This program provides additional graduate coursework in history while being designed for the public school teacher. The student following this program must meet all requirements for Standard High School certification. The student majoring in history may take a minimum of 18 or a maximum of 21 hours in history, while the student minoring in history may take a minimum of 12 or a maximum of 15 hours in that department. The remaining hours will be taken in professional education courses.

History is also an integral part of the program for the Master of Arts in Humanities. As a general rule, students who enroll in graduate courses in history under the Humanities Program must have eighteen hours of history as a prerequisite.

### Graduate Courses in History

#### 500. Cultural and Social Aspects of American Life. Three hours.

This course is designed for graduate students who have majored as undergraduates in the field of elementary education. Its purpose is to acquaint the student with the general trends and factors in American life.

#### 505. Seminar in Ancient History. Three hours.

An intensive study of a particular area or aspect of the ancient world, with particular emphasis upon Greek and Roman history. The course may be repeated once for credit.

## History

#### 506. Seminar in European History. Three hours.

Problems will be developed around a limited central theme. A graduate seminar in such diverse areas as the Middle Ages, the Renaissance and the Reformation. The course may be repeated once for credit.

#### 515. Nineteenth Century Britain. Three hours.

An intensive study of the political, economic, social, and intellectual developments within Britain and her empire from 1815 until 1914.

#### 517. United States and Latin America. Three hours.

An intensive study of the relations between the United States and Latin America with emphasis on Mexico, Brazil, Argentina, Chile, and Columbia.

#### 519. Seminar in United States Diplomatic Relations. Three hours.

A study of American foreign policy in the periods 1914-45 and 1945 to the present. The course may be repeated once for credit.

#### 521. United States 1900-1945. Three hours.

A study emphasizing the progressive era, First World War, the failure of peace, the great depression, and the New Deal.

#### 522. Seminar in Western United States History. Three hours.

Major emphasis is on one specific aspect of Western United States history or a particular period. The Farmer's Frontier, Transportation, the Cattle Frontier. The course may be repeated once for credit.

#### 525. Social and Intellectual History of the U.S.: Nineteenth Century. Three hours.

With the colonial experience as a background, emphasis is on nineteenth century thought and how it produced our social, economic, and political institutions.

#### 526. Social and Intellectual History of the U.S.: Twentieth Century. Three hours.

With the nineteenth century experience as a background, emphasis is on twentieth century thought.

#### 527. Social and Intellectual History of Europe: Nineteenth Century. Three hours.

An examination of the political, socio-economic, and religious thought of the nineteenth century and a study of its influence on the society of the period.

#### 530. Seminar in United States History. Three hours.

Problems will be developed around a limited central theme. A graduate seminar in such diverse areas as Colonial America, the Confederation Period, the Federalist era, the Jeffersonian Republicans, the Slavery Controversy. The course may be repeated once for credit.

## History

531. **Seminar in Kentucky History. Three hours.**  
A study of the political, economic, social, and cultural development of the state from pioneer days to the present.
550. **Thesis Writing. Three hours.**  
Research, examination, and criticism of historical materials and the writing of a thesis.
551. **Thesis Writing. Three hours.**  
A continuation of 550.

The following 400-level courses may be taken for graduate credit when taught by a member of the Graduate Faculty.

400. **The Formative Period, 1776-1815. Three hours.**
- 401a **The Old South. Three hours.**
- 401b **The New South. Three hours.**
402. **The Middle Period, 1815-1850. Three hours.**
403. **Civil War and Reconstruction. Three hours.**
404. **The Age of the Renaissance. Three hours.**
405. **The Age of the Reformation. Three hours.**
413. **England Since 1914. Three hours.**
415. **History of Colonial America. Three hours.**
416. **The United States, 1870-1900. Three hours.**
417. **The Mexican Republic. Three hours.**
418. **Diplomatic History of the U.S. to 1900. Three hours.**
419. **Diplomatic History of the U.S. since 1898. Three hours.**
420. **Twentieth Century Russia. Three hours.**
421. **The Far East. Three hours.**
423. **The French Revolution and Napoleonic Era. Three hours.**
425. **Modern Germany. Three hours.**
426. **The Middle East in Modern Times. Three hours.**
450. **Historiography and Historical Research. Three hours.**
459. **The Immigrant in American History. Three hours.**
499. **Advanced Individual Study. Three hours.**

## Home Economics and Family Living

### HOME ECONOMICS AND FAMILY LIVING

#### Graduate Faculty:

Professor: Floyd (Head of Department)  
Associate Professor: Callaway, Hedges  
Assistant Professor: Fong, Russell

Master of Arts (Child Development and Family Living); Master of Arts in Education (Home Economics Education major or minor); Master of Public Service (Child Development and Family Living option).

The Master of Arts in Child Development and Family Living is a degree usually taken as an intermediate step preparatory to entry into a doctoral program leading to college teaching, therapeutic activity and/or research. In addition to Graduate College requirements, the student must present an undergraduate record of B in the behavioral sciences and related disciplines. Applicants who do not have the B average referred to above but whose total score on the Aptitude Tests of the Graduate Record Examination is at least 900 may be given conditional admission.

The Master of Arts (Child Development and Family Living) students must complete research tool options as follows: (1) demonstrate ability to read subject material in either French or German; (2) specialized study in human biology and genetics; or (3) additional work in statistics and research methodology. The research tool must be approved by the Department Head.

The major requires 24 hours (either including or excluding a thesis), and the remaining hours of the total of thirty must come from closely related studies in Counselor Education, Psychology, or Sociology. The 24 hours in the major are as follows: HEFL 491, 576, 577, 578, 579, 580, and 599 (six hours), or six hours of electives.

The remaining hours may be selected from the following:

- Ed. 501. Educational Statistics  
Ed. 558. Counseling Theory and Practice  
Psy. 563. Test Construction and Psychometric Theory  
Psy. 640. Psychopathology  
Soc. 520. Studies in Family Relations  
Soc. 590. Sociological Research Design and Analysis

### Home Economics and Family Living

The Master of Arts in Education (Vocational Home Economics) is a planned program for teachers wanting to acquire the Standard High School Certificate. Applicants must have an undergraduate major in home economics education. Majors take 18-21 graduate hours in home economics and family living and 9-12 hours of professional education. Those taking a graduate minor in home economics education may take 12-15 hours in home economics and family living and 15-18 hours in professional education. Required courses for all home economics graduate students are: HEFL 572, 573, and 574. Approved electives in home economics and family living should total 9-12 hours and receive consent of the Department Head or his representative.

The Master of Public Service (Child Development and Family Living option) stresses clinical practice and is generally taken by persons in child welfare, mental health, and pastoral care. For a detailed explanation of this degree program, see page 155.

Core courses for the Child Development and Family Living Option of the Master of Public Service degree are:

Government 540. Public Administration.

Sociology 565. Studies in the Community.

Psychology 551. Social Psychology of Organization.

Education 558. Counseling Theory and Practice.

The 18 hours in the major are: HEFL 491, 576, 577, 578, 579, and 580.

### Graduate Courses in Home Economics and Family Living

- 572. Curriculum Development in Home Economics Education. Three hours.**  
Current curriculum trends in Home Economics Education and curriculum development in specialized fields of Home Economics are considered.
- 573. Evaluation in Home Economics Education. Three hours.**  
Includes a study of theory and techniques of evaluation in Home Economics Education at different educational levels, analysis and refinements of instruments, interpretation of results of self-evaluation and guidance, and effective administration programs.
- 574. Supervision in Home Economics Education. Three hours.**  
Prerequisites: Teaching experience, advanced courses, and consent of instructor.  
Theory, principles and techniques of preservice and inservice training of teachers in home economics with emphasis on preparation of supervisory materials and evaluation.

### Home Economics and Family Living

- 575. Individual Study in Home Economics and Family Living. Three to six hours.**  
Includes a comprehensive study and evaluation of home economics and family living investigations now available, and the experiences of planning and completing an individual study of limited scope.
- 576. Theories of Child Development. Three hours.**  
Prerequisites: Undergraduate course in child psychology, child development, or human growth and development. Intensive and critical analyses of cognitive, social-learning maturational, and psychoanalytic theories of human development.
- 577. Seminar in Child Development Research. Three hours.**  
Prerequisites: HEFL 576 or equivalent preparation.  
An analysis of current theories and research findings relevant to the development of social, perceptual-cognitive, and physical-physiological processes in children.
- 578. Seminar in Research in Marital and Family Therapy. Three hours.**  
Prerequisites: An undergraduate course in marriage and the family taught in home economics, education, psychology, or sociology.  
Presentation and discussion of contemporary research being conducted by marital and family investigators in the fields of anthropology, biology, psychiatry, psychology, and sociology. Stress is placed upon the critical examination of existing field and laboratory studies.
- 579. Professional Theories and Methods in Marital and Family Therapy. Three hours.**  
Prerequisites: Enrollment is by consent of department head and is restricted to graduate students in: (1) the clinical program in child development and family living; or (2) the disciplines of psychology, social work, or pastoral care.  
Lectures and demonstrations of contemporary theories and methods of treating couples, families, and groups who are experiencing dysfunctional family life. The contributions of Freud, Rogers, Satir, Wolpe, Ellis, and Adler are among those examined.
- 580. Internship in Marital and Family Therapy. Three hours.**  
Prerequisites: HEFL 579 Professional Methods in Marital and Family Therapy.  
Counseling experience with spouses and/or families is provided for degree candidates during the final semester of enrollment. Assignments are made to approved private and public agencies.
- 598. Special Topics in Home Economics and Family. One to Six hours.**  
Prerequisite: Consent of instructor.
- 599. Thesis Research. Six credit hours.**

### *Home Economics and Family Living/Industrial Education*

400-level courses which may be taken for graduate credit if approved by the Department Head:

- 425. History of Costume. Three hours.
- 428. Merchandise Display and Promotion. Three hours.
- 432. Recent Developments in Textiles. Three hours.
- 433. Fashion Fundamentals. Three hours.
- 434. Advanced Clothing: Tailoring. Three hours.
- 439. Internship: Merchandising. Three hours.
- 461. Advances in Science and Nutrition. Three hours.
- 464. Advanced Foods. Three hours.
- 465. Diet Therapy. Three hours.
- 466. Experimental Foods. Three hours.
- 491. Family Life Education. Three hours.
- 492. Institution Food Preparation. Three hours.
- 493. Institutional Purchasing. Three hours.
- 494. Applied Institution Administration. Three hours.
- 495. Organization and Management of School Lunch Service. Three hours.
- 496. Menu Planning and Merchandising for the Food and Lodging Industry. Three hours.
- 497. Food and Labor Cost Control. Three hours.

## **INDUSTRIAL EDUCATION**

### **Graduate Faculty:**

Professors: Nalbach (Head of Department), Wendt

Associate Professors: Boaz, Conley, Pittman

Master of Arts in Education (Industrial Education major or minor)

In order to be admitted to the graduate program in Industrial Education, the student must meet the general Graduate College requirements.

Master of Arts in Education (Industrial Education major or minor)

This program provides experiences which are designed to improve

### *Industrial Education*

the competencies of persons who are teaching in or administering industrial education programs. The degree may also serve as an intermediate step preparatory to entry into a specialist degree or doctoral program. The program is flexible to meet the needs for differences in technical competencies and provides a broad base for educational theory and research activities.

In addition to meeting general Graduate College requirements, the student must meet all requirements for Standard High School certification.

The student majoring in industrial education would normally take from eighteen to twenty-one hours in that area and a minimum of nine hours in education. Those pursuing a minor may take from twelve to fifteen hours in industrial education and fifteen to eighteen hours in professional education. Interested individuals should contact the Industrial Education Department for advisement and counseling.

### **Graduate Courses in Industrial Education**

#### **510. Investigations in Industrial Education. Three hours.**

Designed for qualified individual graduate students wishing to study current problems and/or issues in the area of industrial education under the direction of a graduate faculty member. The student will be required to identify, plan, and complete a minor research paper.

#### **520. Philosophy of Industrial Education. Three hours.**

To acquaint the student with the development of industrial education in Europe and America. Emphasis placed on influences, experiments, and current trends leading to modern practices in industrial arts, vocational education, and technical education.

#### **524. Organization and Teaching of Industrial Education for the Handicapped and Disadvantaged. Three hours.**

Analysis of handicaps in relation to industrial education activities. Adapting and implementing activities to the individual student's needs, abilities, and interests. Content will include a survey of current research and literature on the subject of the handicapped and/or disadvantaged, with special emphasis on the involvement of industrial education activities.

#### **525. Industrial Education Curriculum. Three hours.**

Includes the study of curriculum practices, concepts, and trends in industrial education; principles underlying curriculum development; and improvement of programs.

#### **600. Thesis — Industrial Education. Six hours.**

The following are designed as problem courses for independent study for the graduate student who desires to pursue a specific area.



### *Industrial Education/Library Science*

- 530. **Advanced Drafting. Three hours.**
- 532. **Industrial Design. Three hours.**
- 542. **Industrial Electricity and Electronics. Three hours.**
- 544. **Wood Technology. Three hours.**
- 548. **Graphic Arts. Three hours.**
- 552. **Advanced Machine Shop. Three hours.**
- 556. **Power and Auto Mechanics. Three hours.**
- 560. **Metal Technology. Three hours.**
- 564. **Problems in Crafts. Three hours.**
- 568. **Ceramics and Plastics. Three hours.**
- 572. **General Shop. Three hours.**
- 400-level courses which may be taken for graduate credit:
- 410. **Industrial Arts Problems. Three hours.**
- 430. **Plastic Mold Design and Construction. Three hours.**
- 450. **Planning Industrial Education Facilities. Three hours.**
- 452. **Advanced Machine Woodworking. Three hours.**
- 460. **Seminar in Vocational-Industrial and Technical Education. Three hours.**
- 464. **Organization and Supervision of Vocational-Industrial and Technical Student Teaching. Two hours.**
- 465. **Industrial Arts for Elementary Teachers. Three hours.**  
A course designed for elementary teachers and those preparing to enter the field of elementary education.
- 490. **Organization and Teaching of Industrial-Technical Subjects in the Multiple Activities Laboratory. Three hours.**
- 498. **Wood Products Technology. Three hours.**

## **LIBRARY SCIENCE**

### **Graduate Faculty:**

Professors: Tyler, Wassom

Associate Professors: Pfister (Head of Department), Carter, Grinstead, Simpson

### *Library Science*

Master of Science in Library Science, Master of Arts in Education (Library Science major or minor).

#### **Master of Science in Library Science.**

This program is designed for those who are interested in the fields of public, academic, and school librarianship.

In addition to the general Graduate College requirements, a student must have:

1. A grade point average of at least 2.7 (based on the 4.0 system) for the final 60 semester hours of undergraduate work. Students having less than 2.7 may be admitted on a probationary basis on recommendation of the Department of Library Science.
2. A minimum combined score of 800 on the Aptitude Test of the Graduate Record Examination is required. Students with no GRE scores on file or with scores below 800 must complete or retake the GRE during the first semester of enrollment. Students whose GRE scores fall between 700 and 799 may be admitted if they have a cumulative grade point average of 3.0.
3. Six hours of approved prerequisite work in library science from among L.S. 401, 402, 406, and 408 or their equivalents are required. These prerequisites may be taken concurrently with graduate course work.

A student may select one of two program options:

Plan A. A minimum of thirty semester hours of graduate credit in courses approved by the graduate advisor, including six hours of thesis credit plus a research tool that will not count toward fulfillment of the minimum of 30 credit hours. At least one-half of the course work requirements must be completed successfully in courses open only to graduate students.

Plan B. A minimum of thirty semester hours of graduate credit in courses approved by the graduate advisor plus a research tool that will not count toward fulfillment of the minimum of 30 credit hours. At least one-half of the course work requirements must be completed successfully in courses open only to graduate students.



## Library Science

Up to six hours of the thirty hours minimum for either Plan A or Plan B may be selected from related fields such as literature, mass communications, history, or education when it will strengthen the individual student's programs.

The applicant must meet the research tool requirement by either (1) demonstrating that he has mastered appropriate research techniques (e.g., research methodology, computer programming, or statistics) approved by the student's graduate advisor, the department head, and the Dean of the Graduate College, or (2) demonstrating the ability to read a modern foreign language.

### Master of Arts in Education (Library Science major or minor)

In order to be admitted, the student must meet the general Graduate College requirements. The courses in Library Science should be selected from 400 and 500-level courses.

### Elementary Education major with Library Science as an Area of Specialization:

When approved by the student's graduate advisory committee, twelve to fifteen hours in the curriculum for elementary teachers leading to the Master of Arts in Education and Standard Elementary Certificate will count toward certification as a public school librarian, but will not complete the requirements.

### Secondary Education Curriculum with Library Science major or minor:

This program provides graduate coursework in library science designed for the school librarian. The student following this program must meet all requirements for Standard High School certification. The student majoring in library science may take a minimum of 18 or a maximum of 21 hours in library science, while the student minoring in library science may take a minimum of 12 or a maximum of 15 hours in that department. The remaining hours will be taken in professional education courses.

### Graduate Courses in Library Science

#### 501. Organization and Administration of the Instructional Materials Center. Three hours.

Prerequisites: L.S. 401 and/or consent of instructor.

Role of the instructional materials center staff in the instructional process; relating the functions of management to the organization and administration of instructional materials centers; surveys of trends related to IMC. Offered fall and alternate summers.

## Library Science

#### 506. Cataloging of Non-Book Materials. Three hours.

Prerequisites: L.S. 406 or equivalent.

Covers the classification and cataloging of motion pictures, filmstrips, slides, transparencies, phono-records, pictures, manuscripts, maps, microforms, computer tapes, kits, etc. Offered spring and alternate summers.

#### 508. Advanced Reference. Three hours.

Prerequisites: L.S. 408 or equivalent.

An advanced course covering materials not studied in basic reference. Reference materials in the humanities, the social sciences, in history and area studies, in the pure and applied sciences, and some general reference works in bibliography and library science. Offered spring and alternate summers.

#### 509. Investigations in Library Science. Three hours.

Prerequisites: Eighteen hours of library science; Education 500, Research Methods in Education or the equivalent; permission of graduate advisor in Library Science.

An independent investigation, under the direction of a faculty member, of a topic of interest to the student. The student will be expected to combine research methods with background from previous course work to produce a research paper. Available each semester.

#### 515. Government Publications. Three hours.

Prerequisites: L.S. 408 or equivalent.

Sources, types, and use of government documents, both state and federal, and their acquisition and organization for use. Offered once each year.

#### 518. History of Children's Literature. Three hours.

Prerequisite: None.

A study of the development of children's literature from the earliest times through the nineteenth century. Outstanding titles, significant writers and illustrators, publishers, translations, versions and adaptations are considered. Offered once each year.

#### 520. Seminar in Public Libraries. Three hours.

Prerequisite: L.S. 401, 406, and 408 or the equivalents.

Development, objectives, governance, populations served, inter-library relations, services offered, public relations, collection, quarters, finances, staffing, and methods of evaluating public libraries in the United States. Field trips may be required. Offered once each year.

#### 530. Seminar in Academic Libraries. Three hours.

Prerequisite: L.S. 401, 406, and 408 or the equivalents.

The development, objectives, organization and structure, nature of the collections and responsibility for their development, philosophy of library services, measurement and standards of library effectiveness.

### *Library Science/Mathematics*

in the academic library. Field trips may be required. Offered once each year.

#### **590-591. Thesis Writing. Three hours each.**

Prerequisites: Research tool requirement satisfied; fifteen semester hours of graduate work completed; consent of graduate advisor.

#### **400-level courses which may be taken for graduate credit:**

**401. Library Organization and Administration. Three hours.**

**402. Libraries and Librarianship. Three hours.**

**403. Books and Related Materials for Young People. Three hours.**

**404. The Library and the Computer. Three hours.**

**406. Classification and Cataloging. Three hours.**

**407. Literature for Young Adults. Three hours.**

**408. Reference and Bibliography. Three hours.**

**409. Selected Topics in Library Science. One, two, or three hours.**

**410. Storytelling. Three hours.**

**Educ/L.S. 446. Selection, Acquisition and Evaluation of Non-Print Materials. Three hours.**

**Educ. 445. Audio-Visual Materials and Methods. Three hours.**

## **MATHEMATICS**

### **Graduate Faculty:**

Professors: Bueker (Head of Department), Davis, Detwiler, Watson

Associate Professors: Feibes, Wells

Assistant Professors: Barksdale, Wallace

Master of Science in Mathematics; Master of Arts in College Teaching in Mathematics; Master of Arts in Education (Mathematics major or minor, Math-Science Area major)

In addition to general Graduate College requirements, the student in mathematics is required to meet special departmental requirements. A student's graduate program must be approved by a designated graduate advisor at the time of admission to the Graduate College. The student who is inadequately prepared for the work desired must expect

### *Mathematics*

to make up without credit toward a graduate degree all required prerequisites. The following special departmental requirements apply to graduate programs in mathematics.

#### **Master of Science in Mathematics**

A background equivalent to an undergraduate liberal arts major in Mathematics at Western is required. This must include at least one (1) course from each of the following areas: linear algebra, abstract algebra, analysis or advanced calculus. (Math 318, 317, 332 at Western).

A minimum of thirty (30) semester hours of approved course work and a research tool are required in accordance with the regulations of the Graduate College. The candidate for this degree may select either a thesis or a non-thesis program. The academic program for the non-thesis option is the same as that for the thesis option with the exception of the thesis itself, which carries a maximum of six (6) semester hours. Courses in the following areas are required for this program (some of which may have been completed as an undergraduate): Real Analysis (Math 432, 532), Algebra (Math 417, 517), Topology or Geometry (Math 439 or 423), Applied Mathematics (Six hours). A final examination (written and oral) is given to all candidates for this degree.

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

This program is designed for those students who intend to pursue careers in community college or junior college teaching. The course and admission requirements for this degree are the same as for the Master of Science in Mathematics except that a three hour internship course must be included in the thirty hours. This course is to be a supervised experience in college teaching. A research tool is required while the thesis is optional.

#### **Master of Arts in Education (Mathematics major or minor)**

This program provides additional graduate coursework in mathematics while being designed for the public school teacher. The student following this program must meet all requirements for Standard High School certification. The student desiring to major in mathematics in this program should have an undergraduate teaching major in mathematics. A student presenting a teaching minor and desiring to major in mathematics will be required to remove deficiencies without receiving graduate credit.

## Mathematics

Twenty-one hours of mathematics, including Math 423 and Math 417 or 432, are required for this program. A student having an undergraduate minor in mathematics would normally be advised to pursue a minor at the graduate level. A minor on the graduate level will consist of at least twelve hours of mathematics.

Any mathematics course on the 500 level is acceptable, and acceptable 400-level courses are listed.

### Graduate Courses in Mathematics

**517. Topics From Algebra. Three hours.**

Prerequisite: Math 417.

Theory of rings, fields, and vector spaces. Topics include: polynomial rings; principal ideal domains; unique factorization domains; field extensions; Galois theory.

**523. Topics from Geometry. Three hours.**

Prerequisite: Math 423 or permission of instructor.

Plane projective geometry; transformations; subgeometries of projective geometry.

**529. Mathematical Statistics I. Three hours.**

Prerequisite: Math 529.

Probability models; combinatorial analysis; random variables and their distributions; moments of probability distributions; moment generating functions and sampling distributions.

**530. Mathematical Statistics II. Three hours.**

Prerequisite: Math 529.

Properties and determination of point estimation; interval estimation; testing hypothesis; multivariate normal distribution; nonparametric statistics and linear models.

**531. Advanced Differential Equations. Three hours.**

Prerequisites: Math 331, 332.

Power series solutions; existence and uniqueness theorems; stability and Liapunov's method; regular singular points; perturbations of periodic solutions.

**532. Real Analysis. Three hours.**

Prerequisite: Math 432.

Function spaces; additive set functions; outer measure; measurable functions; integration.

**535. Advanced Applied Mathematics I. Three hours.**

Prerequisite: Math 331, 332.

Eigenvalue and boundary value problems; orthogonal expansions in function spaces; classical polynomials; Sturm-Liouville theory; Fourier and Laplace transforms.

## Mathematics

**536. Advanced Applied Mathematics II. Three hours.**

Prerequisite: Math 535.

Integral equations; calculus of variations; maximization of linear functionals; maximum gradient method.

**539. Topology II. Three hours.**

Prerequisite: Math 439.

Convergence; function spaces; complete spaces; homotopy; homology theory.

**550. Complex Analysis. Three hours.**

Prerequisite: Math 450.

Analytic continuation; conformal mapping; Riemann surfaces; univalent functions.

**560. Functional Analysis. Three hours.**

Prerequisite: Math 432.

Abstract approach to linear problems; general theorems on linear operators; spectral analysis.

**570. Advanced Topics in Operations Research. Three hours.**

Prerequisite: Math 432, 470 or consent of instructor.

In depth study of one or two areas of operations research, emphasizing mathematical aspects. Topics include: theory of Markov chains; dynamic programming; forecasting and prediction of discrete time series; linear programming; stochastic processes; game theory and Leontief models.

**590. Special Topics in Mathematics. Three hours.**

Prerequisite: Mathematics 432.

**599. Thesis Research. Three hours.**

Additional 500-level courses acceptable for the Master of Arts in Education:

**501. Introduction to Probability and Statistics I. Three hours.**

Prerequisite: Permission of instructor.

The analysis of data of means of frequency distributions and statistics which describe them. Other topics studied are charts and graphs; introduction to probability; central tendency, dispersion, and skewness; the normal distribution; and correlation and regression.

**502. Introduction to Probability and Statistics II. Three hours.**

Prerequisite: Math 501.

Basic principles of statistical inference; sampling; regression and correlation; vectors, matrices; Markov chains; linear programming and game theory.

**503. Introduction to Analysis. Three hours.**

Prerequisite: Permission of instructor.

This course examines some of the more important topics usually dis-

## Mathematics/Music

cussed in the elementary calculus sequence, thus helping to prepare the student to teach such material in the secondary school system. Introductory material including logic, set theory, and functions is provided. Calculus topics covered will include sequences, series, limits, continuity, the derivative, and the Riemann integral.

- 504. Computer Applications to Problems in Mathematics. Three hours.**  
Computer techniques and solutions of problems from diverse areas of mathematics including calculus, applied statistics, simulation, linear programming, game theory and linear algebra.

**400-level courses which may be taken for graduate credit:**

- 405. Numerical Analysis I. Three hours.**  
**406. Numerical Analysis II. Three hours.**  
**413. Algebra for Elementary Teachers. Three hours.**  
(for Elementary Education graduate students)  
**417. Algebraic Systems. Three hours.**  
**423. Geometry II. Three hours.**  
**429. Probability and Statistics II. Three hours.**  
**432. Intermediate Analysis II. Three hours.**  
**435. Partial Differential Equations. Three hours.**  
**439. Topology I. Three hours.**  
**450. Complex Variables. Three hours.**  
**470. Introduction to Operations Research. Three hours.**

## MUSIC

### Graduate Faculty:

Professors: Carpenter (Head of Department), Pease

Associate Professors: Livingston, Watson

Master of Music; Master of Arts in Education (Music major or minor)

Master of Music (Major in Performance)

This program is designed for students who seek a career in performance, symphony orchestra, or private studio teaching in college or community. In addition to the general Graduate College requirements, a student pursuing this program must have a Bachelor's degree in music with an average point standing in music subjects of not less than 3.0. In addition, he is able to demonstrate skills and capacities by exami-

## Music

nation in Music Theory, Music Literature and in the chosen area of performance.

A minimum of thirty graduate hours is required. Included in the thirty hours are fifteen hours in the performance area; twelve hours selected from Music Literature, Theory, Composition, Orchestration or Music Psychology; and three elective hours. At least one course is required in both Music Literature and in Music Theory.

There is no foreign language requirement. Voice majors, however, are required to demonstrate ability to sing in English and three foreign languages. Any deficiency in this area may require extra course work. In lieu of a thesis, a full length public recital is required.

This program provides additional graduate coursework in music while being designed for the public school teacher. The student following this program must meet all requirements for Standard High School certification. The student majoring in music may take a minimum of 18 or a maximum of 21 hours in music, while the student minoring in music may take a minimum of 12 or a maximum of 15 hours in that department. The remaining hours will be taken in professional education courses. (Note: Education 535, Seminar in Music Education, is highly recommended as a part of the Education core — See p. 70 for course description). A typical program consists of a balanced selection of Music Education and Music Literature offerings. In addition, consideration is given to those with an interest in Music Theory, Instrumental Arranging, Applied Music (primary or secondary) or a related field.

### Graduate Courses in Music

- 500. Seminar in Theory. Three hours.**

This course is concerned with the various procedures of outstanding theorists with major emphasis on contemporary theories.

- 501. Analytical Techniques. Three hours.**

A study of the technique of harmonic and contrapuntal analysis in various styles of the 16th, 17th, 18th, and 19th centuries.

- 510. The Teaching of Applied Music. Three hours.**

An investigation of pedagogical problems in a specific performance area of music including the examination of teaching materials and repertoire, theory and implementation of tone production and technique, psychology of studio teaching, interpretation, public performance preparation and program planning.

- 511. Investigations in Music Education. Three hours.**  
A study of the problems and methods of research in music education. Includes the application of pure and action research to given situations and the investigation of published research in music education.
- 513. Directed Individual Study. Three hours.**  
Research projects in music education on an individual basis.
- 514. General Music in The Secondary Schools. Three hours.**  
Training the music teacher to provide orientation experiences in the area of general music. The development of musical knowledge in junior and senior high school non-performers.
- 515. Administration and Supervision of Public School Music. Three hours.**  
An investigation of current trend in educational thought and the implications for administration, instruction and evaluation in public school instrumental music.
- 530. Music Literature. Three hours.**  
An investigation of a specialized area not covered extensively in other advanced music literature courses, e.g., "early musical notation," "the classical period," "art song repertoire" etc.
- 531. Medieval and Renaissance Music. Three hours.**  
A survey of musical style and form (ca. 500-1600).
- 532. The Symphony. Three hours.**  
The symphony from its beginning to the twentieth century with emphasis on listening and analysis.
- 533. Twentieth Century Music. Three hours.**  
A study of the principal trends in contemporary music with emphasis on listening.
- 534. Opera. Three hours.**  
A study of musico-dramatic forms from Greek lyric theater through contemporary opera.
- 535. Baroque Music. Three hours.**  
A survey of musical style and form (ca. 1600-1750) with special emphasis on the music of J. S. Bach.
- 536. Nineteenth Century Music. Three hours.**  
A study of musical romanticism from Hoffmann and Weber through Richard Strauss.
- 537. Chamber Music. Three hours.**  
A survey of the literature of small instrumental groups. Special emphasis on the sonata and string quartet.
- 538. Directed Individual Study. Three hours.**  
Closely supervised private research culminating in a scholarly paper or research report.

- 539. Piano Literature. Three hours.**  
A survey of piano literature up to and including the twentieth century.
- 559. Graduate Recital. Two hours.**  
A full length public recital required of candidates for the Master of Music Degree in performance.
- The following 400-level courses may be taken for graduate credit:
- 402. Counterpoint I. Three hours.**
- 403. Counterpoint II. Three hours.**
- 406. Composition. Three hours.**
- 407. Orchestration and Band Arranging. Three hours.**
- 415. Choral Methods. Three hours.**
- 416. Instrumental Methods. Three hours.**
- 419. History and Philosophy of Music in American Schools. Three hours.**
- 430. Music Literature. Three hours.**
- 431. Medieval and Renaissance Music. Three hours.**
- 432. The Symphony. Three hours.**
- 433. Twentieth Century Music. Three hours.**
- 434. Opera. Three hours.**
- 435. Baroque Music. Three hours.**
- 436. Nineteenth Century Music. Three hours.**
- 437. Chamber Music. Three hours.**
- 438. Music of the Americas. Three hours.**
- 440. Choral Union. One hour.**
- 441. Choir. One hour.**
- 443. Band. One hour.**
- 444. Orchestra. One hour.**
- 449. Chamber Music. One hour.**
- 445. Madrigal Singers. One hour.**
- 450. Piano. Two hours.**
- 451. Voice. Two hours.**
- 453. Strings. Two hours.**
- 454. Organ. Two hours.**
- 455. Woodwinds. Two hours.**
- 456. Brasses. Two hours.**
- 457. Percussion. Two hours.**
- 458. Harp. Two hours.**

## **PHILOSOPHY AND RELIGION**

### **Graduate Faculty:**

Professors: Nash (Head of Department), Mounce

Associate Professor: Stahl

Assistant Professor: Vos

See Master of Arts in Humanities in Interdepartmental degree programs. Philosophy is an integral part of the Master of Arts in Humanities and the Master of Arts in College Teaching in Humanities programs. In addition graduate courses in philosophy and religion are significant supporting areas in other graduate programs.

### **Graduate Courses in Philosophy**

**500. Humanities Seminar. Three hours.**

A synthesis of the major ideas and movements in the fields of art, architecture, music, literature, philosophy, religion, and history during the contemporary period (1789-1970) of Western Civilization.

**501. Readings in Philosophy. Three hours.**

An intensive study of selected philosophic classics or readings in a selected area of philosophy. May be repeated for different topics.

**502. Seminar in Ancient and Medieval Philosophy. Three hours.**

Study of selected topics in ancient and medieval philosophy. May be repeated for different topics.

**503. Seminar in Modern Philosophy. Three hours.**

Study of selected philosophers or topics in modern philosophy. May be repeated for different topics.

**504. Seminar in Contemporary Philosophy. Three hours.**

Study of selected philosophers or topics in contemporary philosophy. May be repeated for different topics.

**599. Humanities Thesis. Six hours.**

The following 400-level courses may be taken for graduate credit:

**400. Contemporary Philosophy. Three hours.**

**401. Readings in Philosophy. Three hours.**

**405. Existentialism. Three hours.**

**420. Philosophy of History. Three hours.**

**425. Analytic Philosophy. Three hours.**

**440. Metaphysics and Epistemology. Three hours.**

**450. Philosophy and Religion in the Middle Ages. Three hours.**

## **Graduate courses in Religion**

400-level courses which may be taken for graduate credit:

**400. Readings in Contemporary Religious Thought. Three hours.**

**401. Seminar in Religion. Three hours.**

**405. Current Issues in New Testament Studies. Three hours.**

**420. The Age of the Apostles. Three hours.**

**440. Judaism. Three hours.**

**445. The Religious Tradition of Israel. Three hours.**

**450. Philosophy and Religion of the Middle Ages. Three hours.**

## **PHYSICAL EDUCATION AND RECREATION**

### **Graduate Faculty:**

Professors: Karsner, Kirchner

Associate Professors: Oglesby (Head of Department), Cundiff, Jones

Assistant Professor: Cooter, Little, Meadors

Master of Science in Physical Education; Master of Arts in Education (Physical Education major or minor); Master of Arts in Education (Recreation minor); Master of Public Service (Recreation and Park Administration option; see pages 100 and 126.)

Diversified programs leading to additional depth or breadth in a selected area of physical education and recreation are available to candidates for graduate degrees. A highly qualified staff and outstanding facilities complement these graduate offerings. Contemporary research and literature are fundamental in all courses. The department maintains laboratories for study of human motor behavior and physical performance and strong encouragement is given students to actively pursue personal research interests.

### **Master of Science (M.S.) Degree in Physical Education**

Although many candidates for a master's degree are interested in public school teaching, some students would receive greater benefit from a degree program with total concentration in Physical Education. The M.S. Degree in Physical Education has been designed



### *Physical Education and Recreation*

to meet the needs of these individuals. Considerable leeway in course selection is available allowing the candidate to acquire great depth within this specific academic discipline. This program requires a demonstration of competency in use of a research tool. Candidates are encouraged to write a Master's thesis.

Required: PER 501.

Selective with adviser's consent: 12-27 hours of Physical Education

Elective: 0-15 hours from allied areas.

### **Master of Arts in Education (Physical Education major or minor)**

This program provides graduate coursework in physical education and recreation, and is designed for the public school teacher. The student following this program must meet all requirements for Standard High School certification.

#### **Physical Education Major**

Required: 15-21 hours in physical education including PER 501 and 502. Two courses to be selected from PE 503, 504, and 505. Remaining hours in physical education are electives.

Professional Education: 9-15 hours (see Education, Secondary).

#### **Physical Education Minor**

Required: 12-15 hours in physical education including PER 502 and either PER 501 or Education 500\*. 3-6 hours to be selected from PE 503, 504, 505. Other physical education courses to be taken to allow a minimum of 12 hours.

Professional Education: 15-18 hours (see Education, Secondary).

### **Master of Public Service (Recreation and Park Administration Option)**

This program is a non-teacher certification plan with nine hours required in the public service core and twenty-one hours available in recreation and/or related areas. It is specifically designed to prepare

If Education 500 is chosen rather than PER 501, an additional elective to total 12 hours will be necessary within the physical education course offerings.

### *Physical Education and Recreation*

individuals for positions of leadership in recreation and park administration. In addition to the core requirements (page 157, the following courses are within the recreation sequence from which fifteen hours may be selected: P.E.R. 501, P.E.R. 520, P.E.R. 530, Rec. 513, Rec. 515, Rec. 517, Rec. 519, Rec. 521, Rec. 481, Rec. 483, Rec. 484, and Rec. 489. In addition, six hours may be selected from courses within the field of recreation or from allied areas.

### **General Graduate Courses:**

#### **P.E.R. 501. Analysis of Research in Physical Education and Recreation. Three hours.**

A critical analysis and review of selected studies in the physical education and recreation literature related to methods, materials, techniques, and planning of research studies used and conducted by the profession. (To be taken in first term of enrollment at Western Kentucky University.

#### **P.E.R. 520. Interpretation of Physical Education and Recreation Data. Three hours.**

Prerequisite: PER 501.

Application of statistical techniques to physical education and recreation data. Basic principles and techniques in designing and analyzing physical education and recreation problems are emphasized.

#### **P.E.R. 530. Independent Investigations in Physical Education or Recreation. One to three hours.**

Prerequisites: PER 501 and consent of instructor.

Special research problems or projects of organizational, administrative, or supervisory nature in the areas of physical education or recreation.

#### **P.E.R. 560. Thesis. Six hours.**

The master's thesis is to be directed by a member of the Graduate Faculty of the Department.

### **Graduate Courses in Physical Education**

#### **P.E. 502. Philosophical Bases of Physical Education and Athletics. Three hours.**

A comparative analysis of the influence of major educational philosophies upon physical education and athletics is made with a view to preparing the student to develop a practical and usable personal philosophy of modern physical education and athletics.



- P.E. 503. Psychological Bases of Motor Performance. Three hours.**  
The nature and bases of motor learning are studied. A critical analysis of mental and emotional factors involved in the acquisition and evaluation of motor performance. Application to various activities is presented.
- P.E. 504. Physiological Bases of Motor Performance. Three hours.**  
Application of physiological, mechanical, and kinesiological principles and controls to motor activity. Inferences on improving instructional practices are presented.
- P.E. 505. Foundations of Curriculum Construction. Three hours.**  
Principles, procedures, and criteria for curriculum construction and revision, course building, and lesson planning in Physical Education. Critical evaluation of typical courses of study at various grade levels. The development of written guides is presented.
- P.E. 510. Seminar: Facilities, Construction, and Equipment. Three hours.**  
Principles, standards, practices and problems in planning, constructing, administering the building program, maintaining the facilities and in purchase and care of equipment. Includes such topics as evaluation of existing facilities, survey of needs, equipping the plant, program planning, development of educational specifications, selecting of an architect, and attaining efficiency and economy through design and construction.
- P.E. 511. Theory in Administration and Supervision of Physical Education and Athletics. Three hours.**  
A study of the implications of basic administrative theory and research for the administration of Physical Education and athletic programs.
- P.E. 512. Seminar: Administration Problems in Physical Education and Athletics. Three hours.**  
Organization and control over programs of physical education and athletics at various education levels. A discussion of controversial issues in athletics and practice in seeking solutions to them.

400-level courses which may be taken for graduate credit:

- 454. Problems and Trends in Elementary School Physical Education. Three hours.**
- 456. Advanced Studies in Physical Education and Recreation. Three hours.**
- 490. Evaluation in Physical Education. Two hours.**
- 491. Physical Diagnosis and Corrective Physical Education. Three hours.**

Graduate Courses in Recreation

- Rec. 513. Organization, Administration, and Supervision of Parks, Playgrounds, and Recreation Programs. Three hours.**  
Detailed study of the organization and administration of recreation of federal, state, and local levels, financing, budget, and personnel selection and supervision, departmental organization, administration practices, legislative provision, governmental controls, and correlation and integration of the entire recreation program into the culture and society of the community.
- Rec. 515. Planning and Maintenance of Park and Recreation Facilities. Three hours.**  
Principles and problems involved in planning and maintenance of park and recreation facilities are considered. Relationship of facilities to program needs are discussed. Field trips to areas and facilities are conducted.
- Rec. 517. Construction and Utilization of the Survey in Recreation. Three hours.**  
Planning, application, and evaluation of the survey as a means of determining recreation program needs in selected settings. Community recreation surveys are conducted as class projects.
- Rec. 519. Fiscal Practices for the Administrator of Recreation and Parks. Three hours.**  
Construction of the budget, financial record-keeping, purchasing procedures, personnel problems, and office management related to recreation constitute pertinent topics of the course. Insurance programs and legal problems are also included.
- Rec. 521. Public Relations for Parks and Recreation Programs. Three hours.**  
Effective communication among colleagues, program participants, and the public through the use of all types of audio-visual devices and techniques are encompassed in the course.

400-level courses which may be taken for graduate courses:

- Rec. 481. Camp Administration and Outdoor Recreation. Three hours.**
- Rec. 483. Social Recreation. Three hours.**
- Rec. 484. Community Centers and Playgrounds. Three hours.**
- Rec. 485. Development of Nature Oriented Areas and Facilities. Three hours.**
- Rec. 487. Outdoor Education Leadership. Three hours.**
- Rec. 489. Professional Field Experiences in Recreation. One to eight hours.**

## PHYSICS AND ASTRONOMY

### Graduate Faculty:

Professors: Six (Head of Department), Russell

Associate Professors: Buckman, Humphrey, Moore

Master of Science in Physics; Master of Science in Engineering Physics; Master of Arts in Education (Physics minor)

The Department of Physics and Astronomy requires a grade point average of at least 3.0 to be admitted in good standing. Promising students will also be accepted; however, they may expect to be required to take some courses of a transitional nature if their undergraduate preparation is incomplete, in order to advance to the level of regular first-year graduate courses.

The graduate programs in the Department of Physics and Astronomy are flexible to the extent that a student can select up to nine hours of related courses in biophysics, physical chemistry, geophysics, astronomy, or environmental science to prepare for a career in those fields which "bridge" two or more of the traditional disciplines.

**Master of Science in Physics.** The *Master of Science* degree is designed to prepare students to continue graduate work at the Ph.D. level in physics or some closely related discipline. The applicants should have physics preparation at the undergraduate level, extensive enough to include an intermediate course in mechanics (Stevenson or Symon), electricity and magnetism (Reitz and Milford), and modern physics (Weidner and Sells). Preparation in mathematics should include ordinary differential equations, vector analysis, and possibly functions of a complex variable.

The M.S. in Physics requires 30 semester hours, no more than six of which may be thesis research numbered 699. Each candidate for the M.S. in Physics is required to complete an acceptable thesis. At least half of the twenty-four hours of regular work must be in courses numbered 500 and above. At least 15 hours of the regular course work must be in the student's major field of study. All graduate students in physics must satisfactorily complete two of the three graduate "core" courses:

540—*Electromagnetic Theory*

550—*Classical Mechanics*

580—*Quantum Theory*

The student wishing to satisfy the language requirement must select either German, French, or Russian. If the student elects the research tool (eg., computer programming, statistics) in lieu of the language requirement, his choice of courses must have the approval of the chairman of his graduate committee and the departmental chairman.

A final examination (oral and/or written) is given to all candidates. Such an examination will include defense of the thesis and may include other subjects.

**The Master of Science in Engineering Physics** is to provide additional formal academic training to students who intend to assume positions in industrial or governmental laboratories. More emphasis is placed on the applied nature of physics in designing the curriculum.

In addition to general Graduate College requirements, the students should have a major in one of the fields of physical science or engineering.

Twenty-four semester hours of course work and six semester hours of thesis research are required. Normally, 15 to 18 semester hours will be taken in physics, and six to nine semester hours in a minor will be permitted. There is no language requirement.

The student's graduate thesis advisor will be assigned upon the completion of 15 semester hours of course work and after selection of a thesis topic. A thesis reporting the results in accordance with the regulations of the Graduate College must be submitted.

A final examination (oral and/or written) is given to all candidates. Such an examination will include defense of the thesis and may include other subjects.

**The Master of Arts in Education** with a physics minor is designed to enhance the competence of physics and science teachers at the secondary school level. Courses in physics, 12 (minimum) to 21 (maximum) semester hours, are designed to familiarize the student with modern high school materials and curricula while strengthening his overall physics background. The remainder of the thirty hours is in professional education. The student following this program must meet all requirements for Standard High School certification.

**Financial Aid.** The Department of Physics and Astronomy has several teaching assistantships available, ranging from \$2100 to \$2800 for the nine-month academic year. These require that the student assist in

### Physics and Astronomy

the instruction of courses and laboratories in the department. The total number of work hours per week is approximately fifteen. If desired, summer assistantships can be arranged. The graduate students are provided ample office facilities for study and student consultation.

**Research.** Graduate thesis problems are available in the following areas:

atomic collisions	optical astronomy
biophysics	radiation dosimetry
electron physics	radio astronomy
nuclear physics	theoretical physics

Investigations of galactic structure and binary stars (financed by the Research Corporation and the National Science Foundation) are carried on at the Kitt Peak National Observatory, in Tucson, Arizona. A new atomic collision facility has been assembled, by cooperative agreement with the National Aeronautics and Space Administration. Surface physics investigations have produced new techniques for measuring the interaction of very low energy electrons with metallic surfaces. Intermediate energy nuclear processes are studied using Western's neutron generator and multichannel analyzer. The facilities of Oak Ridge Associated Universities are utilized for student projects. Medical physics experiments in radiation dosimetry, supported by the Department of Health, Education and Welfare, aim to develop new detectors of total radiation dose. In cooperation with radio astronomers at the University of Florida, Western's faculty members are deciphering the radio signals from the planet Jupiter. Radio telescopes located ten miles from the campus are one end of a very long baseline interferometer extending from Bowling Green, Kentucky, to Maipú, Chile. Other areas of study include the characteristic behavior of optically variable extragalactic objects known as quasi-stellar radio sources (quasars), the cellular mechanisms of the aging process, and the effects of ultraviolet light on biological systems.

### Graduate Courses

#### 510. Methods of Mathematical Physics I. Three hours.

Prerequisite: Differential Equations.

Selected topics from the mathematical methods of classical physics.

#### 520. Atomic and Molecular Spectra. Three hours.

Prerequisite: Physics 480.

### Physics and Astronomy

A study of the structure of atomic and molecular spectra including quantum mechanical energy states, wave mechanical rules for combining momenta and magnetic moments, the Stark effect, and the Zeeman effect.

#### 530. Statistical Mechanics. Three hours.

Prerequisite: Physics 450, 480.

An introduction to statistical theories of many body systems and their thermodynamic consequences. Topics include the Boltzmann equation, Liouville's theorem, phase space, ensemble theory, entropy and probability, partition functions, equations of state, and quantum statistics.

#### 540. Electromagnetic Theory. Three hours.

Prerequisite: Physics 440.

Electrostatics, magnetostatics, and potential theory; Maxwell's electrodynamics; the theory of wave optics, refraction, interference and diffraction; radiation of electric and magnetic multipole fields.

#### 550. Classical Mechanics. Three hours.

Prerequisite: Physics 450.

Dynamics of particles and rigid bodies, the methods of Lagrange and Hamilton, the Hamilton-Jacobi equation, and the theory of small vibrations.

#### 580. Quantum Theory. Three hours.

Prerequisite: Physics 480.

Wave and matrix mechanics, general operator methods, angular momentum, symmetry principles and conservation theorems, variational principle and elementary perturbation theory.

#### 598. Graduate Seminar. One hour.

Discussions of recent and current literature on developments in experimental and theoretical physics.

#### 610. Methods of Mathematical Physics II. Three hours.

Prerequisite: Physics 510.

Selected topics from the mathematical methods of quantum physics.

#### 660. Theory of Solids. Three hours.

Prerequisite: Physics 480.

A study of matter in the condensed state emphasizing quantum mechanical aspects, the behavior of electrons in solids and the thermal and magnetic properties of matter.

#### 670. Theoretical Nuclear Physics. Three hours.

Prerequisite: Physics 480.

Static properties of nuclei, descriptive aspects of radioactivity and nuclear reactions, systematics of nuclear energies, nuclear models, nuclear decay, nuclear reactions, and nuclear forces.

### Physics and Astronomy

#### 675. Advanced Topics in Physics. One to Three hours.

Prerequisites: Graduate standing and permission of the instructor.  
Each topic is a course in directed study under the supervision of a faculty member. Available for full credit in subsequent sessions with change of content.

#### 699. Research. One to Six hours.

Courses which may be taken for graduate credit toward the M.A. in Education (Physics minor):

#### 501. Classical Developments in Physics. Three hours.

A general review of classical physics for the junior high and high school teacher, covering the discovery of physical laws, the origin of forces, motion, energy, momentum, conservation principles, wave phenomena, and electromagnetics. The goal is comprehension of the basis and nature of physical law, and the ability to convey this insight to others.

#### 502. Modern Developments in Physics. Three hours.

A general review of quantum physics for the junior high and high school teachers covering atomic structure, the nucleus, elementary particles, probability and uncertainty, and special relativity. The impact of twentieth century discoveries on the foundations of physical law will be emphasized. The goal is awareness of the vitality and influence of physics and the ability to convey this to others.

#### 503. Physics Demonstrations and Laboratory Exercises. Three hours.

Designed to acquaint the junior high and high school teacher with laboratory equipment and demonstrations designed for use in secondary education. A laboratory library containing approximately sixty experiments, in place, will enable the teacher to become experienced with equipment. The purpose of the course is to develop confidence in the teacher and instill the desire to enhance his lectures and laboratory instruction through the use of new techniques and apparatus.

#### 505. Investigations in Physics. Three hours.

A literature search and study relating to a special topic of interest to the student with potential benefit to the teaching of physics.

#### 401-402. Physical Science I and II. Three hours each.

Prerequisite: Permission of the instructor.

Systematic study of the primary physical properties of matter and forms of energy. Emphasis on measurement processes, symbolism, graphical analysis, algebraic calculations, dimensional analysis and coherent systems of units. For teachers and prospective teachers.

#### 405. Astronomy for Teachers. Three hours.

Selected topics in astronomy for elementary and secondary teachers. Does not count toward physics major credit.

### Physics and Astronomy/Psychology

#### 410. Physics for Elementary Teachers. Three hours.

Prerequisite: Permission of the instructor.

A broad study, including laboratory experiences, of the areas of physics relevant to the teaching of science in the elementary school. This is a course for elementary teachers with a minimal science background.

#### 425. Modern Concepts of Physics. Three hours.

Prerequisite: One year of college physics.

Current ideas in atomic and nuclear physics, astronomy and space physics, solid state and low temperature physics are discussed at such a level that the prospective teacher will have a good understanding of modern concepts in physics and will be able to explain them to students. This course includes demonstrations and experiments, field trips, seminars, and occasional guest lectures.

400-level courses which may be taken for graduate credit:

#### 404. Experimental Physics 4. Optics. One hour.

#### 406. Experimental Physics 5. Solid State. One hour.

#### 407. Experimental Physics 6. Nuclear. One hour.

#### 409. Experimental Physics 7. Research Techniques. Two hours.

#### 414. Introductory Astrophysics. Four hours.

#### 431. Radiation Biophysics. Four hours.

#### 436. Biophysics Seminar. One hour.

#### 440. Electricity and Magnetism. Three hours.

#### 441. Optics. Three hours.

#### 450. Theoretical Mechanics. Three hours.

#### 460. Solid State Physics. Three hours.

#### 465. Geophysics. Three hours.

#### 470. Nuclear Physics. Three hours.

#### 475. Selected Topics in Physics. One to three hours.

#### 480. Quantum Mechanics. Three hours.

## PSYCHOLOGY

### Graduate Faculty:

Professors: (Robe (Head of Department), Cunningham, Dotson, Floyd, Laird

Associate Professors: Clark, Craig, Reese, Simpson

Assistant Professors: McFarland, Metze, Miller, Shiek

## Psychology

Master of Arts in Psychology; Master of Arts in Education (Psychology major or minor)

### Master of Arts in Psychology

This program provides preparation for students who seek teaching positions at the college level and provides specialized skills for students who wish to pursue careers in industry, government, school or clinical psychology.

There are a number of options available to students, depending upon specific goals, but most are involved in three programs.

1. A two year training program in Clinical or School Psychology
2. A pre-doctoral program in General-Experimental Psychology
3. A program in General Psychology which prepares one to teach at a college or high school level, enter business or industry, or to move on to doctoral programs in allied areas.

Admission requirements are similar in all programs. Applicants should have a statistics and experimental methodology course plus some background in general psychology in the areas generally covered in a History and Systems of Psychology course. There are no specific number of course hours required. The aptitude score on the GRE (combined verbal and quantitative) must be supplied and a minimum of 850 is required. All applicants should arrange for two letters of recommendation to be sent to the departmental admissions committee.

The minimum undergraduate grade point average required for consideration is an overall GPA of 2.5 (four years) and a 3.0 in psychology courses. All M.A. programs in Psychology require an acceptable thesis and the research tool requirements established by the student's committee. At a point when the major coursework components within a program are completed, but prior to the approval of a thesis topic, each student must pass a set of written and/or oral qualifying examination questions which are prepared by the student's committee. There is also a final oral examination over the thesis.

The following is a more detailed listing of course requirements which make up each program:

## Psychology

### Clinical or School Psychology

This is a two year program which prepares a student to assume a position as M.A. level Clinical or School Psychologist. Upon completion of this program a student would be recommended to the State Board of Psychological Examiners for certification and would be recommended to prospective employers. Generally this is considered to be a "terminal" Masters degree; a student should not anticipate moving directly into a doctoral program. If a student wanted to move on to a doctoral program, several years successful experience in a clinic or other setting would be helpful.

A. Undergraduate preparation should include the following areas.

*Abnormal Psychology	Psychological Testing
*Abnormal Psychology	Personal Adjustment and
*Social Psychology	Mental Hygiene
*Personality Theory	Physiological Psychology

B. Graduate level courses which make up the core of the program:  
Psychology 540, 541, 550, 560, 561, 562, 563, †592, 640, 641, 642, 660, 661, 662, ††512, ††599.

Minimum hours to complete the program: 40 hours.

School Psychology requirements: 43 hours.

\*Note: Required before graduate work initiated.

Note: †— required for School Psychometrist or School Psychologist  
††— required for all M.A. programs in Psychology

### Pre-Doctoral General-Experimental Program

Some doctorate granting departments are showing a greater interest in admitting students with a strong M.A. background. This program has been designed for those students who wish to enter a M.A. program and apply for admission to a doctoral program at a later time. If a student anticipates that he would apply in a specialized area, such as Social, Clinical, etc., courses in these areas of specialization should be included in the program.

When this program is completed students will be recommended to appropriate doctoral programs or for teaching positions in colleges or community colleges, but should not consider themselves prepared for recommendation as clinical or school psychologists.

## Psychology

A. Basic Course Sequence (These courses are required of all pursuing this program.) Psychology 500, 511, 512, 513, 599.

B. Areas of Specialization (select 4 of the 8 areas) Physiological Psychology (580), Clinical Psychology (541), Psychometrics (563), Developmental (520, 521, 522), Cognition (523), Motivation (516), Social Psychology (522), Personality (550).

Minimum program requirements: 30 hours.

## General Psychology Program

For those students who do not plan to practice as a Clinical Psychologist or apply for admission to a doctoral program in Psychology, a highly flexible option is available. Students who complete this program will be recommended for teaching positions, admission to doctoral programs in allied areas, or other areas of specialization.

Some students are not ready to commit themselves to either of the more specialized programs and choose to enter this program first, then move on to either a Clinical or General-Experimental program.

Coursework requirements: Psychology 512, 563, 599, and 18 hours of Psychology electives. Total minimum requirements: 30 hours.

## Master of Arts in Education (Psychology major or minor)

This program provides additional graduate coursework in psychology for the psychology teacher. Students following this program must meet all requirements for Standard High School Certification. The student majoring in psychology may take a minimum of 18 or a maximum of 21 hours in psychology, while the student minoring in psychology make take a minimum of 12 or a maximum of 15 hours in that department. The remaining hours will be taken in professional education courses. The thesis is recommended.

A specialized program which meets state certification for School Psychometrists is also available.

## Graduate Courses in Psychology

**500. Trends and Scientific Approaches in Psychological Thinking. Three hours.**

Prerequisite: Graduate standing and permission of instructor.

A survey of the historical and philosophical bases of contemporary

## Psychology

psychological thought and research with emphasis on the philosophy and logic of science especially as it pertains to psychology. The understanding and appropriate usage of scientific terminology is also stressed.

**510. Advanced Educational Psychology. Three hours.**

Psychology of learning. Different psychological theories; psychological methods and techniques; experimental literature.

**511. Psychology of Learning. Three hours.**

A study of theories of learning including conditioning, social learning, reinforcement, problem solving, motivation, and structure of the learning situation.

**512. Seminar in Experimental Design. Three hours.**

This course is a basic required course for all graduate students in psychology. It is designed to develop an understanding of the principles of experimental design and the application of appropriate statistical techniques. Included in this course will be the design of an experimental project.

**513. Advanced Statistical Analysis. Three hours.**

Prerequisite: Graduate standing and Psychology 512 (or permission of instructor).

Advanced analysis techniques appropriate to psychological research will be studied. Such procedures as the more complex forms of the analysis of variance, the analysis of covariance, and various types of non-parametric statistics will be emphasized.

**516. Advanced Study in Motivation. Three hours.**

Prerequisite: Graduate standing and permission of instructor.

In depth analysis of historical and present motivation theories. Particular stress will be placed on a current literature survey of both human and animal research. Offers an opportunity for the integration of concepts of scientific logic with a specific area of psychological inquiry.

**520. Psychology of Individual Differences. Three hours.**

A survey of research and theory in developmental aspects of behavior from the prenatal period to adulthood with emphasis upon individual differences.

**521. Advanced Child Psychology. Three hours.**

A course in child psychology for graduate students, with particular emphasis upon a critical review of current research in child development.

**522. Advanced Adolescent Psychology. Three hours.**

A critical review of current research and theories in the area of adolescent psychology as they relate to physical, social emotional, and intellectual development.



## Psychology

### 523. Cognitive Theory. Three hours.

A study of information processing, thinking and cognition. This course will cover major theories and research techniques in the area of cognitive theory.

### 540. Behavior Problems of Childhood and Adolescence. Three hours.

A descriptive and theoretical survey of the major forms of psychopathology in children and adolescents, with emphasis upon recent research, classification systems and developmental patterns. This course will also cover clinical and school treatment of neurotic, psychotic, sociopathic, organic syndromes, and other behavior problems encountered in the school setting.

### 541. Introduction to Clinical Psychology. Three hours.

An introduction to methods and research in clinical psychology with an emphasis upon the use of clinical reports prepared for schools and clinics.

### 550. Personality Theory. Three hours.

A survey of basic psychological principles underlying the study of personality in relation to a social environment. Among the topics discussed are: theories of personality, the process of socialization of the individual, factors influencing adjustment to social environment.

### 551. Social Psychology of Organizations. Three hours.

Designed to provide an understanding of the dynamics of groups and organizations. A survey of current theory and research in psychology of organizations.

### 552. Advanced Social Psychology. Three hours.

Prerequisites: Graduate standing and permission of instructor.

The behavior of the individual is investigated in relation to social contexts. An in-depth analysis centers around such topics as group dynamics, attitude formation and change, social influence processes, socialization and language use in communication.

### 560. Individual Assessment — Wechsler. Two hours.

Prerequisites: Graduate standing and permission of instructor.

The course will involve administration and interpretation of the WISC, WAIS, WPPSI, and other individually administered Wechsler-type tests used as basic tools in education, occupational guidance and clinical diagnostics. Effective report writing and basic clinical practice will be stressed. This course requires the administration of a minimum of 25 individual tests. (Concurrent enrollment in Psychology 562 is required.)

### 561. Individual Assessment — Binet. Two hours.

Prerequisites: Graduate standing and permission of instructor.

The course will involve administration and interpretation of the Stanford-Binet Intelligence Scale and other Binet-type tests commonly used in educational, vocational guidance and clinical diagnos-

## Psychology

tics. Effective report writing and basic clinical practice will be stressed. This course requires the administration of a minimum of 25 individual tests. (Concurrent enrollment in Psychology 562 is required.)

### 562. Practicum in Psychological Assessment. One to three hours.

Corequisite: Psychology 560 or 561.

Supervised experience in the administration and interpretation of tests used in an educational or clinical setting for the diagnosis of intellectual and learning problems. This course will include development of realistic recommendations which can be used by teachers and clinicians to modify individual behavior. (May be repeated.)

### 563. Tests Construction and Psychometric Theory. Three hours.

An introduction to psychometrics with an emphasis upon both technical and ethical problems which are involved in the use and construction of psychological measurement instruments. The student will survey existing tests within the field and learn to communicate test results to both professional and non professionals. This is a required course for all graduate students in psychology.

### 580. Advanced Physiological Psychology. Three hours.

Prerequisite: Graduate standing and permission of instructor.

Provides a knowledge of anatomy of the nervous system, relationships among the components of the nervous system and behavior, and the current theories of physiological psychology. Training in physiological research techniques such as electrical recording and electrical and chemical stimulation will be given.

### 581. Laboratory in Advanced Physiological Psychology. Three hours.

Corequisite: Psychology 580.

Familiarity with physiological techniques of electrical recording and electrical chemical stimulation will be given.

### 590. Readings or Research in Psychology. One to three hours.

Prerequisite: Departmental permission only.

Individual programs of reading or conduct of research studies. Arrangements must be made for supervision before enrollment in this course.

### 591. Internship in College teaching. One to two hours.

Prerequisite: Permission only.

A study of the problems and methods of teaching at the college level. Students enrolled in this course will be concurrently teaching a college course in introductory or general psychology.

### 592. Seminar and Field Experiences in School Psychometry. Three hours.

Prerequisites: Graduate standing and permission.

A professional seminar and field experience for school psychometrists and psychologists to be taken during the student's last semester in residence. This course will involve staff and students from allied



## Psychology

specialists such as Counselor Education, Special Education, Reading and School Administration. Comprehensive Pupil Personnel services will be emphasized, with the School Psychometrist as a working member of the educational-diagnostic team composed of the teacher, selector, principal, pupil, parent and psychometrist. Field experiences in consultation, testing, curriculum development and educational program evaluation will be an integral part of this course.

**599. Master's Thesis in Psychology. Six hours.**

Open only to candidates for the M.A. degree who are engaged in thesis research or writing.

**640. Psychopathology. Three hours.**

Prerequisite: Permission only.

A descriptive and theoretical survey of the major forms of child and adult psychopathology with emphasis upon recent research, classification systems, modification of deviant behavior and developmental patterns of learning and motivation variables. Experimental studies including the experimental induction of abnormal behavior in animals will be reviewed.

**641. Clinical Interviewing and Psychotherapy I. Two hours.**

Permission only.

A study of selected theories and techniques of psychotherapy and counseling involving academic, vocational, learning, and emotional problems. Consideration of group therapy, research, clinical topics, and professional and ethical issues. Course experiences include role playing, tape recorded interviews, and analysis of case materials. (Concurrent enrollment in 662 is required.)

**642. Clinical Interviewing and Psychotherapy II. Two hours.**

Prerequisite: 641. Permission only.

A continuation of 641 with an emphasis upon group, family and marital psychotherapy. (Students will concurrently enroll in 662.)

**660. Psychological Evaluation I. Two hours.**

Prerequisite: 560. Permission only.

An introduction to personality diagnosis using objective and projective techniques with an emphasis upon current research interpretation, and communication of assessment information. (Concurrent enrollment in 662 required.)

**661. Psychological Evaluation II. Two hours.**

Prerequisite: 660. Permission only.

A continuation of 660 with emphasis upon the integration of data obtained through various assessment instruments and techniques. Focus on specialized procedures for the evaluation of personality, functional disorders, perceptual-motor problems, and organic and intellectual deficit in clinical, educational, and rehabilitation settings. (Concurrent enrollment in 662 required.)

## Psychology/Sociology and Anthropology

**662. Practicum in Psychological Practice. One to three hours.**

Students enrolled in 641, 642, 660, or 661 will receive supervised practice in schools, clinics, specialized training centers and hospitals. Those preparing careers in school or clinical psychology will enroll in 662 for a minimum of two semesters.

The following 400-level courses may be taken for graduate credit:

**400. History and Systems of Psychology. Three hours.**

**410. Psychology of Learning. Three hours.**

**432. Psychology of the Gifted. Three hours.**

**440. Abnormal Psychology. Three hours.**

**450. Personality Theory. Three hours.**

## SOCIOLOGY AND ANTHROPOLOGY

### Graduate Faculty:

Professors: Dansereau (Head of Department), Baali, DiBella, Wittman, Yokley

Associate Professors: Beck, Dunn, Nelsen, Wells, Wozniak

Assistant Professor: Kalab

Master of Arts in Sociology; Master of Arts in Education (Social Science Area major); Master of Arts in Education (Sociology minor)

### Master of Arts in Sociology

This program is designed to provide a sound methodological and theoretical foundation for students who contemplate pursuing graduate studies beyond the master's level; to give a thorough preparation for those students who seek teaching positions at the college level; and also to transmit the basic specialized skills for those students who elect to pursue careers in industry or governmental service.

In addition to general Graduate College requirements, the student should have a B average for all undergraduate work in Sociology. Promising students with limited grade or course deficiencies may be considered for admission to the program upon completion of an approved program of study for the removal of the deficiencies.

### *Sociology and Anthropology*

Persons admitted to the program should also have previously had a minimum of eighteen hours in Sociology including the following courses or their equivalent:

Methods of Social Research (390), Social Statistics (350), History of Social Thought (360), and Contemporary Sociological Theory (385).

In unusual circumstances where special competence has been developed through experiences other than traditional course-work or extensive course-work in related disciplines, the above departmental requirements may be relaxed or adjusted by approval of the Department Head.

Minimum requirements for the Master of Arts in Sociology are thirty semester hours of graduate credit in courses approved by the Department, including six hours of thesis credit. Under Plan A, a minimum of 24 hours of acceptable course work and a thesis, equivalent to six graduate hours, are required. Students who anticipate future doctoral study are encouraged to pursue Plan A. Under Plan B, a minimum of 36 hours of acceptable course work must be completed; the thesis is not required. At least one half of the course requirements must be completed successfully in courses open only to graduate students. The courses constituting a student's program must form a uniform and coordinated whole as determined by the student's departmental graduate advisory committee.

Basically the curriculum will consist of a sequence of core theoretical and methodological courses and several additional principles courses essential to a strong foundation in sociology. Specialization may be directed toward three major areas: (1) criminology and corrections; (2) work and work organization; and (3) urban sociology and demography.

The purpose of the criminology and corrections emphasis is to provide professional education for those students interested in careers in the fields of correctional administration, probation and parole, institutional program management, and delinquency control programs. In addition, it is intended to provide academic education in criminology with special emphasis on evaluation and research.

The emphasis in work and work organization is intended to provide the student with specialized training in industrial sociology and manpower research and development to equip him to pursue a career with

### *Sociology and Anthropology*

industry, government, or foundations in industrial research, human resource development programs, and applied manpower development.

The purpose of the urban sociology and demography emphasis is to provide the student with the appropriate knowledge and skills necessary for careers with industry, government, or foundations in the fields of urban affairs, population analysis and forecasting, community development, and urban environment research.

Programs specifically intended to satisfy student needs may be planned in such areas as social psychology, social institutions, and race and cultural relations.

All students enrolled in the Master's program will be required to take the following core courses: Sociology 580, 590, and 595. All participants in Plan A will enroll for Sociology 596 and 597; in lieu of these two courses, students under Plan B must take twelve approved graduate credits. The remaining semester hour credits can be selected from a variety of general and specialized course offerings.

Up to six semester hours in courses in departments other than sociology may be counted toward the thirty hours master's program with the consent of the department head.

A thesis carrying six hours credit is required of all candidates for the master's degree.

In addition to course requirements, all candidates for the master's degree must submit appropriate papers for faculty review or pass a final written and/or oral examination covering the thesis or major and minor fields of study.

Prior to the final master's examination the applicant must either:

1. Demonstrate reading ability sufficient to do scholarly reading in a foreign language appropriate to his major area, or
2. Demonstrate that he has mastered the appropriate research tools which will contribute to this research proficiencies.

### **Master of Arts in Education (Social Science Area major; Sociology minor)**

This program, designed for the public school teacher, provides graduate coursework in sociology and anthropology. The student following this program must meet all requirements for Standard High

## *Sociology and Anthropology*

School certification. The student wishing to pursue this program with emphasis in sociology is advised to follow the Social Science Area major which allows him to take 9-12 hours within the Department of Sociology and Anthropology. One who minors in sociology may take a minimum of 12 or a maximum of 15 hours in the department. The remaining hours will be taken in professional education courses.

## **Graduate Courses in Sociology**

### **505. Elements of Sociology. Three hours.**

Prerequisite: Graduate standing.

Designed as an advanced first course in basic sociology for the non-sociology graduate student. The conceptual problem of interaction is examined in terms of demography and ecology, culture and personality, and social structure and process.

### **520. Studies in Family Relations. Three hours.**

Prerequisite: Sociology 505, or six hours of sociology and consent of the instructor.

An analysis of the family institution; the impact of modern culture on the family.

### **530. Seminar in the Sociology of Deviant Behavior. Three hours.**

Prerequisite: Sociology 505 or nine hours of sociology courses and consent of the instructor.

A systematic overview of selected types of deviant behavior with particular emphases on criminality, delinquency, drug addition, and alcoholism. Special attention will be given to current sociological theory and research in the field.

### **545. Seminar in Society, Personality, and Behavior. Three hours.**

Prerequisite: Sociology 505 or nine hours of sociology courses and consent of the instructor.

The course will focus on the study of inter-personal relations in different situations and from various perspectives. Among the concepts and problems to be considered are attitudes, norms, values; crucial factors in motivation and the actor's definition of the situation. Extensive observation of natural groups and experimental manipulation of arranged groups will provide data for testing specific hypotheses.

### **564. Demography. Three hours.**

Prerequisite: Sociology 505 or nine hours of sociology and consent of the instructor.

An advanced course in the quantity and quality of population. It will consist of a review of the demographic processes such as morality, fertility and migration, with emphasis on measurements, methods, and analytical techniques. The course will also include a review of important theories and issues in demography.

## *Sociology and Anthropology*

### **565. Studies in the Community. Three hours.**

Prerequisite: Sociology 505 or six hours of sociology, and permission of the instructor.

Ecological and social concepts of the community; the structure and function of the community.

### **566. Industry and Community. Three hours.**

Prerequisite: Sociology 505 or nine hours of sociology.

Analysis of industry in its community context exploring the interaction of industry with its immediate environment; social structure of the work-place as an extension of community; the impact of industry on community organization; the interaction of man, machine and colleague group within industrial organization; occupational roles, career patterns, social control within occupations and professions; and the social aspects of industrial conflict.

### **570. Studies of Social Systems. Three hours.**

Prerequisite: Sociology 505 or nine hours of sociology and permission of the instructor.

Use of organizational theory and its application to social systems.

### **572. Seminar in Social Change. Three hours.**

Prerequisite: Graduate standing as a sociology major or 18 hours of sociology.

A seminar focusing upon the various approaches to social change and social disorganization as dealt with by the major sociological theorists, both past and present. The origin, nature, consequences, and future outcome of social change and disorganization will be given consideration.

### **575. Complex Organizations. Three hours.**

Prerequisite: Sociology 505 or nine hours of sociology.

Analysis of the goals, internal structure, and environmental relations of large organizations. Special emphasis is placed upon the emergence of bureaucracies, competing theoretical frameworks for viewing organizations, and the analysis of organizational change.

### **580. Advanced General Sociology. Three hours.**

Prerequisite: Eighteen hours of sociology.

An overview of sociology presented through an examination of the various sub-disciplines of the field and the most important developments in each. Particular attention will be paid to recent research and theory in the various sub-fields.

### **590. Sociological Research Design and Analysis. Three hours.**

Prerequisite: Eighteen hours of sociology.

The examination of concept definition, model building, and research design appropriate to problem and data, including a review of representative research studies and students' designs. The course will include a schedule of readings, field work, reports, and discussion

## *Sociology and Anthropology*

designed to acquaint the sociology major with advanced social research methodology, techniques, and procedures.

### **595. Seminar in Sociology Theory. Three hours.**

Prerequisite: Eighteen hours of sociology.

An analysis of current sociological theories, including a survey of recent approaches to the construction and application of systematic theoretical models. The course will include a schedule of readings, papers, and discussion designed to give the student a broad knowledge of sociological literature and theory.

### **596-597. Thesis Writing. Three hours each.**

Prerequisite: The consent of the Department Head.

### **635. Seminar in Family Theory and Analysis. Three hours.**

Prerequisite: Sociology 420, 520, or 9 hours of graduate level sociology.

An advanced seminar to serve as one of the concluding courses in the graduate sociology series. Major emphasis will be placed upon the basic theoretical and conceptual frameworks which have been used in past analytical studies of the family, as well as the use of these frameworks for current and future analyses. Emphasis will also be given to familiarizing the student with the large body of theoretical and empirical literature which exists on the family.

### **640. Seminar in the Sociology of Work. Three hours.**

Prerequisite: Twelve hours in sociology of which at least 6 must have been at the graduate level. The student must have had at least one of the following courses: Sociology 346, 445, 450, 566, or 575, or equivalent.

An advanced seminar which considers the meaning of work and its social import in contemporary society. Work is viewed through the theoretical framework of a social system, and attention is accordingly given to the constituent structural components of work as well as the inherent systemic linkages. Special emphasis is devoted to the integration of sociological theories of work and the procedures used in the sociological analysis of work.

## **400-level courses in Sociology which may be taken for graduate credit:**

### **400. Juvenile Delinquency. Three hours.**

Prerequisite: Soc. 365 or consent of instructor.

### **410. Urban Sociology. Three hours.**

Prerequisite: Nine hours of undergraduate sociology.

### **420. The Family. Three hours.**

Prerequisite: Nine hours of sociology.

### **433. Correction and Confinement. Three hours.**

Prerequisite: Soc. 346 or consent of instructor.

## *Sociology and Anthropology*

### **435. Probation and Parole. Three hours.**

Prerequisite: Sociology 365 or consent of instructor.

### **445. Industrial Sociology. Three hours.**

Prerequisite: Soc 346 or consent of instructor.

### **450. Occupations and Professions. Three hours.**

Prerequisite: Soc. 346 or consent of instructor.

### **495-496. Directed Study. Three hours each.**

Prerequisite: Consent of Department Head.

## **Graduate Courses in Anthropology:**

### **507. Elements of Anthropology. Three hours.**

Prerequisite: Graduate standing.

Designed as an advanced first course in basic anthropology for the non-anthropology graduate student. The course will be organized around the concept of culture, discussing such problems as the nature of culture, the materials of culture, the structure of culture, aspects of culture, cultural dynamics, and cultural variation. The course will attempt a general overview of the field of anthropology.

### **555. Seminar in Anthropological Theory. Three hours.**

Prerequisite: Consent of the Department Head.

An examination of the history and development of anthropological thought to the end of the nineteenth century and a survey of contemporary anthropological thought, with special reference to the methods and theory of scientific anthropology.

### **570. Appalachian Folklore and Folk Life. Three hours.**

See: English 570.

### **572. Applied Folklore. Three hours.**

See: English 572.

### **577. Techniques and Materials in Folklore Studies. Three hours.**

See: English 577.

### **578. Folklore and Folk Life Research. Three hours.**

See: English 578.

### **579. Directed Study and Research in Folklore. Three hours.**

See: English 579.

## **400-level courses in Anthropology which may be taken for graduate credit:**

### **430. Prehistory and Archeology of the Indians of North America. Three hours.**

Prerequisite: Six hours of anthropology.

### *Sociology and Anthropology/Speech and Theatre*

**440. Cultural Anthropology. Three hours.**

Prerequisite: Anthropology 150, 275 or consent of the instructor.

**455. Culture and Personality. Three hours.**

Prerequisite: Anthropology 150 or 275, Sociology 110 or Psychology 100.

**495-496. Directed Study. Three hours each.**

Prerequisite: Consent of Department Head.

### **Graduate Courses in Social Welfare:**

**530. Seminar in the Sociology of Deviant Behavior. Three hours.**

Same as Sociology 530. Prerequisite: Sociology 505 or nine hours of sociology courses and consent of the instructor.

### **400-level courses in Social Welfare:**

**400. Juvenile Delinquency. Three hours.**

Prerequisite: Sociology 365 or consent of instructor.  
(Same as Sociology 400)

**425. Problems in Social Welfare. Three hours.**

Prerequisite: Social Welfare 375.

**433. Correction and Confinement. Three hours.**

Prerequisite: Sociology 365 or the consent of the instructor.  
(Same as Sociology 433).

**435. Probation and Parole. Three hours.**

Same as Sociology 435. Prerequisite: Sociology 505 or nine hours of sociology courses and consent of the instructor.

**495-496. Directed Study. Three hours each.**

Prerequisite: Consent of Department Head.

## **SPEECH AND THEATRE**

### **Graduate Faculty:**

Distinguished Professor: Mitchell

Professor: Howard

Associate Professors: Capps (Head of Department), Hall

Assistant Professors: Corts, Leonard, Stearns

### *Speech and Theatre*

Master of Arts in Speech; Master of Arts in Education (Speech major or minor); Master of Arts in Education (Theatre minor)

### **Master of Arts in Speech**

The program provides preparation for students wishing to teach at the college level; for those wishing to pursue additional graduate study; for those wishing careers in government or other fields where advanced study in speech would be helpful.

The candidate for the Master of Arts degree in speech may pursue Plan A or Plan B for the degree. The student should advise with his committee in the early stages of the program which plan he will follow. Students who anticipate additional study after the M.A. are strongly encouraged to follow Plan A.

The program is designed to give maximum flexibility to students pursuing the degree. Courses are organized in such a manner as to allow concentration in one of the following areas within the department: Communication Theory, Interpretation, Rhetoric and Public Address, and Theatre. Students may, with the permission of their advisor, take courses in related departments.

In order to pursue a graduate degree in speech a student must first be eligible for admission to the Graduate College. He also must have at least a minor (18 hours) in speech or the equivalent.

### **Master of Arts in Education (Speech major or minor; Theatre minor)**

This program provides additional graduate coursework in speech or theatre and is designed for the public school teacher. The student following this program must meet all requirements for Standard High School certification. The student majoring in speech may take a minimum of 18 or a maximum of 21 hours in speech, while the student minoring in speech or theatre may take a minimum of 12 or a maximum of 15 hours in that department. The remaining hours will be taken in professional education courses.

### **Graduate Courses in Speech**

**540. Seminar in Rhetoric and Public Address. Three hours.**

Studies in theories of rhetoric through selected writers, periods, and topics. The application of rhetorical standards to the speech-making of selected speakers, movements, areas, and periods. The course may be repeated once with a different topic.

### **Speech and Theatre**

**541. Seminar in Communication. Three hours.**

Study of selected topics in communication theory. Suggested topics which may be covered: interpersonal communication, symbols in society, paradigms and models in communication theory, field research in communication, studies in political communication, etc. The course may be repeated once with a different topic.

**544. Theory of Interpretation. Three hours.**

Consideration of the history and development of interpretive theory from ancient times to the present, tracing the use and development of the interpreter's art, with analysis of contemporary principles and practices.

**545. Seminar in Speech. Three hours.**

The content of the course will vary from semester to semester depending upon the background of the students enrolled. If offered as independent study, the person will have an opportunity to pursue areas in which he has had adequate preparation. If offered as a class, timely topics will be covered.

**546. Seminar in Forensics. Three hours.**

Seminar in Forensics will include a treatment of the principles and procedures involved in directing the standard forensic events. Events to be discussed are: debate, extemporaneous speaking, discussion, original oratory, analysis of a public address and some attention will be given to interpretative reading, duet acting, and story telling.

**549. Rhetorical Theory and Criticism. Three hours.**

Development of the classical tradition in rhetorical theory, practice, criticism, and pedagogy, from pre-Aristotelian writings through those of the twentieth century British and American theorists. Analysis of major figures and works which contributed to that tradition.

**599. Thesis Research. Six hours.**

Research, examination, and criticism of materials and the writing of a thesis.

The following 400-level courses may be taken for graduate credit:

**440. Experimental Studies in Communication. Three hours.**

**443. Contemporary Rhetoric and Public Address. Three hours.**

**444. Advanced Oral Interpretation. Three hours.**

**445. Research in Speech and Theatre. Three hours.**

**446. Classical Rhetoric. Three hours.**

**447. American Public Address. Three hours.**

**448. British Public Address. Three hours.**

### **Speech and Theatre/Inter-Disciplinary Programs**

**449. Speech Development. Three hours.**

**461. Organizational Communication. Three hours.**

**481. Introduction to Speech Pathology. Three hours.**

**482. Introduction to Audiology. Three hours.**

#### **Graduate Courses in Theatre:**

**550. Seminar in Theatre. Three hours.**

The course is designed to give graduate students the opportunity to further their experience in theatre through research and application. Students select for investigation interpretative technical, or promotional problems according to their interests.

**553. Restoration and Eighteenth Century Drama. Three hours.**

Careful study of representative plays. Evaluation of influences, movements, and productions. Wide reading and individual study.

**583. Shakespeare II. Three hours.**

(See English 583)

400-level courses in Theatre which may be taken for graduate credit:

**450. Readers Theatre. Three hours.**

**452. Stage Lighting. Three hours.**

**455. American Drama. Three hours.**

**456. Elizabethan Drama. Three hours.**

**457. Directing. Three hours.**

**458. Theatre Practicum. Three hours.**

**459. Modern Drama. Three hours.**

### **INTER-DISCIPLINARY PROGRAMS**

The University offers three inter-disciplinary degrees: Master of Arts in Humanities, Master of Arts in College Teaching in Humanities, and Master of Public Service.

#### **Master of Arts in Humanities**

The graduate program in humanities is designed to provide the student a broad background in the intellectual and cultural achieve-



### Inter-Disciplinary Programs

ments of a selected period of Western civilization. Building on the premise of the interrelatedness of all human endeavor, it traces the adventure of man's spirit as reflected in his history, literature, philosophy, and artistic accomplishments.

The minimum requirement for the Master of Arts in Humanities is thirty hours of graduate credit in courses approved by the advisor of the Humanities Program. At least 18 hours must be in courses numbered 500 or above.

The student will select one of three periods of Western civilization for his area of specialization: Ancient and Medieval; Renaissance through Enlightenment; Nineteenth and Twentieth Centuries. Twenty-one of the 30 hours are to be taken in one of these cultural periods and must include one course each from History, Literature, and Philosophy. Course work and independent research will be designed to give a comprehensive and integrated knowledge of the period.

Each student will take: (1) Philosophy 500, Humanities Seminar (three hours) which meets once every other week throughout the year; and Philosophy 598, Humanities Essay (three hours) under Plan B, or Philosophy 599, Humanities Thesis (six hours) under Plan A. In either case, the research must be in the period chosen for specialization and demonstrate a knowledge of the unifying relationships which exist between the humanity disciplines. This research will be supervised by a member of the Graduate Faculty in the Department of Philosophy and Religion.

The student must demonstrate a reading ability sufficient to do scholarly work in either French or German. Students specializing in the ancient or medieval period may substitute either Greek or Latin.

The student must pass a final written examination during the last semester prior to graduation. The exam will center on his chosen period and include material from a selected bibliography given to the student upon entering the program.

### Master of Arts in College Teaching in Humanities

Thirty semester hours are required for this degree, at least 15 of which must be in courses numbered 500 or above. At least 15 hours must be done in one major period of Western civilization. By the time

### Inter-Disciplinary Programs

a student completes the M.A.C.T. program, he must present a minimum of 18 hours (at the undergraduate level) of either English or history. During his last semester, the student must do some supervised college teaching under the direction of the Graduate Committee in Humanities.

Course distribution in the M.A.C.T. is essentially the same as in the M.A. Each student must take (1) Philosophy 500, Humanities Seminar; (2) one course each in History, Literature and Philosophy in the chosen period of specialization; and (3) Philosophy 598, Humanities Essay (Plan B). Language and examination requirements are the same as in the M.A. program.

### Master of Public Service

This degree is an interdisciplinary program consisting of offerings from several departments. It is designed to prepare individuals to serve in government positions which require administrative training as well as knowledge of the particular areas they are to administer.

Students pursuing the degree can select one of six professional options. They can specialize in agriculture, counseling, child development and family living, recreation and park administration, and regional development. Each option carries specific requirements for admission. Application to this program is made through the Dean of the Graduate College, and after applications have been processed an appropriate advisor will be appointed to plan the student's program.

*All candidates for the Master of Public Service degree (regardless of the option chosen) are required to complete a core area of nine to twelve hours including Government 540—Public Administration (which is required of all).*

The remaining hours of the core may be selected from the following courses:

Economics 550—Government Financial Policy and Administration

Geography 580—Problems in Urban Geography

Government 511—Seminar in State and Local Government

Sociology 565—Studies in the Community

Psychology 551—Social Psychology of Organizations



## *Inter-Disciplinary Programs*

### **Administration option**

The Administration option is designed to provide academic training in administration which will be particularly applicable to the individual's area of specialization. The Government Department offers two choices within the Administration option: (1) general administration, and (2) urban administration.

The student entering the program in general administration will be required to complete 18-21 hours in addition to the 9-12 hours of core requirements. The 18-21 hour emphasis is to be selected from the following courses:

- Govt. 410—Seminar in National Government
- Govt. 411—Seminar in State and Local Government
- Govt. 440—Public Administration
- Govt. 441—Public Personnel Administration
- Govt. 510—Seminar in National Government
- Bus. Ad. 500—Business, Government and Law
- Bus. Ad. 510—Organization Theory
- Bus. Ad. 511—Management Science I
- Bus. Ad. 512—Management Science II
- Soc. 575—Complex Organizations
- Legal Area 424—Administrative Law

The student entering the program in urban administration will be required to complete 18-21 hours in addition to the 9-12 hours of core requirements. The 18-21 hour emphasis is to be selected from the following courses:

- Govt. 410—Seminar in National Government
- Govt. 411—Seminar in State and Local Government
- Govt. 440—Public Administration
- Govt. 417—Urban Political Systems
- Bus. Ad. 510—Organization Theory
- Soc. 410—Urban Sociology
- Soc. 575—Complex Organization
- Geog. 480—Urban Geography

## *Inter-Disciplinary Programs*

### **Agriculture option**

This program is designed to meet the needs of students in, or planning to enter, agricultural or agriculturally oriented professions that are involved in public service. For example, the program may serve those individuals engaged in agricultural extension, conservation, administration of governmental agricultural programs, and agricultural representatives of banks and other financing organizations.

The student should have an undergraduate major in agriculture or a closely related area or be engaged in an agriculturally related profession of the public service nature.

In addition to the core, fifteen of the remaining hours in the thirty-hour program should be in agriculture or in related departments approved by the student's graduate committee. At least eight hours of the fifteen in agriculture should be in courses open only to graduate students.

### **Child Development and Family Living option**

This program stresses clinical practice and is generally taken by persons in child welfare, mental health, and pastoral care. Neither a thesis nor a research tool is required but practicum experience is mandatory for all candidates for this degree.

In addition to Government 540 the other core courses in this degree program are:

- Sociology 565—Studies in the Community
- Psychology 551—Social Psychology of Organization
- Education 558—Counseling Theory and Practice

The 18 hours in the major are the following Home Economics and Family Living courses:

- 491—Family Life Education
- 576—Theories of Child Development
- 577—Seminar in Child Development Research
- 578—Seminar in Research in Marital and Family Therapy
- 579—Professional Theories and Methods in Marital and Family Therapy
- 580—Internship in Marital and Family Therapy

## *Inter-Disciplinary Programs*

### **Counseling option**

A candidate for the Master of Public Service in Counseling who has not completed a minor or the equivalent in psychology or sociology shall remove this deficiency by completing for non-graduate credit the necessary courses to meet the prerequisite in the behavioral sciences. This requirement must be satisfied prior to admission to the program.

In addition to the core requirements, students pursuing the counseling option must complete three hours of work from either psychology or sociology, as approved by the students graduate advisory committee.

Counselor Education requirements include eighteen semester hours selected from the following courses and approved by the candidate's graduate advisory committee:

Required of all Counselor Education majors in the Master of Public Service degree program:

Education 550—Introduction to Guidance

Education 552—Individual and Group Analysis

Education 558—Counseling Theory and Practice

Education 560—Counseling Practicum

The six remaining hours may be selected from the following courses:

Education 500—Research Methods

Education 501—Education Statistics

Education 530—Vocational Education

Education 554—Group Guidance

Education 556—Informational Services

Education 650—Utilization of Community Resources

Education 656—Seminar in Vocational Guidance and Occupational Adjustment

Education 675—Higher Education in America

### **Recreation and Park Administration option**

This program is a non-teacher certification plan with nine hours required in the public service core and twenty-one hours available in recreation and/or related areas. It is specifically designed to prepare individuals for positions of leadership in recreation and park administration.

## *Inter-Disciplinary Programs*

In addition to the core requirements (pages 123 and 124), the following courses are within the recreation sequence: from which 15 hours may be selected: (for course descriptions, see page 102).

P.E.R. 501—Analysis of Research in Physical Education and Recreation. Three hours.

Rec. 513—Organization, Administration, and Supervision of Parks, Playgrounds, and Recreation Programs. Three hours.

Rec. 515—Planning and Maintenance of Park and Recreation Facilities. Three hours.

Rec. 517—Construction and Utilization of the Survey in Recreation. Three hours.

Rec. 519—Fiscal Practices for the Administrator of Recreation and Parks. Three hours.

Rec. 521—Public Relations for Parks and Recreation Programs. Three hours.

Rec. 481—Camp Administration and Outdoor Recreation. Three hours.

Rec. 483—Social Recreation. Three hours.

Rec. 484—Community Centers and Playgrounds. Three hours.

Rec. 485—Development of Nature Oriented Areas and Facilities. Three hours.

Rec. 487—Outdoor Education Leadership. Three hours.

Rec. 489—Professional Field Experiences in Recreation and Parks. Three hours.

In addition, six hours may be selected from courses within the field of recreation or from allied areas.

### **Regional Development option**

The Regional Development option is interdisciplinary in character, drawing on the fields of economics, government, geography, and sociology, and is designed to prepare students for public service employment with governmental agencies at local, state, and federal levels,

### *Inter-Disciplinary Programs*

public utilities companies, area development districts, Chambers of Commerce, industrial development corporations, and other public and private organizations dealing with the development of geographic, economic, and political regions.

Applicants must have an undergraduate degree from an accredited college or university and have satisfactorily completed course work in the disciplines involved in this program with at least a 2.5 grade point average. In addition, applicants must meet the minimum score requirement on the Graduate Record Examination established by the Graduate College. Students planning on pursuing this program must have had the equivalent of two courses in Principles of Economics and one course in Statistics at the undergraduate level. An otherwise acceptable student with undergraduate deficiencies in the disciplines represented may arrange to remove those deficiencies by taking the appropriate courses during the first semester after admission.

Students enrolled under the Regional Development option will be required to complete at least 30 semester hours of work within the approved graduate curriculum, including the 9 to 12 hour core, under either Plan A or Plan B.

Plan A: 30-hour program

1. 24 hours of course work
2. 6 hours of thesis credit

Plan B: 30 hours of course work

The thesis will consist of a research project and report approved by the program advisor and written under a faculty advisor in one of the disciplines represented. In addition to the core requirements of the program, all students enrolled under the Regional Development option will be required to complete Economics 475, Regional Economics, and 540, Land Economics.

The following graduate courses are applicable to the Regional Development option:

Econ. 540. Land Economics

Econ. 570. Economic Development

Econ. 598. Directed Studies (generally in the area of regional development)

### *Inter-Disciplinary Programs/Rank II Non-Degree*

Econ. 699 or Geography 699. Thesis Research

Econ. 470. Economic Growth and Development

Econ. 475. Regional Economics

Geog. 584. Regional Planning

Geog. 479. Industrial and Commercial Geography

Sociology 440. Cultural Anthropology

## **NON-DEGREE PROGRAMS**

### **RANK II NON-DEGREE PROGRAM**

Students who do not desire to pursue a degree program or who are unable to meet admission requirements for a Master's Degree program on the basis of inadequate point standing or inadequate Graduate Record Examination scores, may be admitted to a Fifth Year Non-Degree Program.

#### **Fifth Year of Planned Program Leading to Rank II Classification for Teachers**

This program consists of 32 hours of graduate and undergraduate work, of which 12 hours must be in professional education, 12 hours in cognate areas, and of the total, 12 hours must be in graduate level courses (not necessarily graduate only). This program must be planned and signed by the student's advisor and filed in the Office of the Dean of the Graduate College.

The same point standing as that for undergraduate certification is required. This program is considered to be terminal, and on the basis of completion of this program, admission to the other graduate programs will be denied.

## **THIRTY-HOUR POST-MASTER'S PROGRAMS**

Western Kentucky University offers the following thirty-hour post master's programs in accordance with minimum regulations prescribed by the Kentucky State Board of Education:

### Rank I

1. Rank I—Teacher (program leading to Rank I qualification for teachers)
2. Rank I—School Administration (the Professional certificate for School Administration and Supervision endorsed for School Superintendent)
3. Rank I—Standard Guidance (program leading to standard certification in Guidance)

### General Guidelines for the Thirty-Hour Program

The guidelines listed below, which apply to all graduate students who are beginning the thirty-hour post-master's program, have been adopted by the State Board of Education. All students entering the thirty-hour post-master's program who have not had the Graduate Record Examination will be required to complete that exam. In addition, for those persons entering some of the program options, specific minimum scores on that exam will be required.

Students desiring to follow this program should apply at the office of the Dean of the Graduate College.

1. This program shall be planned in consultation with the student's advisor and shall be related to the professional needs of the student.
2. At least 15 of the thirty hours must be taken on the campus (in residence) of this institution. The remaining hours may, upon the approval of the student's advisor(s), be taken at an extension of this university or at another institution.
3. All of the course work shall be in courses which carry graduate credit, but a minimum of 15 semester hours must be in courses open only to graduate students.
4. The student shall have a standing of B on the thirty hours, and no credit in a course lower than C shall be accepted.
5. Students pursuing the Rank I—Teacher program must earn a minimum of 12 of the 30 post-master's hours in academic work (work not listed as professional education). The student must have a minimum of 24 hours (of the total of 60 for the Master's and the Rank I) in academic work apart from professional educa-

### Rank I

tion. These hours shall be in the candidate's major, or minor, or area of preparation, or in supporting courses from other disciplines as approved by this institution.

6. Those who qualify for Rank I—School Administration by following the thirty-hour program for the Professional certificate for School Administration and Supervision must complete the Standard Elementary or Standard High School Certificate prior to the completion of this endorsement. As a general rule, Western will require one third (21 hours) of the total of 60 hours (on the Master's and Rank I) to be taken in the behavioral sciences or subject matter fields other than professional education.
7. Those who qualify for Rank I—Guidance by following the thirty-hour program in the area of guidance may complete the Standard Certificate for Guidance Counselors. This certificate is based upon the completion of the curriculum for provisional certification for guidance counselors and a planned program of at least an additional 30 hours of graduate study. As a general rule, Western will require one-third (21 hours) of the total of 60 hours (on the Master's and Rank I) to be taken in the behavioral sciences or subject matter fields other than professional education. The remaining courses will be planned in the field of guidance.
8. The Dean of the Graduate College will certify to the State Department of Education when an approved thirty-hour program has been completed.

### Rank I—Teacher's Program

Students pursuing the thirty-hour post-master's program for teachers shall be required to fulfill all of the requirements stipulated by the State Board of Education for this advanced graduate program. Students should apply at the office of the Dean of the Graduate College.

### Rank I—School Administration Program

In order to be recommended for Rank I through the School Administration program, the holder of the Professional Certificate for School Administration and Supervision must complete the program for endorsement desired. (For an explanation of admission and program requirements, consult Education, School Administration, pages 62-67).

### Rank I

Application to this program must be made through the Graduate College, from which the application will be forwarded to the selective committee for School Administration programs. All criteria for acceptance to this program must be met, and all requirements as stipulated by the State Board of Education must be satisfied.

### Rank I—Guidance Program

The Standard Certificate for Guidance Counselors shall be based upon the completion of the curriculum for provisional certification for guidance counselors and the completion of thirty additional semester hours of a planned program for guidance counselors.

The Standard Certificate for Guidance Counselors shall be a continuing certificate.

Application to this program must be made through the Graduate School. This application will be referred to the Department of Counselor Education Admissions Committee for its recommendations. All criteria for acceptance to this program must be met and all requirements as stipulated by the State Board of Education must be satisfied.

#### A. Professional Educational Courses.

A program consisting of minimum of fifteen hours shall be planned by the student's advisor from the following courses (In some cases, other professional education courses may be substituted):

503—The Elementary Curriculum

404—Adult Education

500—Research Methods

501—Educational Statistics

554—Group Guidance

578—Basic Education for Adults

650—Utilization of Community Resources in Guidance

652—Research in Guidance and Counseling

654—Mental and Aptitude Testing

655—Seminar in Guidance Services in the Elementary School

656—Seminar in Vocational Guidance and Occupational Adjustment

### Rank I/Doctoral Programs

658—Seminar in Guidance and Counseling

660—Organization and Administration of Guidance Services

662—Advanced Counseling Practicum

- B. Subject matter minor requirements related subject matter field (nine to fifteen hours)

## DOCTORAL PROGRAMS

### Cooperative-Doctoral with the University of Louisville

The program is limited to the Ph.D. with emphasis on Aquatic Biology. Admission requirements are described under admission procedures (pages 11-12); also see statement (pp. 31-32).

The minimum time required for the Ph.D. degree is equivalent to three years of full-time graduate study, of which at least two years must be spent at the graduate level on the cooperative campus (Western Kentucky University campus and/or the University of Louisville campus). It is also required that a minimum of one year of full-time residence be spent on the cooperative campus.

The student's Graduate Committee will consist of at least five members with at least two members being from the University of Louisville Biology Department and at least two members being from the Western Kentucky University Biology Department.

Other requirements of the program include:

1. Comprehensive Examination. Upon entering the program, the student must take an examination over materials from the broad field of biology.
2. Study program. The student and his Graduate Committee will develop a program to fit the needs of the individual student. The program will consist of a major field and such minor fields as are deemed necessary.
3. Foreign Language. A student must demonstrate a reading knowledge in at least one modern foreign language before he can be admitted to candidacy for the degree.

#### **Doctoral Programs**

4. **Mathematics Requirement.** The student must have satisfactorily completed course work in calculus prior to application, or plan to meet the requirements early in the course of study.
5. **Preliminary Examination.** A preliminary examination, oral or written or both, must be successfully completed after the student has satisfactorily completed the major portion of the prescribed course work but before being admitted to candidacy.
6. **Dissertation.** A dissertation is required of all candidates for the Ph.D. degree.
7. **Final Oral Examination.** This examination is to be a defense of the dissertation and a demonstration of the candidate's mastery of his field.

#### **Joint-Doctoral with the University of Kentucky**

An outstanding graduate student at Western Kentucky University who is nearing the completion of the Master's Degree in Education (or who has completed a Master's Degree) may petition to enter the joint program leading to the Ed.D or Ph.D. in Education from the University of Kentucky.

To be eligible for admission to this program, in addition to having met the entrance requirements at Western, the student must meet the entrance requirements of the Graduate School of the University of Kentucky and the usual standards for admission to the doctoral program established by its College of Education.

A prospective candidate must file application in duplicate with one of the institutions. The institution receiving the initial applications will retain one copy for members of its special admissions committee and send the second copy to the Graduate Office of the other institution. The applicant's qualifications will be evaluated by a joint screening committee representing both institutions.

For each student admitted to the program a special advisory committee, known as the Special Doctoral Committee, will be appointed. This committee will represent both participating institutions.

Normally the student will continue in residence at Western Kentucky University for one school year (maximum 30 credits) after being

#### **Doctoral Programs**

admitted to the joint program. Variations as to period of residence at each institution may be approved by the student's committee in order that he may be better prepared to pass qualifying examinations.

Students desiring further information on this program should contact the Dean of the Graduate College, Western Kentucky University.

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