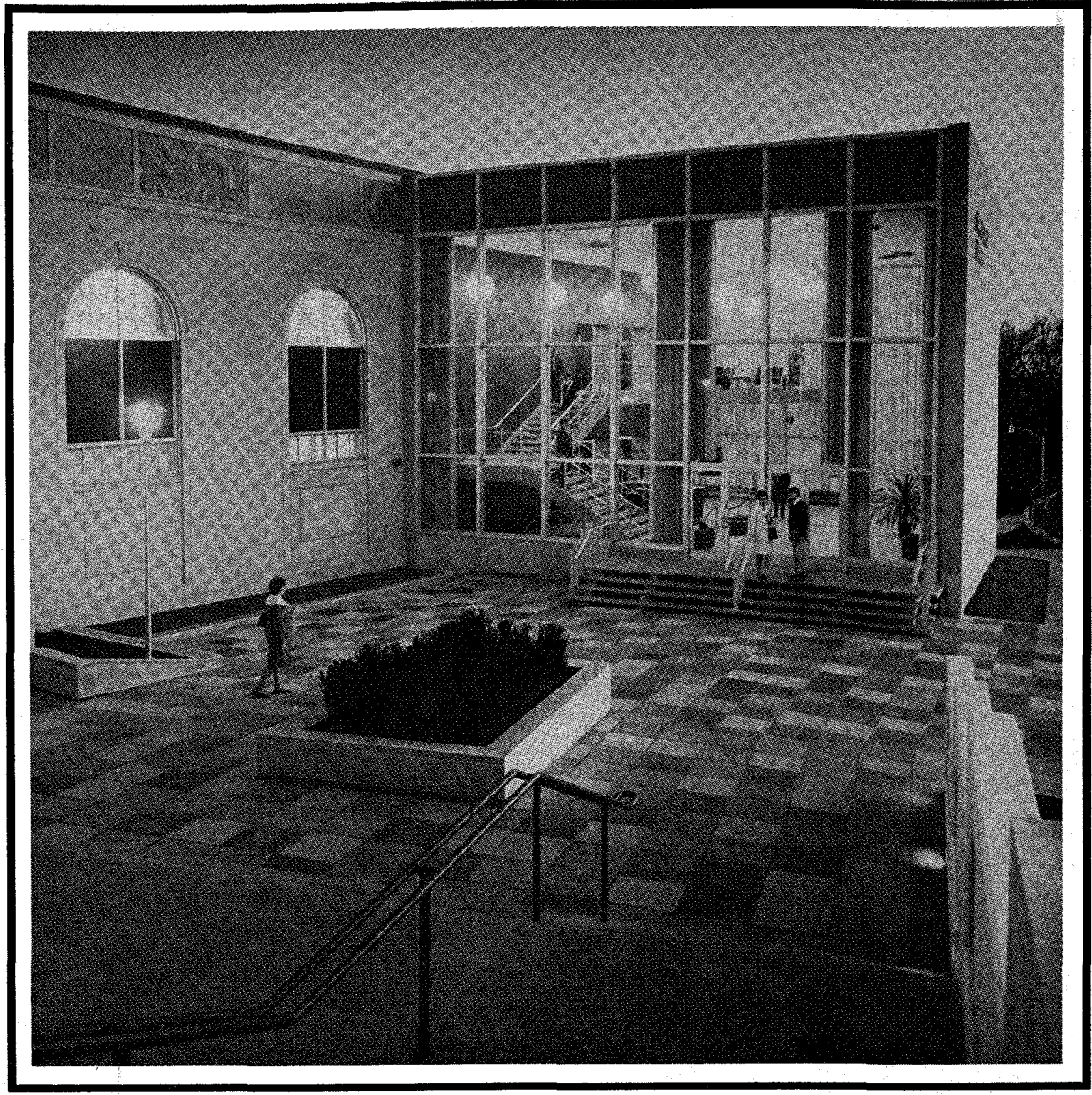


1969

WESTERN KENTUCKY UNIVERSITY



GRADUATE BULLETIN

Western Kentucky University

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Gordon Wilson, Jr., Ph.D.	Professor of Chemistry
Willson E. Wood, Ph.D.	Professor of English

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, creating a total of five colleges in the structure of Western. The Kentucky General Assembly in 1966, designated Western as a university and changed the name to Western Kentucky University.

SERVICES

Housing Facilities—The securing of housing is the responsibility of the student. The following information is provided as an aid to the student in obtaining housing.

University dormitories accommodate 2,054 graduate and undergraduate men and 2,645 graduate and undergraduate women. In addition, some private dormitory facilities and other off-campus housing may be obtained.

A number of small apartments in Veterans' Village are available for married students. Also available is limited space for trailer parking.

Address all inquiries concerning university and off-campus housing to the Director of Housing.

Student Health Service. A new modern University Hospital, including an outpatient department and hospital rooms for men and women patients will be occupied in the summer of 1969. The Student Health Service is under the administrative supervision of the Director of Health Programs and his staff.

Food Service. The University maintains a variety of food services on the campus; two cafeterias on the first level of the Paul L. Garrett Student Center; the Snack Bar, located on the second floor of the same building; the Western Grill, located on the ground level of West Hall; and the Sandwich Shop (complete vending and self-service facilities) on the ground level of Terrace Hall. In addition, soft drink and sandwich dispensing machines are located in all dormitories.

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

FACILITIES AND CULTURAL PROGRAMS AVAILABLE

Community Concert Series. In co-operation with the Bowling Green-Warren County Community Concert Association, the University provides each full-time student free admission to all concerts sponsored by this group. Nation-

ally and internationally known artists are scheduled for a series of four concerts each year.

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. Students interested in processing their own data are permitted to do so after an orientation covering available programs and operating procedures. Personnel in the computer center are available for consultation throughout the day.

Dial Access Information Retrieval Center. The 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.

Lecture Series. The Rodes-Helm Lecture Series was endowed in 1961 by Mr. and Mrs. Harold Helm, of Montclair, New Jersey. Mr. Helm is chairman of the Board of Directors of the Chemical Bank New York Trust Company, New York City, and is a director in numerous prominent concerns. Both he and Mrs. Helm are natives of Bowling Green and were educated in part in Ogden College and Western respectively. The lecture series is named in honor of 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 four or five 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. Opportunities in swimming, dance, 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 and faculty.

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 and encourages them to attend regularly the churches of their choice. On request, meeting places and faculty supervision are provided for student denominational clubs.

The Western Religious Council serves as the coordinating organization for religious activity on campus. The Covenant House, a project in ecumenical living sponsored by the Campus Ministry Council, houses boys with various religious backgrounds. It attempts to create an atmosphere of mutual cooperation and learning among the participants through the study and discussion of common topics in the field of religion.

With the aid of a grant from the Danforth Foundation, Western has appointed to the faculty a professor of religious studies through whom the University offers regular academic courses in the field of religion.

Summer Quarter in Mexico Program. 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 Mexico City. The basic programs are the Summer Quarter (six to eleven weeks) and Workshops (six 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 of credit (or more, with special permission) with residence credit at Western Kentucky University under the present programs in several areas of study.

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

University Farm. The University owns and operates a farm of 578 acres located five miles south of the campus. The farm, used as a laboratory by the Department of Agriculture, conducts an extensive program of diversified farming, including a modern dairy. The farm is well-equipped for demonstration and research in animal nutrition, genetics and production, and in many plant and soil science fields.

University Libraries. The libraries on Western Kentucky University campus are organized to support the undergraduate and graduate programs of the University. Of special significance for the Graduate School are the Margie Helm Library, the Kentucky Library, the Science Library, and the Music Library.

Total holdings are in excess of 340,000 volumes with large holdings of documents, microfilm, microforms, manuscripts, records, tapes, and related materials. Journal subscriptions number 1,832.

Margie Helm Library. The Margie Helm Library, completed in 1965, has a book capacity of 350,000 volumes and a seating capacity of 1,000, with study carrels for graduate students and professors.

An excellent general reference collection is available, including bibliographies, abstracting services, and foreign encyclopedias. In addition to being a depository for federal publications, the library also receives copies of state documents.

Significant collections for research are the Human Relations Area Files on microfiche, the microcard edition of the Oberlin College Collection of Civil War pamphlets, and microcard titles of such series as the Wagner-Camp bibliography, Kentucky Culture, Travels in the Old and New South, nineteenth Century American Literature, and British Culture of the eighteenth and nineteenth centuries. The Draper Collection and the Literature of Folklore on microfilm and also the *Early American Imprints* are noteworthy.

Microfilm files of several foreign and early American newspapers are available. Under the terms of the cooperative arrangement between the University and the Warren County Law Association, the library of the Association is housed in the Margie Helm Library. Holdings also include *National Reporter*, *California Reporter*, *New York Supplement*, subscriptions to publications of the Commerce Clearing House, Bureau of National Affairs, and Prentice Hall Tax Service.

Through library memberships or subscriptions, graduate students and professors have access to services of DATRIX of University Microfilms, ERIC, and the Survey Research Center at the University of California. Interlibrary Loan service is also available.

Science Library. The Science Library, serving the Departments of Agriculture, Biology, Chemistry, Mathematics, and Physics is located in the Kelly Thompson Complex for Science. It has a distinguished collection of materials including *Chemical Abstracts*, *Biological Abstracts*, *Science Abstracts*, *Science Citation Index*, *Beilstein's Handbuch der Organischen Chemie*, *Encyclopedia of Physics*, edited by Flugge, *Systema Helminthum*, *Index Kewensis Plantarum Phanerogamarum*, *Genera Plantarum*, *Cold Springs Harbor Symposia*, *Dictionary of Organic Compounds*, *Nuclear Science Abstracts*, and other NASA publications. Additional abstracting services of more specific nature are also on file. Extensive journal holdings include titles in translation from Russian, French, German, Italian, and Japanese.

Kentucky Library. The Kentucky Library, in the east wing of the Kentucky Building, contains research materials related to all phases of the Kentucky heritage.

A collection of some 20,000 books includes an excellent run of state documents as well as much other material of interest such as: newspapers, magazines, and microfilm collection of census records. Also available to researchers of state and local history is a valuable manuscript collection.

Nelle Gooch Travelstead Music Library. It provides a collection of reference books, recordings, scores, and textbooks for the use of music majors and minors as well as for others who need specialized materials.

Fees for Graduate Work

Hours	Residents of Kentucky	Out of State
1	\$ 12.00	\$ 40.00
2	24.00	80.00
3	36.00	120.00
4	48.00	160.00
5	60.00	200.00
*6	72.00	240.00
*7	84.00	280.00
*8	96.00	320.00
9	125.00	375.00
10	125.00	375.00
11	125.00	375.00
12	125.00	375.00

* \$5 Misc. fee charged for both in-state and out-of-state

Special Fee. A fee is charged for the Graduate Record Examination, and a graduation fee of \$20.00 is charged to all degree candidates.

Financial Assistance. The following financial aid programs are available:

1. Scholarships (General Academic)
2. Western Kentucky University Workshop and College Work Study
3. National Defense Student Loan—for longterm financing
4. Veterans Administration Benefits

For specific information relative to applying for financial assistance contact the Student Financial Aid Office.

Graduate Assistantships. Graduate Assistantships are available in various departments. The stipends range upward from \$1,500 depending upon the student's qualifications and the duties assigned. Assistants are permitted

to carry at least a minimum full graduate load. Appointments are made for the academic year only. Applications are made to the Dean of the Graduate School, and they are based upon the recommendation and approval of the head of the department in which the assistantship is granted.

Graduate Record Examination. The Graduate Record Examination is required of all students entering the Graduate School. Scores are used to supplement other evidences of preparation for graduate work. These examination scores will not replace other records of achievement as a basis for admission to Graduate School, but will provide additional evidence concerning the qualification of students desiring to undertake graduate work. This examination should be taken prior to applying for admission to the Graduate School, if possible. If not, it should be taken during the first semester or summer session of graduate study.

The aptitude section of the Graduate Record Examination is required of all students entering degree programs. Special examinations are required in some degree programs for admission.

Information regarding application and registration for the Graduate Record Examination may be obtained from the University Counseling Services Center.

Foreign Student Admission. Foreign Students having adequate preparation for graduate study are invited to apply for admission to the Graduate School. In addition to general requirements and major-department requirements, all students from non-English speaking countries must submit evidence of adequate training in the use of English. This ordinarily will mean achievement of a satisfactory score on tests administered in the student's home country, with a record being sent to the Graduate Office at Western Kentucky University. However, if a deficiency in English is reported, after the student is enrolled for graduate study, the student's graduate advisor is responsible for enrolling the student in remedial English and seeing that his graduate study load is subsequently reduced. The Foreign Student Advisor is Mr. Robert Wurster, Assistant Professor of English.

Numbering of Courses. Courses numbered from 500-699 are open only to graduate students. Courses numbered in the 400's are open primarily to seniors and graduate students but may be taken for graduate credit with the approval of the student's graduate advisor. Courses numbered in the 300's may be taken for graduate credit only with the approval of the Graduate Dean and the Department Head involved. Western is on a semester system, therefore, all course requirements are in terms of semester hours.

THE GRADUATE SCHOOL

History. Western first 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 gives the Graduate School increased opportunity to both strengthen the present programs and to offer an even wider choice of program areas as faculty and resources are available.

Organization. Graduate study is under the direction of the Dean of the Graduate School, the Graduate Council (of which the Dean of the Graduate School is chairman), and the Graduate Faculty.

The Dean of the Graduate School is charged with the administration of the policies regulating and relating to graduate studies. He advises students as to the general requirements for graduate school and appoints a graduate advisory committee for each graduate student. He is responsible for determining and certifying to the proper University official, candidates who have fulfilled requirements for advanced degrees.

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

The Graduate Faculty consists of all persons appointed thereto in accordance with regulations established by the Board of Regents of the University. Recommendations for appointments to the Graduate Faculty are made by the Dean of the Graduate School to the Vice President for Academic Affairs from nominations received by college deans after consultation with department heads.

Objectives of Graduate Study:

- (1) To provide concentrated advanced professional training in the area of a student's field of specialization.
- (2) To stimulate and encourage the refinement and development in the student of the spirit of independent investigation in his chosen field of specialization.
- (3) To provide the student with the opportunity to construct upon his previous undergraduate program a comprehensive and thorough understanding of a limited field of knowledge.
- (4) To provide some training and experience in the field of educational research and to make contributions toward the solution of teaching and administrative problems in the schools of the state.

- (5) To provide a program of graduate studies leading to permanent certificates for all types of educational workers in the public schools of the state.

Regulations Of The Graduate School

Requirements for Admission. Graduates of accredited four-year colleges may be admitted to graduate study, but the Master's Degree will not be granted until the candidate has completed the requirements for the specific degree being pursued. To be eligible for admission the applicant must present an undergraduate point standing of 2.5 (4.0).

Any exception to the above policies may be made only by special action of the Graduate Admissions Committee concerned.

Undergraduates within six hours of the Bachelor's Degree at Western Kentucky University may be admitted to graduate study provided they are academically eligible for unconditional admission.

Steps in the Student's Graduate Program

There are several major steps which the graduate student must follow in completing his Master's Degree program. At various stages the student's work is evaluated, and he is permitted to advance to the next step by his committee. Failure to follow these procedural regulations may result in a delay in the completion of degree requirements. These steps are as follows:

1. Admission to Graduate Study and Filing of Declaration of Intent.

Application for admission is filed with the Dean of the Graduate School. He will effect the admission upon receipt of the student's undergraduate transcript. The Declaration of Intent is filed with the Dean of the Graduate School, who assigns the student's Graduate Advisory Committee. The filing of the Declaration of Intent does not obligate the University to admit a student to a particular degree program. The University reserves the right to pursue selective procedures in the admission of students to its programs.

The following procedures for securing admission to the Graduate School should be followed and completed at least four weeks prior to registration dates:

- Make application for admission directly to the office of the Dean of the Graduate School by obtaining and properly filling out required application forms.
- Submit two official transcripts of all undergraduate and graduate work done at institutions other than Western Kentucky University.
- Make an appointment for conference with the Graduate Dean.

d. Have a conference, by appointment, with the departmental advisor assigned by the Graduate Dean.

e. All graduate students are required to take the Graduate Record Examination. This examination should be taken prior to admission to the Graduate School if at all possible. If not, then the test will be administered the first semester the student is enrolled. A record of this score must be filed in the Graduate Office.

f. A case may arise in which the student enrolls in a course by Study Center (Extension) but has not made formal application according to the above requirements. Such a course may not be applied toward a degree unless the student makes application and is accepted by the Graduate School before completion of the course.

2. Filing the Graduate Degree Program

(To be filed with the Dean of the Graduate School during the first term of graduate study.) The student's undergraduate record is evaluated to determine his eligibility for full graduate standing. The satisfactory correction of any deficiencies may be made a condition for admission to full graduate standing. The complete graduate degree program is then planned and approved by the student's Graduate Advisory Committee, and filed with the Dean of the Graduate School. Any subsequent changes in the program of study must be approved by the Dean of the Graduate School upon recommendation of the student's advisor. Failure to have changes in a student's program of study approved may result in delayed graduation.

3. Admission to Candidacy

Admission to candidacy is a serious step in the student's graduate program. At this time the student's committee reviews his qualifications and determines whether all conditions attendant to the student's full graduate standing have been fulfilled.

A student will be admitted to candidacy after having met the following conditions:

- Attained unconditional graduate standing.
- Completed twelve semester hours of work with a "B" or better average, nine of which must be completed in residence.
- Received the recommendation of his Advisory Committee.
- Been approved by the Graduate Council after proper certification by the Graduate Dean.

4. Application for Final Examination

All candidates for the Master's Degree must pass either an oral or written final examination in all fields presented toward the fulfillment of requirements. Application for scheduling of the final examination should be made

with the Dean of the Graduate School not later than eight weeks before the date on which the degree is expected.

5. *Application for the Degree*

Application for the Master's Degree must be filed with the Registrar of the University at least eight weeks before the date on which the degree is to be conferred. This should be done after consultation with the Graduate Dean to verify that all conditions have been met. By this time the graduation fee must have been paid at the Business Office.

6. *Submission of Completed Thesis*

Students following Plan I must submit their prospectus and sample chapters of the thesis to their graduate committee not later than four weeks before the date on which the Master's Degree is to be conferred.

The thesis in final form must be submitted to the student's committee and the Dean of the Graduate School at least one week before the date on which the degree is to be conferred. Two copies of the approved thesis must be filed by the student with the Dean of the Graduate School. Additional copies may be required by the department concerned.

7. *Ordering of Cap and Gown*

Arrangements should be made with the College Heights Bookstore for a cap and gown at the beginning of the semester in which the degree is to be conferred.

General Requirements for the Master's Degree

Course Requirements:

- a. At least fifty per cent of the hours required for the Master's Degree must be earned in courses open only to graduate students. On permission of the graduate advisor, the remainder of the credits may be earned in upper-division courses which are open to graduate students and applicable to a degree. Students receiving graduate credit in courses numbered below 500 will be required to complete a special assignment in addition to the regular classroom work. The assignment will be of an investigative nature and should demonstrate the ability of the student to collect and organize data.
- b. Graduate students may not enroll for more than fifteen hours of work in a semester or nine hours in a summer term of eight weeks. Students holding full-time positions will not be permitted to enroll for more than four hours of credit during any semester. The minimum graduate credit to be considered a full-time student is nine hours.

Residence Requirements: At least eighteen semester hours or the equivalent must be completed on the campus of the degree-granting institution.

All course and residence requirements for a Master's Degree must be completed within a period of eight consecutive years.

Transfer and Extension Credit:

- a. The Graduate School regulations pertaining to the transfer of credit, extension study, and credit in residence conform to the requirements as outlined by the regional accrediting association. Graduate programs affected by additional accrediting agencies shall conform to the association having the more restrictive regulations.
- b. Except in cases of planned, coordinated, inter-institutional programs, not more than six semester hours of graduate credit taken on campus or through extension in a different but recognized institution may be transferred and credited to a Master's Degree.
- c. Graduate credit not exceeding twelve semester hours may be accepted from extension study in a program under the direction of the degree-granting institution, but such credit may not be applied to reduce on-campus residence.
- d. Not more than a total of twelve semester hours of extension and transferred graduate credit may be accepted toward a Master's Degree.
- e. No credits toward a graduate degree may be obtained by correspondence study.
- f. The Master's Degree will not be conferred on any candidate with an average scholastic standing of less than 3.0, or B, in all graduate work undertaken. No credit will be granted for work with D grades.
- g. No graduate credit will be allowed for excess undergraduate work or work done as a special post-graduate student.
- h. All candidates for the Master of Arts Degree in Education shall be required to complete a satisfactory minor in non-professional subject matter courses. This minor shall be determined by requirements of the program the student intends to follow.

Conditions for Continuation in the Program:

A graduate student who fails to make a satisfactory academic record may be refused permission to continue in a degree program. Failure to maintain a point-hour ratio of 2.5 on all work taken during any semester or summer session may be regarded as sufficient reason for dismissal from a degree program. A student may be dropped from a degree program if his cumulative average is below 3.0 for two consecutive semesters or summer sessions.

Examinations. In addition to course examinations, all candidates for the Master's Degree must pass a final examination covering the thesis and/or major and minor fields of study. This examination may be either

written or oral and shall be conducted by a special committee appointed by the Dean of the Graduate School. In a program requiring a thesis, the final examination must be preceded by the tentative approval of the candidate's thesis by his Advisory Committee.

The Master's Degree shall be granted only upon the recommendation of the Examining Committee, and by vote of the Graduate Council, and shall be conferred only at the regular commencements of the Institution.

Program Options For The Master of Arts Degree

Requirements for the Master's Degree may be satisfied by one of the following plans.

Plan I—With a Thesis

1. Course Requirements

All candidates for the Master's Degree under Plan I must present a minimum of thirty semester hours of graduate credit, twenty-four of which must be in course work.

If a Master of Arts in Education is followed and certification is desired, at least nine of the twenty-four hours exclusive of credit for research and thesis must be in professional education. The candidate must have not fewer than twenty-nine semester hours of credit in professional education at the undergraduate level and/or graduate level.

The remainder of the course work 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.

2. Research and Thesis

Every graduate student completing requirements for the Master's Degree under Plan I must register for research credit to a maximum of six 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 shall form a part of the requirements for the degree. The Graduate Advisory Committee, normally including chairmen of the departments involved or their designated representatives, is formally appointed by the Dean of the Graduate School.

The thesis should exemplify the following characteristics: a) ability to locate and define problems for study; b) capacity to work independently on the problem approved; c) a reasonably wide familiarity with the literature of the subject; and, d) a practical working knowledge of research methods. As a result of such research, the student should be able to draw conclusions justified by supporting data.

At least four weeks before the date upon which the degree is to be conferred, a prospectus and sample chapters of the thesis shall be submitted to the Thesis Advisory Committee for criticism and tentative approval.

At least one week prior to the date on which the degree is to be conferred, the thesis in final form must be submitted for approval by the members of the student's Graduate Advisory Committee and the Dean of the Graduate School, and two approved and signed copies of the thesis, must be filed with the Dean of the Graduate School.

On the recommendation of the student's Advisory Committee and with the approval of the Dean of the Graduate School, a student may be permitted to work on the thesis in absentia without credit.

Prior to beginning work on the thesis the student should obtain *Guidelines for the Preparation of Master's Theses* from the Office of the Graduate School. Included in these regulations are certain procedures and requirements such as—type of paper required, page format, submission deadlines, and style recommendations.

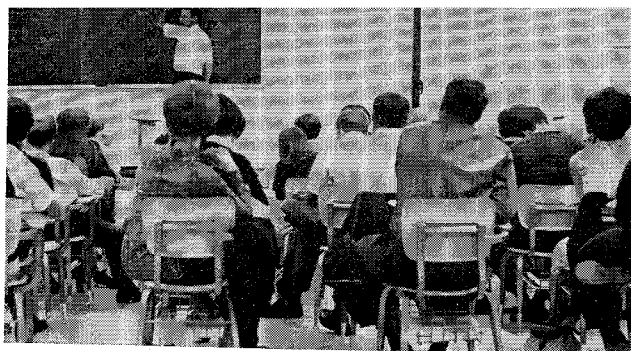
Plan II—Without a Thesis

In some of the graduate programs a student is permitted to do additional course work in lieu of writing a thesis. Under this plan candidates for the Master's Degree must:

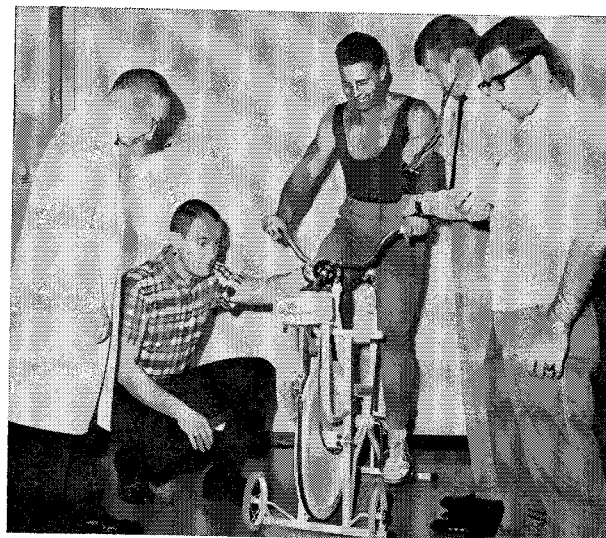
1. Present a minimum of 30 hours of credit in required and elective courses.
2. Demonstrate the ability to do research through term papers, special reports, or other assignments to be determined by the student's Graduate Advisory Committee and approved by the Dean of the Graduate School.
3. Satisfy all other course requirements for the Master's Degree as outlined under Plan I.



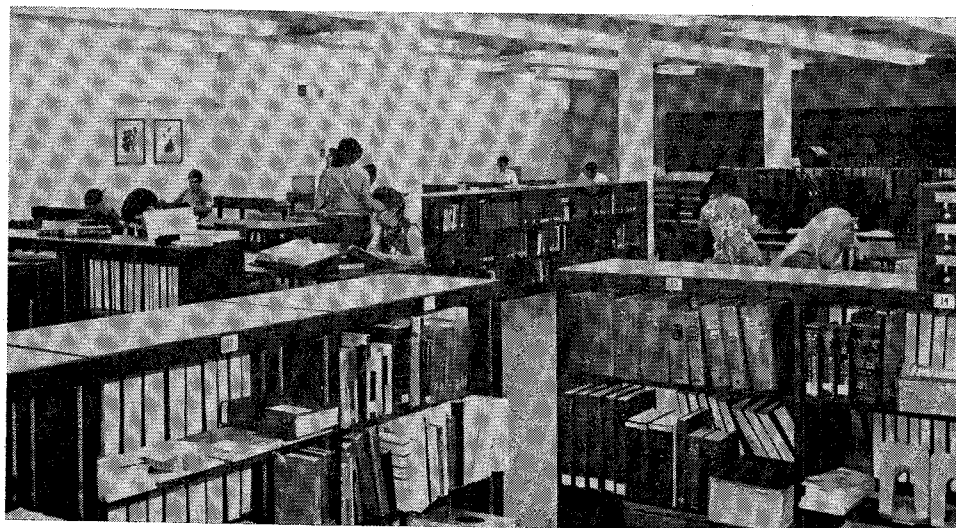
Students use resource materials in their research in the Kentucky Library.



Graduate instruction may be found in classroom lectures (left) and in individual instruction (below).



Learning and research facilities (such as those above and below) are instrumental in the graduate programs.



DEPARTMENT OF ACCOUNTING

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

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.

DEPARTMENT OF AGRICULTURE

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

Master of Agriculture:

This program is designed for those students who desire additional training in their agricultural or agriculturally related professions and who expect to terminate their professional education at the Master's level. Students who expect to continue graduate work toward an advanced degree should pursue the Master of Science degree with a major in Agriculture.

Admission and other requirements are the same as those for the Master of Science degree except that no thesis shall be required. Students shall complete six hours of course work in lieu of the thesis requirements.

Master of Science:

Applicants should have an undergraduate major in agriculture or biology or the equivalent. A minimum of 30 semester hours of approved graduate

course work including a maximum of six hours of thesis credit and a suitable thesis shall be required. The thesis shall consist of the report of the findings of an approved research project conducted under the direction of the chairman of the student's Graduate Advisory Committee.

There shall be no language requirement for this degree, but students must satisfy research tool requirements as determined by the Graduate Council.

Master of Arts in Education

Students pursuing this program should see requirements for Standard High School Certificate and should confer very closely with advisors in major and minor areas.

Master of Public Service (Agriculture option) See Master of Public Service Degree.

Graduate Courses

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

548 a, b, c, Special Topics in Agriculture. One to four hours.

Prerequisite: 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.

549 a, b, c, Special Problems in Agriculture. 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.

550. Advanced Soil Chemistry. Three hours.

Prerequisites: Agriculture 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.

Prerequisites: Agriculture 351, 450 and 400 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 uptake, nutrition and growth of plants. Lecture, three hours.

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

Prerequisites: Agriculture 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.

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.

599 a, b, c, 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.

600. Research in Agriculture. One to five hours.

Prerequisite: Consent of graduate advisor.

Directed research on approved projects investigating selected fields of agriculture. May be repeated to a maximum of six credits.

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

- 400. Plant Physiology. Three hours.
- 414. Plant Breeding. Three hours.
- 416. Plant Taxonomy. Three hours.
- 418. Ornamental Horticulture and Landscape Design. Three hours.
- 421. Forage, Turf, and Specialty Crops. Four hours.
- 422. Grain and Oilseed 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.
- 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.
- 463. Agricultural Finance. Three hours.

DEPARTMENT OF ART

Master of Arts in Education (Art minor)

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.

Graduate Courses:

- 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.
- 531. Art Education Seminar. Three hours.
For course description, see Department of Secondary Education.

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

DEPARTMENT OF BIOLOGY

The Department of Biology offers graduate work leading to: (1) The Master of Science Degree, (2) The Master of Science for College Teachers Degree, and (3) The Master of Arts in Education Degree (Major or Minor in Biology).

Master of Science and Master of Science in College Teaching

Admission: Both the M.S. and M.S.C.T. requires a major in Biology or its equivalent in course work. This includes two courses in college Chemistry (equivalent to Chemistry 120 and 122) and two courses in college Physics (equivalent to Physics 201 and 202 with labs). In addition, the applicant must have completed a course (or courses) in Organic Chemistry. Deficiencies must be removed without graduate credit.

In either the M.S. or M.S.C.T. a minor consisting of a minimum of six semester hours is required in a specific area of Biology or in an approved area outside the department.

A research tool is required of all students working toward a Master's Degree. Each student will be considered on an individual basis in order to determine how he will fulfill this requirement and no graduate credit will be given for course work, etc., required to fulfill the research tool requirement.

Course Requirements: Thirty semester hours are required for the M.S. in Biology. A maximum of six hours in the course entitled Thesis Research (Biology 599) may be applied toward this degree. An acceptable, written thesis based on original research is required.

For the M.S.C.T. thirty semester hours are required, of which at least twenty-four must be in Biology course work. A maximum of six hours toward this degree may be selected from graduate-level professional education courses or from the graduate offerings of other departments. A thesis is not required, and Thesis Research (Biology 599) may not be used to satisfy any part of the Biology course work requirement.

Master of Arts in Education

Students pursuing this program should see requirements for Standard High School certification and should confer very closely with advisors in major and minor areas.

Graduate Courses:

505. Biogeography. Three hours.

See Department of Geography and Geology.

511. Limnology. Four hours.

Prerequisites: Biology 150, 151, and 152.

A study of the physical, chemical and biological aspects of bodies of fresh water, with emphasis on water as a biological environment. Three lecture and two laboratory hours per week.

514. Advanced Plant Breeding. Three hours.

See Department of Agriculture.

515. Plant Ecology. Three hours.

Prerequisites: Biology 151 or approval of instructor.

516. Investigations in Biology. One to three hours.

Prerequisites: Consent of the research project director.

A study for graduate students involving a research project under faculty supervision (not available for students in the M.S. program in Biology).

527. Advanced Genetics. Four hours.

Prerequisite: Biology 327.

A study of advanced Mendelian principles and post-Mendelian Genetics; emphasis on recently developing areas of research.

540. Principles and Concepts of Biology. Three hours.

A study of the principles and concepts of biology with emphasis on physiological aspects of both plants and animals (NSF course).

541. Microbiology. Three hours.

A basic study of microbiology for teachers; includes a study of bacteria and single-celled animals and plants (NSF course).

552. Experimental Physiology. Four hours.

Prerequisites: Biology 330 and 432.

An investigation 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.

556. Experimental Embryology. Four hours.

Prerequisites: Biology 150, Embryology, and Biochemistry.

An experimental approach will be used for the investigation of gametogenesis, fertilization, and embryonic differentiation. 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.

558. Advanced Ornithology. Four hours.

Prerequisites: Biology 152 and 326, or approval by the instructor.

An advanced study of birds stressing systematics, ecology, and behavior.

560. Advanced Parasitology. Four hours.

Prerequisite: Biology 450.

An intensive investigation on the culture, determination of physiological requirements, experimental infection of hosts, and host-specificity of parasites.

569. Graduate Seminar. One hour.

A study of special topic in Biology with participation by students.

570. Immunology. Four hours.

Prerequisites: Biology 210, 211, and Biochemistry (or equivalent).

A survey of the mechanisms of non-specific and specific resistance to infectious diseases, hypersensitivities, anaphylaxis, autoimmunity, and blood groups. The laboratory endeavors to increase understanding of these topics.

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; including a detailed study of enzymes, carbohydrates, plant pigments, photosynthesis, nitrogen metabolism, and plant growth regulators.

581. Advanced Plant Taxonomy. Four hours.

Prerequisite: Biology 416.

The dynamic application of taxonomic methods and principles. Emphasis will be upon obtaining and utilizing taxonomic data, the comparative study of major classification systems, plant nomenclature, variation and evolution, and revisionary and monographic research techniques.

591. Aquatic Biology. Four hours.

Prerequisite: Sixteen hours of Biology.

A study of the phytoplankton and zooplankton of lakes, oceans, and streams.

599a, b, c. Thesis Research. Two hours each.

Prerequisite: Consent of the student's graduate advisor.

A course in which the graduate student is directly engaged in work leading toward completion of the Thesis requirement for the Master's Degree. The course consists of individual direction of the student in his research by his graduate advisor.

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

400. Plant Physiology. Three hours.

Prerequisites: Biology 150 and 151 and two semesters of chemistry.

407. Virology. Three hours.

Prerequisite: Biology 210.

410. Cytology. Three hours.

Prerequisite: Permission of Instructor.

414. Plant Breeding. Three hours.

See Department of Agriculture.

416. Plant Taxonomy. Four hours.

Prerequisite: Biology 151.

418. Mycology. Four hours.

Prerequisite: Biology 151.

428. Population Genetics. Three hours.

See Department of Agriculture.

432. Advanced Animal Physiology. Three hours.

Prerequisites: Biology 330 and 331 (or 332)

435. Biological Instrumentation. Three hours.

Prerequisites: Biology 150, two courses in chemistry and two courses in physics.

- 438. Phycology. Four hours.**
Prerequisites: Biology 150 and 151.
- 444. Cell Physiology. Four hours.**
Prerequisites: Biology 150 and Chemistry 340.
- 446. Biochemistry. Three hours.**
Prerequisite: Chemistry 314 or 340.
- 447. Biochemistry Laboratory. One hour.**
Prerequisite: Student must have successfully completed or be concurrently enrolled in Biochemistry 446.
- 450. Special Problems. Two-four hours.**
Prerequisites: Biology 150 and consent of research project director.
- 451. Protozoology. Four hours.**
Prerequisite: Biology 152.
- 456. Ichthyology. Four hours.**
Prerequisite: Twelve hours of biology.
- 457. Herpetology. Four hours.**
Prerequisite: Biology 152.
- 459. Mammology. Four hours.**
Prerequisite: Biology 152.
- 460. Parasitology. Four hours.**
Prerequisite: Biology 152.
- 464. Endocrinology. Four hours.**
Prerequisite: Biology 432.
- 470. Pathogenic Microbiology. Four hours.**
Prerequisite: Biology 210.
- 472. Food Microbiology. Four hours.**
Prerequisites: Biology 210 and 211, or approval by the instructor.
- 483. Morphology of Angiosperms. Four hours.**
Prerequisite: Biology 151.
- 491. Data Analysis and Interpretation. Three hours.**
See Department of Agriculture.
- 495. Marine Biology. Four hours.**
Prerequisites: Biology 150, 151, and 152.
- 499. Seminar. One hour.**

DEPARTMENT OF BUSINESS ADMINISTRATION

Master of Business Administration

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

The following courses or their academic equivalents are program prerequisites: Price Theory (Economics 320), Macro-economic Analysis (Economics 325), Statistical Analysis for Economics and Business (Economics 306), Financial Statement Analysis (Accounting 460), Principles of Marketing (Business Administration 320), Financing Business (Business Administration 330).

A minimum academic average of grade 3.0 (4.0) must be achieved in these courses. Normally, students lacking more than six hours of prerequisite work will not be admitted to a graduate course.

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

500. Business, Government and Law. Three hours.

A study of the legal process as it relates to business. Topics discussed include the concepts of contract and property, and public policies regarding the regulation of trade and control of monopolies.

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.

Basic quantitative models used in business with emphasis on capital budgeting decision making. The calculus and application of the optimization of functions of both one and two-decision variables. Applications include the problem of earning functions, diffusion models incorporating growth and advertising and investment decisions in the Holt, Modigliani, Muth model.

512. Management Science II. Three hours.

The mathematics and application of linear systems. Linear programming, the warehouse, transportation and assignment problems. The optimization of many variables. General techniques for optimizing under inequality constraints. The mathematics and application of quadratic forms and dynamic programming.

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.

Prerequisite: B.A. 330. An examination of the financing policies of corporate enterprises. Planning the capital structure, measuring and controlling the costs of alternative sources of funds, dividend policy, and growth through mergers and business acquisitions are emphasized.

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

Business 442. Management Systems. Three hours.

Economics 460. Business Cycles. Three hours.

Economics 465. Introduction to Econometrics. Three hours.

Mathematics 470. Introduction to Operations Research. Three hours.

DEPARTMENT OF CHEMISTRY

Degrees: Master of Science, Master of Science for College Teaching, Master of Arts in Education (Chemistry major or minor)

Master of Science

Admission to the Master of Science program requires two semesters each of general inorganic including qualitative analysis, organic and physical chemistry; one semester of quantitative analysis and one or more advanced chemistry courses equivalent to three semester hours; mathematics through calculus; two semesters of college physics. Deficiencies must be made up within one year without graduate credit.

Course requirements include a minimum of twenty-four hours of courses other than research including at least one course in four of the five main fields of Chemistry; Chem. 435, and 442, if equivalents have not been completed as an undergraduate. The thesis, which is required, will be 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.

The ability to use a modern foreign language (restricted to French, German, or Russian) must be demonstrated. The language requirement must be satisfied by the Foreign Language Department as specified by the rules of the Graduate School. If a student elects a research tool in lieu of the language requirement, the choice of courses useful for the research chemist must have approval of the student's graduate committee and the Head of the Chemistry Department.

Master of Science for College Teaching

Admission requirements for the Master of Science for College Teaching include undergraduate courses in Chemistry including two semesters of general inorganic including qualitative analysis; quantitative analysis; and organic chemistry. Chemistry 500, 501, and 502 may be used as admission requirements, but will carry no graduate credit toward the M.S.C.T. degree.

The thesis is optional for the M.S.C.T., thus giving the student the opportunity to take six hours additional graduate course work in lieu of the thesis. In addition, for the M.S.C.T. supervised college teaching experience is required.

Master of Arts in Education

Students pursuing this program should see requirements for Standard High School certification and should confer very closely with advisors in major and minor areas.

GRADUATE COURSES IN CHEMISTRY

500. Modern Approaches to High School Chemistry. Three hours.

Fundamental principles, theories, and laws. Comparison of the Chemical Bond Approach, the Chemical Education Material Study, the Classical and other Approaches, and the Relation to P.S.S.C. Physics and other similar programs. Lecture and laboratory. (NSF)

501. Fundamentals of Organic and Bio-Chemistry for High School Teachers. Three hours.

Modern concepts of organic structure and reactivity. Some basic principles of biochemistry. (NSF)

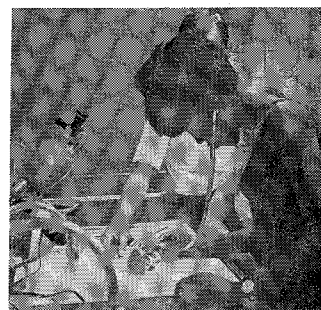
- 502. Fundamentals of Analytical Techniques and Instrumentation for High School Teachers. Three hours.**
Modern analytical chemistry with emphasis on instrumental methods. (NSF).
- 516. Investigations in Chemistry. One to three hours.**
A critical and comprehensive study of chemical literature dealing with a special topic of interest to the student, including reports and proposals for further research.
- 520. Advanced Inorganic Chemistry I. Three hours.**
Prerequisites: Chemistry 352 and 420 or equivalents.
Modern theories applied to the study of inorganic chemistry.
Three hours lecture per week.
- 521. Advanced Inorganic Chemistry II. Three hours.**
Prerequisite: Chemistry 520.
Descriptive inorganic chemistry interpreted in terms of modern theories.
Three hours lecture per week.
- 530. Instrumental Analysis I. Three hours.**
Prerequisites: Chemistry 435 or equivalent.
A study of the theory and application of modern instrumental methods of analysis. Three hours lecture per week.
- 531. Instrumental Analysis II. Three hours.**
Prerequisite: Chemistry 530.
A continuation of the study of modern instrumental methods of analysis.
Three hours lecture per week.
- 540. Organic Reactions. Three hours.**
Prerequisite: Chemistry 342 or equivalent.
A study of modern synthetic methods used in organic chemistry. Three hours lecture per week.
- 541. Theoretical Organic Chemistry. Three hours.**
Prerequisites: Chemistry 342 and 352 or equivalents.
A study of modern theories of organic reaction pathways. Three hours lecture per week.
- 550. Chemical Thermodynamics. Three hours.**
Prerequisites: Chemistry 352 and Mathematics 228 or equivalents.
Study of thermodynamics with emphasis on chemical applications. Three hours lecture per week.
- 551. Chemical Kinetics. Three hours.**
Prerequisite: Chemistry 550.
General consideration of chemical reaction rates and theory of rate processes.
Three hours lecture per week.
- 562. Intermediary Metabolism. Three hours.**
Prerequisite: Chemistry 461.
An intensive study of the metabolic pathways for carbohydrates, lipids and proteins.
Three hours lecture per week.
- 563. Enzymology. Three hours.**
Prerequisite: Chemistry 461.
An intensive study of the enzymes and mechanisms of reactions in biological systems. Three hours lecture per week.

- 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 MSCT candidates. Does not meet requirements for the M.S. degree.
Three hours lecture and laboratory per week.
- 625. Special Topics in Inorganic Chemistry. Two hours.**
Prerequisite: Chemistry 520.
Selected topics dealing with recent advances in inorganic chemistry.
Two hours lecture per week.
- 632. Principles of Analytical Chemistry. Three hours.**
Prerequisites: Chemistry 435 or equivalent.
Theory and practice of modern quantitative analysis.
Three hours lecture per week.
- 635. Special Topics in Analytical Chemistry. Two hours.**
Prerequisite: Chemistry 531.
Selected topics dealing with recent advances in analytical chemistry.
Two hours lecture per week.
- 645. Special Topics in Organic Chemistry. Two hours.**
Prerequisite: Chemistry 541.
Selected topics dealing with modern advances in organic chemistry.
Two hours lecture per week.
- 652. Introductory Quantum Mechanics. Three hours.**
Prerequisite: Chemistry 550.
Introduction to quantum mechanics with emphasis on the aspects most related to chemistry.
Three hours lecture per week.
- 655. Special Topics in Physical Chemistry. Two hours.**
Prerequisite: Chemistry 551.
Selected topics dealing with modern advances in physical chemistry.
Two hours lecture per week.
- 665. Special Topics in Biochemistry. Two hours.**
Prerequisite: Chemistry 461.
Selected topics dealing with modern advances in biochemistry.
Two hours lecture per week.
- 680. Graduate Seminar. One hour.**
Prerequisite: Graduate standing.
Reports and discussions of recent research in chemistry. Required of all graduate students each semester but only once for credit.
One hour lecture per week.
- 690. 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:
- 420. Inorganic Chemistry. Three hours.**
Prerequisite: Chemistry 352 or concurrently with Chemistry 352.

421. **Inorganic Chemistry Laboratory. Two hours.**
Prerequisite: Chemistry 420 or concurrently with Chemistry 420.
430. **Advanced Quantitative Analysis. Two hours.**
Prerequisite: Chemistry 232 or Chemistry 435.
431. **Advanced Quantitative Laboratory. Two hours.**
Prerequisite: Chemistry 232 or Chemistry 435.
435. **Analytical Chemistry. Four hours.**
Prerequisite: Chemistry 352 or concurrently with Chemistry 352.
440. **Advanced Organic Chemistry. Two hours.**
Prerequisite: Chemistry 342.
441. **Advanced Organic Laboratory. Two hours.**
Prerequisite: Chemistry 342.
442. **Qualitative Organic Analysis. Four hours.**
Prerequisite: Chemistry 342.
450. **Advanced Physical Chemistry. Two hours.**
Prerequisite: Chemistry 352.
460. **Biochemistry I. Four hours.**
Prerequisites: Chemistry 342 and consent of instructor.
461. **Biochemistry II. Four hours.**
Prerequisite: Chemistry 460.



The Materials Center provides new ideas and inspires innovative techniques for future teachers.



Research is a continuing part of graduate work at Western.

DEPARTMENT OF ECONOMICS

Master of Arts in Education (Social Science major including Economics);
Master of Arts in Education (Education major and Economics minor)
Master of Arts in Education

Students pursuing this program should see requirements for Standard High School certification and should confer very closely with advisors in major and minor areas.

Graduate Courses:

501. **A Survey of Public Theory. Three hours.**
Prerequisite: Economics 301 and graduate standing.
A comprehensive study of the basic theory of alternative sources of public revenues; a study of the theoretical aspects of the impact, incidence and effects of various types of taxation. A part of this course will be devoted to fiscal policy theory.
520. **Advanced Microeconomic Theory. Three hours.**
Prerequisite: Economics 320.
An analysis of advanced topics in microeconomic theory; theory of consumer behavior, theory of production and distribution, general equilibrium analysis, and the introduction to welfare economics.
525. **Advanced Macroeconomic Theory. Three hours.**
Prerequisite: Economics 450, 460, or 325.
Advanced theory of the determinants of national income, output, employment, and the price level. Emphasis will be placed on Keynesian and post Keynesian aggregate economic theory and their relationship to economic policy.
540. **Land Economics. Three hours.**
Physical, institutional and technological factors affecting the use of land resources. Analysis of the sources which determines the allocation of this factor of production. Emphasis will be placed on the economic principles and problems relating to the use and control of land.
550. **Government Financial Administration. Three hours.**
Institutional and economic factors associated with the management of governmental revenues and expenditures. Topics to be considered will include procedures for the receipt and disbursement of public funds, capital budgeting, and the issuance and retirement of public debt instruments.
570. **Economic Growth Theory. Three hours.**
Prerequisite: A minor in economics or its equivalent.
A study of the significant factors associated with economic growth and development. The relationship between public and private contributions to economic growth. This course will include a study of various types of formal growth models.
598. **Directed Studies. Three hours.**
Prerequisite: Permission of instructor.
Intensive investigation of specified economic topics.
599. **Economic Research and Report Writing. Three hours.**
Involves research and evaluation of primary statistical data and training in techniques for formal research reporting.

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

410. **Commercial Bank Management. Three hours.**
450. **Central Banking Theory and Monetary Policy. Three hours.**
460. **Business Cycles. Three hours.**

- 464. Introduction to Mathematical Economics. Three hours.
- 465. Introduction to Econometrics. Three hours.
- 470. Economic Growth. Three hours.
- 490. Economic Thought to 1870. Three hours.
- 491. Economic Thought Since 1870. Three hours.

DEPARTMENT OF ELEMENTARY EDUCATION **Curriculum For Elementary Teachers**

Leading to the Master of Arts Degree and
Standard Elementary Certificate

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 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. Mental Retardation—(work available leading to Provisional Certification for both the Educable and Trainable groups of mentally retarded.)
4. Elementary Librarian (Provisional Certification)
5. Speech Therapy. (tentative)

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.

DEPARTMENT OF SECONDARY EDUCATION **Curriculum For High School Teachers**

Leading to the Master of Arts Degree and a Standard High School Certificate.

The Standard High School 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 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. Nine of the fifteen hours must be in professional education courses.
4. 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:

- (1) A general study of curriculum development.
- (2) Research Methodology.
- (3) Advanced study in human growth and development.
- (4) The psychology of learning.
- (5) A seminar in instruction devoted to the method of teaching.
- (6) 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.

The remaining courses should be selected on the basis of the individual needs of the teacher in keeping with policies developed by the institution. Western offers a graduate major in Agriculture, Biology, Business Education, Chemistry, English, Geography, Government, History, Mathematics, Physical Education, and Spanish. The student may elect to major in Education and minor in a wide range of subject areas. In addition, the student may elect to major in one of the following subject fields:

1. Social Science Area
2. Science or Science-Mathematics Area
3. English or English and Allied Language Arts Area
4. Music Education

When no graduate work is offered in a particular field, students may be permitted to earn their graduate minor and the Standard Secondary Certificate in a distributed general education program. If the student majors in an area other than education, a minimum of nine hours must be earned in one of the subjects included in the area.

FIFTH YEAR NON-DEGREE PROGRAMS FOR TEACHERS

In order to enable teachers to continue their education, renew their certificate, and advance in rank, a fifth year of study is available to the elementary and secondary teachers. This is a non-degree program which permits a portion of the work to be taken on the undergraduate level.

A minimum of 32 hours of course work is required. Requirements include: (1) Twelve hours must be completed on the graduate level but not necessarily in courses open only to graduate students. (2) Twelve hours must be taken in an academic area or areas (3) twelve hours must be in professional education (4) the remaining eight hours should be planned to meet the specific needs of the student.

Six hours of approved work may be transferred from an accredited four year college. This work must be approved as a part of the program prior to the students enrolling in it.

Five-hundred level courses may be taken with the consent of the advisor, but no 600-level course may be taken as a part of this program.

Application to this program must be made in the graduate office and appropriate department head or heads will be assigned as advisors. A planned program must be filed with the Dean of the Graduate School during the term in which the initial six hours are being completed.

COUNSELOR EDUCATION

The following opportunities are available in Counselor Education:

Master of Arts in Education leading to Provisional Certification in Counseling, Counselor Education option in Master of Public Service degree, and thirty hours Post Master Program leading to a Standard Certificate for Counselors.

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
3. Junior College Counselor (tentative)
4. Employment Counselor
5. Vocational Counselor
6. Psychometrist

The School Counselor Curriculum

Leading to the Master of Arts degree and 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)	6 sem. hrs.
Education 500—Research Methods)	

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.
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TOTAL9 sem. hrs.

II. Requirements for Admission to the School Counselor Program

Admission to the school counselor program requires the approval of the 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.
- 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 Counselor Education. The 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 and/or in the teaching field before either admitting the candidate to the program or permitting the

completion of the certification requirements. 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 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.

III. Post-admission Course Requirements:

Upon the student's admission to the School Counselor Program, the schedule below will be followed:

A. Counselor Education Requirements:

1. Courses:

Education 552—Individual and Group Analysis	3 sem. hrs.
Education 554—Group Guidance	3 sem. hrs.
or	
Education 556—Informational Services	3 sem. hrs.
Education 558—Counseling Theory and Practice	3 sem. hrs.
Education 560—Counseling Practicum	3 sem. hrs.

TOTAL12 sem. hrs.

2. Field Laboratory Experiences:

Each student is required to complete two semester hours in approved Field Laboratory Experiences to be taken concurrently with correlate subject.

Education 533—Field Laboratory Experiences for Education 552 above	1 sem. hr.
Education 555—Field Laboratory Experiences for Education 554 above	1 sem. hr.
Education 557—Field Laboratory Experiences for Education 556 above	1 sem. hr.

Education 559—Field Laboratory
Experiences for
Education 558 above1 sem. hr.
TOTAL 2 sem. hrs.

B. Subject matter—Minor Requirements:
Guided related subject matter courses other than
professional education 9 sem. hrs.

TOTAL (after admission)23 sem. hrs.
TOTAL SEMESTER HOURS32 sem. hrs.

SCHOOL ADMINISTRATION

Leading to a Professional Certificate in 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, Supervision 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 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 Leadership Programs, with the exception 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 Leadership 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.

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

1. Completion of requirements for Standard Elementary School Certificate.
2. Completion of a minimum of fifteen hours beyond the M.A. Degree.
3. Three years successful teaching experience.

Required Courses in Education:

585 Fundamentals of School Administration

500 Research Methods

550 Guidance and Counseling

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

Administration

Curriculum

Supervision

Behavioral Science

Curriculum For Secondary School Principal Endorsement

1. Completion of requirements for Standard High School Certificate.
2. Completion of a minimum of fifteen hours beyond the M.A. Degree.
3. Three years successful teaching experience.

Required Courses in Education:

500 Research Methods

550 Guidance and Counseling

585 Fundamentals of School Administration

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

Administration

Curriculum

Supervision

Behavioral Science

Curriculum For Director Of Pupil Personnel Endorsement

1. Completion of requirements for Standard High School or Standard Elementary School Certificate.
2. Completion of a minimum of fifteen hours beyond the M.A. Degree.
3. Three years successful teaching experience.

Required Courses in Education:

585 Fundamentals of School Administration

550 Guidance and Counseling

583 Accounting for Pupil Personnel

500 Research Methods

Statistics, Data Processing or similar approved course

Nine hours Departmental approved electives to be selected from the Behavioral Sciences.

Curriculum For Supervisor Endorsement

1. Completion of requirements for Standard High School or Standard Elementary School Certificate.
2. Completion of a minimum of fifteen hours beyond the M.A. Degree.
3. Three years successful teaching experience.

Required Courses:

500 Research Methods

585 Fundamentals of School Administration

— Advanced Reading

Departmental approved electives to be selected in the following areas:

6 hours in Curriculum; 6 hours in Supervision; 3 hours in Administration; 9 hours in Psychology.

Curriculum For Superintendent Endorsement

1. Completion of requirements for Standard High School or Standard Elementary, or Standard Jr. High School Certificate.
2. Completion of requirements for Secondary, Elementary, or Junior High School Principal, or Supervisor.
3. Completion of a minimum thirty hours beyond the M.A. Degree.
4. As a general rule a minimum of 21 graduate hours outside 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 successful experience in teaching or administration.

Required Courses in Education:

677 School Law

676 School Finance

678 School Buildings

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.

Thirty-Hour Post Master's Program

Western Kentucky University offers the following thirty-hour post master's programs. These programs are in accordance with minimum regulations prescribed by the Kentucky State Board of Education.

1. Program leading to Rank I qualification for teachers.
2. The Professional certificate for School Administration and Supervision endorsed for School Superintendent.
3. Standard Guidance Certificate.

General Guidelines For Thirty-Semester Hour Post-Master's Program

The guidelines listed below apply to all graduate students who are beginning the thirty-semester-hour post-master's program. These guidelines have been adopted by the State Board of Education.

Students who desire to follow this program should contact the Dean of the Graduate School for advisement and committee assignment.

Students beginning the thirty semester-hour post-master's program will be required to take the Graduate Record Examination.

1. This program shall be planned in consultation with the Student's Adviser and shall be related to the professional needs of the teacher.
2. Of the thirty semester hour program at least fifteen semester hours shall be taken at the institution making the recommendation. The remaining fifteen semester hours may be taken, upon approval of the graduate advisors, at another institution.
3. All of the course work shall be in courses which carry graduate credit, but a minimum of fifteen semester hours shall be earned in courses open only to graduate students.
4. The student shall have a standing of "B" on the thirty semester hours, and no credit in a course lower than "C" shall be accepted.
5. Students pursuing the program for teachers must earn a minimum of twelve of the thirty post-Master's hours in academic work. A minimum of 24 semester hours in academic work (24 out of a total of sixty semester hours) shall be included in a combination of the Master's Degree program and the thirty semester-hour program. The minimum of 24 semester hours of academic work shall be in the candidate's major, or minor, or area of preparation, or in supporting courses from other disciplines as approved by the institution.
6. Those who qualify for Rank I by following the thirty semester 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 sixty hours earned at the Masters level to be taken in the behavioral sciences or subject matter fields other than professional education.
7. Those who qualify for Rank I by following the thirty semester hour program in the area of guidance must 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 thirty-hours of graduate study.

As a general rule Western will require one third (21 hours) of the total of sixty hours earned at the master's level 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 School will certify to the State Department of Education when an approved thirty semester-hour program has been completed.

I. 30 SEMESTER-HOUR POST-MASTER'S GRADUATE PROGRAM FOR TEACHERS

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 contact the Dean of the Graduate School for assignment of a graduate advisor for this program. This graduate advisor will work with the student in planning the over-all program.

II. THIRTY SEMESTER-HOUR POST-MASTER'S PROGRAM FOR SCHOOL LEADERS

In order to be recommended for Rank I through the School Leadership program, the holder of the Professional Certificate for School Administration and Supervision must complete the program required for endorsement for the School Superintendent.

Application to this program must be made through the Graduate School. This application will be referred to the selective committee for School Leaders for its recommendations. All criteria for acceptance to this program must be met and all requirement as stipulated by the State Board of Education must be satisfied.

III. PROGRAM FOR STANDARD GUIDANCE CERTIFICATE

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 selection committee in Guidance 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.

- 403. The Elementary Curriculum
- 500. Research Methods
- 501. Educational Statistics
- 554. Group Guidance
- 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
- 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.)

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.
- 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.
- 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.

519. **Foundations of Reading Instruction. Three hours.**

An analysis of the reading process with special emphasis upon the psychological and physiological foundations of the read-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. 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.

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.

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 cur-

ricular 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 comparative study of science teaching, curricular and course content changes, materials available, organization for science teaching, laboratories and equipment, student 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 economics 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.

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.

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.

Provides a comprehensive knowledge of the philosophy of guidance and counseling as a part of the over-all school program as it relates to administration, supervision, and teaching.

552. Individual and Group Analysis. Three hours.

Acquaintance with the correct methods of administering and scoring tests in the fields of abilities, achievement, interests, personality, attitudes, and certain special aptitude tests.

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 review of the literature and a study of the purposes, objectives, problems, and techniques of group guidance.

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 in the counseling situations.

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.

Detailed study and investigation of the various methods and procedures followed in individual and group counseling.

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.**
A laboratory course in the actual guidance and counseling procedures and practices.
- 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.
- 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.
- 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.
- 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.
- 583. Accounting for Pupil Personnel. Three hours.**
Problems of personnel accounting with special attention to 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.**
Advanced treatment of fundamental principles of administration; the board of education; the superintendent, budgets; salary schedules; relation with the public.
- 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 as one of allocating human resources to accomplish the purposes of the school organization is used in examining the specific activities in the hiring, employment, and withdrawal functions of the position.
- 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.
- 620. Advanced Diagnosis of Reading Courses. 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.**
Investigation of 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 is 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 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.
- 676. Public School Finance. Three hours.**
Local school finances; school budgets; accounting for school's money. Unit costs and cost accounting; accounting for school property, insurance, business procedure and office practice.
- 677. School Law. Three hours.**
Critical study of existing school code; judicial decision; administrative problems and the school code.
- 678. School Plant Administration. Three hours.**
Educational needs and school building planning; architect service; standards of construction; types of building; 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.
- 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.**
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.**
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 in 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.
- 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 to 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 or other field experience for administrators and supervisors. Permission of instructor required.

COURSES WHICH MAY BE TAKEN FOR GRADUATE CREDIT

403. **The Elementary Curriculum. Three hours.**
412. **Materials and Methods of Preschools. Three hours.**
414. **Materials and Methods of Teaching the Educable Mentally Retarded. Three hours.**
417. **Speech and Hearing Problems of Children. Three hours.**
420. **Reading in the Primary Grades. Three hours.**
421. **Reading in the Intermediate Grades. Three hours.**
445. **Audio-Visual Materials and Methods. Three hours.**
455. **Junior High School.**

DEPARTMENT OF ENGLISH

Master of Arts in English; Master of Arts in Education (English Major or Minor and Allied Language Arts Major)

Master of Arts in English

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

In order to pursue this program, a student must be eligible for admission to the Graduate School in good standing. In addition, a candidate must submit a transcript showing a minimum of thirty 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, nine of which may be in a related field or fields such as dramatics, English history, foreign literature, mass media, philosophy, and speech.

A thesis on a topic approved by the student's advisor and the head of the English Department under the direction of a member of the graduate staff is required. This thesis will carry six semester hours of credit, making the minimum for the degree thirty semester hours.

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

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

All residence and minimum course requirements as specified by the Graduate School must be completed.

English is also an integral part of the program for the Master of Arts in Humanities.

Graduate Courses in English

503. **Linguistics and Transformational Grammar. Three hours.**
History and development of modern drama and linguistic principles. A review of current professional writers and an introduction to the various "new" grammars.
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.
581. **Readings in Old English. Three hours.**
The major works in translation. Introduction to Anglo-Saxon vocabulary, grammar, and literature devices. Some readings in the original.
582. **Middle English Literature. Three hours.**
A generous sampling of non-Chaucerian English literature from Bede to Malory, chiefly in modern translation. 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.
591. **American Symbolism and Romanticism. Three hours.**
A detailed study of the use of symbolism and romanticism in the works of a few writers in American literature.
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.

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 Regional English. Three hours.**
407. **Descriptive Linguistics. Three hours.**
421. **Editorial and Feature Writing. Three hours.**
423. **Problems in Journalism. Three hours.**
425. **Mass Media Management. Three hours.**
435. **Problems in Radio and Television Speech. Three hours.**
438. **Radio and Television Management. Three hours.**
456. **Elizabethan Drama. Three hours.**
459. **Modern Drama. Three hours.**
460. **Literary Criticism I. Three hours.**
476. **Anglo-American Folksongs. Three hours.**
478. **Folklore in Literature. Three hours.**
479. **Techniques and Materials in Folklore Studies. Three hours.**
481. **Chaucer. Three hours.**
483. **The English Renaissance. 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.**

DEPARTMENT OF FOREIGN LANGUAGES

French: Master of Arts in Education (French minor)
German: Master of Arts in Education (German minor)

Spanish: Master of Arts in Spanish; Master of Arts for College Teaching in Spanish; Master of Arts in Education (Spanish Major or Minor)
*A major in German under the Master of Arts in Education is being planned.

Master Of Arts Degree 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.

In addition to general Graduate School 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 B average in this field. Deficiencies must be made up within one year without graduate credit.

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 Advisor, 6 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, 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 9 hours must be at the 500-level or above, and of the additional 6 hours, 3 hours must be numbered 500 or above.

A thesis on a topic approved by the student's advisor and the head of the Department and bearing a maximum of 6 hours credit is required.

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

Prior to taking his final examination (covering course work and the thesis) the student must demonstrate a 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 Degree 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 advisor, a maximum of 6 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 9 hours must be numbered 500 or above, and of the additional 6 hours, 3 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 a maximum of 6 semester hours of credit, completing the thirty hours required for the degree. The topic must be approved by the student's advisor 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 Foreign Language Department.

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

Graduate Courses in Foreign Languages

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* articles.

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 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. Readings and reports.

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. Readings and reports.

578. Seminar in Hispanic Literature or Language. Three hours.

599. Thesis. Six hours.

The Following 400-Level Courses May Be Taken For Graduate Credit:

420. Seminar in French Literature. Three hours.

Prerequisite: Senior standing and permission of the instructor.

424. Nineteenth Century French Literature. Three hours.

Prerequisite: French 324 or equivalent.

425. Twentieth Century French Novel. Three hours.

Prerequisite: French 326 or equivalent.

426. Twentieth Century French Drama. Three hours.

Prerequisite: French 326 or equivalent.

427. Renaissance French Literature. Three hours.

Prerequisite: French 325 or permission of the instructor.

429. Seminar in French Literature. Three hours.

Prerequisite: Senior standing and permission of the instructor.

430. Seminar in German Literature. Three hours.

Prerequisite: Senior standing and permission of the instructor.

432. History of the German Language. Three hours.

Prerequisite: German 334 or equivalent, or approval of the instructor.

434. German Literature of the Nineteenth Century. Three hours.

Prerequisite: German 334 or equivalent.

435. German Literature of the Twentieth Century. 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. Three hours.

Prerequisite: German 334 or equivalent, or approval of the instructor.

439. Seminar in German Literature or Language. Three hours.

Prerequisite: Senior standing and permission of the instructor.

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.

465. Soviet Literature. Three hours.

Prerequisite: Russian 261 or equivalent.

496. Russian Literature in Translation. Three hours.

Prerequisite: Russian 261 or equivalent and permission of the instructor.

472. Background of Modern Spanish. Three hours.

Prerequisite: Spanish 271 or equivalent, and permission of 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.

Prerequisite: Spanish 374 and permission of instructor. (May be repeated up to a total of six semester hours credit.)

DEPARTMENT OF GEOGRAPHY

Master of Science in Geography; Master of Science for College Teaching in Geography; Master of Arts in Education (Geography Major or Minor)

The graduate programs in geography are designed to prepare students to become candidates for the Ph.D. degree, for careers in junior college teaching and for service as industrial and commercial consultants. Other master's degree graduates in geography may pursue careers in cartography or enter such governmental services as regional and city planning, park service, diplomatic service, and other areas.

In addition to general Graduate School requirements the student must present an academic record giving evidence of the ability and preparation necessary for pursuing graduate studies in geography. Students not having an undergraduate major in geography may be admitted for graduate study, but such students will be required to take, without graduate credit, additional courses as are deemed necessary by the students' graduate advisory committee.

Master of Science — Thirty semester hours of graduate credit in courses approved by the graduate advisory committee, including six hours of thesis credit, are the minimum requirements for the Master of Science Degree in geography. At least one-half of the course work requirements must be completed successfully in courses open only to graduate students.

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

Master of Science for College Teachers — 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 must form a uniform and coordinated whole as determined by his graduate advisory committee. A minimum of 24 semester hours of course work if the thesis option is chosen or 30 semester hours if the non-thesis option is taken must be successfully completed.

The Master of Arts in Education with a Geography major requires a minimum of twenty-one hours in Geography and nine hours of Education courses.

Geography is an integral part of the Master of Public Service degree. For a description, see the Master of Public Service degree.

Graduate Courses in Geography

500a Geographical Studies in Research. Two hours.

Directed reading program and the writing of research reports under the supervision of a member of the graduate faculty.

500b Geographical Studies in Research. Two hours.

Continuation of 500a.

501. Investigations in Geography. Two hours.

A study of selected methodology and philosophy of geography.

503. World Political Problems. Two hours.

Analysis of selected problems in political geography.

505. Biogeography. Three hours.

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.

506. Geographic Techniques for Field Investigations. Two or three hours.

Practical applications of geographic field techniques.

510a Selected Topics in Geography. Three hours.

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

510b Selected Topics in Geography. Three hours.

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

510c Selected Topics in Geography. Three hours.

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

580. Problems in Urban Geography. Three hours.

Analysis of selected problems in urban geography.

690. Thesis Research (Physical Science). Three hours.

691. Thesis Research (Physical Science). Three hours.

692. Thesis Research (Social Science). Three hours.

693. Thesis Research (Social Science). Three hours.

Courses which may be taken for graduate credit

402. Physiography of North America. Three hours.

410. Elementary Cartography. 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.

451. Geography of Kentucky. Two hours.

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

453. Geography of the Soviet Empire. Three hours.

454. Geography of Middle America. Two hours.

455. Geography of Australia and Islands of the Western Pacific. Two 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.
- 479. Industrial and Commercial Geography. Three hours.
- 480. Urban Geography. Three hours.

DEPARTMENT OF GOVERNMENT

Master of Arts in Government; Master of Arts in Education (Government Major or Minor); Public Administration option in Master of Public Service degree.

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 universities; to provide an academic foundation for students who wish to pursue a career in professions such as journalism, the 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 School in good standing. His academic record must evidence the ability and preparation necessary for pursuing graduate studies in government. The applicant for admission should have a "B" average in his major undergraduate field and/or all undergraduate courses in government. A minimum of twenty-four hours acceptable course work must be completed. In addition, an acceptable thesis equivalent to six graduate hours is required. This thesis will be under the supervision of the chairman of the student's Graduate Committee.

The ability to use a foreign language must be demonstrated in accordance with the rules of the graduate school.

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

Government is an integral part of the Master of Public Service degree. For a description, see the Master of Public Service Degree.

Graduate Courses in Government

- 510. Problems in National Government. Three hours.
Research, reports, and discussion of selected aspects of national government.
- 511. Seminar in 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 the 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.

Courses which may be taken for graduate credit

- 401. Methods of Political Inquiry. Three hours.
- 402 a, 402 b, Seminar in State And Local Government. Three hours each.
- 403. Field Studies in Politics. One to four hours credit.
- 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.
- 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.

DEPARTMENT OF HISTORY

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 for the preparation of secondary teachers who desire such a program while meeting certification requirements.

In addition to meeting general Graduate School requirements, the student must present evidence of good undergraduate preparation in the field of history. In order to be accepted to the program a student must present a major or minor in history with approximately a B average in this field.

Unity of purpose in planning the program is a necessity. A student who has an undergraduate major in history will be permitted to take one-third 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 Master's program in the field of 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. In addition, an acceptable thesis equivalent to six graduate hours is required. This thesis will be under the supervision of the chairman of the student's Graduate Committee. It must conform to basic rules of historical research and must indicate evidence of the use of primary resources.

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

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

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.
- 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 major focus on Mexico, Brazil, Argentina, Chile and Columbia.
- 519. Seminar in United States Diplomatic Relations. Three hours.**
A study of issues and accomplishments in the periods 1914-45 and 1945 to the present. May be repeated for additional 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.**
One specific aspect of Western United States history, or a particular period, would constitute the major emphasis of the seminar. The Farmer's Frontier, Transportation, the Cattle Frontier. May be repeated for credit for different topics.
- 525. Social and Intellectual History of the U.S.: Nineteenth Century. Three hours.**
An examination of the ideas and their possessors in 19th century America. It uses the colonial experience as a background and emphasizes 19th 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.**
An examination of the ideas and their possessors.
- 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 the Confederation Period, the Federalist era, the Jeffersonian Republicans, the Slavery Controversy. May be repeated for credit for different topics.
- 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:

- 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.**
- 405. The Renaissance and 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.**
- 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.**

DEPARTMENT OF HOME ECONOMICS

Master of Arts in Education (Home Economics Minor)

In addition to the Graduate School regulations for admission, the student wishing to follow this program must have an undergraduate major in Home Economics.

Graduate Courses in Home Economics

572. Curriculum Development in Home Economics. Three hours.

Prerequisite: Undergraduate Degree in Home Economics.

Current curriculum trends in Home Economics and curriculum development in specialized fields of Home Economics are considered.

573. Evaluation in Home Economics. Three hours.

Prerequisite: Undergraduate Degree in Home Economics.

Includes a study of theory and techniques of evaluation in Home Economics 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.

575. Individual Study in Home Economics Education. Three to six hours.

Prerequisite: H.E. 572, 573.

Includes a comprehensive study and evaluation of Home Economics investigations now available, and the experiences of planning and completing an individual study of limited scope.

598. Special Topics in Home Economics. One to Six hours.

Prerequisite: Consent of Instructor.

400-level courses which may be taken for graduate credit:

432. Recent Developments in Textiles. Three hours.

Prerequisites: Senior standing. Consent of instructor.

Surveys current literature related to new developments in textiles, including new fibers fabrics, finishes, etc.

434. Advanced Clothing. Three hours.

Prerequisite: Home Economics 130.

Advanced techniques of tailoring are applied in construction of tailored garments. (Lecture-Laboratory)

461. Advances in Science of Nutrition. Three hours.

Prerequisite: Consent of Instructor.

Individual study of recent literature and research concerned with normal nutrition for special age groups. (Lecture—Laboratory Demonstration)

464. Advanced Foods. Three hours.

Prerequisite: Home Economics 261; Chemistry 107 or consent of instructor. Biology 207 recommended. Chemical, physical, and microbiological factors related to the behavior and characteristics of foods. (Lecture-Laboratory)

466. Experimental Foods. Three hours.

Prerequisite: Home Economics 464 or consent of instructor. A study of

ingredients and their function, methods of preparation, temperature, and other factors involved in food preparation; evaluation of foods. (Lecture-Laboratory)

DEPARTMENT OF INDUSTRIAL EDUCATION

Master of Arts in Education (Industrial Education minor).

In order to be admitted to the graduate program in Industrial Education, the student must meet the general Graduate School requirements.

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.

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.

533. Seminar in Industrial Education. Three hours.

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

The following are designed as problem courses for independent study for the graduate student who desires to pursue a specific area.

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.

460. Seminar in Vocational-Industrial & Technical Education. Three 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.

DEPARTMENT OF LIBRARY SCIENCE

Master of Arts in Education (Library Science minor)

In order to be admitted to the graduate program in Library Science, the student must meet the general Graduate School requirements. The courses in Library Science should be selected from the 400 and 500 level courses. When approved by the student's graduate advisory committee, twelve to fifteen hours will count toward certification as a public school librarian, but will not complete the requirements. Children's Literature and Student Teaching in Library Science are required for certification but do not carry graduate credit.

Graduate Courses in Library Science

506. Cataloging of Non-Book Materials. Three hours.

Broader aspects of cataloging; concentrated study in cataloging and organizing of non-book materials. An extension of Library Science 406.

509. Investigations in Library Science. Three hours.

The purpose of the course is to acquaint the students with the implications of scholarly research and its uses, types of research, methods of acquiring knowledge, variables and control, and basic research tools in library literature.

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.

406. Classification and Cataloging. Three hours.

407. Literature for Young Adults. Three hours.

408. Reference and Bibliography. Three hours.

445. Audio-Visual Materials and Methods. Three hours.

DEPARTMENT OF MATHEMATICS

Master of Mathematics; Master of Science in Mathematics; Master of Science for College Teachers in Mathematics; Master of Arts in Education (Mathematics Major or Minor)

In addition to general Graduate School 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 School. The student who is inadequately prepared for the work desired must expect 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 Mathematics. This program is designed primarily for those students who expect to continue their graduate work beyond the masters degree and for students who need additional training for industrial and governmental employment.

A background equivalent to an undergraduate liberal arts major in mathematics at Western is required. This must include Math 317, 318, 332, or their equivalent.

A minimum of thirty semester hours of approved graduate course work in mathematics is required for this degree. The following courses are required for this program (some of which may have been completed as an undergraduate): 432, 532, 450, 417, 517, 423, or 439, six hours of applied mathematics. 300-level courses and Math 501, 502, 503 do not carry graduate credit for this program. A final examination (oral and written) is given to all candidates for this degree.

Master of Science. In this program a thesis and a research tool are required in accordance with regulations of the Graduate School. The academic program is the same as the Master of Mathematics with the exception of the thesis, which carries a maximum of six semester hours. The thesis must be based upon independent study and investigation under the direction of the chairman of the student's Graduate Committee.

Master of Science for College Teachers. 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 Mathematics except that a three credit hour internship course must be included in the thirty hours. This course is to be a supervised experience in college teaching.

Master of Arts in Education—Mathematics Major or Minor. See requirements for Standard High School Certificate. A 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 prerequisites for non-graduate credit. Math 423 and Math 417 or Math 432 are required for this program.

A student having a minor in mathematics would normally be advised to pursue a minor on the graduate level. A minor on the graduate level will consist of at least twelve hours.

Any mathematics course on the 500 level is acceptable. Courses on the 300 level are acceptable for graduate credit only with the approval of the student's graduate advisor.

Graduate Courses in Mathematics

505. Numerical Analysis II. Three hours.

The solution of linear systems of direct and iterative methods, matrix inversion, eigenvalues and eigenvectors of matrices. Application to boundary value problems in ordinary differential equations. Introduction to the nu-

merical solution of partial differential equations. Selected algorithms will be programmed for solution on computers.

Prerequisite: Mathematics 405.

517. Topics from Algebra. Three hours.

Linear transformations on finite-dimensional vector spaces; orthogonality; multilinear forms; self-adjoint transformations.

Prerequisite: Mathematics 417.

531. Advanced Differential Equations. Three hours.

Power series solutions; existence and uniqueness theorems; stability and Liapunov's method; regular singular points; perturbations of periodic solutions.

Prerequisites: Mathematics 331, 332.

532. Real Analysis. Three hours.

Function spaces; additive set functions; outer measure; measurable functions; integration.

Prerequisite: Mathematics 432.

535. Advanced Applied Mathematics I. Three hours.

Eigenvalue and boundary value problems; orthogonal expansions in function space; classical polynomials; Sturm-Liouville theory; Fourier and Laplace transforms.

Prerequisite: Mathematics 331.

536. Advanced Applied Mathematics II. Three hours.

Integral equations; calculus of variations; maximization of linear functionals; maximum gradient method.

Prerequisite: Mathematics 535.

539. Topology II. Three hours.

Convergence; function spaces; complete spaces; homotopy.

Prerequisite: Mathematics 439.

550. Complex Analysis. Three hours.

Analytic continuation; conformal mapping; Riemann surfaces; univalent functions.

Prerequisite: Mathematics 450.

560. Functional Analysis. Three hours.

Abstract approach to linear problems; general theorems on linear operators; spectral analysis.

Prerequisite: Mathematics 432.

570. Advanced Topics in Operations Research. Three hours.

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.

Prerequisites: Mathematics 432, 470 or consent of instructor.

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. Descriptive Statistics. Three hours.

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. Foundations of Mathematics. Three hours.

An attempt to provide a unified approach to the logical structure of mathematics and to develop a philosophical point of view toward mathematical knowledge. Emphasis is placed on the following: sets, operations, axiomatic method, and nature of a mathematical proof.

503. Introduction to Analysis. Three hours.

This course examines some of the more important topics usually discussed 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.

400-level courses which may be taken for graduate credit:

405. Numerical Analysis I. Three hours.

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.

DEPARTMENT OF MUSIC

Master of Music; Master of Arts in Education (Music major or minor)

Master of Music

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 School 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 must be able to demonstrate skills and capacities by examination 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 must be 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 except in the case of a voice-major who will be expected to make up any deficiency. In lieu of a thesis, a full length public recital is required.

Master of Art in Education

In pursuing the Master of Arts in Education with a major or a minor in Music, the student must qualify for an appropriate teacher's certificate.

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 and unpublished 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. Seminar in Music Education. Three hours. Education**
A consideration of the historical, philosophical and psychological foundations of music education and 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.

- 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.

Courses which 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.**
- 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.**

DEPARTMENT OF OFFICE ADMINISTRATION

Master of Arts in Education (Business Education major or minor)

In pursuing the Master of Arts in Education with a major or a minor in Business Education, the student must qualify for an appropriate teacher's certificate. The student may major in Business Education taking up to twenty-

one hours in Business Education and Office Administration. If he elects to minor in Office Administration, he must complete a minimum of twelve hours in Office Administration.

Graduate Courses

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.

400-level courses which may be taken for graduate credit:

461. Report Writing. Three hours.

462. Office Management. Three hours.

463. Records Management. Three hours.

Prerequisite: 241.

DEPARTMENT OF PHILOSOPHY AND RELIGION

See Master of Arts in the Humanities. Philosophy is an integral part of that program. In addition, graduate courses in Philosophy and Religion are significant supporting areas in other graduate programs.

Graduate Courses in Philosophy

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.

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

400. Contemporary Philosophy. Three hours.

405. Existentialism. Three hours.

420. Philosophy of History. Three hours.

430. Philosophy of Science. 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.

420. Studies in Pauline Theology. Three hours.

450. Philosophy and Religion of the Middle Ages. Three hours.

(see Philosophy 450)

DEPARTMENT OF PHYSICAL EDUCATION, HEALTH, AND RECREATION

Degrees offered: Master of Science in Physical Education; Master of Arts in Education, major or minor in Physical Education, with minors in Health Education, Health and Safety Education, and Recreation pending; Park and Recreation Administration option in Master of Public Service Degree.

Diversified programs leading to additional depth or breadth in a selected area of physical education, health education, safety education, and recreation are available to candidates for graduate degrees. A highly qualified staff and outstanding facilities compliment these graduate offerings. Contemporary research and literature are fundamental in all courses. The department maintains a laboratory for study of human motor behavior, and strong encouragement is given students to actively pursue personal research interests.

Park and Recreation Administration option under Master of Public Service Degree

This is an interdepartmental program employing advanced courses basic to community relationships and functions, with emphasis on the administration of parks and recreation programs. See p. 99 for details.

Master of Science (M.S.) Degree in Physical Education

Although most candidates for a master's degree are interested in public school teaching, occasionally 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 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 both a demonstration of competency in use of a research tool and the completion of an acceptable Master's thesis.

Required: PEHR 501, PEHR 520, and PEHR 560

Selective with advisor's consent: 9-18 hours of Physical Education courses

Elective: 0-9 hours from allied areas

Master of Arts (M.A.) Degree in Education

Major in Physical Education:

Allows the student who is primarily interested in teaching and coaching in the public schools to elect 15-21 hours in physical education with the remaining hours in professional education. A thesis option is available in this sequence.

Required: PEHR 501 and PEHR 502

Selection: Two courses from: P.E. 503, P.E. 504, or P.E. 505

Remaining hours are elective in P.E.

Professional Education: (See Standard High School requirements)

Minor in Physical Education:

This sequence allows the individual to take 12-15 hours in physical education with the remaining hours in professional education.

Required: P.E. 502; PEHR 501 or Education 500*

Selective: 3-6 hours from: P.E. 503, P.E. 504, or P.E. 505

Elective: Any other physical education course(s) to allow a minimum of 12 hours of course work in this area

Professional Education: 12-15 hours—See Standard High School requirements

*If Education 500 is chosen rather than PEHR 501, an additional elective to total twelve hours will be necessary within the physical education course offerings.

Minor in Health Education (approval pending)

Required: He. Ed. 545, and Ed. 554.

Elective: Two courses from: He. Ed. 460, 546, PEHR 501, 530, 560, Biology 470 and other health-related courses selected under the guidance of the Coordinator of Health Education

Professional Education: 15-18 hours required. (See Standard High School requirements.)

Minor in Health and Safety Education (approval pending)

Required: Sa. Ed. 470, 471

Elective: A minimum of six additional graduate hours in Health Education to be selected with the advice of the coordinator of this program.

Professional Education: 15-18 hours. (See Standard High School requirements.)

Minor in Recreation (approval pending)

Required: Twelve hours or more to be selected with consent of the coordinator of Recreation from: PEHR 501, 520, 530, Rec. 513, 515, 517, 519, 481, 483, 484.

Professional Education: 15-18 hours. (See Standard High School requirements)

Graduate Courses in Physical Education, Health, and Recreation.

General Courses:

PEHR 501. Analysis of Research in Physical Education, Health, and Recreation.

A critical analysis and review of selected studies in the Physical Education, Health 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)

PEHR 520. Interpretation of Physical Education, Health and Recreation Data (Prerequisite PEHR 501)

Application of statistical techniques to physical education, health, and

recreation data. Basic principles and techniques in designing and analyzing physical education, health, and recreation problems are emphasized.

PEHR 530. Independent Investigations in Physical Education, Health or Recreation (Prerequisites: PEHR 501 consent of instructor)

Special research problems or projects of organizational, administrative, or supervisory nature in the areas of physical education, health, or recreation. One to three hours.

PEHR 560. Thesis

The master's thesis is to be directed by a member of the Graduate Faculty of the Department. Six hours.

Physical Education Courses:

P.E. 502. Philosophical Bases of Physical Education and Athletics.

A critical study and evaluation of the principles and bases for the development of the philosophy of Physical Education and Athletics. A comparative analysis of the implications of major educational philosophies is made, and a philosophical approach to solution of basic problems in the field is conducted.

P.E. 503. Psychological Bases of Motor Performance.

The nature and bases of motor learning. 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.

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.

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.

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, program planning, development of educational specifications, selecting of an architect, and attaining efficiency and economy through design and construction. Also includes equipping the plant and financing the program.

P.E. 511. Theory in Administration and Supervision of Physical Education and Athletics.

Basic principles, functions, methods, and techniques of administration and supervision for increasing the effectiveness of the overall program of physical education in the public schools. Such topics as legal responsibility and liability, budget and finance, evaluation, general administrative control, in-service training, and community relationships are studied in detail.

P.E. 512. Seminar: Administration Problems in Physical Education and Athletics (Primarily for those not majoring or minoring in Physical Education)

Organization and control over programs of physical education and athletics at various educational levels. A discussion of controversial issues in athletics and practice in seeking solutions to them.

P.E. 490, Tests and Measurements in Physical Education, and P.E. 491, Physical Diagnosis and Corrective Physical Education, may be taken for graduate credit with the prior consent of the Coordinator of Graduate Studies.

Health Courses:

He.Ed. 545. The Health Education Curriculum (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.

He.Ed. 546. Field Work in Community Health Programs.

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.

He.Ed. 460, School and Community Health Workshop, may be completed for graduate credit with the approval of the Coordinator of the Health Education Program.

Recreation Courses:

Rec. 513. Organization, Administration, and Supervision of Parks, Playgrounds, and Recreation Programs.

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.

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

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. 481. Camp Administration and Outdoor Recreation.

Rec. 483. Social Recreation, and

Rec. 484. Community Centers and Playgrounds, may be taken for graduate credit with the prior consent of the Coordinator of Recreation Programs.

DEPARTMENT OF PHYSICS AND ASTRONOMY

Master of Science in Physics; Master of Science in Engineering Physics; Master of Arts in Education (Physics minor)

Master of Science in Physics

This degree is an introduction to research. A thesis is required.

In addition to general Graduate School requirements, the student should have a "B" average in physics and mathematics. A well-prepared entering graduate student should have completed intermediate courses in mechanics, electromagnetic theory, optics, thermodynamics, atomic physics, and possibly quantum mechanics. Mathematics preparation should include ordinary differential equations, vector analysis and, possibly, functions of a complex variable. Beginning graduate students are asked to take a pre-registration examination in undergraduate physics, and the results are used during the first registration in planning a student's course program.

The M.S. in Physics requires thirty semester hours, no more than six of which may be thesis research numbered 699. At least half of the twenty-four hours of regular course work must be in courses numbered 500 and above. At least fifteen 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 in lieu of the language requirement, his choice of courses must have the approval of the chairman of his graduate committee and his departmental chairman.

Each candidate for the M.S. in Physics is required to prepare and present an acceptable thesis. During the first semester of graduate study the student should confer with faculty members in order to discuss research interests and to determine what thesis problems are available. Upon the selection of a research topic, the Department will recommend to the Dean of the Graduate School the faculty member to serve as research advisor. The student's graduate committee will check on the student's progress, supervise the preparation of the thesis, and conduct the final oral examination.

After the student's course work is completed and his thesis is in final form, he will be examined orally by his committee on: his thesis, his major subject, and his minor(s).

Master of Science in Engineering Physics

The primary purpose of this program is to provide additional formal academic training to local industry and government personnel so that they can maintain a degree of competence commensurate with the needs for creativity and productivity.

In addition to general Graduate School requirements, the student should have a major in one of the fields of physical science or engineering. Promising students from small colleges will also be accepted; however, they may expect to be required to take some courses of a transitional nature between their incomplete undergraduate preparation and the level of the regular first-year graduate courses. All students must take the aptitude portion of the Graduate Record Examination before the end of their first semester of graduate study.

Twenty-four semester hours of course work and six semester hours of thesis research are required. Normally, fifteen to eighteen 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 advisors will be assigned upon completion of fifteen semester hours of course work and after selection of a thesis topic. A thesis reporting the results of the student's research must be submitted in accordance with the regulations of the Graduate School.

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.

Research Projects

Graduate thesis problems are available in the following areas: Low Energy Electron Interactions with Surfaces, Neutron Inelastic Scattering, Neutron Activation Analysis, Solid State Radiation Dosimetry, Planetary Radio Astronomy, Optical Astronomy, Photosensitization, Applied Optics, and Biophysics. Three of these projects are supported by grants from government agencies.

Physical Plant and Equipment

Modern facilities and equipment amplify the instructional and research programs of the department. Space on the first three floors of a new science complex was occupied in 1967 providing ample shop, classroom, laboratory and research accommodations. The adjacent dome of the Hardin Planetarium permits astronomy laboratory exercises regardless of the weather conditions. A rooftop observatory houses the department's 12½ inch Cassegrain reflector and associated photoelectric equipment. The nuclear physics laboratory on the ground floor utilizes a neutron generator and multichannel analyzer system to study radioactivity. A clean room houses the department's vacuum system for investigations at extremely low pressures. The solid state lab

operates a thermoluminescence detector and spectrometer for the study of radiation effects on crystals. The radio observatory located twelve miles from the campus concentrates on planetary emissions at long wavelengths. Additional major instruments of an interdisciplinary nature include an electron microscope, x-ray diffraction analyzer, and a nuclear magnetic resonance spectrometer. Well equipped laboratories for electronics, optics, atomic and nuclear physics are available for support of graduate research.

Graduate courses in Physics

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: 480

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.

Prerequisites: 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: 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: 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: 480

Wave and matrix mechanics, general operator methods, angular momentum, symmetry principles and conservation theorems, variational principle and elementary perturbation theory.

610. Methods of Mathematical Physics II. Three hours.

Prerequisite: 510

Selected topics from the mathematical methods of quantum physics.

660. Theory of Solids. Three hours.

Prerequisite: 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: 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.

690. Special 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.

695. Graduate Seminar. One hour.

Discussions of recent and current literature on developments in experimental and theoretical physics.

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 or High School teacher 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.

400-level courses which may be taken for graduate credit.

405. Astronomy for Teachers. Three hours.

425. Elements of Modern Physics. Three hours.

440. Electricity and Magnetism. Three hours.

441. Optics. Three hours.

450. Theoretical Mechanics. Three hours.

460. Solid State Physics. Three hours.

470. Nuclear Physics. Three hours.

480. Quantum Mechanics. Three hours.

490. Selected Topics in Physics. One to Three hours.

404. Experimental Physics 4. Optics. One hour.

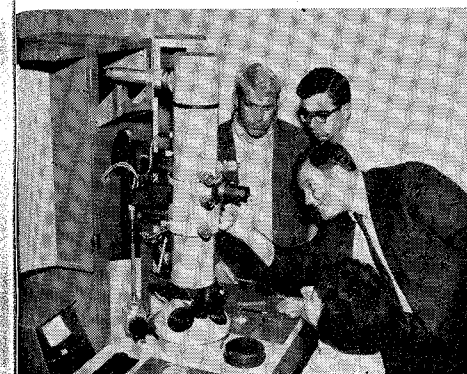
406. Experimental Physics 5. Solid State. One hour.

407. Experimental Physics 6. Nuclear. One hour.

409. Experimental Physics 7. Research Techniques. Two hours.

414. Geo-Astrophysics. Three hours.

494. Problems in Astronomy. One to three hours.



Sophisticated equipment is utilized (left) in scientific research.



Small Seminars (right) provide more individualized instruction.

DEPARTMENT OF PSYCHOLOGY

Master of Arts in Psychology; Master of Arts in Education (Psychology major or minor)

Master of Arts in Psychology

This program provides methodological and theoretical 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.

In addition to general Graduate School requirements, the student must present a grade point average in psychology of "B". Promising students with limited grade or course deficiencies may be considered for admission to the program upon completion of an approved program for the removal of these deficiencies. Persons admitted to the program should have a minimum of eighteen semester hours in psychology including the following courses or their equivalents: (1) Methods of Experimental Research and Statistics (2) General Psychology.

Minimum requirements for the Master of Arts in Psychology are thirty semester hours of graduate credit in courses approved by the Department of Psychology, including six hours of thesis credit. At least one half of the

course requirements must be completed successfully in courses open only to graduate students, and 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, several additional principles courses essential to a strong foundation in Psychology, and a variety of specialized area courses to permit the student a degree of specialization. Such core courses are:

563—Psychometric Theory

564—Seminar in Experimental Design

Those students who plan to continue their graduate education in Psychology beyond the M. A. degree would be advised to select for the remaining semester hours, a wide range of principles courses representative of the several subdisciplines within Psychology. The master's program would then provide the broad foundation necessary for more advanced work.

Up to six semester hours in courses in departments other than Psychology 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 of Arts in Psychology.

In addition to the course work and thesis, all candidates for the M.A. in Psychology must pass a final written and/or oral examination covering the thesis and major and minor fields of study.

Prior to the final examination the applicant must either: (a) Demonstrate reading ability sufficient to do scholarly research in a foreign language or, (b) Demonstrate that he has mastered the appropriate research tools which will contribute to his research proficiencies.

Graduate Courses in Psychology

510. Advanced Educational Psychology. Three hours.

Prerequisite: Psychology 100, 220

Psychology of learning. Different psychological theories; psychological methods and techniques; experimental literature.

511. Learning Theory as Applied to the classroom. Three hours.

A study of theories of learning including conditioning, social learning, reinforcement, problem solving, motivation, and structure of the learning situation as applied to the classroom.

512. Seminar in Experimental Design. Three hours.

Prerequisite: Graduate standing and 3 hours Statistics.

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.

520. Developmental and Differential Psychology. Three hours.

Prerequisite: Three hours Tests and Measurements and six hours in Psychology.

A survey of research and theory in developmental aspects of behavior from the pre natal 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.

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.

560. Individual Intelligence Testing. Three hours.

Administration and interpretation of the WISC, WAIS and Stanford Binet as tools of education, occupational guidance, and clinical diagnostics.

561. Practicum in Individual Intelligence Testing. One to three hours.

Prerequisite: 560 and permission of instructor.

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 the development of realistic recommendations which can be used by teachers to modify existing individual programs.

562. Psycho-Educational Assessment. Three hours.

Prerequisite: Psychology 560

Supervised training in the use of diagnostic procedures with children who

are mentally retarded, speech impaired, deaf, visually handicapped, cerebral palsied or perceptual-motor handicapped.

562. Tests Construction and Psychometric Theory. Three hours.

Prerequisite: Graduate standing and course in tests and measurement.

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 professionals and non professionals. This will be a required course for all graduate students in psychology.

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: Graduate Standing.

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.

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.

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.

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.

A continuation of 641 with an emphasis upon group, family and marital psychotherapy. (Students will concurrently enrol in 662.) Prereq. 641.

660. Psychological Evaluation. Two hours.

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.) Prerequisite: 560.

661. Psychological Evaluation II. Two hours.

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. Prerequisite: 660.)

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:

430. Psychology of Exceptional Children. Three hours.

431. Psychology of Mental Retardation. Three hours.

432. Psychology of the Gifted. Three hours.

440. Abnormal Psychology. Three hours.

450. Personality Theory. Three hours.

DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY

Master of Arts in Sociology; Master of Arts in Education (Sociology minor); Master of Arts in Education (Social Science Area major)

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 School 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 these deficiencies.

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 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 of Sociology, including six hours of thesis credit. 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 principle courses essential to a strong foundation in Sociology. Specialization will be directed toward three major areas: (1) Criminology and Corrections and (2) Industrial Sociology and Manpower Research and Development. (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 purpose of the Industrial Sociology and Manpower Research and Development emphasis is to give the student the specialized training necessary to pursue a career with 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.

All students enrolled in the Master's program will be required to take the following core courses: Sociology 580 Advanced General Sociology; Sociology 590 Sociological Research Design and Analysis; Sociology 595 Seminar in Sociological Theory.

In addition all students who are candidates for the Master's Degree are required to attend the following course sequences: Sociology 598-599 Proseminar in Contemporary Sociology (2 semester hours credit for the sequence)

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 masters' program with consent of the departmental heads.

A thesis carrying six hours credit is required of all candidates for the master's degree.

In addition to the course work and thesis, all candidates for the master's degree must pass a final written and/or oral examination covering the thesis and major and/or minor fields of study.

Prior to the final master's examination the applicant must either:

1. Demonstrate reading ability sufficient to do scholarly research 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.

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 undergraduate 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 undergraduate Sociology courses and consent of the instructor.

A systematic overview of selected types of deviant behavior with particular emphases on criminality, delinquency, drug addiction, and alcoholism. Special attention will be given to current sociological theory and research in the field.

535. Probation and Parole. Three hours.

Prerequisite: Sociology 505 or nine hours of undergraduate sociology courses and consent of the instructor.

A survey of community treatment of convicted law violators, as part of the correctional process. Examines the role of probation and parole personnel. Attention is given the pre-sentence investigation and the selection, supervision and releasing of probationers and parolees. Includes appraisal of effectiveness, prediction of behavior during and after probation and parole as well as the administrative and judicial processes involved. May include field trips when practical.

545. Seminar in Society, Personality, and Behavior. Three hours.

Prerequisite: Sociology 505 or nine hours of undergraduate 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 undergraduate 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.

565. Studies in the Community. Three hours.

Prerequisite: Sociology 505 or six hours of undergraduate 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 undergraduate 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; the social aspects of industrial conflict.

570. Studies of Social Systems. Three hours.

Prerequisite: Sociology 505 or nine hours of undergraduate sociology and permission of the instructor.

Use of organizational theory and its application to social systems.

575. Complex Organizations. Three hours.

Prerequisite: Sociology 505 or nine hours of undergraduate 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 undergraduate 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 undergraduate 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 designed to acquaint the sociology major with advanced social research methodology, techniques, and procedures.

595. Seminar in Sociological Theory. Three hours.

Prerequisite: eighteen hours of undergraduate 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.

598-599. Proseminar in Contemporary Sociology. One hour each.

A topical seminar which examines recent issues and concerns of the profession as well as surveys a variety of current research endeavors in the field. Prerequisite: The consent of the department head.

400-level courses in Sociology which may be taken for graduate Credit:

400. Juvenile Delinquency. Three hours.

Prerequisite: Sociology 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.

435. Correction and Confinement. Three hours.

Prerequisite: Sociology 365 or consent of instructor.

445. Industrial Sociology. Three hours.

Prerequisite: Sociology 346 or consent of the instructor.

450. Occupations and Professions. Three hours.

Prerequisite: Sociology 346 or consent of the instructor.

495-496. Directed Study. Three hours each.

Prerequisite: The consent of the 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.

400-level courses in Anthropology which may be taken for graduate credit:

430. Prehistory and Archaeology of the Indians of North America. Three hours.

Prerequisite: Six hours of Anthropology.

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.

Prerequisite: The consent of the Department Head.
(Same as Sociology 495-496)

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 undergraduate sociology courses and consent of the instructor.

535. Probation and Parole. Three hours.

Same as Sociology 535. Prerequisite: Sociology 505 or nine hours of undergraduate 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.

435. Correction and Confinement. Three hours.

Prerequisite: Sociology 365 or the consent of the instructor.
(Same as Sociology 435)

495-496. Directed Study. Three hours.

Prerequisite: The consent of the Department Head.
(Same as Sociology 495-496)

DEPARTMENT OF SPEECH AND THEATRE

Master of Arts in Education (Speech and Theatre minor)

Graduate courses in Speech and Theatre are significant supporting areas in other graduate programs.

Graduate Courses in Speech:

540. Seminar in Rhetoric and Public Address. Three hours.

Studies in theories of rhetoric through selected writers, periods, topics. The application of rhetorical standards to the speech-making of selected speakers, movements, areas, and periods.

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 in the course. 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 in class such as research methods and opportunities in speech.

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.

400-level courses in Speech which may be taken for graduate credit:

444. Advanced interpretation and Choral Reading. Three hours.

445. Problems in Speech. Three hours.

446. Classical Rhetoric. Three hours.

447. American Public Address. Three hours.

448. British Public Address. Three hours.

449. Speech Development. 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 through research and application. Students select for investigation interpretative, technical, or promotional problems according to their interests.

The investigations and research are followed by practical application of findings to actual productions. Each student prepares a daily log of his experiences in the Course and designs a project that reports his findings in a related form.

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:

457. Play Directing. Three hours.

458. Theatre Practicum. Three hours.

459. Modern Drama. Three hours.

INTER-DEPARTMENTAL PROGRAMS

Master of Arts in Humanities; Master of Arts for College Teachers in Humanities:

The Graduate program in humanities is designed to give the student a

broad background in the history of ideas with specialization in one period of Western civilization (ancient and medieval, modern or contemporary).

Master of Arts in Humanities: Minimum requirement for the Master of Arts in Humanities is thirty hours (including six hours of thesis credit) of graduate credit in courses approved by the advisor of the Humanities program. At least twelve hours (not counting thesis) must be in courses numbered 500 or above. Eighteen of the thirty hours must be in one major period of Western civilization such as: ancient and medieval, modern (Renaissance through eighteenth century) or recent (nineteenth century to present). In addition to these requirements, the following distribution of courses must be satisfied:

Philosophy — (9 hours) At least one course from the period chosen for specialization; at least two 500 level courses.

History and English — (9-15 hours) with a minimum of three hours in each. At least one 500 level course from each department; at least one course in both history and English in the student's period of specialization.

Other Humanities — (3 to 6 hours)

(Art, Classes, Modern Languages, Music, or Religion)

Thesis — (6 hours)

The student will select one of the three periods of Western civilization for his area of specialization. At least four of the courses and his thesis must deal with this period. His courses and research will be designed to give him a comprehensive and integrated knowledge of the history of ideas during that period. The rest of the student's courses may be used to acquaint him with the literature, history, religion, philosophy, art, and music of other periods.

The student must demonstrate a reading ability sufficient to do scholarly research in either French or German. If the student selects the period of ancient and medieval civilization as his area of specialization, either Greek or Latin may be substituted.

The student must pass a final written examination during the last semester before he intends to graduate.

The thesis must deal with the student's area of specialization, and it must give evidence of a significant amount of individual research and must demonstrate a knowledge of the inter-relationships of several areas of the humanities. The research for the thesis will be supervised by a member of the graduate faculty in the department of Philosophy and Religion.

Master of Arts for College Teachers in Humanities: Thirty semester hours are required for this degree, at least fifteen of which must be in courses numbered 500 or above. At least twelve hours must be in one major period

of Western civilization. By the time a student completes the MACT program, he must present a minimum of eighteen hours (at the undergraduate and graduate levels) 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.

The distribution of courses in the MACT is the same as the M.A. except that, in lieu of the thesis in the MACT, six hours may be selected from either philosophy, history, or English.

The selection of periods of specialization and the satisfaction of language requirements is the same as in the M.A. program.

Master of Public Service Degree

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. Generally speaking, this degree should be considered a terminal degree and not preparatory for doctoral programs.

Students pursuing the degree can select one of four professional options. They can specialize in Agriculture, Counseling, Parks and Recreation, and Regional Development. Each option carries specific requirements for admission. Application to this program is made through the Dean of the Graduate School, 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 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 and Management

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.

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

Park and Recreation 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 in park and recreation administration and leadership. Courses within this sequence are:

Required of all Park and Recreation Administration majors

PEHR 501 Analysis of Research in Physical Education, Health, and Recreation

Twelve hours may be selected from the following courses:

- Rec. 513 Organization, Administration, and Supervision of Parks, Playgrounds, and Recreation Programs
- Rec. 515 Planning and Maintenance of Park and Recreation Facilities
- Rec. 517 Construction and Utilization of the Survey in Recreation
- Rec. 481 Camp Administration and Outdoor Recreation
- Rec. 483 Social Recreation
- Rec. 484 Community Centers and Playgrounds

In addition, six hours may be selected from the fields of Physical Education, Recreation, or allied areas.

Regional Development option

The Regional Development option is tailored to the undergraduate background and the occupational objectives of the individual graduate student but, in general, will contain an inter-disciplinary program focused primarily upon the subject fields of government, economics, geography, and sociology.

It is assumed that the student will have sufficient undergraduate background (including six hours in Principles of Economics) to pursue the graduate courses required for the degree.

The program will consist of thirty hours, including a nine to twelve hour core. In addition, to the core, the remaining hours would be selected from the following:

- Economics 598 Directed Studies (generally in the area of state and local tax problems)
- Economics 599 Research and Report Writing
- Economics 470 Economic Growth
- Economics 540 Land Economics
- Economics 570 Studies in Economic Growth
- Sociology 440 Cultural Anthropology
- Geography 479 Industrial and Commercial Geography
- Geography 584 Regional Planning

Special problems in Regional Development (credit to be given in either economics or geography).

In a typical program Economics 598 and 599 would be recommended, and the selection would be made from the remainder. Of the thirty hours required, six may be obtained for a thesis. If a thesis is not written, a candidate may elect six hours within the approved curriculum for this option.

THE JOINT PROGRAM BETWEEN WESTERN KENTUCKY UNIVERSITY AND THE UNIVERSITY OF KENTUCKY LEADING TO THE DOCTORAL DEGREE

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 (be selected) 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 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 School, Western Kentucky University.

THE JOINT DOCTORAL PROGRAM BETWEEN WESTERN KENTUCKY UNIVERSITY AND GEORGE PEABODY COLLEGE

This program is designed for outstanding graduate students who desire to pursue a program leading to the Ed.D. degree with emphasis in educational administration. Requirements for admission to the Graduate Schools at Western and Peabody must be met.

After having completed the Master's degree at Western, a student may apply for admission to the joint doctoral program. A special graduate admissions committee will evaluate the student's credentials and must make favorable recommendations to the Graduate School at Peabody.

Upon admission to the joint doctoral program, a joint advisory committee will be appointed. This committee will represent both institutions.

Normally, the following guidelines will be followed:

A maximum of thirty semester hours may be transferred from the master's degree program.

Related work beyond the master's degree can be transferred from the following fields only: government, economics, sociology, and psychology. All work transferred must be taught by a member of the graduate faculty who holds an earned doctorate.

The minimum total for the Ed.D. degree is seventy-two hours, exclusive of research tools. Sixteen semester hours of work beyond the master's degree (in addition to six hours of research tools) can be transferred, for a total, with the master's degree, of forty-six graduate hours. Of this total of forty-six hours, a maximum of thirty hours may be in education, including not more than fifteen hours in educational administration and supervision.