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Graduate Catalog, 1969-1970

Eastern Kentucky University

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GRADUATE CATALOG

eastern kentucky university

COMMONWEALTH OF KENTUCKY
STATE ARCHIVES AND RECORDS SERVICE
DEPARTMENT OF FINANCE
FRANKFORT

EKU
BULLETIN

Volume 60, Number 4



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September, 1969

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MEMBER OF

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American Association of State Colleges and Universities
Association for Field Services in Teacher Education
American Association of University Women
American Council on Education
American Technical Education Association
National Association for Business Teacher Education
American Association of Junior Colleges
National League for Nursing

ACCREDITED BY

Southern Association of Colleges and Secondary Schools
National Council for Accreditation of Teacher Education
National Association of Schools of Music

EASTERN KENTUCKY UNIVERSITY

Graduate Catalog



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Vol. 60

August, 1969

No. 4

CALENDAR 1969

JANUARY							FEBRUARY							MARCH							APRIL								
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CALENDAR 1970

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**EASTERN KENTUCKY UNIVERSITY
1969-1970 CALENDAR**

FIRST SEMESTER

September 14	Sunday	10:00 a.m.	Dormitories open for new students.
September 17	Wednesday	8:00 a.m.	Registration of upper classmen and graduate students.
September 20	Saturday	8:00 a.m.	Registration of part-time, evening and Saturday students.
September 22	Monday	8:00 a.m.	Classes begin.
September 29	Monday		Last day to enter a course.
October 8	Wednesday		Last day a course may be dropped without a grade.
November 24	Monday	10:00 a.m.	Mid-semester reports to Registrar.
November 26	Wednesday	12:30 p.m.	School closes for Thanksgiving holiday.
November 26	Wednesday		June and August, 1970, graduates must apply for graduation by this date in the Graduate School Office.
December 2	Monday	8:00 a.m.	Class work resumes.
December 20	Saturday	4:30 p.m.	Last day to drop a course.
December 20	Saturday	12:00 noon	Christmas holiday begins.
January 5	Monday	8:00 a.m.	Class work resumes.
January 26-30			Final examinations.
January 30	Friday	5:00 p.m.	Close of first semester.

SECOND SEMESTER

February 5	Thursday	8:00 a.m.	Registration of upper division colleges.
February 7	Saturday	8:00 a.m.	Registration of part-time, evening and Saturday students.
February 9	Monday	8:00 a.m.	Classes begin.
February 16	Monday		Last day to enter a course.
February 25	Wednesday		Last day on which a course may be dropped without a grade.
April 3	Friday		Mid-semester reports to Registrar.
April 6-10	Monday	8:00 a.m.	Spring vacation.
May 6	Wednesday		Last day to drop a course.
May 30	Saturday		January, 1971, graduates must apply for graduation by this date in the Graduate School Office.
May 31	Sunday		Baccalaureate Service and Commencement Exercises.
June 1-5			Final examinations.
June 5	Friday		Close of second semester.

SUMMER SCHOOL—1970

June 15	Monday	8:00 a.m.	Summer school registration.
June 16	Tuesday	8:00 a.m.	Classes begin.
June 16	Tuesday		Last day to register for a full load.
June 18	Thursday		Last day to enter a course.
June 24	Wednesday		Last day a course may be dropped without a grade.
July 24	Friday		Last day to drop a class.
August 6	Thursday		Commencement.
August 7	Friday		Close of summer school.

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1969-70

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EASTERN KENTUCKY UNIVERSITY . . .

Dedicated to Serving Kentucky Since 1906

INTRODUCTION

Eastern Kentucky University is a coeducational public institution of higher education offering general and liberal arts programs, pre-professional, and professional training in education and various other fields at both the undergraduate and graduate levels. Located in Richmond, Madison County, Kentucky, Eastern has a distinguished record of more than six decades of educational service to the Commonwealth. The institution is recognized as one of the nation's leading producers of teachers with over seventy-five per cent of its 17,000 graduates having entered the teaching profession.

Richmond is on the main line of the L & N Railroad, 112 miles south of Cincinnati, Ohio. Situated twenty-six miles southeast of Lexington, Kentucky, Richmond is conveniently reached by automobile over Interstate 75 from Northern Kentucky and Cincinnati to the North and over U. S. Route 25 (Dixie Highway) from Southeastern Kentucky. Richmond is also served by U. S. Route 227 and Kentucky Route 52. Combinations of major highways in the state with these highways make Richmond easily accessible from Eastern and Northeastern Kentucky as well as the Bluegrass and Central Kentucky area and the Metropolitan area of Louisville.

Completion of Interstate Highways, I-64 (East-West) and I-75 (North-South), and the Eastern Kentucky Turnpike, will provide even greater convenience in automobile travel to Richmond, since the city is located near the convergence of these three arterial highways.

Richmond, the county seat of Madison County, is an expanding community of approximately 15,000 population. Served by fine churches representing most Christian faiths, the community provides an excellent environment for the University student.

In and around Richmond are many areas of historic and scenic interest. Boonesborough State Park, birthplace of Kentucky, is located twelve miles to the north. Many other historical places are within easy driving distance. Scenic and recreational areas surround this section of the state.

HISTORY

The General Assembly of 1906 enacted legislation establishing the Eastern Kentucky State Normal School. Governor J. C. W. Beckham signed the bill into law on March 21, 1906, and on May 7 of that year, the Normal School Commission, meeting in Louisville, selected the campus of old Central University in Richmond, Kentucky, as the site of the new school. On June 2, 1906, Ruric Nevel Roark was chosen President of the Normal School and the training of teachers was initiated.

In 1922, Eastern became a four-year institution known as the Eastern Kentucky State Normal School and Teachers College. The first degrees were awarded by this institution in 1925. In 1928, the College was accredited by the Southern Association of Colleges and Secondary Schools. In 1930, the General Assembly renamed the school as the Eastern Kentucky State Teachers College.

In 1935, a graduate program was approved at Eastern, leading to the Master of Arts in Education. In 1948, the General Assembly removed the word "Teachers" from the name of the College and granted the College the right to award non-professional degrees.

The most significant day since its founding came for Eastern, February 26, 1966, when Governor Edward T. Breathitt signed into law a bill renaming the institution Eastern Kentucky University and sanctioning the awarding of graduate degrees in academic fields other than education.

During this period of time, Eastern Kentucky University has increased rapidly in size and stature. Beginning with a few students engaged in short review and certificate courses, the University today serves thousands of Kentucky's young men and women by offering a curriculum leading to the Bachelor of Arts, or Bachelor of Science degree in teacher education, or in general or professional areas, and an expanding graduate program that presently offers new degrees at the master's level in English, history, biology, business, chemistry, geography, political science, public administration, physical education, clinical and school psychology, music education and guidance and counseling for non-school personnel, as well as the already well-established Master of Arts degree in Education and the various fifth- and sixth-year leadership programs in education. Specialist Degree programs are offered in technology and physical education. In addition to these programs, Eastern offers a joint doctoral program with the University of Kentucky leading toward the Ed.D. degree in education.

Ever-mindful of the purpose of its founding, Eastern continues to recognize its historic function of preparing quality teachers for the elementary and secondary schools of the Commonwealth. However, a strong liberal arts curriculum leading to appropriate degrees, together with pre-professional courses in several areas and other graduate programs, enable Eastern to serve the Commonwealth as a general university.

PURPOSE

The purpose of Eastern Kentucky University is to provide for its students those intellectual and cultural pursuits which will develop in them habits of scholarship and intellectual curiosity; which will provide for them a deep understanding of American democracy and their role in maintaining its strength and vitality; which will imbue them with an understanding of man and his aspirations; and which will enable them to communicate effectively and efficiently.

Within this general purpose, the University has three more specific purposes: (1) to provide instruction in the arts and sciences, in business, in professional education, and in technological subjects; (2) to provide service to the community and region through the faculty serving as consultants in their fields of specialization and engaging in research dealing with problems of our society, and (3) to engage in research to advance knowledge in the subject matter areas with which the various colleges of the University are concerned.

These purposes of the University are accomplished through the Central University College, College of Arts and Sciences, College of Business, College of Education, College of Applied Arts and Technology, and the Graduate School.

THE GRADUATE SCHOOL

The major purposes of graduate study at Eastern Kentucky University are delineated below:

Preparation of teachers and school leaders for greater service through the extension of those fields of study which result in improved classroom instruction, informed administration, and human understanding.

Provision in the initial stage of graduate study for those who seek advanced graduate degrees.

Provision of advanced study for personnel in industry, government, and education in biology, chemistry, English, geography, history, business, and technology.

Qualification of persons for creative leadership in a complex economic order through the enlargement of their knowledge, managerial acumen, and perspective.

Provision of opportunities for music students to pursue advanced study.

Training students to man service agencies as counselors and psychologists.

Advanced study is increasingly rewarding to students who delimit their own objectives with precision and broad understanding and pursue them toward the end of self-enhancement and societal improvement.

THE CAMPUS

The Eastern main campus embraces approximately 325 acres of gently-rolling bluegrass slopes, and is further enhanced by the thoughtful selection and placement of trees and shrubs.

The various academic buildings, dormitories, and other facilities, reflecting several styles of design, are centered around a replica of an ancient Greek amphitheater which seats 2,500 persons.

Special emphasis in beauty and usefulness has been placed upon the academic heart of the University found in the complex of the John Grant Crabbe Library, the University Building, and the Bert Combs Building. Following are brief descriptions of the major buildings and facilities of Eastern Kentucky University.

ACADEMIC BUILDINGS

ALUMNI COLISEUM

The Alumni Coliseum houses facilities for physical education, general college classrooms and a basketball playing arena. The physical education facilities include auxiliary gymnasiums, special purpose rooms, locker and shower spaces and both indoor and outdoor swimming pools. Classrooms are included for general university use. Spectator seating will accommodate approximately 6,500 persons for basketball games and approximately 7,500 persons for convocations, lectures, and similar events. The building provides office space for Physical Education faculty, Department of Athletics staff and R.O.T.C. staff.

BERT COMBS BUILDING

The Bert Combs Building was named to honor a former governor of the Commonwealth of Kentucky. Completed in 1964, the building houses the Colleges of Business and Education, and the Departments of English, Speech and Drama and Political Science. The four-story building is completely air-conditioned and provides teaching stations for 2,200 students. It contains two large lecture rooms and provides offices for members of the faculties of these departments. Of striking design, the exterior of the building is faced with cut limestone and provides a unified concept in the heart of the academic campus.

CAMMACK BUILDING

The James W. Cammack Building was named to honor an appointee to the first Board of Regents of the University in 1906. In the summer of 1961, this building was completely renovated and is currently used to house the Art Department, Foreign Language Department, and other departments of the University. The exhibit room of the Art Department is located on the first floor and a modern, well-equipped language laboratory on the second floor is used by the Foreign Language Department.

COATES ADMINISTRATION BUILDING

The Thomas Jackson Coates Administration Building was named in honor of Eastern's third president. The offices of the President, Vice President for Academic Affairs, Dean of Admissions and Registrar, Dean of Public Affairs, Dean of Business Affairs, and other administrative personnel are located in this building. The building contains the Hiram Brock Auditorium which has a seating capacity of 1,700. The auditorium has a stage 40 feet by 30 feet, equipped with adequate curtains and drops, and a modern motion picture projection room. In 1965 a thorough renovation of this facility was completed. In this renovation the building was completely air-conditioned and refurbished, a 40-rank Holtkamp pipe organ was installed in the Brock Auditorium.

CRABBE LIBRARY

The John Grant Crabbe Library, named to honor Eastern's second president, occupies a central and convenient position on the campus. A major reconstruction of this facility last year enlarged the library to 148,000 square feet of floor space. The design provides diversified stacks with adjacent study areas. Individual study carrels are located throughout the building. Fully air-conditioned, the library provides seating space for approximately 3,000 students simultaneously and currently houses 214,000 volumes. It is designed ultimately to house a half million volumes.

DONOVAN BUILDING

The Donovan Building, named to honor the late Dr. Herman Lee Donovan, fourth president of Eastern Kentucky University and President Emeritus of the University of Kentucky, was first occupied in September of 1961. This building consists of several units housing the laboratory school of Eastern Kentucky University, and provides college classrooms. The facility is complete in all respects, utilizing modern concepts in design and equipment. Facilities are included for the laboratory school, from the nursery school through the twelfth grade, with appropriate units designed for physical education, music, arts and crafts, and general academic work at the elementary and secondary levels. Completely air-conditioned, this building compares favorably with any similar facility in the nation. The completion of an addition to the Donovan Building provides additional elementary classrooms, a nursery school, and studios for educational television and an FM radio station.

FITZPATRICK ARTS BUILDING

This building was named to honor H. D. Fitzpatrick, Sr., a long-time member of the Board of Regents of the University. The Fitzpatrick Arts Building houses the department of Industrial Arts. The Gibson Addition to the building in 1961 added to the Industrial Arts shop and classroom facilities.

PHYSICAL EDUCATION-ATHLETIC STADIUM COMPLEX

This new facility, completed in 1969, is a ten-story structure which houses the departments of Physical Education, Military Science and Law Enforcement. Its inclined terraced roof serves as a football stadium with seats for 20,000 spectators. The building contains 188,000 square feet of floor space and provides instructional facilities to serve more than 2,000 students simultaneously. In addition to 34 lecture and seminar rooms, there are three instructional gymnasiums, 12 handball courts, and locker and equipment rooms.

AGRICULTURAL CLASSROOM, LABORATORY AND SHOP BUILDING

The Agricultural Classroom, Laboratory and Shop Building is designed as an agriculture technology center. The one-story structure, with brick exterior, contains 13,200 square feet of floor space. The building contains classrooms and shops for instructional and vocational training in farm mechanics, maintenance of farm machinery and horticulture.

BURRIER HOME ECONOMICS BUILDING

The Department of Home Economics is housed in the new four-story structure named for Miss Mary K. Burrier, former chairman of the Home Economics Department. The building, completed in 1968, contains lecture halls, research and study areas, 18 classrooms, and a "family-living center."

STEPHEN FOSTER BUILDING

The Stephen Foster Music Building houses the Music Department and provides classrooms for other divisions of the University. Facilities include, in addition to classrooms, nineteen practice rooms, ten studios, a band room and a chorus room, a number of auxiliary rooms such as offices for the head of the Music Department and the band director, listening rooms for music appreciation, student and faculty lounges, and storage and locker space. The building was air-conditioned in the spring of 1961.

ROARK BUILDING

Roark Building was named to honor Dr. Ruric Nevel Roark, Eastern's first president. In 1965, this building was renovated, refurbished and completely air-conditioned. The building provides facilities for the Departments of Mathematics, Geography, Geology, Anthropology and Sociology.

MOORE BUILDING

The Departments of Biology, Chemistry, and Physics are housed in the Moore Building. The air-conditioned building contains offices, modern laboratories and several lecture areas in addition to regular-sized classrooms.

MEMORIAL SCIENCE BUILDING

Memorial Science Building is a modern four-story structure housing spacious, well-equipped laboratories and lecture rooms for the Departments of Biology, Chemistry, and Physics.

UNIVERSITY BUILDING

The University Building was constructed in 1874 to house Central University. This four-story brick structure is the oldest academic building on the campus. In the summer of 1961 the building was completely renovated to house the Departments of History and Social Studies.

WEAVER HEALTH BUILDING

The Weaver Health Building is named for the late Charles F. Weaver of Ashland, Kentucky, who served on the Board of Regents at Eastern from 1920 to 1932. In 1965, a renovation of this building was completed, converting it into a health and physical education facility for women students. The building provides a large gymnasium, a spacious modern dance studio, an official size tile swimming pool, handball courts, several classrooms, and faculty offices.

FAMILY HOUSING FACILITIES

BROCKTON

Brockton is the family housing project at Eastern. It consists of 198 modern, fire-resistant apartments in all. There are 72 efficiency units, 95 one-bedroom units, and 32 two-bedroom units.

The apartments are furnished with an electric refrigerator and gas range. The efficiency units also contain a sleeper couch and a five-piece dinette set. Each apartment has an individual thermostatically-controlled gas furnace, tile floors, and acoustical ceilings. The bath includes both shower and tub. A coin-operated laundry with both washers and driers is conveniently located in the project area.

Brockton was named to honor George Marshall Brock, who has been associated with the University since 1918, and as Business Agent or Comptroller since 1923.

TRAILER PARKS

Two modern trailer park areas have been constructed adjacent to Brockton. Paved roadways, landscaped areas, adequate space and complete utility services are included. Both parks accommodate trailers of all sizes.

HOUSING FOR SINGLE STUDENTS

Comfortable living accommodations are provided single students in modern dormitories designed to give the Eastern student convenient accommodations. In all, there are 20 residence halls which house 7,000 students. In addition, two large complexes are presently under construction which, when completed, will increase the on-campus housing capacity to more than 11,000 students. Each complex will consist of four skyscraper dormitories and a large cafeteria. For information concerning on-campus housing, write:

Office of the Housing Secretary
Coates Administration Building

OTHER FACILITIES

In addition to the residence units listed herein, the University owns or operates several other facilities for the housing of students. Among these are Stateland House for single men students and several apartments and dwellings on campus for the housing of faculty and staff.

OTHER BUILDINGS

KEEN JOHNSON STUDENT UNION BUILDING

The Keen Johnson Student Union Building contains club rooms for students, recreation halls, the Little Theatre, bookstore, soda fountain and grill, cafeteria, faculty rooms, and a spacious reception room. It was named in honor of a former Governor of Kentucky who was a member of the Board of Regents at the time it was constructed. In 1961 the Student Union Building was renovated and refurnished to provide more extensive services for students, faculty and friends of the University.

BLANTON HOUSE

The two-story brick residence, which is the President's Home, was constructed in 1886 as a residence for the Chancellor of Central University but did not become the property of the University until 1912. This residence has served as the home of Eastern's presidents since that date.

AULT SERVICE BUILDING

The Ault Service Building was named in honor of William A. Ault, who served the University for 45 years as Superintendent of Buildings and Grounds.

This modern facility was completed in 1962. The building not only provides modern shops and office space for the entire maintenance department, but serves as a central supply and storeroom for all departments on the campus.

UNIVERSITY FARM

The University operates a modern farm, engaging in dairying and production of various crops. The farm operation is located away from the main campus and is housed in up-to-date buildings, providing modern sanitary facilities for the production of food products.

ARLINGTON

The Arlington Estate, which features a three-story Georgian-style mansion encompassed by 181 acres of gently sloping Bluegrass land, serves as a faculty-alumni club. The estate also serves the University as a conference center as well as for instructional and recreational purposes by students and faculty.

The mansion and surrounding 15 acres, valued at a quarter of a million dollars, were the generous gift of construction industrialist W. Arnold Hanger. The remaining acreage was purchased by the Eastern Kentucky University Foundation.

MARY FRANCES RICHARDS ALUMNI HOUSE

The Mary Frances Richards Alumni House is a two-story frame home just off the main campus on Lancaster Avenue that houses the Office of Alumni Affairs. Named to honor Mrs. Richards, retired member of the Geography Department faculty and executive secretary of the Alumni Association for 19 years, the new alumni center has been remodeled to provide offices, a lounge, and conference areas.



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EXPENSES AND LIVING ACCOMMODATIONS

REGISTRATION FEES AND OTHER EXPENSES

The following list of fees is required of students. All fees must be paid at the time of registration. Incidental fees paid each semester entitle the student to use of the library, the use of the Student Union Building, and to other services as directed by the Board of Regents.

REGISTRATION FEES AND OTHER EXPENSES (Per Semester)

Effective September 1, 1969

Registration and Incidental Fees (Per Semester)	Kentucky Resident	Out-of-State Resident
Registration Fee:		
Full-time	\$100.00	\$350.00
Part-time (Fewer than 9 Semester Hours), per hour	12.00	40.00
Incidental Fee:	30.00	30.00
Full-time		
Includes: Health fee	\$3.00	
Student Union fee:		
Classroom fee	5.00	
Activity fee	8.25	
Yearbook	3.75	
University Center Fee	10.00	
Part-time		
Includes Classroom fee	2.50	2.50
Registration and Incidental Fees (Summer Term)		
Registration Fee:		
Full-time	50.00	175.00
Part-time (Fewer than 6 Semester Hours), per hour	12.00	40.00
Incidental Fee:		
Full-time	15.00	15.00
Includes: Health fee	\$1.50	
Student Union fee:		
Classroom fee	2.50	
Activity fee	6.00	
University Center Fee	5.00	

Part-time	1.25	1.25
Includes: Classroom fee		
Special Fees		Per Course
Health and Physical Education		4.00
Locker Fee		4.00
Music		
Full-time Music Major		37.00
Part-time Music Major		17.50
Full-time Non-Music Major		30.00
Other Expenses		
Late Registration Fee (per day late)		1.00
Voluntary change of schedule		2.00
Transcript Fee (other than initial copy)		1.00
Graduation Fee (includes cost of diploma, cap and gown rental, and other graduation expenses)		
Master's Degree		21.00
Post Office Box Rent		1.00
Returned Check Assessment		5.00
(All fees are subject to change without notice)		

DEFINITION OF RESIDENT STUDENT FOR FEE ASSESSMENT PURPOSES

The following policy, adopted by the Council on Public Higher Education, Commonwealth of Kentucky, in accordance with Section 164.020(2) of the Kentucky Revised Statutes, is applied to determine a student's eligibility for fees assessed Kentucky residents who enroll at any of the state-supported institutions of higher learning in the Commonwealth of Kentucky. This determination is made at the time of initial enrollment and shall not be changed thereafter except as provided below.

Students under twenty-one should refer to Page 25 of the University *General Catalog*.

A student twenty-one years of age or older is eligible to register as a resident if he has maintained continuous residence in the Commonwealth for twelve months immediately preceding the date of his original enrollment, exclusive of any time spent in attendance at any institution of higher learning. An adult student registered as a non-resident upon his original entrance cannot generally thereafter acquire resident status.

An adult student from out-of-state who seeks residence status must assume the burden of proving conclusively that he has been a resident of the Commonwealth the requisite time with the present intention of making his permanent home in this state. In general, it is assumed that the intent to remain indefinitely in the Commonwealth is evidenced not

only by what a person states but what a person has actually done. Normally, persons with intent to establish residence will be expected to have done all those things which a person customarily does when establishing a permanent residence, some of which are: obtaining full time employment, establishing a home, buying property, filing tax returns, transferring or establishing church membership, affiliating with local organizations, and the various other things which give evidence of intent to remain indefinitely within the Commonwealth.

Each Board of Trustees or Board of Regents is authorized to establish a Non-Resident Fees Committee to consider changes in resident status based on the above criteria. Application for change of resident classification should be made to the person who has been designated by the Board of Trustees or Regents as the Chairman of the Non-Resident Fees Committee. The Chairman will present each case to the Committee for a final decision.

This policy shall be applicable with exceptions allowable for possible conflicts with state and federal laws relating to residency such as the Federal Soldiers and Sailors Relief Act.

LIVING ACCOMMODATIONS

Eastern Kentucky University maintains a number of residence halls for single students. Within limits of the capacities of these halls all single students not living at home may live in University facilities. Single students over the age of twenty-one may elect to seek lodging in Richmond homes. Names and addresses of those who have rooms for rent will be listed with the Housing Secretary. The student applicants must select rooms from the lists in the Housing Secretary's Office, Coates Administration Building. All students, whether living in University or private facilities, are subject to regulations and supervision of the University.

All rooms have single beds for which pillows, pillow cases, and sheets are furnished. The University bears the expense of having these sheets and pillow cases laundered. Each student is expected to provide his own blankets, towels, and similar articles.

Residence Halls for Women	Rent for Semester (Includes \$7.00 Linen Service)	Rent for Summer (Includes \$4.00 Linen Service)
Burnam	\$120.00	\$60.00
Case	120.00	60.00
McGregor	130.00	65.00
Sidney Clay	130.00	65.00
Sullivan	120.00	60.00
Telford Hall	130.00	65.00
Walters	130.00	65.00
Residence Halls for Men		
Combs	\$130.00	\$65.00
Dupree	130.00	65.00
Keene Hall	130.00	65.00
Keith	120.00	60.00
Martin	120.00	60.00
Mattox	120.00	60.00
Miller, Beckham, and McCreary	120.00	60.00
O'Donnell	120.00	60.00
Palmer	130.00	65.00
Todd	130.00	65.00
Commonwealth	130.00	65.00
Telephone Service (if available)		
Per Student	\$12.00	\$6.00

All charges are subject to change without notice.

RESIDENCE HALL POLICIES

All students desiring housing at Eastern Kentucky University should complete an application for a room reservation and forward it to the Housing Secretary, Office of Student Affairs, Eastern Kentucky University, Richmond, Kentucky.

An advance rental payment of \$50.00 should accompany the application. This payment is necessary before a reservation will be made. It will be applied to the rent for the first semester following enrollment. The advance payment will be refunded in full if cancellation is received by August 15 for the first semester, January 15 for new students for the second semester, or May 15 for the summer term respectively.

Reservations will be held only through the day preceding the first day of classes, unless students have made arrangements with the Residence Hall Director for late arrival.

Partial refunds of rentals after a room is accepted may be made only in exceptional instances. In no case shall a refund of rent be made to students moving from University housing at their convenience.

Room rent is paid by the semester and is due and payable at registration.

STUDENT IDENTIFICATION CARD

Each full-time student who has paid the full fees for a semester, including the activity fee, will be issued a personal identification card. This card entitles the student to admission to all University athletic contests on the campus and to certain other programs sponsored by the University. It must be carried by the student at all times for official identification on the campus, and all full-time students must have a validated ID card before registration is completed.

Each part-time student is issued a non-laminated card for identification purposes only. It is not valid as an activity card.

If the full-time student card is lost, it must be replaced. A replacement fee of \$10.00 is assessed. Application for replacement must be made at the Office of Student Affairs.

REFUND POLICY

Refunds on fees and room rental charges, when authorized, shall be made on a schedule based on the time elapsed during the semester or summer term. During the semester, refund of a portion of the fees and room rental paid shall be made as follows: first and second weeks, 75%; third and fourth weeks, 50%; fifth and sixth weeks, 25%. After six weeks no refunds will be made. During the summer term, the following schedule will determine the portion refunded: first week, 75%; second week, 50%; third week, 25%. After three weeks, no refund will be made. (For the purpose of this calculation, the week will begin with the first day of registration for the semester or summer term.)

The percentage of refunds shall apply to all fees and room rentals paid, except that no refund can be made on fees collected for student insurance premiums, class dues, and similar fees.

FOOD SERVICE

The University operates several food service facilities on the campus. Large modern, air-conditioned cafeterias in the Johnson Student Union Building, Martin Hall, and Sidney Clay Hall serve attractive, wholesome meals at reasonable prices. In addition, snack bars are located in the Johnson Student Union Building, Case Hall, Martin Hall, Mattox Hall, and Weaver Health Building.

GRADUATE ASSISTANTSHIPS, SCHOLARSHIPS, FINANCIAL AID, AND STUDENT EMPLOYMENT

GRADUATE ASSISTANTSHIPS

Graduate assistantships are available to unusually well qualified students in some departments. Duties may include laboratory supervision, teaching, and research related tasks. Stipends include waiver of the out-of-state registration fee and \$2,200.00 for the academic year. Applications for assistantships may be obtained from the Dean of the Graduate School. Preference in awarding assistantships will be given to individuals able to support applications with Graduate Record Examination scores.

Students holding a graduate assistantship should not carry a combined teaching and course load in excess of fifteen semester hours. A non-teaching assignment of sixteen to twenty hours of work per week is considered the equivalent of a three hour teaching load.

Applicants must meet all the requirements for admission to the Graduate School prior to being awarded an assistantship.

PHI DELTA KAPPA SCHOLARSHIP

The Eastern Kentucky University Chapter of Phi Delta Kappa, an education fraternity for men in education, awards a full tuition scholarship each year to a full-time male graduate student. Applications and information may be secured by writing to the Graduate Office. Applications must be submitted by July first of each year.

LOAN FUNDS

The National Defense Student Loan Program at Eastern provides loans for students. Priority is given to all students who have superior records in high school and college. To get application forms and a statement of conditions relating to the loans, applicants should send their requests to the Office of Student Financial Assistance, Eastern Kentucky University.

The Student Aid Society Inc. Loan Fund of Eastern Kentucky University is designed to help worthy students complete their education. It has been augmented from time to time by gifts from different individuals and organizations and is being increased annually. Small loans are available to upperclass students who are currently enrolled. Those having high scholastic records will be given preference in the granting of loans. This fund makes it possible for a student to borrow a small amount of money on a personal note at a legal rate of interest. Students who desire further information concerning this fund should get in touch with the Chairman of the Student Aid Committee.

United Student Aid Fund

Eastern Kentucky University is a participant in the United Student Aid Fund (Guaranteed Loan Program). The United Student Aid Fund is a private non-profit corporation which endorses loans made by home-

town financial institutions to deserving individuals who are either currently enrolled or have been accepted for admission to Eastern Kentucky University. The application for such a loan must be endorsed by Eastern Kentucky University before submission to the bank or other financial institution.

Under this program a full-time undergraduate student may borrow up to \$1,000 per academic year and a full-time graduate student may borrow up to \$1,500 per year. To qualify for this assistance a student must be from a family whose adjusted income does not exceed \$15,000 per year. Application and further information for a guaranteed bank loan may be obtained from the student's hometown bank or other financial institution or by writing the Office of Student Financial Assistance.

STUDENT EMPLOYMENT

There is opportunity for student employment, whereby a limited number of students may earn part of their expenses by working in the cafeteria, library, bookstore, post office, dormitories, administrative offices, University dairy and farm, maintenance department, and faculty offices. Some students may also secure part-time employment in Richmond stores, restaurants, and other businesses.

Student labor should be limited so that work hours will not take too much of the student's study time. While ten hours per week is an average labor load, circumstances may permit a student to work more hours. No student, however, should enter the University without sufficient money for the semester unless there is a definite guarantee of work to support him. For further information and application forms, write to the Office of Student Financial Assistance, Eastern Kentucky University.

THE WORK-STUDY PROGRAM

Under a grant from the Federal Government, made possible by the Economic Opportunity Act of 1964, eligible students may be employed on a part-time basis while in full-time enrollment at Eastern. This program supplements the part-time Institutional Program which has been in effect at Eastern for many years.

A student or prospective student from a low-income family is eligible for employment under the Federal Work-Study Program. The student must enroll for a minimum of twelve semester hours of course work each semester and maintain at least a "C" average.

Placement in jobs will depend upon the skills, interests, and aptitudes of the student and the availability of positions open at a given time. Students may work up to 15 hours per week and can earn up to \$20 per week, depending upon the type of job assigned. Payments are made to the student employee on a semi-monthly basis.

It is the policy of the administration that prospective students should have a high school scholastic standing of "C" or better in order to apply for student financial aid. A statement from the student's principal or guidance counselor should accompany the application to verify the high school scholastic standing.

Students may continue working under this program as long as their academic performance and job performance are satisfactory.

This program is combined with other programs of financial assistance (the National Defense Loan Fund and the Work-Study Program mentioned above) to the extent necessary to enable the student to meet his educational expenses.

For further information and an application form, write to the Office of Student Financial Assistance.

OTHER FINANCIAL ASSISTANCE

The Veterans Program at Eastern Kentucky University is approved by the Veterans Administration for the education of veterans and their eligible dependents. Students concerned with veterans training should have, at the time of registration, a Certificate of Eligibility. This is secured from the Regional office of the Veterans Administration. The University is responsible for the completion of certain Veterans Administration forms and for the other necessary information about students who receive this aid.

VOCATIONAL REHABILITATION

Vocational Rehabilitation for students with physical handicaps of various kinds may be approved. They may receive financial benefits as approved by the Department. Students who wish to consult with a representative relative to vocational rehabilitation should write the Department of Education, Department of Vocational Rehabilitation, Frankfort, Kentucky, for specific instructions.

STUDENT HEALTH SERVICES

University Health Services are furnished full time by a physician and a staff of registered nurses. Services at the Infirmary are available 24 hours a day with the exception of vacation periods and other announced dates. The modern infirmary has 10 beds for short time illness or overnight care. Surgery or serious illnesses will be referred to one of the several general hospitals in the area.

All new students must have a physician perform a complete physical examination and complete a medical record which is furnished the student when admissions information is being filed. The Medical Record is a part of admissions; and after the student is admitted to the University, the Medical Record becomes a part of the student's health folder and is filed at the University Infirmary. With this information, it is possible to be of greater assistance to all full-time students who use the Infirmary services.

GUIDANCE AND COUNSELING

Through its student affairs offices, the University relates to students in various aspects of campus life. Some of the more specific areas are: (1) physical and mental health of students; (2) coordination of student activities and clubs; (3) on-campus and off-campus living; (4) maintenance of personnel records; (5) operations of a student counseling office; (6) registration; (7) foreign student advisement; (8) social programs; (9) veterans affairs; and (10) student financial assistance.

The entire University faculty and administrative staff assists in various aspects of student personnel work co-ordinated through the Office of Student Affairs.

CULTURAL ACTIVITIES

Every effort is made at Eastern to surround the students with cultural advantages. The programs presented are planned as part of the student's education and much time and effort is put forth to provide programs that will be of benefit to students.

Assemblies are held regularly and special assemblies are held when the occasion warrants. While programs at these assemblies are designed primarily for the students and faculty, visitors to the campus are welcome to attend. Programs planned for these assembly periods include appearances by nationally recognized lecturers and artists.

Concert Series are presented at the University in cooperation with the Community Concert Association. Students are admitted to these excellent programs without charge, but they must present identification cards for admission. These programs feature some of the outstanding individuals and groups in the nation.

Art Exhibits, arranged by the Art Department, are on continuous exhibition in the Art Gallery, Cammack Building. Every effort is made to include in the exhibits the works of major artists, past and present, from across America and around the world. Also included are the works of art students, art majors, and faculty. In addition, special exhibits are sometimes arranged for showing in the Student Union Building.

Church Affiliation is recognized as an important factor in the life of any student. Eastern is a state-supported institution and is, therefore, non-denominational. The University has a basic objective in helping to develop ethical character among all students. There is close cooperation between the institution and several fine churches in Richmond. Students are encouraged to attend church services in town. Eastern makes spaces available for several student church organizations to meet on the campus.

Presently, two downtown churches have built student centers adjoining the campus. Other student centers will be built in the near future on sites which have already been purchased.

Plays presented by Eastern Little Theatre are a significant contribution to Eastern's cultural life. Three major productions each year, along with studio productions, and a drama program in the summer, provide numerous opportunities in acting, directing, and technical theatre. Participation in every aspect of the theatre program is open to all students.

In conjunction with the theatre program, there is a chapter of Alpha Psi Omega, National Honorary Dramatics Fraternity which gives recognition to students of outstanding acting and technical ability.

Eastern Little Theatre is affiliated with the following professional dramatics and speech organizations: American National Theatre and Academy, American Educational Theatre Association, Speech Association of America, United States Institute of Theatre Technology, South Eastern Theatre Conference, Southern Speech Association, Kentucky Speech Association, and the Kentucky Council of Performing Arts.

Cultural Opportunities in Surrounding Centers: A broad panorama of cultural events is accessible by automobile in Louisville, Lexington, and Cincinnati. Students are encouraged to attend special events of interest.

PLACEMENT OFFICE

The Placement Office is maintained by the University and is a free service to assist students and alumni in obtaining positions in schools, business, and industry. Its concept is that it only helps job candidates to meet employers; it does not guarantee a job for the candidate.

Each year, schools, industry, business, and government agencies come to this office searching for graduates with specific background, experience, and ability to fill their positions and vacancies.

The Placement Office provides up-to-date job listings in numerous fields. It offers the applicant opportunities to have interviews with numerous prospective employers.

The Placement Office prepares and distributes bulletins to those who have filed a request. The bulletins list all known employment opportunities supplied by employers by letter, telephone, telegraph, or through their own placement bulletins.

Students receive the information via campus bulletin boards, department heads, and the Eastern Progress, the weekly student newspaper. Alumni receive the listings by mail and through the Progress, which they receive every two weeks.

THE ALUMNI ASSOCIATION

The Alumni Association of Eastern has as its purpose to promote fellowship among the graduates and to stimulate mutual interest and concern between the University and the Alumni. Eastern now has over 17,000 graduates. Many of these men and women hold more than

one degree from the University. All Eastern graduates are members of the Eastern Alumni Association, "with all the rights and privileges appertaining thereto." All former students who have as much as a semester's work at Eastern, former faculty and staff members, are eligible for associate membership. The Alumni Association encourages all alumni to make an annual gift to the Alumni Fund each year. The minimum gift is \$5.00, which serves as the "dues" for active membership in the Association. This is used by the Association's Alumni Office to help defray operating expenses. The remainder of any contribution will be used for the specific purpose designated by the contributor. Annual active membership is obtained by making an annual contribution of at least \$5.00. Life memberships are \$75.00 for single and \$100.00 for joint memberships.

The Alumni Association sponsors Homecoming in the fall, KEA breakfast in the spring, and Alumni Day at commencement time. The latter features an Alumni Dinner honoring the 15, 25, 40 and 50 year classes, and the presentation of an Outstanding Alumnus Award. In addition, active Alumni Chapters at Louisville, Greater Cincinnati, Ashland-Huntington-Ironton (Tri-State) area, Pulaski County, Pike County, Perry County, Harlan County, Breathitt County, Fayette County, McCreary County, Dayton and Hamilton, Ohio, Washington, D. C., and three in Florida, have numerous meetings throughout the year, open to all alumni and former students in the area. Many more Eastern Alumni Chapters are expected to be installed in the future.

The Eastern Alumni Association is a member of the American Alumni Council and the Joint Alumni Council of Kentucky, an organization made up of the alumni of the six state-supported institutions: Eastern Kentucky University, Morehead State University, Murray State University, Western Kentucky University, University of Kentucky and Kentucky State College.

The Eastern Alumnus, official magazine of the Alumni Association, is published each fall and spring by the Association for its members. Subscription is included in the membership dues.

The Alumni Office is conveniently located in the Mary Frances Richards Alumni House where alumni and students may get bulletins and information. This is a good place for former students to find the addresses of their colleagues. Graduates, former students and faculty members are always welcome at the Alumni Office.



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ADMISSION TO THE GRADUATE SCHOOL

DEGREE, PROGRAMS, AND REQUIREMENTS

The Graduate School, in cooperation with the College of Applied Arts and Technology, the College of Arts and Sciences, the College of Business, and the College of Education, offers the following degrees and programs:

College of Applied Arts and Technology

- Master of Science in Industrial Education.
- Master of Science in Industrial Technology.
- Specialist in Technology.

College of Arts and Sciences

- Master of Arts in English.
- Master of Arts in Geography.
- Master of Arts in History.
- Master of Arts in Political Science.
- Master of Music Education.
- Master of Public Administration.
- Master of Science in Biology.
- Master of Science in Chemistry.
- Master of Science in Psychology.

College of Business

- Master of Business Administration.

College of Education

1. Master of Arts in Education—The College of Education offers the Master of Arts in Education with emphasis in elementary education, counseling, library science, reading, school social work, and most teaching areas in secondary education.
2. Master of Arts in Counseling—Emphases available in Non-School Counseling and Student Personnel in Higher Education.
3. Master of Science in Physical Education.
4. Specialist in Education.
5. A sixth year program leading to Rank I.
6. A joint doctoral program with the University of Kentucky.
7. A fifth year program for certificate renewal.
8. A program leading to the standard certificate for elementary and secondary principals and supervisors.

TYPES OF ADMISSION

Students who intend to pursue a particular graduate program should refer to the section of this *Catalog* pertaining specifically to that program. Students not intending to fulfill requirements of specific programs may be admitted to the Graduate School by meeting the requirements delineated in the section below entitled "General Admission Requirements."

GENERAL ADMISSION REQUIREMENTS

Admission to the Graduate School at Eastern Kentucky University is based on evidence that the applicant will be able to pursue creditably a program of graduate study in his field. Admission to the Graduate School should not be construed, however, as admission to candidacy for the degree, described later. Application forms may be secured from the Dean of the Graduate School.

Applicants should be graduates of accredited four year institutions authorized to grant the baccalaureate degree.

The minimum grade point ratio acceptable for unqualified admission is 2.4 overall (4.0—A). Conditional admission may be granted to a limited number of individuals whose overall standing is 2.25 provided they possess for the last 30 hours of their undergraduate work an average of 2.5.

Specific program requirements are listed in college and/or departmental sections.

Students assume responsibility for filing complete admission data with the Office of the Graduate School, including two official copies of official transcripts of *all* college credits. An official transcript must bear the seal and signature of the sending institution and should be transmitted directly to the Dean of the Graduate School.

The Graduate School reserves the right to withdraw without credit or refund any student for whom applications are incomplete at the end of their first enrollment.

No student may receive graduate credit for a course without admission to the Graduate School.

All programs assume certain formal and informal prerequisites. Normally any deficiencies in preparation must be resolved during the first enrollment.

UNDERGRADUATE ADMISSION

An undergraduate student who needs not more than nine semester hours in one semester (or three semester hours in one summer session) to complete all of the requirements for a bachelor's degree may be allowed to register for graduate credit work under the conditions described below.

All work for undergraduate credit will be completed during that semester or summer session.

The total registration for all work will not exceed twelve semester hours in a semester (or six semester hours in a summer session).

All work to be counted for graduate credit will be approved in advance by his college dean and advisor and by the Dean of the Graduate School.

The student must meet all pertinent conditions for admission to the Graduate School, and credits must not be used to meet undergraduate requirements.

VISITING STUDENTS

Because of its unique programs and facilities, strong faculty, diversified institutes and workshops, Eastern is attractive to many students who have been admitted to other accredited graduate schools. Students in good standing may elect to gain admission for one term by having their graduate dean submit a statement to that effect or by having him sign and return to Eastern a "Visiting Student Certificate," copies of which may be obtained from the Dean of the Graduate School.

FOREIGN STUDENT ADMISSION

Foreign students meeting general admissions requirements and for whom Eastern has appropriate work at the graduate level are invited to make application. Such applications should be supported, however, by satisfactory evidence of their ability to meet the requirements of scholarship in English. A copy of the results of the "TOEFL" examination (Test of English as a Foreign Language), given in a large number of center throughout the world by Educational Testing Service of Princeton, New Jersey, should be submitted by applicants for whom English is not a native language.

GRADUATE RECORD EXAMINATION

All graduate students must submit, either at the time of application for admission or no later than the completion of the first session of their graduate work, the scores of the aptitude section of the Graduate Record Examination. Certain programs require Advanced Graduate Record Examinations in the subject field in addition to the aptitude sections. The Graduate Record Examinations are administered at Eastern in October, April, and July. Applications to take the Graduate Record Examination must be received in the office of the Educational Testing Service, Princeton, New Jersey, more than three weeks in advance of the testing date. Application forms are available in the office of the Dean of the Graduate School. It is the student's responsibility to apply for, to take the examination, and to have the scores sent to the Dean of the Graduate School at Eastern.

RESIDENCE REQUIREMENTS FOR DEGREES

The minimum residence requirement shall be two semesters. At least one-half of the course requirements and one-half of the residence work shall be met as a full-time graduate student. A load of six semester hours of credit shall be regarded as full-time during an eight week summer term and a minimum load of nine hours of credit shall be regarded as full-time during one semester.

PROGRAM PLANNING

After receiving notification of admission to the Graduate School and of the appointment of an advisor or graduate committee, the student should take the initiative to contact his chairman and discuss his objectives carefully. This conference should take place after the student has familiarized himself with program purposes and pertinent regulations as they are described in the *Catalog* and *before registration*. When prior conferencing is not possible, the student may obtain approval for the first semester's work in writing or on Registration Day. However, the complete program should be developed, if at all possible, during the first semester of enrollment.

REGISTRATION

Graduate students should register on the dates stipulated in the calendar. IBM registration packets should be obtained from the Office of Admission; the advisor should initial the Registrar's Schedule Card; course cards should be obtained at departmental stations and checked for correspondence with courses desired; a further check and signature should be obtained at the Graduate Dean's station before proceeding to pay stations.

For each registration, it is necessary to submit as far in advance of registration as possible a re-admission form, obtained from the Office of the Graduate School.

GRADE POINT AVERAGE

Candidates for a Master's degree must have an average standing of at least 3.00 on a 4.00 scale. No credit shall be granted for a grade below C.

ADMISSION TO CANDIDACY

A graduate student must be admitted to candidacy by the Graduate Council before he is eligible for the master's degree. At least nine hours of graduate credit must be earned before admission to candidacy, and at least 12 hours must be earned after admission to candidacy.

All conditions of admission to the Graduate School should have been satisfied.

Graduate Record Examination scores for the combined aptitude tests and departmental requirements on Advanced Tests shall have been satisfactorily met.

No student shall become a candidate without a minimum grade point standing of 3.0.

A complete program of studies for the program shall have been devised, approved, and filed with the committee chairman, department chairman, and Dean of the Graduate School. Subsequent changes, while permissible, must be approved by these parties in advance.

While the student should initiate candidacy proceedings, the committee chairman is responsible for a recommendation to the Graduate Council and such intermediate bodies as exist.

LANGUAGE REQUIREMENTS

In most Master of Arts programs, a reading knowledge of a modern foreign language is required. The appropriate language, usually French, German, or Russian, will be designated by the department. In some instances 12 hours of advanced credits in a single language will be accepted in lieu of an examination.

Students must satisfy the language requirement prior to scheduling of the comprehensive examinations.

TIME LIMIT

A graduate student is expected to complete requirements for the master's degree no later than eight years after beginning course work. However, the student should refer to the time limit requirement of the graduate program he selects.

MINIMUM HOURS REQUIRED

All master's degree program and the sixth year program for Rank I require a minimum of thirty semester hours.

At least half the course work required for any degree program must be satisfied with courses open only to graduate students. (600 level).

MASTER'S THESIS

Those who submit a thesis in partial fulfillment of the Master's degree must prepare it in conformity with the regulations approved by the Graduate Council. The original (ribbon) copy and a clear copy must be deposited with the Dean of the Graduate School at least one week before the degree is conferred.

Theses shall be typed on paper with a rag content of not less than 50 percent, and margins of 1½ and 1 inch, left and right respectively, must be maintained.

APPLICATION FOR THE MASTER'S DEGREE

A student planning to receive the master's degree in June should apply before the end of the first semester. Candidates for the August Commencement should apply not later than the beginning of the second semester. Applications should be filed in the Office of the Graduate School. Fees are to be paid at the Business Office and receipts presented in the Office of the Graduate School.

COMPREHENSIVE EXAMINATION(S)

All candidates shall perform satisfactorily on a written and/or oral examination of the contents of their program of studies. In some instances, the defense of the thesis shall suffice. Particulars are specified by program. Comprehensives are scheduled after application for the degree has been filed and evidence exists indicating that the student should complete all degree requirements during the term in question.

Committee chairmen shall certify satisfactory completion of the comprehensives to the Dean of the Graduate School no later than ten days in advance of Commencement.

A review period of not less than 60 days nor more than one year is usually required of candidates who fail the comprehensives initially.

TRANSFER OF CREDIT AND EXTENSION CREDIT

Candidates for the Master of Arts in Education Degree may complete a maximum of 12 semester hours of credit off the Eastern campus. No more than six of the above credits may be completed at another accredited institution.

Candidates for other degrees are restricted to a maximum of six semester hours of credit through extension and/or transfer.

In all cases, course work so completed must be acceptable to the student's graduate committee.

COURSE NUMBERING

Courses numbered in the 500 series are open to seniors and graduate students who meet course and program prerequisites. Courses numbered in the 600 series are open only to graduate students.

CHANGE OF SCHEDULE

The University reserves the right to cancel a course when the registration is not sufficient to warrant its continuance, to divide classes if the enrollment is too large for efficient instruction, and to change instructors when necessary. Additional courses will be organized if the demand is sufficient.

WITHDRAWAL FROM THE UNIVERSITY

Students who find it necessary to leave the University under any conditions must obtain an official Withdrawal Card from the Office of the Vice-President for Student Affairs. Students not officially withdrawing shall receive grades of "F" for the semester's course.

SPECIALIST DEGREE REQUIREMENTS

The University offers advanced graduate work leading to the Specialist Degree. Beginning graduate students interested in two year programs

with special preparation for teaching or professional service opportunities in post-secondary technical schools, junior or senior colleges should seek early advisement in order to assure proper program development.

Candidates for specialist degrees must possess an undergraduate grade point average of at least 2.5.

Candidates for specialist degree status must offer a graduate grade point average of 3.3.

Prior to admission to candidacy for the Specialist Degree, students must present a score on the combined aptitude tests of the Graduate Record Examination at the level of the 65th percentile, a value derived from scores achieved by Eastern seniors within programs.

Fifteen hours of course work must be completed prior to graduation after admission to candidacy for the degree.

JOINT DOCTORAL PROGRAMS

Eastern Kentucky University, in cooperation with the University of Kentucky, offers the degrees, Doctor of Education and Doctor of Philosophy. The graduate student may make application for admission to the program after completion of 18 hours of graduate work or subsequently.

Admission to the program is considered by a joint screening committee selected from faculty representing the two institutions.

The candidate may continue in residence at Eastern Kentucky University for one school year, completing a maximum of 30 semester hours beyond the master's degree, prior to transfer to the University of Kentucky.

Throughout the program term, the student shall be enrolled in both schools but will pay fees only to the resident University.



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COLLEGE OF APPLIED ARTS AND TECHNOLOGY

William E. Sexton, Dean

Jack A. Luy, Associate Dean

Departments within the College of Applied Arts and Technology offer programs leading to Master of Science and Specialist in Technology Degrees. The Department of Industrial Education has programs leading to the Master of Science Degree in Industrial Education and the Specialist in Technology Degree. The Department of Industrial Technology has a program leading to the Master of Science degree in Industrial Technology.

The Departments of Home Economics and Industrial Education, in cooperation with the College of Education and the Graduate School, offer programs in their respective disciplines leading to the Master of Arts in Education Degree.

AGRICULTURE (AGR)

W. Householder, Chairman

AGR 570. Advanced study in technical agriculture. **Three-Fifteen hours. Five three-hour segments. A.**

Advanced technical study in five agricultural areas with emphasis upon updating the technology and the development of understanding and the technical competency in:

AGR 570. a. Ornamental Horticulture. **Three hours.**

AGR 570. b. Agricultural Mechanization. **Three hours.**

AGR 570. c. Dairy Herd Management. **Three hours.**

AGR 570. Farm Livestock Management. **Three hours.**

AGR 570. d. Farm Service and Supplies. **Three hours.**

AGR 571. Production Management In Agriculture. **Three hours. A.**

Application of advanced technology in the production of agricultural products providing a means of updating in agricultural areas such as production methods, new equipment, economic trends and labor management.

AGR 571-A. Greenhouse Management.

AGR 577. Workshop in the Conservation of National Resources. **Three hours. S.**

Currently, this workshop is held four weeks in the summer for teachers returning for graduate work. Instruction is given in the areas of soil, water, fish and wildlife, and forest conservation and methods of teaching related units at the elementary and junior high level.

HOME ECONOMICS

Roberta B. Hill, Chairman

In cooperation with the College of Education and the Graduate School, a Masters of Arts degree in Education with emphasis in Home Economics is offered. An applicant is expected to present a major in Home Economics Education with an overall grade point average of 2.40. Admission to candidacy requires satisfactory scores on the Graduate Record Examination Aptitude Test and satisfactory performance in content courses.

The student is expected to meet the requirements for the Masters of Arts Degree in Education. In addition, Home Economics requirements are 9 to 12 hours in content courses and a minimum of 12 hours in education. A thesis is optional.

FAMILY ECONOMICS AND MANAGEMENT

HEC 508. Textile Testing and Evaluation. Five hours. I.

Prerequisites: CHE 102; HEC 202.

Chemical and physical tests of fibers and fabrics including dye properties and finishes. Study of textile legislation and standardization. Individual problems and projects.

HEC 510. Socio-Psychological Factors of Apparel. Three hours. II.

Prerequisite: HEC 320.

Social, cultural and psychological factors which influence personal satisfaction in the selection and use of apparel.

HEC 519. Special Problems in Textiles. One to three hours. I, II, S.

Prerequisite: Consent of instructor.

The student selects a problem and works under the supervision of the instructor. May be repeated by graduate students to a maximum of 6 hours.

FAMILY LIFE AND CHILD DEVELOPMENT

HEC 538. (Formerly HEC 505 and 405.) Seminar in Family Life. One to three hours. II.

Prerequisite: Consent of instructor.

Students will be able to concentrate their interests in an intensive study of specific areas of family life. The main focus will be on the family and its interpersonal relationships. Group projects and study, panel discussions, and conferences may be used. May be repeated by graduate students to a maximum of 6 hours.

HEC 547. (Formerly HEC 507 and 407.) Organization and Administration of Preschools. Three or five hours. A.

Prerequisite: HEC 345.

Study of the history of preschool education and its present organization and administration. Participation in programs for preschool children.

HEC 548. (Formerly HEC 504, 404, 338, and Current Trends in Child Development.) Seminar in Child Development. One to three hours. II.

Prerequisites: HEC 241, 341 and six hours in Family Life and Child Development.

Current concepts and trends in child development; recent research and literature. May be repeated by graduate students to a maximum of 6 hours.

HEC 549. Special Problems in Child Development. **One to three hours. A.**

Prerequisites: HEC 548, and consent of instructor.

The student chooses a problem and works under the supervision of the instructor. May be repeated by graduate students to a maximum of 6 hours.

HOME ECONOMICS EDUCATION

HEC 556. (Formerly Special Problems in Home Economics.) Special Problems in Family Economics and Management. **One to three hours. A.**

Prerequisite: Consent of instructor.

The student chooses a problem and works under the supervision of the instructor. May be repeated by graduate students to a maximum of six hours.

HEC 566. Special Problems in Home Economics Education. **One to three hours. I, II, S.**

Prerequisite: Consent of instructor.

The student chooses a problem and works under the supervision of the instructor. May be repeated by graduate students to a maximum of six hours.

HEC 660. Curriculum Development in Home Economics. **Three hours. A.**

Prerequisite: Consent of instructor.

Educational trends and their implications for home economics in the secondary school; principles of curriculum construction as applied to junior and senior high school home economics.

HEC 661. Supervision of Home Economics. **Three hours. A.**

Prerequisite: Consent of instructor.

Principles and techniques of effective supervision of home economics at different educational levels, with emphasis on supervision of student teaching.

HEC 662. Philosophy of Home Economics Education. **Three hours. A.**

Prerequisite: Consent of instructor.

Major ideas, trends, and past developments in home economics education and their influence and implications in the future directions of the field.

HEC 663. The Adult Homemaking Program. **Three hours. A.**

Prerequisite: Consent of instructor.

Materials, organization, and conducting homemaking programs for adults; use of appropriate instructional media.

HEC 665. Seminar in Home Economics Education. **One to three hours. A.**

Prerequisite: Consent of instructor.

Discussion of current topics and research relevant to home economics. May be repeated to a maximum of six hours.

HEC 667. Evaluation in Home Economics Education. **Three hours. A.**

Prerequisite: Consent of instructor.

Theories and techniques of evaluation; construction and interpretation of devices used to measure progress and attainment in home economics.

HEC 668. Research in Home Economics Education. **One to six hours. A.**

Prerequisite: Consent of instructor.

Independent research. May be repeated to total six hours.

NUTRITION, FOODS, AND FOOD ADMINISTRATION (NFA)

NFA 501. Human Nutrition. **Three hours. I.**

Prerequisite: NFA 301.

Interrelationships and functions of nutrients in normal nutrition; relation of nutrient requirements at the cellular level to dietary standards.

NFA 502. (Formerly HEC 506 and 406 and Newer Knowledge of Nutrition.) Therapeutic Nutrition. **Three hours. II.**

Prerequisite: NFA 501.

Theory and application of deviations in normal dietary patterns in disease.

NFA 503. Community Nutrition. **Three hours. II.**

Prerequisites: NFA 201 and consent of instructor.

Nutrition services and education facilities in the community. Application of the principles of nutrition to the varied needs of representative groups; food and drug laws and their implications in combatting food faddism. Field experience.

NFA 515. (Formerly HEC 413.) Seminar in Nutrition. **One to three hours. II.**

Prerequisites: NFA 501 and consent of instructor.

Reports and discussions of current problems and of research in nutrition. May be repeated by graduate students to a maximum of six hours.

NFA 516. Special Problems in Nutrition. **One to three hours. I, II, S.**

Prerequisites: NFA 501 and consent of instructor.

The student chooses a problem and works under the supervision of an instructor. May be repeated by graduate students to a maximum of six hours.

NFA 541. (Formerly HEC 319.) Food Service Organization and Management. **Three hours. I.**

Prerequisites: ACC 124; NFA 342.

Principles of organization and their application to various types of institutions; personnel management, financial and administrative problems.

NFA 542. (Formerly HEC 318.) Laboratory for Food Service Organization and Management. **Two hours. I.**

Prerequisite: Concurrent enrollment in NFA 541.

Supervised experience in planning, preparing and serving food in approved institutions.

NFA 555. (Formerly HEC 418.) Seminar in Food Administration. **One to three hours. II.**

Prerequisite: NFA 541.

Reports and discussions of topics relative to the area of food administration. May be repeated by graduate students to a maximum of six hours.

NFA 556. Special Problems in Food Administration. **One to three hours. I, II, S.**

Prerequisite: NFA 541.

The student chooses a problem and works under the supervision of an instructor. May be repeated by graduate students to a maximum of six hours.

INDUSTRIAL EDUCATION (IED)

R. Whalin, Chairman

Major work leading to satisfaction of requirements for the degrees of Master of Science in Industrial Education and Specialist in Technology is offered by the Department. Satisfaction of requirements for the Master of Arts in Education Degree is possible through the cooperation of the Department with the College of Education and the Graduate School. In the case of the latter degree, admissions and professional education requirements are detailed in the College of Education section of the *Catalog*.

The Master of Science Degree in Industrial Education is primarily designed to meet the needs of experienced and prospective teachers in

technical subject in technical institutes, junior colleges, and similar institutions. By pursuing the program, the student has the opportunity for advanced study in such areas as wood technology, metals technology, printing technology, electronics technology, and drafting technology. The program is the logical prerequisite for the student interested in the Specialist in Technology Degree.

The Specialist in Technology Degree is designed for the experienced or prospective technical teacher in technical institutes, junior colleges, four-year colleges, and other post-secondary institutions. This program, as a capstone to the Master of Science in Industrial Education or a similar program, provides opportunities for extending technical and professional preparation.

SPECIAL PROGRAM REQUIREMENTS*

MASTER OF SCIENCE IN INDUSTRIAL EDUCATION

For Admission—Applicants are expected to present a major in Industrial Education at the undergraduate level and to provide evidence of acceptable professional and scholarly aptitude. An overall grade point average of 2.4 is normally expected.

For Admission to Candidacy—Satisfactory scores on the Graduate Record Examination Aptitude Tests are required. Attributes related to professional promise will be reviewed.

For Program—Individual plans of study will include work from four areas: I. Technical Education Core (six hrs.—IED 502, IED 633); II Technical Specialty (nine hrs.—Selected electives from the technology of Printing, Woods, Electricity/Electronics, Metals, and/or Drafting); III. College Teaching (eight hrs.—EDU 695, 696, 697); IV. Supporting Work (seven hrs.—Technical Specialty II, and/or Research).

For Thesis—Students who expect to continue graduate study to completion of the Specialist in Technology program may complete the research requirement as part of the master's curriculum. The thesis is optional in the Master of Science program, however.

For Comprehensives—The candidate will have an opportunity to demonstrate professional growth through a written and/or oral examination covering the four program components during the term in which graduation is scheduled.

SPECIALIST IN TECHNOLOGY

For Admission—Applicants are expected to present one year of graduate preparation in the field of Industrial Education and to possess

* Students must also meet the general requirements of the Graduate School.

unusual professional and scholarly competence. An overall undergraduate grade point average of 2.5 is expected. Conditional admissions provisions exist.

For Admission to Candidacy—Students should present a 3.5 grade point standing on graduate work attempted. A combined aptitude test score on the Graduate Record Examination of 900 is expected. Commitment to the program as evidenced by experience, interviews with the committee and letters of recommendation, must be demonstrated.

For Comprehensives—The candidate will have the opportunity to demonstrate professional maturity through a written and/or oral examination covering program components during the term in which graduation is anticipated.

***IED 501. (INT 501)** (Formerly Industrial Arts 401.) Special Problems in Industrial Education. (Formerly called Special Problems in Industrial Arts.) **Three hours. I, II.**

A course for exceptional undergraduates involving independent study and research related to problems of a theoretical and/or practical nature.

***IED 502. (INT 502)** Industrial Materials and Processes. **Three hours. A.**

Characteristics, utilization and processing of industrial materials such as wood, metals, plastics, clay, glass, concrete, etc.; composition and working qualities; types, grades, availability, and suitability of materials for varying purposes; shaping, forming, cutting, and finishing processes; quality, prices and control of materials and products.

***IED 511. (INT 511)** (Formerly called Graphic Arts III.) Advanced Technical Problems in Graphic Arts. **Two-six hours. I, II.**

Technical instruction in the graphic arts field. Recent developments, advanced technical and experimental problems and preparation of technical reports in graphic arts.

***IED 533. (INT 533)** (Formerly Industrial Arts 433.) Workshop in Industrial Education. (Formerly called Workshop in Industrial Arts.) **Four hours. A.**

533a Design; 533b Graphic Arts; 533c Plastics; 533d Power Mechanics; 533e Electronics; 533f Wood Technology; 533g Metals; 533h Crafts; 533i Professional. (Formerly Industrial Arts 433a, 433b, 433c, 433d, 433e, 433f, 433g, 433h, 433i.)

IED 540. Wood Technology. Three hours. A.

The technology of wood; includes structure, composition, and properties of wood; wood seasoning and preservation; machining characteristics of wood.

***IED 541. (INT 451)** Advanced Technical Problems in Woodworking. **Two-six hours. I, II.**

Technical instruction in the woodworking field. Recent developments, advanced technical and experimental problems, and preparation of technical reports in woodworking.

IED 544. (Formerly Industrial Arts 41 and 444.) Machine Woodworking. Two hours. A.

Prerequisite: IED 242.

Special machine operations; repairing and servicing power woodworking machinery.

***IED 551. (INT 551)** Advanced Technical Problems in Electricity-Electronics. **Two-six hours. I, II.**

Technical instruction in the electricity-electronics field; recent developments, advanced technical and experimental problems, and preparation of technical reports in electricity-electronics.

* Credit to be granted for only one of these cross-listed courses.

***IED 561.** (INT 561) Evaluation in Technical Education. **Three hours. A.**

Methods of evaluation in technical education; elementary statistical procedures; preparation and use of measuring devices; assessing technical competency, creativeness, quality, and quantity; analysis and interpretation of test results.

IED 563. Planning of Technical Education Facilities. **Two hours. A.**

Principles and practices underlying the planning and designing of shops and laboratories for vocational, industrial, and technical education.

IED 564. (Formerly Industrial Arts 42 and 464.) History and Philosophy of Industrial Education. **Three hours. A.**

History of industrial education from its early beginning to the present; the contributions of leaders; movements in the development of industrial and vocational education; modern concepts of industrial education.

***IED 571.** (INT 571) Advanced Technical Problems in Power Mechanics. **Two-six hours. I, II.**

Technical instruction in the power mechanics field; recent developments; advanced technical and experimental problems, and preparation of technical reports in power mechanics.

***IED 581.** (INT 581) Advanced Technical Problems in Metalworking. **Two-six hours. I, II.**

Technical instruction in the metalworking field; recent developments, advanced technical and experimental problems, and preparation of technical reports in metalworking.

***IED 591.** (INT 591) Advanced Technical Problems in Drafting. **Two-six hours. I, II.**

Technical instruction in the drafting field; recent developments, advanced technical and experimental problems, and preparation of technical reports in drafting.

***IED 611A.** (INT 611A.) Advanced Technical Study in Printing Technology: Photography. **Three hours. A.**

Advanced technical study, research and experimentation in photography; cameras and lenses, filters, films, enlarging, dodging, and finishing; color photography; darkroom techniques.

***IED 611B.** (INT 611B.) Advanced Technical Study in Printing Technology: Layout and Design. **Three hours. A.**

Advanced technical study, research and experimentation in layout and design; concepts of graphic design related to newspapers, books, brochures, flyers, and posters; practical experience in design and layout of graphic presentations.

***IED 611C.** (INT 611C.) Advanced Technical Study in Printing Technology: Color Separation. **Three hours. A.**

Advanced technical study, research and experimentation in color separation; copy preparation, camera techniques, developing, stripping, platemaking, and press operations.

***IED 611D.** (INT 611D.) Advanced Technical Study in Printing Technology: Photo-Offset-Lithography. **Three hours. A.**

Advanced technical study, research and experimentation in photo-offset-lithography; inks, fountain solutions, films, chemicals, type methods, layout, stripping, camera techniques, and platemaking.

***IED 611E.** (INT 611E.) Advanced Technical Study in Printing Technology: Quality Control. **Three hours. A.**

Advanced technical study, research and experimentation in printing quality control; plant layout, temperature, humidity, chemicals, papers, and photographic materials.

***IED 633.** (INT 633.) Creative Problem-Solving in Technical Fields. **Three hours. A.**

A review and analysis of basic and applied research in the development of creative behavior with emphasis on its application to industrial teaching and industrial problem-solving.

* Credit is to be granted for only one of these cross-listed courses.

***IED 641A.** (INT 641A.) Advanced Technical Study in Wood Technology: Structure and Characteristics. **Three hours. A.**

Advanced technical study, research and experimentation in structure and characteristics of wood; species, chemical composition, botanical structure, physical characteristics, and identification techniques.

***IED 641B.** (INT 641B.) Advanced Technical Study in Wood Technology: Dimensional Stability. **Three hours. A.**

Advanced technical study, research and experimentation in dimensional stability of wood; moisture content effects and control, strength and density, seasoning, and drying defects.

***IED 641C.** (INT 641C.) Advanced Technical Study in Wood Technology: Veneer and Plywood Production. **Three hours. A.**

Advanced technical study, research and experimentation in veneer and plywood production: veneer production and specifications; strength characteristics, specifications, grades, and uses of hardwood and softwood plywood; grading and production processes.

***IED 641D.** (INT 641D.) Advanced Technical Study in Wood Technology; Wood Substitutes. **Three hours. A.**

Advanced technical study, research and experimentation in wood substitutes; composition and characteristics of hardboard, particle board and plastic laminates; material specifications; principles of application to industrial use.

***IED 641E.** (INT 641E.) Advanced Technical Study in Wood Technology: Adhesives. **Three hours. A.**

Advanced technical study, research and experimentation in wood adhesives, types, characteristics and application techniques of natural and synthetic adhesives; jointery and control factors; curing and comparative testing.

***IED 651A.** (INT 651A.) Advanced Technical Study in Electricity/Electronics Technology: Solid State Electronics. **Three hours. A.**

Advanced technical study, research and experimentation in solid state electronics; amplifying devices; solid state and integrated circuit analysis and design.

***IED 651B.** (INT 651B.) Advanced Technical Study in Electricity/Electronics: Computer Electronics. **Three hours. A.**

Advanced technical study, research and experimentation in computer electronics; digital systems, logic, component functions, memory systems, and control circuitry.

***IED 651C.** (INT 651C.) Advanced Technical Study in Electricity/Electronics: Communicative Systems. **Three hours. A.**

Advanced technical study, research and experimentation in electronic communicative systems; signal analysis, transmission and modulation; intelligence and navigational transmission and reception; trouble shooting analysis and procedures.

***IED 651D.** (INT 651D.) Advanced Technical Study in Electricity/Electronics: Microwave Electronics. **Three hours. A.**

Advanced technical study, research and experimentation in microwave electronics; field phenomena; equipment components and characteristics; measurement techniques; communication systems.

***IED 651E.** (INT 651E.) Advanced Technical Study in Electricity/Electronics: Instrumentation. **Three hours. A.**

Advanced technical study, research and experimentation in instrumentation; measurement concepts; industrial considerations; electrical and electronic instruments and applications; control and regulation systems.

IED 661. Supervision in Technical Education. **Three hours. A.**

Principles, objectives, methods, techniques, and practices of supervision; specific problems in the supervisor of technical education; selecting and organizing materials; planning and equipping education facilities; professional relations and in-service education.

* Credit to be granted for only one of these cross-listed courses.

IED 662. (Formerly Industrial Arts 562.) Philosophy of the Practical Arts and Vocational Education. **Three hours. II.**

Background, purpose and philosophies of the practical arts and vocational education; relationship to general education; effects of legislation for the practical arts and vocational education; the state plan.

IED 663. Organization and Administration of Technical Education. **Three hours. A.**

Organization of industrial education on the local, state, and national level; federal legislation in technical education; federal-state relationship; types of technical, vocational, and general industrial education programs and schools.

IED 664. (Formerly Industrial Arts 564.) Special Problems in Industrial Education. (Formerly Special Problems in Industrial Arts.) **One-six hours, I, II.**

Problems of particular value to the teacher in the field, both of a practical and of a research nature, will be pursued by the student and developed through conferences and activities directed by the staff.

IED 665. (Formerly Industrial Arts 565.) Curriculum Practices and Trends in Industrial Education. (Formerly Curriculum Practices and Trends in Industrial Arts.) **Three hours. I.**

Current concepts and trends in industrial education; principles underlying curriculum construction and development; long range planning for improvement of programs.

IED 666 (Formerly Industrial Arts 566.) Seminar in Industrial Education. (Formerly Seminar in Industrial Arts.) **Three hours. I.**

A course for the graduate student in industrial education. Current problems and issues in the total field of industrial education will be studied with an emphasis placed on identifying their philosophical and/or psychological dimensions. Research techniques appropriate for industrial education with an emphasis on experimental design and statistical procedures of analysis. Each student will be expected to plan and complete a minor research paper, and to present his findings to the seminar.

IED 667. (Formerly Industrial Arts 567.) Thesis Research in Industrial Education. (Formerly Thesis Research in Industrial Arts.) **Four-Six hours. I, II.**

Students preparing thesis are expected to register for three hours of thesis research in each two semesters.

IED 668. (Formerly Industrial Arts 568.) Advanced Design. **Three hours. II.**

Advanced course in design emphasizing problem-solving and experimentation with industrial media.

***IED 681A.** (INT 681A.) Advanced Technical Study in Metals Technology: Industrial Metrology. **Three hours. A.**

Advanced technical study, research and experimentation in industrial metrology; precision measurement equipment and techniques; high amplification pneumatic, electronic, mechanical, and optical comparators; interferometry, radiography and monochromatic light techniques.

***IED 681B.** (INT 681B.) Advanced Technical Study in Metals Technology: Tool Design. **Three hours. A.**

Advanced technical study, research and experimentation in tool design; design and fabrication of tooling jigs, fixtures and dies; modern metal forming production techniques; efficiency in machine utilization; heat treatment of metallic substances.

***IED 681C.** (INT 681C.) Advanced Technical Study in Metals Technology: Materials Testing. **Three hours. A.**

Advanced technical study, research and experimentation in materials testing; non-destructive tests including Zyglo, Magniglo, dye penetrant, magniflux, X-ray, ultrasonic, nucleonic, and radiographic; destructive tests including tensile strength, compression, shear, torsion, and impact resistance; specimen preparation.

* Credit to be granted for only one of these cross-listed courses.

***IED 681D. (INT 681D.)** Advanced Technical Study in Metals Technology: Mechanical Power Transmission. **Three hours. A.**

Advanced technical study, research and experimentation in mechanical power transmission devices; properties and design application of the involute curve; gear types; spherical and planetary application systems; design and fabrication of power transmission devices.

***IED 681E. (INT 681E.)** Advanced Technical Study in Metals Technology: Assembly Processes. **Three hours. A.**

Advanced technical study, research and experimentation in metals assembly processes; adhesive bonding and seals; mechanical fasteners and components; brazing, soldering and welding techniques; pneumatic and hydraulic assembly applications.

***IED 691A. (INT 691A.)** Advanced Technical Study in Drafting Technology: Theory of Projection I. **Three hours. A.**

Advanced technical study, research and experimentation in drafting projection theory; Mongean method and adaptations; positional change and theorems; force systems; Bow's notation; Pappus and Guldinus Theorem; four-dimensional descriptive geometry.

***IED 691B. (INT 691B.)** Advanced Technical Study in Drafting Technology: Theory of Projection II. **Three hours. A.**

Continuation of IED 691A; axonometric, oblique, perspective, and stereographic projection; shades and shadows applied to pictorial representation.

***IED 691C. (INT 691C.)** Advanced Technical Study in Drafting Technology: Advanced Illustration. **Three hours. A.**

Advanced technical study, research and experimentation in industrial illustration; media; pencil, ink, Zip-a-tone, scratchboard, double and triple-tone board, coquille board, intaglio, airbrush, and planographic impression techniques; photo retouching; problems analysis; preparation of presentations.

***IED 691D. (INT 691D.)** Advanced Technical Study in Drafting Technology: Drafting Reproduction Processes. **Three hours. A.**

Advanced technical study, research and experimentation in drafting reproduction processes; exposure and development systems; dry and moist diazo, blueprint, Van Dyke, azograph, offset, microfilm, photostat, and reflex processes.

***IED 691E. (INT 691E.)** Advanced Technical Study in Drafting Technology: Drafting Standards. **Three hours. A.**

Advanced technical study, research and experimentation in drafting standards; study and comparison of ASA, military, SAF, AWS, and selected industrial standards; influences affecting standards; preparation of standards for a manufacturing or architectural establishment.

INDUSTRIAL TECHNOLOGY (INT)

Kenneth S. Hansson, Acting Chairman

Major work leading to satisfaction of requirements for the degree of Master of Science in Industrial Technology is offered by the Department.

The Master of Science Degree in Industrial Technology is primarily designed for the person who is working, or plans to work, in industry. The program is planned to provide opportunities for advanced study in technical subjects. Programs are planned individually and it is possible to include study from appropriate supporting disciplines such as business, psychology, mathematics, and the sciences.

* Credit to be granted for only one of these cross-listed courses.

The Department also cooperates with the Department of Industrial Education in offering course work in the major in support of the Master of Science Degree in Industrial Education, the Specialist in Technology, and the Master of Arts in Education with emphasis in Industrial Education.

SPECIAL PROGRAM REQUIREMENTS*:

MASTER OF SCIENCE IN INDUSTRIAL TECHNOLOGY

For Admission—Applicants are expected to present appropriate prerequisite preparation. In some instances, such work will consist of a major in industrial education with a specialization in technology. The program may have appeal to individuals with engineering backgrounds also. An overall grade point average of 2.4 is normally expected. Conditional admissions provisions exist.

For Admission to Candidacy—Satisfactory scores on the Graduate Record Examination are required. The Advisory Committee will appraise attributes related to professional and technical promise.

For Program—Individual plans of study will include work from four areas: I. Technical Education Core (six hrs.—INT 502, INT 633); II. Technical Specialty (nine hrs.—Selected electives from the technology of Printing, Woods, Electricity/Electronics, Metals, and/or Drafting); III. Supporting Discipline (nine hrs.—Selected electives from Business, Psychology, Mathematics, Statistics, Science, etc.); IV. Additional Supporting Work (six hrs.—Thesis, or research, or Technical Specialty II, or Second Supporting Area).

For Comprehensives—The candidate will have an opportunity to demonstrate professional growth through a written and/or oral examination covering the various program components during the term in which graduation is scheduled.

INDUSTRIAL TECHNOLOGY (INT)

***INT 501. (IED 501.) (Formerly Industrial Arts 401.) (Formerly called Special Problems in Industrial Arts.) Special Problems in Industrial Technology. Three hours. I, II.**

A course for exceptional undergraduates involving independent study and research related to problems of a theoretical and/or practical nature.

***INT 502. (IED 502) Industrial Materials and Processes. Three hours. A.**

Characteristics, utilization and processing of industrial materials such as wood, metals, plastics, clay, glass, concrete, etc.; composition and working qualities; types, grades, availability, and suitability of materials for varying purposes; shaping, forming, cutting, and finishing processes; quality, prices and control of materials and products.

* Credit is to be granted for only one of these cross-listed courses.

***INT 511.** (IED 511.) Advanced Technical Problems in Graphic Arts. **Two-Six hours.** I, II.

Technical instruction in the graphic arts field. Recent developments, advanced technical and experimental problems, and preparation of technical reports in graphic arts.

***INT 533.** (IED 533.) (Formerly Industrial Arts 433.) (Formerly called Workshop in Industrial Arts) Workshop in Industrial Technology. **Four hours.** A.

533b Graphic Arts; 533c Plastics; 533d Power Mechanics; 533e Electronics; 533g Metals. (Formerly 433b, 433c, 433d, 433e, 433g.)

***INT 541.** (IED 541.) Advanced Technical Problems in Woodworking. **Two-Six hours.** I, II.

Technical instruction in the woodworking field. Recent developments, advanced technical and experimental problems, and preparation of technical reports in wood-working.

***INT 551.** (IED 551.) Advanced Technical Problems in Electricity-Electronics. **Two-Six hours.** I, II.

Technical instruction in the electricity-electronics field. Recent developments, advanced technical and experimental problems, and preparation of technical reports in electricity-electronics.

***INT 561.** (IED 561) Evaluation in Technical Education. **Three hours.** A.

Methods of evaluation in technical education; elementary statistical procedures; preparation and use of measuring devices; assessing technical competency, creativeness, quality, and quantity; analysis and interpretation of test results.

***INT 571.** (IED 571.) Advanced Technical Problems in Power Mechanics. **Two-Six hours.** I, II.

Technical instruction in the power mechanics field. Recent developments, advanced technical and experimental problems, and preparation of technical reports in power mechanics.

***INT 581.** (IED 581.) Advanced Technical Problems in Metalworking. **Two-Six hours.** I, II.

Technical instruction in the metalworking field. Recent developments, advanced technical and experimental problems, and preparation of technical reports in metal-working.

***INT 591.** (IED 591.) Advanced Technical Problems in Drafting. **Two-Six hours.** I, II.

Technical instruction in the drafting field. Recent developments, advanced technical and experimental problems, and preparation of technical reports in drafting.

***INT 611A.** (IED 611A.) Advanced Technical Study in Printing Technology: Photography. **Three hours.** A.

Advanced technical study, research and experimentation in photography; cameras and lenses, filters, films, enlarging, dodging, and finishing; color photography; dark-room techniques.

***INT 611B.** (IED 611B.) Advanced Technical Study in Printing Technology: Layout and Design. **Three hours.** A.

Advanced technical study, research and experimentation in layout and design; concepts of graphic design related to newspapers, books, brochures, flyers, and posters; practical experience in design and layout of graphic presentations.

* Credit is to be granted for only one of these cross-listed courses.

***INT 611C. (IED 611C.)** Advanced Technical Study in Printing Technology: Color Separation. **Three hours. A.**

Advanced technical study, research and experimentation in color separation; copy preparation, camera techniques, developing, stripping, platemaking, and press operations.

***INT 611D. (IED 611D.)** Advanced Technical Study in Printing Technology: Photo-Offset-Lithography. **Three hours. A.**

Advanced technical study, research and experimentation in photo-offset-lithography; inks, fountain solutions, films, chemicals, type methods, layout, stripping, camera techniques, and platemaking.

***INT 611E. (IED 611E.)** Advanced Technical Study in Printing Technology: Quality Control. **Three hours. A.**

Advanced technical study, research and experimentation in printing quality control; plant layout, temperature, humidity, chemicals, papers, and photographic materials.

***INT 633. (IED 633.)** Creative Problem Solving in Technical Fields. **Three hours. A.**

A review and analysis of basic and applied research in the development of creative behavior with emphasis on its application to industrial teaching and industrial problem solving.

***INT 641A. (IED 641A.)** Advanced Technical Study in Wood Technology: Structure and Characteristics. **Three hours. A.**

Advanced technical study, research and experimentation in structure and characteristics of wood; species, chemical composition, botanical structure, physical characteristics, and identification techniques.

***INT 641B. (IED 641B.)** Advanced Technical Study in Wood Technology: Dimensional Stability. **Three hours. A.**

Advanced technical study, research and experimentation in dimensional stability of wood; moisture content effects and control, strength and density, seasoning, and drying defects.

***INT 641C. (IED 641C.)** Advanced Technical Study in Wood Technology: Veneer and Plywood Production. **Three hours. A.**

Advanced technical study, research and experimentation in veneer and plywood production; veneer production and specifications; strength characteristics, specifications, grades, and uses of hardwood and softwood plywood; grading and production processes.

***INT 641D. (IED 641D.)** Advanced Technical Study in Wood Technology: Wood Substitutes. **Three hours. A.**

Advanced technical study, research and experimentation in wood substitutes; composition and characteristics of hardboard, particle board and plastic laminates; material specifications; principles of application to industrial use.

***INT 641E. (IED 641E.)** Advanced Technical Study in Wood Technology: Adhesives. **Three hours. A.**

Advanced technical study, research and experimentation in wood adhesives; types, characteristics and application techniques of natural and synthetic adhesives; jointery and control factors; curing and comparative testing.

***INT 651A. (IED 651A.)** Advanced Technical Study in Electricity/Electronics Technology: Solid State Electronics. **Three hours. A.**

Advanced technical study, research and experimentation in solid state electronics; amplifying devices; solid state and integrated circuit analysis and design.

***INT 651B. (IED 651B.)** Advanced Technical Study in Electricity/Electronics: Computer Electronics. **Three hours. A.**

Advanced technical study, research and experimentation in computer electronics; digital systems, logic, component functions, memory systems, and control circuitry.

*Credit is to be granted for only one of these cross-listed courses.

***INT 651C.** (IED 651C.) Advanced Technical Study in Electricity/Electronics: Communicative Systems. **Three hours. A.**

Advanced technical study, research and experimentation in electronic communicative systems; signal analysis, transmission and modulation; intelligence and navigational transmission and reception; trouble shooting analysis and procedures.

***INT 651D.** (IED 651D.) Advanced Technical Study in Electricity/Electronics: Microwave Electronics. **Three hours. A.**

Advanced technical study, research and experimentation in microwave electronics; field phenomena; equipment components and characteristics; measurement techniques; communication systems.

***INT 651E.** (IED 651E.) Advanced Technical Study in Electricity/Electronics: Instrumentation. **Three hours. A.**

Advanced technical study, research and experimentation in instrumentation; measurement concepts; industrial considerations; electrical and electronic instruments and applications; control and regulation systems.

***INT 681A.** (IED 681A.) Advanced Technical Study in Metals Technology: Industrial Metrology. **Three hours. A.**

Advanced technical study, research and experimentation in industrial metrology; precision measurement equipment and techniques; high amplification pneumatic, electronic, mechanical, and optical comparators; interferometry, radiography and monochromatic light techniques.

***INT 681B.** (IED 681B.) Advanced Technical Study in Metals Technology: Tool Design. **Three hours. A.**

Advanced technical study, research and experimentation in tool design; design and fabrication of tooling jigs, fixtures and dies; modern metal forming production techniques; efficiency in machine utilization; heat treatment of metallic substances.

***INT 681C.** (IED 681C.) Advanced Technical Study in Metals Technology: Materials Testing. **Three hours. A.**

Advanced technical study, research and experimentation in materials testing; non-destructive tests including Zygo, Magniglo, dye penetrant, magniflux, X-ray, ultrasonic, nucleonic, and radiographic; destructive tests including tensile strength, compression, shear, torsion, and impact resistance; specimen preparation.

***INT 681D.** (IED 681D.) Advanced Technical Study in Metals Technology: Mechanical Power Transmission. **Three hours. A.**

Advanced technical study, research and experimentation in mechanical power transmission devices; properties and design application of the involute curve; gear types; spherical and planetary application systems; design and fabrication of power transmission devices.

***INT 681E.** (IED 681E.) Advanced Technical Study in Metals Technology: Assembly Processes. **Three hours. A.**

Advanced technical study, research and experimentation in metals assembly processes; adhesive bonding and seals; mechanical fasteners and components; brazing, soldering and welding techniques; pneumatic and hydraulic assembly applications.

***INT 691A.** (IED 691A.) Advanced Technical Study in Drafting Technology: Theory of Projection I. **Three hours. A.**

Advanced technical study, research and experimentation in drafting projection theory; Mongean method and adaptations; positional change and theorems; force systems; Bow's notation; Pappus and Guldinus Theorem; four-dimensional descriptive geometry.

***INT 691B.** (IED 691B.) Advanced Technical Study in Drafting Technology: Theory of Projection II. **Three hours. A.**

Continuation of INT 691A; axonometric, oblique, perspective, and stereographic projection; shades and shadows applied to pictorial representations.

***Credit is to be granted for only one of these cross-listed courses.**

***INT 691C. (IED 691C.) Advanced Technical Study in Drafting Technology: Advanced Illustration. Three hours. A.**

Advanced technical study, research and experimentation in industrial illustration; media; pencil, ink, Zip-a-tone, scratchboard, double and triple-tone board, coquille board, intaglio, airbrush, and planographic impression techniques; photo retouching; problems analysis; preparation of presentations.

***INT 691D. (IED 691D.) Advanced Technical Study in Drafting Technology: Drafting Reproduction Processes. Three hours. A.**

Advanced technical study, research and experimentation in drafting reproduction processes; exposure and development systems; dry and moist diazo, blueprint, Van Dyke, azograph, offset, microfilm, photostat and reflex processes.

***INT 691E. (IED 691E.) Advanced Technical Study in Drafting Technology: Drafting Standards. Three hours. A.**

Advanced technical study, research and experimentation in drafting standards; study and comparison of ASA, military, SAE, AWS, and selected industrial standards; influences affecting standards; preparation of standards for a manufacturing or architectural establishment.

THE KENTUCKY SCHOOL OF CRAFTS (KYC)

K. Hansson, Chairman

KYC 500. Special Problems and Field Study. Three hours. A.

A course for teachers in crafts and related fields; problems and issues in vocational and avocational crafts are studied; planning of crafts programs for the community based on a study of the school, facilities, community, the people, and the teacher's interest and ability.

TRAFFIC SAFETY INSTITUTE (TRS)

L. Leach, Director

TRS 585. Teacher Preparation in Driver Education. Three hours. I, II.

Analysis of traffic accidents, attitude factors, essential knowledge of automobile operation, and traffic laws and regulations. Includes introduction to laboratory experiences; use of psycho-physical testing and development of driving proficiency.

TRS 586. Administration and Supervision of Driver Education. Three hours. II.

Preparation for secondary school instruction. Problems of organization and administration of driver education on the secondary level. Emphasis on scheduling, public relations, competence in transferring knowledge and skills, and satisfactory attitudes in students.

* Credit is to be granted for one one of these cross-listed courses.

COLLEGE OF ARTS AND SCIENCES

F. D. Ogden, Dean

Glenn O. Carey, Associate Dean

Departments within the College of Arts and Sciences offer programs leading to the Master of Arts, Master of Science, and Master of Music Education degrees. The Departments of English, Geography, History, and Political Science have programs leading to the Master of Arts in these disciplines. The Departments of Biology and Chemistry offer programs leading to the Master of Science. The degree, Master of Public Administration, is offered in the Department of Political Science. The Department of Music has a program leading to the Master of Music Education Degree. Several departments, in cooperation with the College of Education, provide graduate study which enables the individual to obtain the Master of Arts Degree in Education with an emphasis in a particular discipline. These departments are: Art; Biology; Chemistry; English; Geography; History; Mathematics; Physics; Political Science, and Anthropology and Sociology. These programs are described under the department primarily responsible for them.

Courses offered for graduate credit by the departments in the College are listed below by departments.

ANTHROPOLOGY AND SOCIOLOGY

(ANT and SOC)

Harry Hale, Jr., Chairman

The Department of Anthropology and Sociology, in cooperation with the College of Education and the Graduate School, offers coursework leading to the degree, Master of Arts in Education, with emphasis in school social work. Details of program requirements may be found on Page 119 of the *Graduate Catalog*. Courses comprising the social work component are enumerated below, identified by the prefix "SWK."

Anthropology (ANT)

ANT 555. (Formerly ANT 455) Anthropology Theory. Three hours. II.

Prerequisite: Nine hours in anthropology and consent of instructor.

Systematic analysis of major theories in anthropology, with emphasis on their meaning for research.

ANT 590. (Formerly ANT 490.) Tutorial in Anthropology. Three hours. A.

Prerequisite: Twelve hours in courses accepted toward major in anthropology, including ANT 110, 201, and 202; or departmental approval.

Individual reading and research on a problem or area within the field of anthropology by the student after consultation with the instructor.

ANT 600. (Formerly ANT 500.) Anthropology and Modern Life. Three hours. A. Extensive review of the field of anthropology, with emphasis on implications of recent theoretical and factual developments for man in the modern world.

ANT 610. (Formerly ANT 510.) Anthropology and Education. Three hours. A. Prerequisite: ANT 600 or an undergraduate background in anthropology. Cross-culture analysis of educational processes; growth, adaptation, and personality development of the child (enculturation and socialization), including the transmission of skills, knowledge, attitudes and values; the relationship of the educational process to social structure.

Sociology

SWK 500. Seminar in Social Work. A. Three hours.

Prerequisite: Six hours in social work, consent of instructor.

For majors in social work in preparation for field observation in social agencies. Special focus upon development of social welfare as a social institution.

SWK 502. Human Behavior and Social Environment.

Growth processes and development within the family, group, and community; relationship of human behavior and social functioning to native endowment and to cultural patterns.

SWK 505. Field Observation in Social Agency Program. A. Three hours.

Prerequisite: SOC 500—consent of instructor.

For senior majors in preparation for job placement. Student placed in social welfare agency and under supervision observes the services performed, processes involved and relationship of work of agency to other community resources. Emphasis upon interdependence of theory and practice.

SWK 607. Social Work and Social Services.

A survey of the broad field of social welfare including its basic philosophy and objectives. Attention is given to community resources including eligibility requirements and benefits of programs of public and private agencies.

SWK 608. Interviewing and Casework in the School Setting.

An examination of school social work as it relates to the total field, with emphasis upon casework with the child and his family, and including interviewing with children and adults.

SOC 590. Tutorial in Sociology. A. Three hours.

Prerequisite: Twelve hours in courses accepted toward major in sociology, including SOC 231, 320, 335, or departmental approval.

Individual reading and research on a problem or area within the field of sociology by the student after consultation with the instructor.

ART (ART)

D. N. Shindelbower, Chairman

The Art Department, in cooperation with the Graduate School and the College of Education, offers an emphasis in Art applying toward the M.A. Degree in Education.

The regulations for the M.A. Degree in Education program may be found in the College of Education section of the *Graduate Catalog*. Students obtaining the M.A. Degree in Education with the emphasis in art may select the graduate courses for this purpose from the following:

ART (ART)

ART 521. Advanced Drawing. Three hours. I, II.

Prerequisite: ART 100, 101.

Designed to meet the needs of students who wish to develop further their skill in, and understanding of, drawing.

ART 522. Advanced Painting. Three hours. II.

Prerequisite: ART 203, 204.

Designed to meet the needs of students who wish to further develop their skill in, and understanding of, painting.

ART 560. Art Workshop for Elementary Teachers. Three hours. A.

Prerequisite: Teaching experience.

Current art processes, motivation, recent research and publications, and philosophies of art education in the elementary school.

ART 562. Seminar in Art Criticism. Three hours. I, II.

Prerequisite: ART 390, 391.

The study of various topics and problems which relate to the student's understanding and critical awareness of the visual arts.

ART 563. Problems in Art. Three hours. I, II.

Prerequisite: All departmental courses in problem area identified. Limited to seniors and graduate students. May be repeated twice.

Continuation of study begun in regular departmental courses.

ART 601. Art Appreciation: Great Periods and Their Influences. Three hours. A.

Prerequisite: Six hours in art.

An examination of the arts and ideas which influenced the great periods of development in the western world.

ART 602. The Art Program in the Public School. Three hours. A.

Prerequisite: Six hours in art.

An analysis of the history of art education in the public schools coupled with a study related to planning and organization of contemporary art education programs.

BIOLOGY (BIO)

Edwin A. Hess, Chairman

The Department of Biology offers major work for the degree of Master of Arts in Education for secondary teachers in cooperation with the College of Education; the Master of Science degree is offered in the areas of morphology and anatomy, field biology, ecology and wildlife, and physiology. Minor work in biology is available to students taking major work in other departments.

The prospective graduate student in biology should obtain the copy of *Introduction to Graduate Programs in Biology* from the Office of Department of Biology. This guide provides more detailed information about the programs of the department and the student will be held responsible for the knowledge of the material therein.

Scholastic requirements of the Graduate School prevail for non-degree registration in courses in the Department of Biology.

SPECIAL PROGRAM REQUIREMENTS*:

MASTER OF ARTS IN EDUCATION

Students may elect to complete a research problem and thesis.

* Students must also meet the general requirements of the Graduate School.

For Admission to Candidacy—The prospective candidate should demonstrate competency for graduate work in biology through a satisfactory performance before a committee of the biology faculty.

For Comprehensives—The candidate electing to complete the thesis requirement will be required largely (in the oral examination) to defend his research. All candidates must write a satisfactory examination in biology.

MASTER OF SCIENCE

For Admission—The following special requirements normally are necessary for admission to the Master of Science program in biology:

A 2.75 grade point average (4.0—A) overall and in biology courses attempted (exclusive of freshman biology).
 Completion of a satisfactory major in biology at the undergraduate level with appropriate supporting science.
 Three letters of recommendation from professors familiar with the student's scientific aptitude and development.

For Candidacy—In order to receive committee recommendation for permanent status, the student must:

Have satisfactorily completed the Advanced Test in Biology of the Graduate Record Examination.
 Demonstrate aptitude for advanced study in biology in a performance before a committee of biology faculty nominated to the Dean of the Graduate School to sit for this purpose.

For General Information—It is anticipated that most students will require a minimum of one academic year and a summer to complete degree requirements (minimum 30 semester hours).

An approved foreign language is required.

No more than six hours of course work may be applied toward degree requirements in which grades of "C" are earned.

For Comprehensives—A written examination will be administered covering the academic field of biology and an oral examination will be devoted to the student's field of research and thesis.

BIOLOGY (BIO)

BIO 511. (Formerly BIO 445). Microtechnique. Two hours. I, II.

Prerequisite: BIO 111, 131, 141.

Technique of preparing plant and animal tissues for microscope study. Four laboratory hours.

BIO 514. Evolution. Three hours. A.

Prerequisite: BIO 111, 131, 141.

General study of the evidences of evolution and of the theories that have been proposed to account for it. Three lecture hours.

BIO 523. Mycology. Three hours. II in odd years.

Prerequisite: BIO 111, 131.

The morphology, physiology, taxonomy and economic importance of fungi.

Field trips are required. One lecture and four laboratory-discussion hours.

BIO 524. Phycology. Three hours. I in odd years.

Prerequisite: BIO 131, 211.

Morphology, taxonomy and ecology of algae. Some attention will be given to commercially important algal products. Two lecture hours and two laboratory hours.

BIO 525. Plant Anatomy. Three hours. I in odd years.

Prerequisite: BIO 111, 131.

Anatomy and histology of vascular plants, cells, tissues, organs, structures as to ontogenetic and phylogenetic developments and adaptive modification. One lecture hour and four laboratory-discussion hours.

BIO 527. Immunology. Three hours. A.

Prerequisite: BIO 221, CHE 111.

Principles of immune reaction; nature of antigen, antibody, antigen-antibody reaction, and allergic phenomena. Two lecture hours and three laboratory hours.

BIO 528. (Formerly BIO 32, 334). Plant Physiology. Four hours.

Prerequisite: BIO 111, 131; CHE 111, 112 or equivalent.

The chemical, physical and biological processes which occur in vascular plants. Two lecture and four laboratory hours.

BIO 541. (Formerly BIO 44, 446). Invertebrate Zoology. Four hours. II in even years.

Prerequisite: BIO 111, 141.

Invertebrates: specific and comparative morphology, physiology, embryology, evolution and life histories. Two lecture and four laboratory hours.

BIO 542. Natural History of Invertebrates. Three hours. II in odd years.

Prerequisite: BIO 111, 141.

Collection, systematics, distribution, behavior, ecology, and life histories of terrestrial and freshwater invertebrates, especially of Kentucky. One lecture hour and four laboratory hours.

BIO 546. (Formerly BIO 446). Histology. Three hours. I, II.

Prerequisite: BIO 111, 141.

The microscopic study of animal tissues and an introduction to organology. One lecture and four laboratory hours.

BIO 547. (Formerly BIO 47, 347). Embryology. Four hours. I, II.

Prerequisite: BIO 111, 141.

Detailed study of the embryology of the starfish, frog, and chicken, with some consideration of mammalian embryology. Two lecture and four laboratory hours.

BIO 548. (Formerly BIO 48, 481). Animal Physiology. Four hours. I, II.

Prerequisite: BIO 111, 141; CHE 111, 112 or equivalent.

Detailed study of the chemistry and physics of the physiological activities of animals. Two lecture and four laboratory hours.

BIO 549. Endocrinology. Three hours. A.

Prerequisite: BIO 548.

Basic principles of endocrinology, comparative morphology and functions of endocrine glands with emphasis on the hormonal regulation of physiological processes of animal phyla; experimental procedures in endocrinology. Two lecture hours, two laboratory hours.

BIO 553. Mammalogy. Three hours. I in odd years.

Prerequisite: BIO 111, 141.

Emphasis placed on the ecological, evolutionary and taxonomic aspects of mammalian science. Field work is a regular part of each semester's work. Added duties expected of graduate students. One lecture hour and four laboratory hours.

- BIO 554.** (Formerly BIO 38, 344). Ornithology. **Three hours.** II in even years.
Prerequisite: BIO 111, 141.
Avian biology with emphasis on field identification of local avifauna, anatomy, physiology, ecology, evolution, migration, economic importance, distribution and behavioral patterns. A special investigative study required for all graduate students. Some early morning field trips required. Two lecture hours and four laboratory hours per week.
- BIO 555.** (Formerly BIO 37, 343). Entomology. **Three hours.** A.
Prerequisite: BIO 111, 141.
Taxonomy, identification, life histories, physiology, economic importance, methods of control and collection of insects, with emphasis on local forms. One lecture and four laboratory hours.
- BIO 556.** Herpetology. **Three hours.** II in odd years.
Prerequisite: BIO 111, 141.
The natural history of the amphibians and reptiles including taxonomy, general ecology, behavior, distribution, breeding habits and food habits, with special emphasis on the species of Kentucky. Two lecture hours, two laboratory hours.
- BIO 557.** Ichthyology. **Three hours.** II in even years.
Prerequisite: BIO 111, 141.
Internal and external morphology, taxonomy, life histories, ecology, phylogeny, methodology of harvesting and economic importance of the fishes of North America. Two lecture hours, two laboratory hours.
- BIO 558.** Limnology. **Three hours.** II in odd years.
Prerequisite: BIO 111, 131, 141; CHE 111, 112 recommended.
Analysis of the geological, physical, chemical, and biological aspects of lentic and lotic inland aquatic environments. One lecture hour, four laboratory-discussion hours.
- BIO 561.** Fisheries Biology. **Four hours.** A.
Prerequisite: BIO 557.
Study of the anatomy, life histories, conservation, methods of harvest, economic importance and ecological interactions of fishes. Two lecture hours and six laboratory hours.
- BIO 562.** Fisheries Management. **Four hours.** A.
Prerequisites: 458 and 461 or 557.
Methods of fish-catching in the world, making and setting nets, construction of fish ponds, management of lakes, ponds and streams, culture and diseases of game fishes, fisheries, statistics, and field experiences. Two lecture hours and six laboratory hours.
- BIO 571.** (Formerly BIO 401). Biology for High School Teachers I. **Four hours.** A.
Prerequisite: One year of college biology.
Basic principles of botany and zoology of special interest to in-service teachers of science; modern concepts and recent discoveries in biology; new approaches to biology at high school level. Lecture two hours, laboratory and discussion four hours.
- BIO 572.** (Formerly BIO 402). Biology for High School Teachers II. **Four hours.** A.
A continuation of BIO 571. Lecture two hours, laboratory and discussion four hours.
- BIO 585.** Regional Wildlife Ranges. **Three hours.** I in odd years.
Prerequisite: BIO 382.
Distribution and management of game and fish resources as determined by regional climate, physiographic, vegetative, and land-use factors. Three lecture hours.
- BIO 587.** Management of Upland Game. **Three hours.** II in odd years.
Prerequisite: BIO 382.
Life histories, distribution, environmental needs, and plans for the management of upland game birds and small mammals. Field trips are required. Two lecture and two laboratory hours.

BIO 588. Management of Waterfowl and Fur-Bearers. **Four hours.** II in even years.

Prerequisite: **BIO 382.**

Taxonomy, life histories, distribution, environmental needs and plans for management of waterfowl and small mammals the pelts and carcasses of which are of economic value. Three lecture and two laboratory hours.

BIO 589. Management of Big Game. **Four hours.** I in even years.

Prerequisite: **BIO 382.**

Life histories, distribution, numerical variation, enemies, and management activities for big game animals. Field trips required. Two lecture and four laboratory hours.

BIO 598. (Formerly **BIO 498**). Special Problems. **One to three hours.** A.

Prerequisite: Senior or graduate standing and permission of the department.

The student may repeat the course for a maximum total of four hours. A study of a special problem, special biological techniques or group of organisms. A minimum of three laboratory hours per credit hour.

BIO 601. Scientific Literature of Biology. **Two hours.** A.

Directed readings in biology designed to acquaint the student with the major sources of literature, the delimitation of problems, note taking and the making of bibliographies. Two lecture-discussion hours.

BIO 605. Development of Biological Thought. **Three hours.** A.

The history of man's attempt to discover and explain biological phenomena. Special attention will be given to the interrelation of scientific disciplines as they affect biological thought. Selected case studies will be employed as a means of achieving depth as well as introducing the student to the literature of the history of biology. Three lecture hours.

BIO 611. Quantitative Biology. **Two hours.** A.

Statistical analysis of biological data. Students participate in the taking of data and processing data by the use of well-established statistical techniques. Students planning to participate in the graduate programs in any school should seriously consider this course. Four laboratory-discussion hours.

BIO 612. Cytology. **Three hours.** A.

Microscopic components of plant and animal cells. The structure, chemical constitution and function of the cell wall, plasma membrane, cytoplasmic and nuclear constituents. Two lecture and three laboratory hours.

BIO 613. Cytogenetics. **Three hours.** A.

Chromosomal mechanisms of heredity; relationships between plant and animal cellular evolution and changes in chromosomes. Two lectures and three laboratory hours.

BIO 616. Biogeography. **Three hours.** A.

Ecological, faunistic and floristic distribution on a world-wide basis. Theory of distribution pathways as regards final distribution. Three lecture hours.

BIO 622. Bacterial Physiology. **Three hours.** A.

Prerequisites: **BIO 221** and **CHE 362** or consent of instructor.

Advanced study on microbial activity which includes composition of bacteria, growth, energy transaction and nutrition, and the effects of various chemicals and physical environments on bacteria. Two lecture hours and three laboratory hours.

BIO 625. Plant Morphogenesis. **Three hours.** A.

General study of plant growth with respect to cells and meristems; phenomena of morphogenesis, correlation, polarity, symmetry, differentiation, regeneration, tissue mixtures. Three lecture hours.

BIO 627. Experimental Plant Ecology. **Three hours.** A.

Prerequisite: **BIO 316** or consent of instructor.

Plant life in relation to natural habitats and environmental factors; emphasis on instrumentation and methodology for ecological studies. Two lecture hours and three laboratory hours.

BIO 635. Advanced Plant Systematics. Three hours. A.

Principles of the systematics of vascular plants with emphasis on comparative and experimental techniques. Consideration of theory and systems of phylogeny, classification and nomenclature. One lecture hour and four laboratory hours.

BIO 645. Vertebrate Physiological Ecology. Three hours. A.

Prerequisite: BIO 548.

Comparative study of physiological mechanisms of vertebrates in response to changing environmental conditions. Topics emphasized include: temperature adaptation, metabolism, nitrogen excretion, water and solute balance, color change, orientation and biological rhythms. Two lecture hours and three laboratory hours.

BIO 647. Experimental Animal Ecology. Three hours. A.

Prerequisite: BIO 316 or consent of instructor.

Structure, composition and classification of biotic communities; population growth and regulation; interaction of populations; and techniques for measurement of environmental factors in terrestrial and aquatic environments. Two lecture-discussion hours and three laboratory-field hours.

BIO 649. Experimental Endocrinology. Three hours. A.

Prerequisite: CHE 361, BIO 548.

The bioassay, synthesis, metabolism and mechanism of action of hormones emphasized through various experimental designs. One lecture and four laboratory hours.

BIO 650. Animal Behavior. Four hours. A.

The study of behavior with emphasis on inherited behavior patterns in relation to the evolution and ecology of animals. Three lecture-discussion hours and two laboratory hours.

BIO 690. Graduate Seminar. One hour. I, II, S.

Required of all graduate students; this course may be repeated for a maximum of two hours of credit. Presentation and discussion of current trends and concepts in the disciplines of biology.

BIO 691. Thesis Research. One to three hours. A.

Prerequisite: Approval by thesis-research advisor.

This course may be repeated, but a maximum of only six hours of credit may be applied toward a degree. Research in biology followed by the preparation of a thesis under the guidance of the research advisor.

SCIENCE (SCI)

SCI 672. Current Science Programs. Three hours. A.

Modern trends, practices, and foundation programs as they pertain to elementary and Jr. High science teaching. Major emphasis on laboratory investigations appropriate for elementary and Jr. High science. Six laboratory-discussion hours.

CHEMISTRY (CHE)

E. E. Byrn, Chairman

The Department of Chemistry offers the Master of Science Degree in Chemistry and, in cooperation with the College of Education, offers major work in support of the Master of Arts Degree in Education.

The graduate of the Master of Science program should possess a depth of understanding in several of the branches of chemistry and should have a background of theory in at least one area of chemistry sufficient to permit independent study and creative thinking. The re-

search phase of the program should provide the student with an opportunity to integrate the use of modern chemical literature with fundamental laboratory techniques and, thereby to arrive at the threshold of independent research.

SPECIAL PROGRAM REQUIREMENTS*:

MASTER OF SCIENCE

For Admission—The applicant is expected to provide evidence of ability to pursue scientific study. An overall grade point average of 2.75 is usually expected. Applicants offering a 3.0 grade point average for upper division work in chemistry may be considered providing they meet general requirements for admission to the Graduate School.

For Prerequisites—Students should have completed an undergraduate major in chemistry which includes the chemistry courses required for an accredited program by the American Chemical Society.

The following requirements must be completed prior to admission to graduate study: Three semesters of introductory chemistry, one year of organic chemistry, and one year of physical chemistry.

Additionally, CHE 514, 525, 550, and 565, must be included in the graduate program unless credit has been earned previously in the specific courses or their equivalents.

For Admission to Candidacy—Placement examinations in the areas of organic and physical chemistry will be given during orientation week. Background deficiencies will require remedial study as seems indicated.

The aptitude tests of the Graduate Record Examination and the Advanced Test in Chemistry must be taken during or prior to the first semester of graduate enrollment.

For Program—A minimum of 30 semester hours of graduate credit is required.

The program shall include the following:

Core courses in advanced analytical (CHE 520), advanced organic (CHE 650), and advanced physical chemistry (CHE 670). Six elective credit hours in 600 level chemistry courses related to the student's area of research.

Two credit hours of graduate seminar (CHE 680).

A maximum of 6 credit hours of Graduate Research (CHE 695). Any course deficiencies in CHE 514, 525, 550, or 565 must be made up as a part of the degree requirement.

Sufficient electives, approved by the graduate counselor, to reach the minimum of 30 credit hours. These credits should be from graduate level courses in chemistry, the related sciences or mathematics.

* Students must also meet the general requirements of the Graduate School.

For Language—Proficiency must be demonstrated on a reading examination of scientific literature. Usually completion of two years of undergraduate study, with average grades of "C", in German, French or Russian will suffice to meet the requirement in lieu of examination.

For Thesis—A thesis based upon the student's research program must be submitted. In addition to the copies required by the Graduate School, one bound copy should be prepared for the director of the student's graduate research program.

For Comprehensives—A final oral examination in defense of the thesis and related course work is required.

MASTER OF ARTS IN EDUCATION

General requirements governing the degree, Master of Arts in Education, with an emphasis in chemistry are enumerated in the College of Education section of the *Graduate Catalog*.

For Prerequisites—The candidate should have taken one year of organic chemistry, equivalent to CHE 361 and CHE 362 and one year of physical chemistry, equivalent to CHE 471 and CHE 472, as an undergraduate. Undergraduate deficiencies should be removed during initial enrollments.

For Program—Programs of study should include CHE 514 and two hours of CHE 680, and nine additional hours from CHE 520, 525, 530, 545, 550, 555, 560, 565, 595, and 600 level coursework.

For Thesis—The thesis is optional in this program.

For Comprehensives—A written and/or oral examination will provide the student with the opportunity to demonstrate scientific and pedagogical growth essential to secondary teaching.

CHEMISTRY (CHE)

CHE 511. Principles of Chemistry I. **Three hours.**

This course will treat selected concepts in chemistry in depth. Topics to be covered are equation of state, thermodynamics, and chemical equilibrium. Not available for credit if the student has taken CHE 471 and 472 or their equivalent.

CHE 512. Principles of Chemistry II. **Three hours.**

Continuation of CHE 511. Topics to be considered are chemical kinetics, electrochemistry and other selected topics. Not available for credit if the student has taken CHE 471 and 472 or their equivalent.

CHE 514. (Formerly CHE 401.) **One hour. A.**

Prerequisite: CHE 361, 472.

Introduction to the use of fundamental periodicals, abstract journals, handbooks, review series and encyclopedias of chemistry. One lecture hour.

CHE 520. Advanced Analytical Chemistry. **Three hours. A.**

Prerequisite: CHE 362 and 472.

Advanced study of analytical methods usually classified as non-instrumental. Precipitation studies, aqueous and non-aqueous solvents, titrations, liquid-liquid extractions, chromatography, ion exchange, kinetics in analytical chemistry, sampling, statistics. Two lecture hours, three laboratory hours.

- CHE 525.** (Formerly CHE 320 and 420.) Instrumental Methods. **Four hours. A.**
Prerequisite: **CHE 362 and 472** (or concurrent enrollment).
Principles and uses of optical and electrical instruments in analysis. Colorimetric, spectrophotometric (including infra-red), conductometric, potentiometric, polarographic and chromatographic methods and determinations, methods of nuclear chemistry. Two lecture and six laboratory hours.
- CHE 530.** (Formerly CHE 313.) Biochemistry. **Three hours. II.**
Prerequisites: **CHE 362, 471**, or permission of instructor.
Chemistry, metabolism and biosynthesis of carbohydrates, proteins, lipids, and nucleoproteins, the action of vitamins, hormones and enzymes related to cellular metabolism and body processes. Two lecture hours, three laboratory hours.
- CHE 545.** Chemistry Laboratory and Demonstration Techniques. **Four hours. A.**
Prerequisite: **Six semesters of undergraduate work in chemistry** or permission of instructor.
Techniques of constructing and demonstrating apparatus to illustrate principles of chemistry. Primarily for high school science teachers. Three lecture and three laboratory hours.
- CHE 548.** Issues in Chemical Education. **Two hours.**
A critical survey of issues in the teaching of chemistry.
- CHE 550.** (Formerly CHE 440.) Advanced Inorganic Chemistry. **Three hours. I.**
Prerequisite: **CHE 472**. (or concurrent enrollment)
Modern concepts of atomic nuclei, atomic structure, and classification of elements. Complex ions and coordination compounds. Theories of bonding. Three lecture hours.
- CHE 555.** Inorganic Preparations. **Three hours. II.**
Prerequisite: **CHE 550**.
Techniques of crystallization, distillation, furnace methods, electrolytic processes and gas handling as involved in the synthesis of alloys, oxides, salts, coordination compounds, polyacids, anomalous salts, and colloids. One lecture and six laboratory hours.
- CHE 560.** Advanced Organic Chemistry. **Three hours. A.**
Prerequisite: **CHE 362, 472**.
Survey of new reactions and comprehensive study of reaction mechanisms. Three lecture hours.
- CHE 565.** Qualitative Organic Analysis. **Three hours. A.**
Prerequisite: **CHE 362**.
Identification of unknown organic substances through a systematic study of their physical and chemical properties and their chemical derivatives. One lecture and six laboratory hours.
- CHE 575.** Radiochemistry. **Three hours. A.**
Prerequisite: **CHE 471**.
The nature and uses of radioactive substances in chemistry. Radiolysis, isotope exchange, radiotracer applications; isotope dilution methods; applications to structural and kinetic studies, including solvent extraction and chromatography. Some demonstration experiments. Three lecture hours.
- CHE 595.** (Formerly CHE 430.) (Formerly called Research in Chemistry.) Introduction to Research. **Three to five hours. I,II.**
Prerequisite: **CHE 361, 471**.
Objectives and techniques of chemical research. Problems in all fields of chemistry.
- CHE 625.** Spectroscopy. **Three hours. A.**
Prerequisite: **CHE 525 or 472**.
The origin of spectra; arc and spark spectra; excitation energies; flame photometry; emission methods; the photographic process; Raman and atomic absorption methods; mass spectroscopy. Two lecture and three laboratory hours.

- CHE 626. Electroanalytical Chemistry. Three hours. A.**
Prerequisite: CHE 525.
Study of the fundamental principles underlying potentiometric measurements and titrations, conductometric titrations, polarographic analysis, amperometric titrations, coulometric titrations, chronopotentiometry, and other electrochemical methods in analytical chemistry. Two lecture and three laboratory hours.
- CHE 630. Advanced Biochemistry. Three hours. A.**
Prerequisite: CHE 530.
Advanced study of metabolic processes and biosynthetic routes. Three lecture hours.
- CHE 652. Chemistry of the Transition Elements. Three hours. A.**
Prerequisite: CHE 550.
A detailed treatment of the chemistry of the transition elements, the lanthanides and actinides, including the structure of coordination complexes, bonding, reaction mechanisms, and preparations. Three lecture hours.
- CHE 653. Chemistry of Solutions. Three hours. A.**
Prerequisite: CHE 550.
Reactions and substances in aqueous and non-aqueous media. Three lecture hours.
- CHE 660. Organic Synthetic Methods. Three hours. A.**
Prerequisite: CHE 560.
Modern synthetic methods with an emphasis upon mechanism. Topics will include oxidation, reduction, Diels-Alder reactions, 1,3-dipolar addition and synthesis using carbene and aryne intermediates. Three lecture hours.
- CHE 662. Quantum Organic Chemistry. Three hours. A.**
Prerequisites: CHE 362 and 472 or permission of instructor.
The basic principles of molecular orbital theory and its application to organic chemistry. Three lecture hours.
- CHE 663. Stereochemistry of Organic Compounds. Three hours. A.**
A study of configurations and conformations of organic molecules and the influence of molecular structure on reactions. Three lecture hours.
- CHE 670. Advanced Physical Chemistry. Three hours. A.**
Prerequisite: CHE 472; MAT 453 recommended.
Introduction to quantum theory; simple quantum mechanical systems; energy levels and statistical mechanics; atomic and molecular structure. Three lecture hours.
- CHE 671. Chemical Kinetics. Three hours. A.**
Prerequisite: CHE 472.
Theory of rate processes; reaction order and molecularity; mechanisms of reaction. Three lecture hours.
- CHE 673. Chemical Thermodynamics. Three hours. A.**
Prerequisites: CHE 472; MAT 453.
Variables and state functions; entropy, enthalpy, and free energy in ideal and non-ideal systems; activity and fugacity; partial molal quantities and chemical potential; thermodynamic properties from spectroscopic data. Three lecture hours.
- CHE 680. Graduate Seminar. One hour. I, II.**
Presentation of significant developments in chemistry to members of the chemistry faculty and department majors. One weekly meeting. May be repeated for a maximum of two hours credit.
- CHE 690. Graduate Literature Program. Three hours. I, II.**
An extensive survey of the literature related to a specific research problem.
- CHE 695. Graduate Research. One to six hours. I, II.**
Laboratory research in one of the major areas of chemistry. May be repeated for a maximum of six credit hours.

DRAMA AND SPEECH

Richard L. Benson, Chairman

DRAMA (DRA)

DRA 500. History of Theatre. **Three hours. A.**

Intensive examination of development of theatre from primitive times to present. Includes oriental and occidental theatre.

DRA 540. Children's Theatre. **Three hours. A.**

Prerequisites: DRA 110, 130, 210.

Principles and practice of play production for children by adults or children.

DRA 545. Creative Dramatics. **Three hours. A.**

Principles and techniques of leading children in the creation of informal dramatic activities.

DRA 550. Play Production. **Three hours. A.**

Non-specialized course dealing with the basic elements of play production; selection, casting, rehearsals, types of dramatic literature, styles of acting, elementary principles of set design and decoration, costuming, make-up, lighting, and house management. Primarily for prospective teachers who may direct dramatics. Open to speech and/or drama majors only with the consent of instructor.

DRA 555. Directed Study in Play Production. **One to three hours. A.**

Directed projects in theatrical production. Departmental permission required.

SPEECH (SPE)

SPE 560. (Also SED 560). Introduction to Speech Correction. **Three hours. A.**

Prerequisite: SPE 100.

Designed to help identify and deal with speech defects. Study of basic types of disorders, emphasis on good environment for the handicapped and sources of specialized help.

SPE 570. Directed Study in Speech Pathology. **One to three hours. A.**

Directed projects in speech pathology. Proposal for the project must be submitted one semester in advance. Departmental permission is required.

SPE 580. Directed Study in Audiology. **One to three hours. A.**

Directed projects in audiology. Proposal for the project must be submitted one semester in advance. Departmental permission is required.

ENGLISH (ENG)

Kelly Thurman, Chairman

The Department of English offers the Master of Arts in English; and, in cooperation with the College of Education, a Master of Arts Degree in Education with emphasis in English. The graduate student in English may thus better prepare himself for a career of teaching on the college and pre-college levels and of engaging in literary research and composition on advanced levels.

SPECIAL PROGRAM REQUIREMENTS*:

MASTER OF ARTS DEGREE IN EDUCATION

The Department of English, in cooperation with the Graduate School and the College of Education, offers an emphasis in English applying toward the M.A. Degree in Education—Secondary Education. Students obtaining this degree should have a minimum total of 30 graduate hours, 10 of which should be in education and 20 of which should be in English. These courses should be chosen from the specialization patterns specified for non-thesis M.A. candidates below, with at least one course from each group.

MASTER OF ARTS DEGREE IN ENGLISH

The graduate program is designed to train the student in various areas of the discipline and to provide him with both breadth and depth in English appropriate to the advanced level. Areas of study include English and American literature, comparative literature, the history and structure of the language, bibliography, creative writing, and literary criticism.

For Admission—Students must meet the general requirements of the Graduate School. In addition they should have completed an undergraduate major, or if they have not, be prepared to do additional hours to remove any deficiency in their undergraduate preparation. Ordinarily a 3.0 standing must have been achieved in upper division English courses taken.

To be eligible for the advanced degree, a student must achieve scores satisfactory to the Department in both the verbal Aptitude Test and the Advanced Literature Test of the Graduate Record Examination, or, in lieu of the latter requirement, the student must indicate special strengths which, in the judgment of the Department, are at least of equal importance to the achievement of satisfactory test scores on these examinations.

For Language—Students in either the thesis or non-thesis programs must pass a language reading examination in a foreign language before the master's degree will be granted; however, the student may instead elect, unless he has already met the requirement, the completion of 12 hours (or the equivalent) of study in at least one language.

For Program Planning—Graduate work may be taken with or without a thesis. Under either option, work includes both preparation for independent study leading toward the Ph.D. in English and for teaching on the college and pre-college levels.

* Students must also meet general requirements of the Graduate School.

Students electing a thesis program may receive a maximum of six hours for ENG 698 and 699. Of the additional 24 hours required, at least 21 must be in English and selected from the following groups so as to meet the minimal requirements indicated: One course from 539, 540, 541, 605, 625, unless previously taken; two courses from 521, 522, 525, 526, 615, 626, 630, 632, unless previously taken; one course from 523, 524, 628, 672, 692, unless previously taken; one course from 547, 550, 546, unless previously taken; and one course from 645, 647, or 652, unless previously taken.

The non-thesis student must present course work selected from the following groups so as to meet the minimal requirements indicated: two courses from 539, 540, 541, 605, 625, unless previously taken; two courses from 521, 522, 525, 526, 615, 626, 630, 632, unless previously taken; one course from 523, 524, 628, 672, 692, unless previously taken; one course from 547, 550, 546, unless previously taken; one course from 645, 647, 652; and at least one course from 601, 686, or 690.

For Thesis: Those who submit a thesis in partial fulfillment of the Master of Arts Degree in English must prepare it in conformity with the regulations approved by the Graduate Council and the Department of English. Detailed information concerning the preparation and submission of the thesis may be procured in the office of the departmental chairman.

For Comprehensive Examinations—Graduate students not electing a thesis are required to take a written comprehensive examination after the completion of 24 hours of course work, usually close to the end of the student's second semester of course work. Comprehensive examinations will be scheduled in January, May, and the fourth or fifth week of each summer session.

Graduate students electing to complete a thesis are required to give an oral defense of their thesis and to be examined orally on related course work. The oral examination will be scheduled approximately one month before the end of the student's final semester of graduate work for the degree.

ENGLISH (ENG)

ENG 502. (Formerly ENG 402.) Creative Writing I. Three hours. I, A.

Prerequisite: GSE 101 (or equivalent), 102, and two other English courses; permission of instructor.

Open to students who desire to have their manuscripts criticized; fiction, drama, poetry, biography, or the informal essay accepted; guest lectures by and discussion with writers-in-residence.

ENG 503. (Formerly ENG 403.) Creative Writing II. One to three hours. II, A.

Prerequisite: GSE 101 (or equivalent), 102; permission of instructor.

A continuation of ENG 502 but open also to students enrolling for a writer's conference, which is a one-week course of fifteen informal lectures and discussions by faculty and visiting lecturers. Each student registering for the writer's conference must submit a short story, a one-act play, four poems, or the equivalent.

ENG 504. (Formerly ENG 404.) Semantics. **Three hours. A.**

Prerequisite: GSE 101, 102, and two courses in literature.

Examination of the basic principles underlying the influence of language on human action and interaction; emphasis on the relevance of semantics to composition and literature.

ENG 521. (Formerly ENG 421.) Renaissance Literature. **Three hours. I, A.**

Prerequisite: GSE 101 (or equivalent), 102; permission of instructor.

Study of poetry and prose of the English Renaissance, with emphasis on Sidney, Spenser, and Bacon.

ENG 522. English Poetry and Prose of the Seventeenth Century Exclusive of Milton. **Three hours. A.**

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.

Survey of poetry and prose of the first half of the 17th century, with emphasis on Donne, Jonson, Herbert, Crashaw, Browne, and Burton.

ENG 523. (Formerly ENG 423.) Milton and His Age. **Three hours. A.**

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.

Study of the most important works of Milton; attention to the historical setting and to Milton's contemporaries.

ENG 524. (Formerly ENG 424, 44.) Chaucer. **Three hours. II, A.**

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.

Intensive reading of such works as *The Canterbury Tales* and *Troilus and Criseyde*; other readings as time permits.

ENG 525. (Formerly ENG 425, 525.) The Age of Dryden and Pope. **Three hours. A.**

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.

Poetry, prose, and drama of the Restoration Period with emphasis on Dryden; poetry of the Augustan period with emphasis on Pope.

ENG 526. (Formerly covered in part by ENG 525.) The Age of Swift and Johnson. **Three hours. A.**

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.

Prose of the Augustan period with emphasis on Swift. Poetry, prose, and drama of the later eighteenth century with emphasis on Johnson and Boswell, rise of the novel, and pre-romantic poetry.

ENG 534. The Nineteenth-Century English Novel. **Three hours. A.**

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.

Study of the great 19th century English novelists from Jane Austen through Hardy: Austen, Scott, Dickens, the Brontes, Thackeray, Elliot, Meredith, Trollope, and Hardy.

ENG 539. (Formerly covered in part by ENG 540.) Introduction to Linguistic Theory. **Three hours. I, A.**

Prerequisite: GSE 101 (or equivalent), 102, and at least six additional hours of English.

Detailed attention to the International Phonetic Alphabet, phonemics, and morphemics. Some attention to structural and transformational methods of analysis. Introduction to the study of dialect.

ENG 540. Applied Grammar and Linguistics. **Three hours. II, A.**

Prerequisite: GSE 101 (or equivalent), 102, and six additional hours.

Study of ways in which modern linguistic theory is put into practice. Emphasis on linguistic field work, comparison of languages, and investigation of English as a second language.

ENG 541. (Formerly ENG 441, 47.) History and Structure of the English Language. **Three hours. A.**

Prerequisite: GSE 101 (or equivalent), 102, and six additional hours.

Study of the history of the English language in terms of social, historical and linguistic forces from which it developed into modern English.

ENG 546. (Formerly ENG 646.) American Novel. Three hours. I, A.

Prerequisite: GSE 101, 102, and six additional hours of English.
Survey of the American novel from its beginning to the present.

ENG 547. Age of Emerson. Three hours. A.

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.
Intensive study of the prose and poetry of the American Renaissance; emphasis on the writings of Emerson, Thoreau, Hawthorne, Melville, and Whitman.

ENG 550. Realism and Naturalism in American Fiction. Three hours. A.

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.
Study of the development of the realistic novel in the 19th century and the rise of naturalism in the twentieth; emphasis upon Howells, James, Garland, Norris, Crane, and Dreiser.

ENG 560. Continental Fiction. Three hours. A.

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.
Extensive reading in translation of important fiction of the Western world; emphasis on selected novelists of the 19th and 20th centuries.

ENG 565. Greek and Roman Drama as Literature. Three hours. A.

Prerequisite: GSE 101 (or equivalent), 102, and two courses in literature.
Brief study of dramatic criticism, theory of tragedy, and the Greek and Roman theater; reading of plays by Aeschylus, Sophocles, Euripides, Aristophanes, Plautus, and Seneca.

ENG. 575. Poetry, Prose, Composition. Nine hours.

Intensive analysis of poetry and prose; laboratory in composition; demonstrations of recent instructional media. Designed to prepare elementary and secondary teachers for more effective teaching.

ENG 601. (Formerly ENG 501.) Bibliography and Research. Three hours. A.

Work in critical theory and practice with attention to bibliography and resources. Each student compiles an extensive bibliography on a subject or author of his or his instructor's choice.

ENG 605. (Formerly ENG 565, 505.) Seminar in the Structure of English. Three hours. A.

Examination of various descriptive, transformational, and comparative approaches to the study of language.

ENG 611. (Formerly ENG 511.) English Drama to 1642. Three hours. A.

English drama from its beginning in the Middle Ages to the closing of the theaters in 1642, excluding Shakespeare.

ENG 615. (Formerly ENG 515.) Literary Criticism. Three hours. II, A.

Study of the development of literary criticism from its beginning to the present.

ENG 625. Old English Literature. Three hours. A.

Reading and study of selected works in original Old English dialects combined with work in translation.

ENG 626. (Formerly ENG 526.) Middle English Literature. Three hours. A.

English literature from 1200 to 1500; emphasis on poetry; readings done primarily in the original dialect.

ENG 628. Seminar in Donne and Jonson: Poetry and Prose. Three hours. A.

Detailed study of the poetry of John Donne and Ben Jonson; some emphasis on 17th century prose.

ENG 630. Studies in the Romantic Period. Three hours. A.

Study in depth of selected major figures of the Romantic Period from the pre-romantics and Blake through Wordsworth, Coleridge, Byron, Shelley, and Keats.

ENG 632. Seminar in the Age of Tennyson and Browning. Three hours. I, A.
Primary emphasis on the poetry of Tennyson and Browning; selected readings from other Victorian writers.

ENG 645. Seminar in Whitman and James. Three hours. A.
Intensive study of the scholarly problems related to the poetry of Whitman and the fiction of James.

ENG 647. Seminar in Hawthorne and Melville. Three hours. A.
Intensive study of the scholarly problems related to the fiction of Hawthorne and Melville.

ENG 652. Seminar in Faulkner and Hemingway. Three hours. A.
Studies in the fiction of Faulkner and Hemingway.

ENG 655. Studies in Twentieth-Century Literature. Three hours. A.
Detailed study of selected major figures in poetry, fiction, and drama of the 20th century. Concentration upon British and American literature. May be repeated once.

ENG 660. The Epic. Three hours. A.
Homer and the epic tradition; the *Aeneid*; the *Divine Comedy*; *Orlando Furioso*; *Jerusalem Delivered*; *Paradise Lost*; anonymous epics; the *Cid*; the *Song of Roland*; the *Vibelungentied*, the *Kalevala*.

ENG 672. Seminar in Eighteenth-Century English Literature. Three hours. A.
Studies in depth of two or more major figures of the Augustan Age.

ENG 686. Literary Theory. Three hours. A.
Studies in the relationship of imaginative and non-imaginative literature; emphasis on philosophical approaches to English and American Literature.

ENG 690. Special Studies. One to three hours. A.
Independent research and writing designed to fulfill the individual needs and interests of advanced students. Directed by an instructor in the student's area of concentration. Credit from one to three hours is determined by the extent and excellence of the work.

ENG 692. (Formerly ENG 592.) Graduate Seminar in Shakespeare. Three hours. A.
Selected concentration on the tragedies, comedies, historical dramas, and poetry; treatment of special studies on Shakespeare.

ENG 698. Thesis I. Three hours. A.

ENG 699. Thesis II. Three hours. A.

JOURNALISM (JOU)

JOU 501. School Publications Supervision Conference. (May be repeated for a maximum of 4 hours). Two hours.

Prerequisite: Permission of the instructor.

A two-week course of lectures and discussion by faculty and visiting lecturers. Each student will supervise secondary school students in the production of specimen school publications.

GEOGRAPHY (GEO)

J. R. Schwendeman, Jr., Chairman

The Department of Geography offers the Master of Arts Degree in Geography and, in cooperation with the College of Education, the Master of Arts in Education Degree with emphasis in geography.

SPECIAL PROGRAM REQUIREMENTS*:

MASTER OF ARTS

For Admission—Applicants who possess grade point averages of 2.75 on all undergraduate work or, in certain instances, 3.0 for upper division work, are eligible for admission. Provisions for conditional admission exist.

Transcripts will be evaluated from the perspective of the undergraduate program required at Eastern Kentucky University.

For Admission to Candidacy—Satisfactory scores on the aptitude tests of the Graduate Record Examination are required. A departmental examination covering the general field of geography will be administered during the first semester in residence and any deficiencies reflected should be satisfied or incorporated by the plan of study prior to admission to candidacy for the degree.

For Program—Minimum length of program shall be 30 semester hours. The following courses are required of all majors: GEO 553, 556, 650, and 651. At present, specializations may be chosen from urban geography, regional planning, transportation geography, climatology, and/or geomorphology.

For Thesis—An acceptable thesis is required.

For Comprehensives—A final oral examination in defense of the thesis and related course work is required.

MASTER OF ARTS IN EDUCATION

General regulations governing requirements for the Master of Arts in Education Degree are contained in the College of Education section of the *Graduate Catalog*. Students seeking the degree with emphasis in geography should, with the assistance of an advisor, select courses from the offerings below. GEO 650 and 651 are required.

GEOGRAPHY (GEO)

GEO 500. Geography (.....). One to nine hours. A.

A geography course designed for undergraduate and graduate institute participants. Course content will be developed to adequately serve the aims of the Institute, and the specific orientation will appear in parenthesis behind the course title; that is, Earth Science, Regional, Education, etc. The designated semester hours which can be earned will also be specified for a given institute.

GEO 501. (Formerly GEO 601.) Geography in Education. Three hours. I. S.

Prerequisite: Twelve hours of social science or six hours of geography.

Geography in the present day school systems from elementary school to university. Special emphasis directed toward course objectives, outlines, problems, evaluation of departments, geographic literature and equipment, and other material.

* Students must also meet general requirements of the Graduate School.

GEO 513. Physiography of Eastern United States. Three hours. I of alternate years.
Prerequisite: GEO 313.

Detailed study of the physiographic regions and features of Eastern United States. Two hours lecture and two hours laboratory.

GEO 514. Physiography of the Western United States. Three hours. II of alternate years.

Prerequisite: GEO 313.

Intensive study of the physiographic regions and features of Western United States. Two hours lecture and two hours laboratory.

GEO 516. Advanced Climatology. Three hours. I.

Prerequisite: GEO 216.

Current methods utilized in climatic studies of micro and macro areas, alternate climatological classification systems, and techniques employed in data collection, processing, and presentation.

GEO 530. Advanced Economic Geography. Three hours. II.

Prerequisite: GEO 330 and 331, or departmental approval.

Distribution and characteristics of various kinds of economic systems, and cultural and physical bases accounting for economic differentiation. Included are origin, development, and transformation of systems, comparative advantages and techniques for independent analysis. Research paper required.

GEO 540. (Formerly GEO 42, 372.) Geography of Europe. Three hours. I, of alternate years.

Prerequisite: General, none; geography majors, GEO 340.

Physical, cultural, and economic geography of Europe, with emphasis on problem areas or areas of current interest. Research paper required.

GEO 541. (Formerly GEO 33, 373.) Geography of Latin America. Three hours. I of alternate years.

Prerequisite: General, none; geography majors, GEO 340.

Physical, cultural, and economic geography of Latin America, with emphasis on underdeveloped areas or areas of current political concern. Research paper required.

GEO 542. (Formerly GEO 41, 473, 573.) Geography of Asia. Three hours. II of alternate years.

Prerequisite: General, none; geography majors, GEO 340.

Physical, cultural, and economic geography of Asia, with emphasis on areas of current concern. Research paper required.

GEO 543. (Formerly GEO 43, 475, 575.) Geography of Africa. Three hours. II of alternate years.

Prerequisite: General, none; geography majors, GEO 340.

Physical, cultural, and economic geography of Africa, with emphasis on areas of current concern. Research paper required.

GEO 546. Regional Geography. Three hours. A.

Prerequisite: General, none; geography majors, GEO 340.

Intensive study of a selected area of less than continental size. Offered upon demand and by an instructor who has done extensive research in the selected region, or by a visiting lecturer. May be taken for a maximum of six hours. Research paper required.

GEO 553. Quantitative Applications in Research. Three hours. II.

Prerequisite: Elementary statistics course.

Study of data type normally encountered in social and earth science research, valid sampling techniques in regard to development of this data, analysis of samples by appropriate statistical methods, testing for validity and significance, and conclusion drawn. Two hours and two hours laboratory.

GEO 555. Advanced Cartography. Three hours. II.

Prerequisite: GEO 355 or departmental approval.

Advanced techniques of cartographic presentation of data and use of aerial photographs in map construction. One hour lecture and four hours laboratory.

GEO 556. Remote Sensing. Three hours. II, A.

Prerequisite: Departmental approval.

The mechanics and limitations inherent to remote sensing imagery, and the interpretation and use of this data in geographic research.

GEO 600. Geography (.....). One to nine hours. A.

A geography course designed for graduate Institute participants. Course content will be developed to adequately serve the aims of the Institute. The specific orientation will appear in parenthesis behind the course title, that is, Earth Science, Regional, Education, etc. The designated semester hours which can be earned will also be specified for a given Institute.

GEO 610. Seminar in Physical Geography. Three hours. I.

Prerequisite: Adequate background in physical geography as determined by department.

Seminar in some aspect of physical geography dictated by student interest, faculty speciality, or current problems in the field.

GEO 613. Research in Geomorphology. Three hours. II and alternate summers.

Prerequisite: Geography 313.

Directed research in selected geomorphological problems, such as hydrologic anomalies, sedimentation rates, quantitative geomorphology, and glacial studies.

GEO 616. Research in Climatology. Three hours. II and alternate summers.

Prerequisite: Geography 516.

Directed research in selected climatological problems, such as evapotranspiration, probability of single or multiple occurrences of weather phenomena, and flood forecasting.

GEO 621. Special Problems in Planning Geography. Three hours. I and alternate summers.

Prerequisite: GEO 421 or equivalent in related social science.

Directed research in urban or regional planning, such as functional zoning of cities and underdeveloped areas.

GEO 640. Directed Studies in Regional Geography. Three hours. A.

Prerequisite: Departmental permission.

Directed studies in micro regional geography. A student may take a maximum of six credit hours under this course number.

GEO 650. Field and Research Methods in Geography. Three hours. I and alternate summers.

Prerequisite: Geography graduate student.

Detailed reconnaissance field work, including classification of natural and cultural features, interview procedures, preparation of geographical reports and maps based on field data. Library facilities and research are also included.

GEO 651. Seminar in History and Philosophy of Geography. Three hours. II.

Prerequisite: Departmental permission.

A discussion of the history and development of geographic thought, various schools of geography, philosophies in geography, current and future trends.

GEO 690. Geography Seminar. Three hours. A.

Prerequisite: Departmental permission.

Selected geography topics for seminar discussion as student demand and faculty background dictate. Students may take this course for a maximum of six credit hours.

GEO 698. Independent Study. One to three hours. I, II, S.

Prerequisite: Departmental permission.

Semi-directed research on selected topics.

GEO 699. Thesis. Three to six hours. I, II, S.

GEOLOGY (GLY)

D. C. Haney, Chairman

GLY 500. Geology (.....). One to nine hours. A.

A geology course designed for undergraduate and graduate institute participants. Course content will be developed to adequately serve the aims of the institute. The specific orientation will appear in parenthesis behind the course title, that is, Earth Science, Physical Geology, Educational Geology, etc. The designated semester hours which can be earned will also be specified for a given institute.

GLY 510. Advanced Structural Geology. Three hours. A.

Prerequisite: GLY 410 or consent of instructor.

Advanced study of the architecture of the earth. Structures of mountains, regionally and world-wide, and mechanisms of deformation are considered in detail.

GLY 511. Advanced Paleontology. Three hours. A.

Prerequisite: GLY 411 or consent of instructor.

Study of taxonomy, biostratigraphy, and paleoecology of fossils. Emphasis placed on foraminifera, brachiopods, mollusks, ostracodes, and conodonts. Two lectures and two laboratory hours plus field trips.

GLY 512. Sedimentology. Three hours. A.

Prerequisite: GLY 411 or departmental approval.

Study of sediments. Physical condition of deposition, time of formation of deposits, and provenance emphasized. Size, shape, and composition of sediments analyzed statistically. Two lecture and two laboratory hours.

GLY 532. Geology of Fuels. Four hours. A.

Prerequisite: GLY 430.

Origin, occurrences, and uses of natural fuels. Three lecture and two laboratory hours, plus field trips as deemed appropriate.

GLY 533. Industrial Minerals. Four hours. A.

Prerequisite: GLY 430.

Origin, occurrence, and use of industrial rocks and minerals. Three lecture and two laboratory hours.

GLY 598. Special Problems In Geology. Three to four hours. I, II, S.

Prerequisite: Departmental approval.

Course topic determined by student and instructor.

GLY 600. Geology (.....). One to nine hours. A.

A geology course designed for graduate institute participants. Course content will be developed to adequately serve the aims of the institute. The specific orientation will appear in parenthesis behind the course title, that is, Earth Science, Physical Geology, Education Geology, etc. The designated semester hours which can be earned will also be specified for a given institute.

GLY 610. Geotectonics. Three hours. A.

Prerequisite: Departmental approval.

Topic selected by students and instructor in the area of structural geology.

HISTORY (HIS)

G. W. Robinson, Chairman

The Department of History offers the Master of Arts with a major in history; and, in cooperation with the College of Education, the Master of Arts in Education with an emphasis in history. Pro-

grams leading to these degrees prepare the student for careers in teaching on the college or secondary level,* advanced work toward a doctorate at other institutions and for a wide variety of public services within the United States.

SPECIAL PROGRAM REQUIREMENTS:**

Master of Arts in History with Thesis

For Admission—Admission is determined by the Department of History in cooperation with the Graduate School. The following is required of each candidate:

Satisfactory performance on the Graduate Record Examination including the Advanced Test in History before or during the first summer or regular academic year the student is enrolled. A high standard of undergraduate achievement, normally a 2.75 over-all average (on a 4.0 scale).

Completion of a satisfactory undergraduate major in history. Two letters of recommendation from faculty members with whom the applicant has studied.

For Program Planning—Students may major in either Twentieth Century American History (1920-1940) or Nineteenth Century English History (1815-1867). Minor fields may be chosen from the following list: Modern European Intellectual History, American Social and Intellectual History, English History, Russian History, Far Eastern History, Latin American History, Political Science, Sociology and Anthropology.

Each candidate must complete 30 semester hours work including six hours of general requirements as indicated below, twelve hours in the major field, six hours in the minor field, and six hours credit for the thesis.

For Language Requirement—The student must pass a reading examination on historical literature in a modern foreign language, determined in consultation with his advisor.

For Thesis—Each candidate must submit a thesis which demonstrates an appropriate level of skill in historical research and writing. The thesis shall be submitted to the student's major professor at least 30 days in advance of graduation. Acceptance of the thesis shall be at the discretion of a special reading committee. This committee shall be composed of the major professor and two other faculty members

*The M. A. in History with and without thesis qualify the recipient for a provisional teaching certificate providing the candidate has already completed an undergraduate professional education program in history. In such a case the provisional certificate would have to be renewed every ten years with renewal requiring that the holder had taught at least three of ten years in question. A standard certificate not requiring renewal would be awarded to each M. A. in Education (Secondary Education-History) graduate because of the ten hours of professional education included in the curriculum.

** Students must also meet the general requirements of the Graduate School.

recommended by the chairman of the major department and appointed by the Dean of the Graduate School. The committee shall complete its review of the thesis at least one week prior to the final oral examination. Two bound copies of the accepted thesis, signed by the committee, must be deposited with the Dean of the Graduate School at least one week before graduation.

The thesis carries six semester hours of credit as indicated in the description under the section on courses.

For Comprehensive Examinations—The program will culminate in a written comprehensive examination designed to test the student's general knowledge of history, and an oral examination. The latter will concern only the candidate's mastery of his special field and his thesis topic. Passage of the language exam must be certified PRIOR to these examinations.

Suggested Arrangement of Graduate Work—it is suggested that the graduate student electing to major in **American History** take the following courses:

First Semester: HIS 603, 698, 611, U. S. History (elective), Minor elective	15 hrs.
Second Semester: HIS 601, 699, 610, U. S. History (elective), Minor elective	15 hrs.

A graduate student electing to major in **English History** would take the following courses:

First Semester: HIS 603, 698, 620, English History (elective), Minor elective	15 hrs.
Second Semester: HIS 601, 699, English History (elective), English History (elective), Minor elective.....	15 hrs.

Master of Arts in History without Thesis

Option I

For Admission—Applicants must meet special admission conditions cited for majors electing thesis option.

For Program Planning—Each candidate must complete 36 semester hours work including twelve hours of general requirements as indicated below, twelve hours in the major field, and six hours in each minor field.

Students may major in either American or European history. Two minor fields will be chosen from the following list with the stipulation that a major in American history requires two minors in European history areas and a major in European history requires at least one minor in American history.

Suggested minor fields include: Modern European Intellectual History, American Social and Intellectual History, English History, Russian History, Far Eastern History, Latin American History, Twentieth Century American History, Nineteenth Century American History, and Eighteenth Century American History.

All course work may be completed in residence at Eastern Kentucky University in no less than two regular academic semesters and one summer session.

Suggested Arrangement of Graduate Work—

First Semester: HIS 603, 605, Major elective
(600 level), Major elective, Minor elective.....15 hrs.
Second Semester: HIS 601, 604, Minor elective
(600 level), Major elective, Minor elective15 hrs.
Summer Session: Major elective, Minor elective..... 6 hrs.

For Comprehensive Examinations—Upon completion of course work in the major field, the student's knowledge of the field will be tested by a comprehensive written examination. Upon completion of course work in each of the minor fields, the student's knowledge of these fields will also be tested by a comprehensive written examination. The program will culminate in an oral examination designed to test the student's general knowledge of history.

Option II

For Program—Each candidate must complete 36 semester hours work including twelve hours of general requirements as indicated below, fifteen hours in the major field and nine hours in a minor field.

Students may major in American, European, or Latin American History. The major and/or minor fields will be chosen from the following list.

Suggested fields include: American Social and Intellectual History, English History, Russian History (minor only), Latin American History, Twentieth Century U. S., Nineteenth Century U. S., Eighteenth Century U. S., Modern European History, and Far Eastern History (minor only).

All course work may be completed in residence at Eastern Kentucky University in no less than two regular academic semesters and one summer session.

Suggested Arrangement of Graduate Work—

First Semester: HIS 603, 605, Major elective (600
level), Major elective, Minor elective15 hrs.
Second Semester: HIS 601, 604, Minor elective (600
level), Major elective, Minor elective15 hrs.
Summer Session: Major elective, Minor elective 6 hrs.

For Comprehensive Examinations—Upon completion of course work in the major field, the student's knowledge of the field will be tested by a comprehensive written examination. Upon completion of the course work in the minor field, the student's knowledge of this field will also be tested by a comprehensive written examination. The pro-

gram will culminate in an oral examination designed to test the student's general knowledge of history as well as his understanding of his special field.

There is no language proficiency requirement for the M.A. in History without thesis.

Master of Arts in Education (Secondary Education-History)

For Admission—Admission is determined by the Department of History in cooperation with the Graduate School and the College of Education. The following special qualifications are required of each candidate:

An overall undergraduate point standing of at least 2.4 grade point ratio (4.0—A).

Completion of a satisfactory undergraduate major in history (at least 24 hours of courses in history).

A grade of no less than "C" in student teaching at the undergraduate level.

Satisfactory performance on the Graduate Record Examination including the Advanced Test in History before or during the first semester of the regular academic year the student is enrolled.

For Program—Each candidate must complete 30-31 semester hours work including 9-10 hours of core education courses, six hours of core history courses, nine hours in the major field and six hours in the minor field.

Students may major (nine hours) in either American History or European History. Students may minor (six hours) in any one of the following: American History, European History, Political Science, Geography, Sociology, Anthropology.

Suggested Arrangement of Graduate Work—A graduate student completing the M. A. in Education (Secondary Education-History) in one academic year would be expected to complete the following program:

First Semester: EDU 669, EDU Elective, HIS 605, History major (elective), Minor elective15 hrs.
 Second Semester: EDU Electives, HIS 604, History major (elective), History major (elective), Minor elective.....16 hrs.

Due to the heavy load of course work for two semesters, a graduate student is encouraged to take at least six of the elective hours during a summer session.

HISTORY (HIS)

HIS 502. (Formerly HIS 402.) American Revolution and the Constitution. Three hours. A.

Colonial background of Revolution; internal and external nature of Revolution; problems associated with Confederation; events leading to the American Constitution.

HIS 503. (Formerly HIS 403.) Jacksonian Democracy. **Three hours. A.**
Criticism of the concept. Party issues, nationalism, and the importance of the age.

HIS 507. (Formerly HIS 407.) Civil War and Reconstruction. **Three hours. A.**
Ante-bellum South, ante-bellum North; anti-slavery agitation, growth of sectional consciousness; recurrent crises; secession; war; military operations; internal developments in the North and South; Confederate collapse; problems of reconstruction; social, political, and economic reconstruction; aftermath.

HIS 508. The Emergence of American Nationalism, 1789-1824. **Three hours. A.**
Federalists; Republicans and the Constitution; America and the French Revolution; War of 1812; break up of political parties; emergence of new political divisions.

HIS 510. The Gilded Age, 1877-1898. **Three hours. A.**
America's industrial expansion; rise of labor unions; the farm protest; political bossism.

HIS 511. The Progressive Era and World War I, 1898-1920. **Three hours. A.**
Progressive movement; Imperialism; American entry into war; the Treaty of Versailles, League of Nations.

HIS 512. Prosperity, Depression, and War, 1920-1945. **Three hours. A.**
Internationalism and isolationism; prosperity in the twenties; depression and efforts to cope with it; the coming of World War II; United States participation in war.

HIS 513. (Formerly HIS 412, last part.) The United States and World Responsibility, 1945-Present. **Three hours. A.**

Problems of post-war adjustment; the cold war; the affluent society; problems inherent in world leadership.

HIS 530. American Social and Intellectual History to 1850. **Three hours. A.**
European influences; the colonial mind; revolutionary attitudes; New England's leadership; the movement of protest and reform; the rise of a native literature.

HIS 531. American Social and Intellectual History since 1850. **Three hours. A.**
The Civil War; Protestantism and capitalism; Social Darwinism; literature of naturalism and realism; the twentieth-century mind.

HIS 535. (Formerly HIS 320.) Ancient History in the Near East and Greece. **Three hours. A.**

Ancient Near East and Greece from prehistoric times to Alexander the Great and his successors; early food production; rise of civilization in Babylonia and Egypt; development of economic and political institutions; art; science; literature; and religion.

HIS 536. (Formerly HIS 321.) History of Rome. **Three hours. A.**
Rome from prehistoric village to the dominant power in the Mediterranean world; rise and decline of the Empire in the West.

HIS 541. (Formerly HIS 441.) The Age of the Enlightenment. **Three hours. A.**
European intellectual history, 1650-1789; scientific revolution, Cartesian and Newtonian schools; enlightenment as an European phenomenon; emphasis on the eighteenth century as an age of political and social criticism.

HIS 542. (Formerly HIS 442.) The French Revolution and Napoleon, 1789-1815. **Three hours. A.**

Background, analysis of various stages of the Revolution and their reflection of foreign policy; establishment of the First Empire; reasons for its collapse; effects of the Revolution upon France and Europe; 1815 as a watershed of European history.

HIS 544. (Formerly HIS 444.) Modern European Intellectual History. **Three hours. A.**

European civilization in the 19th and 20th centuries; emphasis upon institutions, ideas, and cultural forms distinguishing the period.

HIS 547. Tudor England, 1485-1603. **Three hours. A.**
Henry VII and resurgence of the monarchy; Henry VIII and revolt against Rome; Protestant Reformation; Cromwell's reforms; Edward VI and Marian Reaction; character and policies of Elizabeth I; Elizabethan settlement; Catholics vs. Puritans; Elizabethan diplomacy and Spanish War; Tudor Constitution and rise of Parliament; Elizabethan Renaissance.

HIS 548. Stuart England, 1603-1714. Three hours. A.

Characters and policies of early Stuarts; constitutional conflicts; Angelicanism vs. Puritanism; collapse of Tudor Constitution; English Civil War; Cromwell and Interregnum; Charles II and Restoration; growth of the Empire; Glorious Revolution; Britain as a great power; reign of Queen Anne.

HIS 550. (Formerly HIS 450.) Emergence of Victorian Britain. Three hours. A.

Economic and intellectual backgrounds of 19th century; French Revolution and Napoleonic threat; reaction and reform after 1815; Victorian thought; origins of the Commonwealth; age of Palmerston in foreign affairs.

HIS 551. (Formerly HIS 451.) Britain and the Empire in Adversity, 1867-Present. Three hours. A.

Characteristics of a new era; Reform Bill of 1867; economic and intellectual trends in late 19th century; decline of liberalism in politics; revival of imperialism; coming of World War I; emergence of the Commonwealth; impact of World War II; Conservative-Labor contention; Britain's role in the "cold" war.

HIS 557. (Formerly HIS 470.) Germany since 1870. Three hours. A.

Background; rise of Prussia; German nationalism and particularism; creation of the German Empire; its rule under Bismarck and William II; Peace Treaty and Weimar Republic; Nazi Germany; Second World War; allied occupation.

HIS 560. (Formerly HIS 360.) History of Russia I. Three hours. A.

Formative period of Slavic states. Establishment and development of the Kievan and Muscovite states. Social and economic forces that led to the rise of autocracy. Foreign policy from Peter the Great to Alexander I.

HIS 561. (Formerly HIS 362.) History of Russia II. Three hours. II.

Nineteenth century to Revolution of 1917. Growth of revolutionary thought and action. Revolutions of 1825, 1905, and 1917. Serfdom, agrarian reforms, industrialization, literature, art, science of the 19th century.

HIS 562. (Formerly HIS 362.) History of the Soviet Union. Three hours. II.

The 1917 revolution to the present. Establishment of the Soviet regime; New Economic Policy; Five-Year Plans; Soviet system of government; World War II. post-war years; cultural trends underlying political, economic, and social developments of the Soviet era.

HIS 570. (Formerly HIS 370.) Far Eastern History to the 19th Century. Three hours. I.

Survey of China and Japan from ancient times to the end of the 18th century, emphasizing characteristic political, economic, social, religious, and cultural developments. Reference made to peripheral areas.

HIS 571. (Formerly HIS 371.) Far Eastern History in the 19th and 20th centuries. Three hours. II.

Survey of China and Japan in the 19th and 20th centuries. Attention given to impact of the West, intellectual and cultural movements, political, economic, and social developments.

HIS 580. (Formerly HIS 350.) History of Latin America. Three hours. I.

European and American background; discovery, conquest, expansion; techniques of government; social and economic institutions to independence.

HIS 581. (Formerly HIS 351.) History of Latin America. Three hours. II.

Comparative treatment of political, economic, and social institutions of Latin American republics from attainment of independence to the present.

HIS 582. History of Mexico. Three hours. A.

Mexican History from the Spanish conquest to present with emphasis on Mexican Revolution of 1910 and its effect on political, economic, social, and military institutions.

HIS 601. Survey of Historiography. Three hours. I.

Seminar approach to the history of historical writings and interpretation. Attention to selected works of great historians from Herodotus to the present. Required of all candidates.

- HIS 603. Historical Criticism. Three hours. A.**
Seminar in fundamental techniques of the historian; using basic bibliographical tools; locating and evaluating source materials; writing book reviews; critically interpreting historical evidence. Required of all candidates.
- HIS 604. (Formerly HIS 504.) History as a Social Science. Three hours. A.**
Scientific approach to social problems and their historical interpretation; analysis of economic, social, intellectual, and political backgrounds of contemporary civilization.
- HIS 605. The Humanities approach to History. Three hours. A.**
The "American Character" and its development as an example of the humanities approach to the study of history.
- HIS 606. Problems in Interpreting World History. Three hours. A.**
Seminar on selected controversial development in world history.
- HIS 607. Problems in Interpreting American History. Three hours. A.**
Seminar on selected controversial developments in American history.
- HIS 610. Seminar in American History. Three hours. A.**
Reading and investigations in a field other than the student's specialty. Required of all American history thesis majors.
- HIS 611. Seminar in American History. Three hours. A.**
Techniques of research, note-taking, documentation; occasional lectures and class discussions of major problems and controversies. Fields vary each semester. Required of all American history thesis majors.
- HIS 620. Topics in Early 19th Century English History, 1815-1867. Three hours. A.**
Seminar in the Victorian era. Students conduct original research; prepare papers; submit work to class for criticism and discussion. Required of all English history thesis majors.
- HIS 649. Readings and Research. Three hours. A.**
Independent study in a specific field.
- HIS 698. Thesis Tutorial I. Three hours. A.**
- HIS 699. Thesis Tutorial II. Three hours. A.**

MATHEMATICS (MAT)

B. R. Lane, Chairman

The Mathematics Department, in cooperation with the Graduate School and the College of Education, offers an emphasis in mathematics applying toward the M.A. Degree in Education.

The regulations for the M.A. Degree in Education program may be found in the College of Education section of the *Graduate Catalog*. Students obtaining the M.A. Degree in Education with the emphasis in mathematics may select the graduate courses for this purpose from the following:

MATHEMATICS (MAT)

- MAT 505. Foundations of Mathematics. Three hours. I.**
Prerequisite: MAT 308 or consent of instructor.
Nature of mathematical thought; logical systems, postulational concepts and methods; consideration of the work of Hilbert, Peano, Whitehead, Russell, and others.

MAT 506. Number Theory. Three hours. II.

Prerequisite: MAT 308 or consent of instructor.

Fundamental properties of integers; linear Diophantine equations; linear and quadratic congruences; famous problems of number theory.

MAT 508. (Formerly MAT 408.) Modern Algebra I. Three hours. I.

Prerequisite: MAT 213 and 308, or consent of instructor.

Some fundamental concepts, sets, mapping, equivalence relations, operations; rings and integral domains; isomorphisms; some properties of the integers; fields with emphasis on construction of the various number systems; groups.

MAT 509. (Formerly MAT 409.) Modern Algebra II. Three hours. II.

Prerequisite: MAT 508.

Matrix algebra; vector spaces; systems of linear equations; linear transformations.

MAT 533 (Formerly MAT 333.) Non-Euclidean Geometry. Three hours. II.

Prerequisite: MAT 213 or consent of instructor.

Finite geometries; foundations of Euclidean geometry with investigations of the tacit assumptions of Euclid; Hilbert's postulates; Euclid's Fifth Postulate; discovery of Non-Euclidean geometry; hyperbolic plane geometry; elliptic plane geometry; consistency of the Non-Euclidean geometries.

MAT 556. (Formerly MAT 456.) Vector Analysis. Three hours. II.

Prerequisite: MAT 213 and PHY 202 or equivalent.

Algebra, geometry and calculus of vectors and applications.

MAT 571. Introduction to Numerical Analysis. Three hours. II.

Prerequisite: MAT 213 and 372 or equivalent.

Computer-oriented numerical methods course. Basic operations, computation, approximation, interpolation, numerical solution of equations, numerical integration, matrices and systems of equations, numerical solution of ordinary differential equations. Exhibits techniques available; attempts to derive the relevant formulas and consider the mathematical analysis. Out-of-class laboratory work required.

MAT 607. (Formerly MAT 507.) Foundations of Secondary School Mathematics I. Three hours.

Designed for secondary school teachers of mathematics working toward the Master of Arts in Education Degree. Topics include: number and numeration; fundamental number theory; sets, relations, and functions; algebraic systems; consideration of these topics as they are likely to affect the modern high school mathematics program.

MAT 608. (Formerly MAT 508.) Foundations of Secondary School Mathematics II. Three hours.

Continuation of MAT 607. Topics include: history and development of geometry; logic and nature of proof; foundations of synthetic and analytic Euclidean geometry; discovery of non-Euclidean geometries; vector approaches to the study of geometry; consideration of these topics as they are likely to affect the mathematics program in the modern high school.

MAT 610. Introduction to General Topology. Three hours.

Prerequisite: MAT 308 or consent of instructor.

Countability and transfinite axioms; topological spaces; separation axioms; homeomorphisms and topological invariants; one-point compactification; product spaces; metrizable; generalized continua.

MAT 650. Real Analysis. Three hours.

Prerequisite: MAT 454.

Real and complex number systems; elements of set theory; numerical sequences and series; continuity; differentiation; the Riemann-Stieltjes Integral; sequences and series of functions.

MUSIC (MUS)

George E. Muns, Chairman

The Department of Music offers major work which may lead to the awarding of the Master of Music Education Degree. The purpose of this degree is to prepare students for leadership roles in music education at all levels; to build a sound foundation for further graduate study leading to a doctorate; to develop more completely the performance skills of the candidate; to help the student gain further insight into the structure of music; to increase the student's knowledge of musical culture through intensive study of music literature; and to provide the student with a core of knowledge from the field of learning theory, philosophy of education, and curriculum development enabling him to use educational principles in guiding the musical growth of others.

SPECIAL PROGRAM REQUIREMENTS*:

For Admission—Applicants for admission to the graduate music program must hold a valid teaching certificate and must hold the degree of Bachelor of Music, Bachelor of Music Education, Bachelor of Science in Music Education, or an equivalent degree from an institution of accredited standing. Admission is based on evidence that the applicant will be able to pursue creditably a program of graduate study in music education.

Normally his scholastic record should reflect an overall grade-point average of 2.75 (4.0—A), and his undergraduate program must show adequate preparation in the major field and related fields, corresponding to the distribution of courses and credits usually found in departments certified by the National Association of Schools of Music.

Three letters of reference from persons qualified to judge competent work in the field of music or music education should be solicited by the candidate in support of his application. In addition, satisfactory performance on specific tests of musical knowledge and skills is a necessary prerequisite.

For Program Planning—The general format of the program appears below. Additional details are available in document form upon request to the Department of Music.

Music Education	10-16 hrs.
Teaching Techniques	0-6 hrs.
Music History & Literature, Structure and Organization of Music, Applied Music, Related Fields	4-12 hrs.
Research & Thesis (with option of Recital)	5 hrs.
Education**	5-10 hrs.
Total: 32 hrs. for graduation	

* Students must also meet the general requirements of the Graduate School.

** Five hours of education and four hours of music education will qualify the student for the Standard Teaching Certificate.

For Thesis—Each candidate must submit a thesis which demonstrates an appropriate level of research and writing in the field of music education. Candidates may choose to 1) investigate a problem in music education in the schools; (2) write an original project such as a book for children and young people, a methods book, or some other creative endeavor; (3) complete a bibliography project; (4) complete a large curriculum project for school use.

For Non-Thesis—A graduate level recital may be presented in lieu of thesis. A paper, explaining in some detail the music to be performed on the graduating recital, will be prepared and submitted to the major professor at least two weeks prior to the recital date.

For Comprehensive Examinations—The program will be culminated by a written comprehensive examination testing the candidate's general knowledge of music education. In addition, those students electing to write a thesis will stand a final oral defense of the thesis.

MUS 550. Teaching Techniques. Two hours. I.

Analysis of current teaching methods and materials with the intention of developing sound teaching procedures. Topics announced in Woodwinds, Brass, Percussion, Strings, Voice, Piano, and Organ. May be repeated for credit.

MUS 551. Performance Literature. Two hours. II.

Study and analysis of literature for various performing mediums. Performance practices and problems. Topics announced in Woodwinds, Brass, Percussion, Strings, Voice, Piano, and Organ. May be repeated for credit.

MUS 555. Symphonic Music Literature. Two or three hours. I.

Prerequisite: MUS 371 and 372.

Evolution of the symphony from its beginning to the 20th century, with emphasis on score reading and listening.

MUS 556. Choral Music Literature. Two or three hours. II.

Prerequisite: MUS 371 and 372.

Survey of choral music literature from fifteenth century to present.

MUS 563. Teaching Piano in Classes. Two hours. A.

Prerequisite: Three years of piano study at the college level, or the equivalent. Methods and materials used in teaching of piano classes.

MUS 564. Advanced Instrumental Conducting. Two hours. A.

Prerequisite: MUS 366, or equivalent.

Designed to increase skills in score reading, preparation, interpretation and conducting of major orchestral or band works.

MUS 565. Advanced Choral Conducting. Two hours. A.

Prerequisite: MUS 366, or equivalent.

Conducting techniques and their application in choral rehearsal and performance.

MUS 581. (Formerly MUS 381. Counterpoint I. Two hours. A.

Survey of species. Writing in two, three and four parts with *cantus firmus*. Choral writing with the use of words. Analysis of Bach chorales and other polyphonic works. Writing of descants and canons.

MUS 582. (Formerly MUS 382.) Counterpoint II. Two hours. A.

Characteristics of good melodic lines. Interplay of metrical, melodic and harmonic rhythms. Techniques of imitation, and thematic treatment. Writing in two, three and four parts using instrumental combinations. Analysis of Bach Inventions and other works in polyphonic style.

MUS 583. Composition. Two hours. A.

- MUS 584. Scoring for Band. Two hours. A.**
Primary course in instrumentation and arranging for the band medium, including scoring for small ensembles, marching band, concert band, and other combinations of wind and percussion instruments.
- MUS 585. Choral Arranging. Two hours. A.**
Introductory course in arranging for typical junior and senior high school vocal ensembles.
- MUS 586. Workshop in Instrumental Music. Two or three hours. A.**
Topics in band or orchestral procedures.
- MUS 588. Pedagogy of Theory. Two hours. A.**
Comparative study of theory systems with emphasis on presentation and illustrative exercises dealing with related theoretical problems.
- MUS 612. Piano. One or two hours. I, II.**
Prerequisite: MUS 312. Four years or equivalent, as demonstrated by the student's proficiency on the instrument.
- MUS 622. Voice. One or two hours. I, II.**
Prerequisite: MUS 322.
- MUS 632. String Instruments. One or two hours. I, II.**
Prerequisite: MUS 332.
Graduate applied instruction in violin, viola, violoncello, or string bass.
- MUS 633. Special Problems in String Teaching. One to three hours. A.**
Specialized study of problems in studio or class teaching. Exposure to special techniques for successful teaching of skills at all levels.
- MUS 642. Organ. One or two hours. I, II.**
Prerequisite: MUS 342.
- MUS 645. Brass Instruments. One or two hours. I, II.**
Prerequisite: MUS 345.
Graduate applied instruction in trumpet-cornet, French horn, baritone horn, trombone, or tuba.
- MUS 646. Woodwind Instruments. One or two hours. I, II.**
Prerequisite: MUS 346.
Graduate applied instruction in flute, oboe, clarinet, bassoon, or saxophone.
- MUS 647. Percussion. One or two hours. I, II.**
Prerequisite: MUS 347.
- MUS 672. Seminar in Music History. One to three hours. A.**
- MUS 674. Supervision & Administration in Music Education. Two hours. A.**
Functions, techniques and problems of supervision and administration in music education; development of effective music programs in city and county school systems; in-service education and workshop techniques; professional and community relationships.
- MUS 675. Current Trends in Junior High School Music. Two hours. A.**
Current thought and practices in junior high school music; characteristics of early adolescents and their implications for musical growth; consideration of objectives, techniques and literature for general music classes.
- MUS 676. Current Trends in Elementary Music. Two hours. A.**
Current thought and practices in elementary music; knowledge of the learner and the learning process, structure of music, and methods of developing skills related to a practical program of experiences designed to promote children's musical growth.
- MUS 677. Practicum in Senior High Music. Two hours. A.**
Consideration of problems encountered at secondary level in the teaching of music, with emphasis on instrumental, choral, and music literature procedures. Discussions, lectures, and readings coupled with observation and participation of students in the Stephen Foster Music Camp.

MUS 678. Principles of Music Education. Three hours. I.
Presentation and discussion of basic educational principles and their implications for music education, with reference to all types of school situations.

MUS 679. Foundations of Music Education. Three hours. II.
Historical, philosophical and psychological foundations of music education and their relationship to curriculum development.

MUS 680. Field Work in Music Education. Two or three hours. A.
Professional activities in the field under guidance and supervision of members of music department staff. Emphasis on curriculum improvement through student work on projects and problems faced in actual teaching situation. Selected readings pertinent to individual problems and needs.

MUS 683. Seminar in Choral Procedures. Two hours. A.
Organization of various kinds of choral groups; analysis of a large selected list of various types of choral literature.

MUS 684. Organization & Administration of Instrumental Music. Two hours. A.
History and roles of instrumental music; methods of program initiation, student recruitment and testing; organizational and administrative aspects of various instrumental groups; administrative procedures for property and library materials.

MUS 687. Analytical Techniques I. Three hours. A.
An intensive study of the structure of Classic and Baroque music.

MUS 688. Analytical Techniques II. Three hours. A.
Prerequisite: MUS 687 or permission of instructor.
An intensive study of the structure of Romantic and Modern music.

MUS 698. Research & Writing in Music. Two hours. A.
Overview of important research in music; sources and procedures for investigating problems in the field; development of bibliographies.

MUS 699. Thesis. Three hours. I, II.

PHILOSOPHY (PHI)

PHI 510. Aesthetics. Three hours. II.

Examination of the major philosophical theories of art and beauty and of the place of aesthetic language in the general area of value judgments. Plato, Aristotle, Hume, Kant, Hegel, and several lesser figures will be critically considered. (PHI 210 recommended preparation).

PHI 520. Political Philosophy. Three hours. I.

PHYSICS (PHY)

T. M. George, Chairman

The Physics Department, in cooperation with the Graduate School and the College of Education, offers an emphasis in physics applying toward the M.A. Degree in Education.

The regulations for the M.A. Degree in Education program may be found in the College of Education section of the *Graduate Catalog*. Students obtaining the M.A. Degree in Education with the emphasis in physics may select the graduate courses for this purpose from the following:

PHYSICS (PHY)

PHY 502. (Formerly PHY 302.) Physical Optics. **Three hours. A.**

Prerequisite: PHY 202 or consent of instructor.

Corequisite: MAT 112.

Wave motion, reflection and refraction, further study of lenses, the telescope, dispersion, facts concerning the spectrum, interference, diffraction, plane polarized light, the electromagnetic theory of light, the quantum theory, origin of spectra. Three lecture hours per week.

PHY 503. (Formerly PHY 303.) Thermodynamics. **Three hours. A.**

Prerequisite: PHY 202.

Corequisite: MAT 213.

Study of temperature, thermodynamic systems, ideal gases, First and Second law of Thermodynamics, Carnot cycle, Kelvin temperature scale, entropy.

PHY 506. Physics for High School Teachers. **Three hours. A.**

Prerequisite: One year of college physics.

Topics from general physics to prepare teachers to teach high school physics with ease and confidence. Topics from advanced and modern physics to impart extra knowledge and a greater understanding. Two hours lecture; three hours laboratory and discussion.

PHY 507. Physics for High School Teachers. **Three hours. A.**

Prerequisite: PHY 506.

Continuation of PHY 506. Two hours lecture; three hours laboratory and discussion.

PHY 508. Topics in Physics for Teachers. **Four hours. A.**

Topics from general physics selected to aid the high school teacher to teach with greater confidence. Three lecture hours; three hours laboratory and discussion.

PHY 510. (Formerly PHY 310.) Special Problems in Physics. **One to three hours.**

A.

Prerequisite: PHY 202 and PHY 306.

Working out of special laboratory experiments, development of new equipment, or solution of special mathematical problems related to physics.

PHY 511. (Formerly PHY 311.) Special Problems in Physics. **One to three hours.**

A.

Prerequisite: PHY 202 and PHY 306.

Continuation of PHY 510.

PHY 515. (Formerly PHY 315.) Radioactivity and Nuclear Physics. **Three hours.**

A.

Prerequisite: PHY 300.

Natural radioactivity, radiation detectors, induced radioactivity, Alpha, Beta, and Gamma rays, neutrons, other particles, cosmic radiation, nuclear fission, applications of radioactivity. Three lecture hours per week.

PHY 516. (Formerly PHY 304.) Electricity and Magnetism I. **Three hours. A.**

Prerequisite: PHY 202.

Corequisite: MAT 453.

Introduction by means of calculus and vectors to formulation and use of principles of classical electricity and magnetism. Covers electric fields and potentials, capacitance, direct and transient currents, alternating currents. Three lecture hours per week. Offered in alternate years.

PHY 517. Electricity and Magnetism II. **Three hours. A.**

Prerequisite: PHY 516.

Continuation of PHY 516. Covers dielectrics, resistance, thermo-electricity, electro-magnetic induction, magnetic properties of matter, Maxwell's equations. Three lecture hours per week. Offered on alternate years.

PHY 520. (Formerly PHY 415.) Advanced Nuclear Laboratory. **Two hours. A.**
Corequisite: PHY 515.

Performance of approximately twelve experiments in nuclear physics, radiation instruments and methods, range and energy of particles, absorption, half-life, neutron moderators and neutron flux measurements, coincidence techniques. Four laboratory hours per week.

PHY 558. (Formerly PHY 455 and MAT 455.) Classical Mechanics I. **Three hours. A.**
Prerequisite: PHY 202.
Corequisite: MAT 453.

Introduction by means of calculus to formulation and use of principles of classical mechanics. Covers force and motion of particles, work, Newton's Law of Gravitation, free and forced harmonic oscillations, translational and rotational motion of rigid bodies, wave motion. Three lecture hours per week. Offered on alternate years.

PHY 559. Classical Mechanics II. **Three hours. A.**
Prerequisite: PHY 558.

Continuation of PHY 558. Covers central forces, generalized coordinates, Lagrange's equations, Hamilton's equations, vibrating systems and normal coordinates. Three lecture hours per week. Offered on alternate years.

PHY 570. Quantum Mechanics. **Three hours. A.**
Prerequisite: PHY 558.

Basic principles of wave mechanics, solutions of Schrodinger wave equation for simple systems. Interpretation of solutions and application to atomic and molecular problems. Three lecture hours per week.

PHY 606. Selected Topics in Physics for Teachers I. **Three hours. A.**
Prerequisite: Consent of instructor.

Intensive study of topics in physics selected from the following fields: mechanics, thermodynamics, sound, electricity, magnetism, optics, and modern physics. Selection will depend upon the needs of the students enrolled in the course. Two hours lecture; three hours laboratory and discussion.

PHY 607. Selected Topics in Physics for Teachers II. **Three hours. A.**
Prerequisite: Consent of instructor.

Intensive study of topics in physics selected from the following fields: mechanics, thermodynamics, sound, electricity, magnetism, optics, and modern physics. Selection will depend upon the needs of the students enrolled in the course. Care will be taken not to duplicate subjects in PHY 606. Two hours lecture; three hours laboratory and discussion.

POLITICAL SCIENCE (POL)

D. B. Pettengill, Chairman

The Political Science Department, in cooperation with the Graduate School, offers work leading toward the degrees, Master of Arts, Master of Public Administration, and, with the College of Education, the Master of Arts in Education.

PROGRAM CONTENT

MASTER OF ARTS

The Department of Political Science offers a Master of Arts Degree with emphases in the following fields: international relations, comparative government, public law, American political process or political

theory. Objectives of the program are: to establish and maintain standards of scholarly excellence; improvement of political institutions in community, Commonwealth and nation; preparation for effective participation in the political process; attainment of a degree of sophistication in the use of general concepts in the discipline; appreciation of the relationships between Political Science and other disciplines; and development of a specialized creativity in an area of the discipline.

For Admission—A high standard of undergraduate achievement, normally 2.75 overall average (on 4.0 scale). Conditional admissions provisions exist. Completion of a satisfactory undergraduate major in Political Science is required as are two letters of recommendation from faculty members with whom the applicant has studied.

For Admission To Candidacy—Prior to or during the first semester in which the student is enrolled, satisfactory performance on the Graduate Record Examination including the Advanced Test in Political Science is required.

For Program—Each student must complete 30 semester hours including POL 600 and POL 655. Students will elect to emphasize one of the following fields: international relations, comparative government, public law, American political process or political theory. Six hours of acceptable course work must be earned in the Department of Economics, Geography, History, Sociology or an allied area.

For Language or Statistics—The student must pass a reading examination in a modern foreign language, determined in consultation with his advisor, or complete two semesters of mathematics and statistics, or the equivalent, as determined by his advisor.

For Thesis—Students will normally be expected to submit an acceptable thesis. The thesis carries 6 semester hours of credit as indicated in the description under the section on courses.

For Comprehensive Examinations—A comprehensive written examination is required as well as an oral defense of the thesis. The comprehensive examination may not be taken until the requirement in foreign language or statistics has been met.

MASTER OF PUBLIC ADMINISTRATION

It is not mandatory for students admitted to the M.P.A. program to have completed an undergraduate degree in political science. Rather, the chief consideration will be the student's aptitude for public service, and his capacity for thinking broadly across the borders of political science, economics, geography and history. Therefore, undergraduate preparation will be equated with the student's breadth of experience as well as his aptitude for a career in administration.

For Admission—A high standard of undergraduate achievement, normally 2.75 overall average (on 4.0 scale). Conditional admissions provisions exist. Completion of a satisfactory undergraduate major. (See section below on program).

For Admission to Candidacy—A preliminary examination in two areas of public administration (finance, personnel, organization or law) will be required. Students may be admitted to candidacy only after completion of at least 15 hours of their total programs. Students must also demonstrate competence in the use of statistical tools.

For Program—Course requirement for the M.P.A. Degree are as follows:

POL 650 (Internship)	12 hours
POL 565, POL 665, POL 675, POL 685	12 hours
2-4 courses from GEO 530, GEO 546, GEO 621, GEO 640	6-12 hours
(or) 2-4 courses from HIS 512, HIS 513, HIS 531, HIS 604, HIS 610	6-12 hours
(or) 2-4 courses from ECO 550, ECO 593, ECO 597, ECO 600, ECO 620	6-12 hours
Elective courses in Political Science	6-12 hours
	36 hours*

For Internship—Will be arranged for one semester with a government agency or an official of the Commonwealth or a local government. A written report of the internship must be submitted.

For Comprehensive Examination—Passage of an oral comprehensive examination will be required.

The regulations for the M.A. Degree in Education program may be found in the College of Education section of the *Graduate Catalog*. Students obtaining the M.A. Degree in Education with the emphasis in political science may select the graduate courses for this purpose from the following:

POLITICAL SCIENCE (POL)

POL 500. Practicum in Political Science. 1-3 hours. A.

Prerequisite: 12 hours of political science.

A supervised field study program available only for political science majors. Assignments may be made to the General Assembly of Kentucky or to officials of local government in accordance with the requirements of special projects.

POL 501. British Government and the Commonwealth. Three hours. I.

Prerequisite: POL 201 and either six additional hours of political science or six hours of English history, or graduate standing.

Study of constitutional system and political institutions of Great Britain. Attention to historical, geographical, social, and economic factors which influence the political system. Nature and development of the Commonwealth and significance of the Commonwealth for Great Britain are examined.

POL 510. American Foreign Policy. Three hours. II.

Prerequisite: Nine hours of political science or graduate standing.

Study of the processes and content of United States foreign policy.

* Students admitted without undergraduate concentration in political science will be required to take an additional 12 hours.

POL 515. Workshop in International Affairs. Three hours. A.
Explores major problems in international affairs. Covers various areas of the world with reference to significant background factors and international problems of the people. Designed for secondary teachers in the social science field although open to other qualified students. Offered only during summer session.

POL 520. Workshop in Local Government and Politics. Three hours. A.
Focuses attention on major problem areas of Kentucky local government. A different area of concern will be explored each time the course is offered.

POL 530. Municipal Government and Administration. Three hours. II.
Prerequisite: Nine hours of political science.
Study of the powers, organization and current problems of municipalities and urban areas.

POL 535. The Political Systems of Mexico and the Caribbean. Three hours. A.
Prerequisite: Nine hours of political science or graduate standing.
An intensive analysis of governmental and political processes of Mexico, Cuba, and Central America. Attention focused on sociological, political, and economic factors.

POL 540. International Law. Three hours. A.
Prerequisite: POL 202 or permission of instructor.
A study of the nature and function of international law with regard to judicial solution of disputes among nations. Examination of the processes of growth and change in international law through cases in national and international courts, as well as strength and limitation of such laws.

POL 545. Theory of Public Administration. Three hours. A.
Prerequisite: POL 320 or permission of instructor.
This course identifies executive systems as expressed through individuals, small groups, and formal organizations; analyzes the functions, conditions and problems of executive value systems, activity and sentiment patterns. Action relationships in administration, administrative processes, and changes in executive systems from both historical and operational points of view are considered.

POL 555. History of Political Theory I. Three hours. I.
Prerequisite: Six hours in political science or graduate standing.
Survey of political thought from the time of Plato to the Reformation.

POL 556. History of Political Theory II. Three hours. II.
Prerequisite: Six hours in political science or graduate standing.
Survey of political thought from the sixteenth century to the present.

POL 557. American Political Thought. Three hours. I.
Prerequisite: Six hours in political science or graduate standing.
Intensive explorations of major currents in political thought which justified and guided the growth of the American republic. Largely organized on a chronological basis, but delves into main schools of thought that both reflected and energized the development of the American political process.

POL 560. The Judicial Process. Three hours. A.
Prerequisite: Graduate standing or permission of instructor.
A study of the development of legal and judicial systems from ancient times to the present day with particular emphasis on the Anglo-American experience.

POL 565. Administrative Law. Three hours. A.
Prerequisite: Graduate standing or permission of instructor.
Nature of the powers vested in administrative agencies; the problems of administrative procedure; and the methods and extent of judicial control over administrative action.

POL 600. Research Methods in Political Science. Three hours. A.
Prerequisite: Graduate standing in political science. Bibliography and development of political science.

- POL 625. Seminar in Civil Liberties. Three hours. A.**
Prerequisite: Permission of instructor.
The nature and scope of political and civil rights and liberties in the United States. Selected topics will be studied in depth.
- POL 630. Seminar in the Political Process. Three hours. A.**
Prerequisite: Permission of instructor.
Examination of theories of community power structure; analysis of political activity by pressure groups; legislative process; survey and evaluation of sources for political information. Conducted through discussion of problems arising in relationship between educational institutions and political affairs.
- POL 635. Seminar on Intergovernmental Relations. Three hours. A.**
Prerequisite: Permission of instructor.
Study of adoption, maintenance, and operation of the American federal system. Attention focused on different interlevel and inter-jurisdiction relationships within the system to analyze its development and ability to deal with current problems.
- POL 640. Problems of Metropolitan Areas. Three hours. A.**
Prerequisite: Permission of instructor.
Study of issues—economic, social and especially political—confronting our rapidly expanding metropolitan areas and regions. Proposed plans for possible amelioration of conditions examined.
- POL 645. Seminar in Modern Political Theory. Three hours. A.**
Prerequisite: Graduate standing.
Principles of political theory and the present theory of relationships between authority and individualism.
- POL 650. Public Administration Internship. 3-12 hours. A. May be repeated for a total of 12 hours.**
Prerequisite: Graduate standing in public administration.
Students will work under Department supervision in an office or with an official of a public agency or local government. A written report must be submitted to earn credit.
- Pol 655. Seminar in International Relations. Three hours. A.**
Prerequisite: Permission of instructor.
An inquiry into contemporary problems of international affairs; the nation-state system and concepts of national interest in modern politics; the forms and distribution of power by which states seek to implement national interests; the making of foreign policy and methods of adjusting international conflict.
- POL 660. The Politics of Developing Nations. Three hours. A.**
Prerequisite: Permission of instructor.
Comparative analysis of political institutions, processes, and behavior in selected countries of South Asia, Africa, and the Near East. Special attention is given to the role of political ideologies and social forces in political modernization, and the involvement of these nations in world politics.
- POL 665. Public Personnel Administration. Three hours. A.**
Prerequisite: Graduate standing.
Principles and problems of recruitment, examination procedures, rating, classification and assignment to the job, with the philosophies of pay, promotion, employee motivation and discipline analyzed. The process of formulating and administering public personnel policies; concepts and principles utilized in selecting governmental personnel systems. Focus upon American national, state and local personnel systems.
- POL 675. Public Finance Administration. Three hours. A.**
Prerequisite: Graduate standing.
Interactions among the administrative, legal, and legislative aspects of the fiscal decision-making process at federal, state, and local levels.

POL 680. Public Management. Three hours. A.

Prerequisite: Graduate standing.

A survey of the tools of analysis available to overhead functions of public management in key areas of decision; emphasis on personnel administration and manpower utilization, budgetary processes and fiscal controls, and several methods of administrative analysis—organizational studies, procedures engineering, information processing, and operations research.

POL 685. Seminar in Theory of Public Administration. Three hours. A.

Prerequisite: Graduate standing.

POL 698. Thesis I. Three hours. A.

POL 699. Thesis II. Three hours. A.

PSYCHOLOGY (PSY)

James A. Lee, Chairman

The Department of Psychology offers major work for the degree of Master of Science in Clinical Psychology and in School Psychology. Programs require, including internship, approximately two years graduate preparation. Students majoring in other departments may take requirements for a minor in psychology.

SPECIAL PROGRAM REQUIREMENTS*

In addition to the general requirements of the Graduate School, candidates must satisfy the following special requirements:

For Admission—A minimum of five courses in psychology: general psychology, statistics and experimental, and two other courses in psychology acceptable to the departmental Admissions Committee.

Normally a grade point average of 3.0 in the major for the junior and senior years and a minimum overall undergraduate grade point average of 2.5 is expected.

Letters of recommendations from three instructors, two in psychology and one from an outside area should be initiated by the student.

Satisfactory performance on the Advanced Test in Psychology of the Graduate Record Examination is required. The Graduate Record Examination may be taken before or during the first semester of graduate work.

All applications should be received by March 15. Notification of admission and assistantship will be made by April 1. Students will be expected to make a binding acceptance by April 15. Students applying later may be accepted as space is available.

For Degree—Completion of all degree requirements is expected within a six-year period from the time of original admission.

*Candidates must also meet general requirements of the Graduate School.

PSYCHOLOGY (PSY)

PSY 500. Social Psychology. Three hours. I, II.

Prerequisite: PSY 211.

The behavior of individuals in relation to personality, social, and cultural systems.

PSY 504. Psychology of Individual Differences. Three hours. I, II.

Prerequisite: PSY 211 and 302.

Study and application of the facts of human variability, including differences in such areas as age, sex, class, intelligence and achievement.

PSY 507. Problems in Psychology. One-Three hours. A.

Prerequisite: PSY 211, 213, and approval of instructor.

Qualified students may outline and study a definite problem in some area of psychology for one, two or three hours of credit. Amount of credit depends on nature and extent of the problem studied. Results must be presented in a formal paper.

PSY 590. Survey of Clinical Psychology. Three hours. I.

Prerequisite: Consent of instructor.

Introduction to clinical psychology including methods, professional role, ethical and legal aspects.

PSY 602. (Formerly PSY 502.) Counseling Psychology. Three hours. II.

Prerequisite: PSY 211.

A survey of counseling methods and concepts. Consideration of research findings and problems.

PSY 620. Statistics. Three hours. I.

Prerequisite: PSY 213.

Theory and practice in the analysis and interpretation of psychological measurements.

PSY 621. Proseminar I. Two hours. I.

Prerequisite: Consent of instructor.

Basic concepts, methods and current developments in selected areas of psychology.

PSY 622. (Formerly PSY 601.) Theories of Personality. Three hours. I, II.

Prerequisite: Consent of instructor.

Theories relating to structure, function and development of the individual to his dynamic behavior.

PSY 624. (Formerly PSY 617.) Individual Intelligence Testing. Three hours. I, II.

Prerequisite: Consent of instructor.

Theory, supporting evidence, and practice of individual measurement of intelligence, and communication skills.

PSY 625. Personality Assessment. Two hours. I.

Prerequisite: Consent of instructor.

History, theory, administration and interpretation of selected projective and non-projective personality tests.

PSY 626. Professional Concerns. One hour. I.

Prerequisite: Consent of instructor.

Consideration of ethical and related problems of psychologists.

PSY 640. Proseminar II. Two hours. II.

Prerequisite: PSY 621.

Continuation of Psychology 621.

PSY 641. Psychopathology and Abnormal Psychology. Three hours. II.

Prerequisite: PSY 624.

Description of symptoms and dynamics of psychological disorders with consideration of cause, development, modification and prevention.

PSY 642. Projective Techniques. I. Three hours. II.

Prerequisite: PSY 624.

History, theory, and rationale of projective techniques; administration and interpretation of the Thematic Apperception Test; and some familiarity with the Rorschach Inkblot Test.

- PSY 643. Practicum I: General. Three hours. II.**
Prerequisite: PSY 624 and 642.
Supervised practice in individual intelligence testing and personality assessment.
- PSY 644. Counseling and Psychotherapy. Three hours. II.**
Prerequisite: PSY 641.
Survey of theories, principles and techniques with application to individuals and groups.
- PSY 660. Practicum II. Clinical Psychology. Two hours. A.**
Prerequisite: PSY 643, 644, 661.
Supervised practice in counseling/psychotherapy and advanced testing to include Rorschach Inkblot Test.
- PSY 661. Projective Techniques II: Clinical Psychology. Three hours. I.**
Prerequisite: PSY 641, 642.
A continuation of Rorschach theory, method, practice and interpretation.
- PSY 662. Research I. Two hours. A.**
A laboratory course devoted to instrumentation, formulation of problems and orientation to research methods.
- PSY 663. Practicum II. School Psychology. Two hours. I.**
Prerequisite: PSY 643, 644.
Supervised practice in counseling/psychotherapy and advanced testing.
- PSY 680. Advanced Child and Exceptional Child. Two hours. I.**
Prerequisite: PSY 622, 640.
Theoretical issues and practical problems in intellectual, social, perceptual, physical and personality development with implications for education and adjustment.
- PSY 681. Principles of Learning and Motivation. Three hours. I.**
Prerequisite: PSY 640.
Principles and supporting evidence in each area with emphasis on human application.
- PSY 682. Social, Cultural and Family Dynamics. Three hours. A.**
Prerequisite: PSY 622, 640.
Interaction of the individual with groups to include the effects of family structure and minority status.
- PSY 683. Advanced Tests and Measurements. Two hours. I.**
Prerequisite: PSY 620 or 621.
Selected survey and application of group and individual tests used in both school and clinical settings.
- PSY 684. Practicum III: Clinical Psychology. Five hours. II.**
Prerequisite: PSY 660.
Supervised clinical practice toward assuming full responsibility for psychological evaluations and psychotherapeutic procedures.
- PSY 685. Practicum III. School Psychology. Three hours. I.**
Prerequisite: PSY 663.
Supervised experience toward assuming full responsibility for case evaluations, presentations and therapeutic procedures.
- PSY 686. Research II. Two hours. I.**
Prerequisite: PSY 662.
The investigation of independent problems under staff supervision.
- PSY 687. Independent Work in Psychology. One-Three hours. A.**
Prerequisite: Consent of instructor.
Student responsibility for conceptualization and investigation of research problem and drawing formal conclusions.
- PSY 699. Internship. No Credit. A.**
Prerequisite: Consent of student's committee.
Intensive supervised practice in approved setting.

COLLEGE OF BUSINESS

Joseph H. Young, Dean

The College of Business in association with the Graduate School offers the Master of Business Administration Degree and, in cooperation with the College of Education, offers the Master of Arts in Education degree program in Business Education.

MASTER OF BUSINESS ADMINISTRATION DEGREE PROGRAM Program Objectives:

The Master of Business Administration degree program is broad in nature and is designed to develop general competence in the functions of management. It provides for study in breadth in selected functional areas and for concentrated study in a specialized field of the student's choice.

The Master of Business Administration degree program is designed to provide opportunities for developing skill in scientific analysis; the ability to integrate concepts and research findings of business and the behavioral sciences; to draw logically sound conclusions; to think creatively; to communicate effectively; and, to appreciate the role and responsibilities of business enterprise in our broad social framework.

SPECIAL PROGRAM REQUIREMENTS*:

For Admission—Applicants to the Master of Business Administration program must (1) hold a bachelor's degree from an accredited institution with work comparable to a Bachelor of Business Administration Degree, (2) normally present a 2.75 grade point average (4.0—A) on all previous work, and (3) make satisfactory scores on the Admission Test for Graduate Study in Business, administered by Educational Testing Service.

For General Information—Upon written petition, subject to the approval of the Chairman of the Graduate Committee of the College of Business, the student may transfer six semester hours of graduate level work from another accredited institution. The work must have been completed within six years of transfer and may not have been taken by extension or by correspondence.

The maximum course load for graduate students studying in the College of Business is twelve semester hours; registration in excess of this maximum must be approved by the Chairman of the Graduate Committee of the College of Business. Students employed by the University shall consult the Chairman of the Graduate Committee of the College of Business about his combined course and work load.

At least twenty-four semester hours of work must be completed in courses open only to graduate students.

Students whose records, performance or examinations indicate deficiencies in the use of English will be required to take additional

* Students must also meet the general requirements of the Graduate School.

work to increase their proficiency in the use of English. The work will take precedence over all other courses in the student's graduate program.

For Admission to Candidacy—Admission to candidacy is granted only if (1) all admission to study conditions and course deficiencies have been removed, (2) the student has achieved at least a 3.0 grade-point average for not less than nine nor more than fifteen hours of graduate level work in the College of Business, and (3) recommended by the student's graduate committee.

If, in any semester or the equivalent (six to nine hours) of resident study, the student fails to achieve at least a 3.0 grade-point average, he will automatically be placed on academic probation. If, in the following semester in residence (or the equivalent), the student fails to achieve an overall 3.0 grade-point average, he will be automatically withdrawn from study in the College of Business. Following such withdrawal the student may be readmitted for further graduate study in the College of Business only if a petition (accompanied by a complete record of all college or university work previously undertaken) has been approved by the Chairman of the Graduate Committee of the College of Business and the Dean of the Graduate School.

For Prerequisites—All courses open only to graduate students are presented on the assumption that the students enrolled in them have had some foundation in accounting, economics, finance, management, marketing, business law or legal environment of business, and statistics. Students with deficiencies in any of these areas must supplement their formal degree programs with additional course work in the deficient areas.

For Program Planning—At least thirty semester hours of work must be taken in the functional fields of accounting, economics, finance, management, and marketing as follows: (1) twelve semester hours in a concentration of study; (2) students taking a concentration of study in accounting must select three semester hours of work from each of three of the functional fields of economics, finance, management, or marketing; (3) students taking a concentration of study in economics must select three semester hours of work from each of three of the functional fields of accounting, finance, management, or marketing; and, (4) students taking a concentration of study in one of the functional fields in business administration (finance, management, marketing) must select three semester hours of work from each of three of the functional fields of accounting, economics, and the remaining two functional fields in business administration.

No more than twelve semester hours of work from any functional area of study (exclusive of thesis credit) may be counted toward the degree.

For Thesis—Not more than six semester hours of credit may be earned for the thesis. A committee to direct and approve the thesis

shall be nominated by the Chairman of the Graduate Committee of the College of Business.

For Non-Thesis—Students not electing to write a thesis must elect at least six semester hours of courses selected from among ECO 604, EDP 503, GBU 504, OAD 600.

For Comprehensives—Students electing to write a thesis shall pass an oral examination on the thesis and the course work. Students electing not to write a thesis shall pass a written comprehensive examination covering four areas of study, including the major area of study.

The comprehensive or oral examination shall be scheduled by the Chairman of the Graduate Committee of the College of Business in the semester in which the student expects to finish his course work or in the semester or summer session in which his thesis is accepted, but not later than three weeks before the end of the semester or summer session. Should a student fail either the comprehensive or the oral examination, he may petition the Chairman of the Graduate Committee of the College of Business for not more than one additional attempt to qualify. Re-examination must be taken and passed within the next three semesters, including summer sessions, following the semester or summer session in which the student first failed to qualify, but at least sixty days must elapse between examinations.

ACCOUNTING (ACC)

Claude K. Smith, Chairman

The Department of Accounting, in cooperation with the Graduate School and the College of Business, participates in the Master of Business Administration program. A student may take a concentration in accounting consisting of 12 hours of graduate level accounting courses. However, ACC 600 cannot be taken by students who have an undergraduate major in accounting. All accounting courses counting toward a concentration in accounting must be selected in consultation with the student's advisor. A detailed description of this program is presented elsewhere in this catalog.

ACC 521. (Formerly ACC 421.) Fund Accounting. **Three hours.**

Prerequisite: ACC 126.

Advanced study in accounting and fiscal procedures for institutions and federal, state, county, and municipal governments.

ACC 525. (Formerly ACC 425.) Accounting Problems. **Three hours.**

Prerequisite: ACC 226.

This is an advanced course in accounting and the contents will be determined by the needs of the students registering for it. Taught by announcement.

ACC 527. Advanced Cost Accounting. **Three hours.**

Prerequisite: ACC 227.

Advanced problems in costs, budgets, distribution costs, measurements of departmental efficiency, and analysis of cost information for managerial decisions.

ACC 600. Managerial Accounting. **Three hours.**

Prerequisite: ACC 126.

A study of accounting procedures and systems to provide data for managerial decision making. Subjects include planning, analysis of relevant cost, impact of taxes and limitations of data.

ACC 620. Controllership. Three hours.

Prerequisite: Graduate standing and 24 hours of accounting.

The place of the controller in management. Includes such subjects as quantitative techniques, systems, internal auditing, planning, taxes, insurance, and departmental relationships.

ACC 625. Advanced Auditing. Three hours.

Prerequisite: ACC 441.

Rules of professional conduct; auditing standards and case studies of American Institute of Certified Public Accountants; auditing rules and regulations of Securities and Exchange Commission; analysis of problem areas in reporting.

ACC 627. Research in Taxes. Three hours.

Prerequisite: ACC 323.

An intensive analysis of the Internal Revenue Code. Research and discussion of tax problems affecting business and of tax planning and saving opportunities from the point of view of the professional accountant.

ACC 628. Accounting Theory. Three hours.

Prerequisite: Strong accounting background.

History and theory of accounting as discussed in accounting literature, periodicals, research bulletins, and publications of professional organizations.

ACC 640. Seminar in Accounting. Three hours.

Prerequisite: Strong accounting background.

This course involves directed readings and intensive investigation into controversial and specific areas of accounting. Oral and written reports required.

ACC 698-699. Thesis. Six hours.

Individual direction of research and thesis writing.

BUSINESS ADMINISTRATION

Joseph H. Young, Acting Chairman

The Department of Business Administration, in cooperation with the Graduate School and the College of Business, participates in the Master of Business Administration degree program. A student enrolled in this program will take a minimum concentration of courses in Business Administration of not less than twelve hours of work at the graduate level. The student, in consultation with his graduate advisor, will choose a concentration of work best suited to his future needs and objectives. A detailed description of this degree program is presented in the introduction to this section.

ELECTRONIC DATA PROCESSING (EDP)

EDP 504. Peripheral Information Systems. Three hours. I.

Prerequisite: Senior-graduate standing.

Functional applications of business problems with specific utilization of peripheral devices. Three hours lecture and two hours laboratory.

EDP 506. Computer Language Systems. Three hours. II.

Prerequisite: EDP 504.

Application of computer technology to selected business problems utilizing the H-200 System. Three hours lecture and two hours laboratory.

GENERAL BUSINESS (GBU)

GBU 504. (Formerly Business 510). Administrative Policy. **Three hours. II.**

Prerequisite: MGT 200 and senior or graduate standing.

Issues in organization and structure of business, employment policies, pricing policies, relations with governmental agencies, research and development policies, marketing strategy, and employer and stockholder relations.

FINANCE (FIN)

FIN 600. Administrative Analysis in Finance. **Three hours. S.**

Prerequisite: Graduate standing.

Readings, problems, and study of current controversial issues with emphasis on decision-making in the financial administration of the firm.

FIN 698-699. Thesis. **Six hours. I, II, S.**

Individual direction of research and thesis writing.

MANAGEMENT (MGT)

MGT 500. (Formerly Business 515.) Human Relations in Business. **Three hours. I.**

Prerequisite: MGT 200 and senior or graduate standing.

Selected concepts from the behavioral sciences brought into a framework relevant to business decision making. Examines social science research in decision-making by individuals and groups.

MGT 560. (OAD 560). Office Management. **Three hours. II.**

Prerequisite: Senior or graduate standing.

Function and organization of the office: office layout and equipment; office personnel—selection, training, supervision, and compensation; work simplification and control; automation in the office; planning, organizing, and controlling office services; systems and job analysis. MGT 560 and OAD 560 may not both be counted for credit.

MGT 600. Administrative Analysis in Management. **Three hours. I.**

Prerequisite: Graduate standing.

Examines the evolution of management concepts and philosophies. An analysis of the contributions of various philosophies in the synthesis of an eclectic philosophy of management.

MGT 620. Administrative Analysis of Complex Organizations. **Three hours. II.**

Prerequisite: Graduate standing.

Parallel analyses of administrative practices in business and government with emphasis on administrative theory. Stress placed on administrative practices observed in the functions of planning, organizing, directing, and controlling.

MGT 698-699. Thesis. **Six hours. I, II, S.**

Individual direction of research and thesis writing.

MARKETING (MKT)

MKT 500. (Formerly Business 543.) Marketing Research and Analysis. **Three hours. II.**

Prerequisite: Marketing 300 and senior or graduate standing.

The use of secondary research resources; building of bibliographies; preparation of reports for executives and clients.

MKT 504. (Formerly Business 545) Marketing Management. **Three hours. II.**

Prerequisite: Marketing 300 and senior or graduate standing.

Policies and procedures in merchandising; selecting distribution channels; defining, locating, and reaching the market; determining marketing budgets; integrating advertising; personal selling and sales promotion; using and evaluating market research.

MKT 600. Administrative Analysis in Marketing. **Three hours. S.**

Prerequisite: Graduate standing.

Readings, problems, and study of current controversial issues with emphasis on decision-making in the financial administration of the firm.

MKT 698-699. Thesis. **Six hours. I, II, S.**

Individual direction of research and thesis writing.

BUSINESS EDUCATION AND OFFICE ADMINISTRATION (BED and OAD)

Alfred Patrick, Chairman

Students may earn the Master of Arts Degree in secondary education with a specialization in Business Education. For information concerning admission to this degree program, consult the College of Education section of the *Graduate Catalog*.

For Program—The Education Core (nine hours) must be completed and five of the following six business education courses (a minimum of ten hours) must be completed: 550, 661, 662, 663, 664, 665. The remaining hours necessary to complete the 30-hour program will be chosen in consultation with the student's graduate advisor. Courses to correct undergraduate deficiencies in some areas of business may also be required.

BED 550. Workshop in Business Education. **Three hours. A.**

Offered during summer sessions only; enrollment will be limited to business teachers or seniors in business teacher education. A master's degree candidate may not count for graduate credit more than two of these workshops.

BED 661. (Formerly 561) Improvement of Instruction in Bookkeeping and Basic Business. **Two hours. I.**

BED 662. (Formerly 562) Improvement of Instruction in the Skill Subjects. **Two hours. II.**

BED 663. (Formerly 563) Principles of Business Education. **Two hours. I.**

Objectives, principles, curricula, trends, and major problems of business education on the secondary level. For students preparing to teach business subjects.

BED 664. (Formerly 564) Seminar in Business Education. **Two hours. II.**

Reading and discussion relating to the major current problems in business education.

BED 665. (Formerly 565) Administration of a Business Education Department. **Two hours. I.**

Prerequisite: **BED 663.**

Problems in layout, equipment, curriculum planning, supervision, and testing in business education departments.

OAD 560 (MGT 560) (Formerly 501.) Office Management. **Three hours. II.**

Prerequisites: Senior standing; graduate enrollment on the basis of permission of instructor.

Function and organization of the office; office layout and equipment; office personnel—selection, training, supervision, and compensation; work simplification and control; automation in the office; planning, organizing, and controlling office services; systems and job analysis. **OAD 560** and **MGT 560** may not both be counted for credit.

OAD 600. Business Research and Report Writing. **Three hours. II.**

Prerequisite: **Economics 391** or equivalent.

Nature, scope, and importance of business research; research methodology; principles and mechanics of formal report writing; collection of data and completion of a formal report by each class member. Enrollment is limited to students in the Master of Business Administration Degree program.

ECONOMICS (ECO)

Donald Shadoan, Chairman

The Department of Economics, in cooperation with the Graduate School and the College of Business, participates in the Master of Business Administration program. A student enrolled in this program may take a concentration in economics consisting of 12 hours of graduate level economics courses. In addition, the student is required to take ECO 604. All economics courses counting toward a concentration in economics must be selected in consultation with the student's advisor. A detailed description of the program is presented in this catalog.

ECO 510. History of Economic Thought. Three hours. I.

Prerequisite: ECO 231.

A study of the history of economic ideas from the ancient period to the end of the classical period. Stress is placed on the need for a critical analysis of the meaning, validity, and relevance of economic theories with respect to the social and economic environment of the theorists.

ECO 511. History of Economic Thought Since the Austrian School. Three hours. II.

Prerequisite: ECO 231.

A critical study of economic thought since 1870; forerunners of neoclassical economics; neoclassical thought; American Institutionalists; the Historicists; economic aggregates and econometrics; theories of business activities from Misselden to the depression of the 1930's; Keynesian and post Keynesian theories; association and planning.

ECO 550. (Formerly ECO 450.) National Income Analysis. Three hours. I.

Prerequisite: ECO 231.

A study of the fundamentals of macroeconomic analysis: the classical background; Keynes' objections to classical theory; basic national income concepts; consumption demand and the consumption functions; investment and income determination; interest and money; money wages and prices; employment theory; the development of Keynesian thought and the social philosophy toward which it leads.

ECO 593. (Formerly ECO 493.) Intermediate Economic Theory and Analysis. Three hours. I, II.

Prerequisite: ECO 231.

A development of the leading theories and analyses of value and distribution. Problems and policies of price determination of both the firm and the industry and factor pricing are considered at the intermediate level of analysis.

ECO 597. (Formerly ECO 497.) Private Enterprise and Public Policy. Three hours. I.

Prerequisite: ECO 231.

A study of the principal statutes pertaining to business behavior and their application by agencies and the courts. Specific policies are analyzed from the standpoint of legal and economic concepts and principles underlying them.

ECO 600. Managerial Economics. Three hours. II.

Prerequisite: ECO 231 or equivalent.

This course deals with the phases of micro and macro economics that are directly relevant to managerial decision-making. The concepts to be considered are: demand, costs, profits, competition, pricing, national income analysis, and economic stabilization. A considerable amount of emphasis will be placed upon the imperfect market conditions facing the decision-maker.

ECO 604. Statistical Methods. Three hours. I.

Prerequisite: ECO 391 or equivalent.

An intermediate course in statistical methods that deals with the following topics: sampling theory, elementary probability theory, multiple and linear correlation analysis, hypothesis testing, chi-square distribution, analysis of variance, economic forecasting, and non-parametric statistics.

ECO 620. Contemporary Economic Problems. Three hours. A.

Prerequisite: ECO 231 and approval of instructor.

This course deals with the application of economic principles to certain contemporary economic problems such as economic growth, economic stability, taxation, employment, poverty, national debt, gold outflow, monetary and fiscal problems.

ECO 698-699. Thesis. Six hours.

Individual direction of research and thesis writing.

COLLEGE OF EDUCATION

Dixon A. Barr, Dean

J. D. Coates, Associate Dean

Charles H. Gibson, Jr., Assistant Dean

Eastern Kentucky University has maintained a strong interest in and commitment to the preparation of teachers since its founding in 1906. While teacher education at Eastern is viewed as an all-university function, the College of Education assumes major responsibility for students majoring in elementary education, guidance and counseling, library science, physical education and psychology.

The College of Education, in cooperation with the Graduate School, has developed and implemented Master of Arts in Education Degree programs for elementary school teachers, guidance counselors, reading teachers, school librarians, school social workers, and secondary school teachers of health and physical education. Other graduate programs include a fifth year program for certificate renewal, a sixth year program leading to Rank I certification, the Master of Arts Degree in guidance and counseling for non-school personnel, and a joint doctoral program in education (Ed.D. and Ph.D.) with the University of Kentucky. Work leading toward ultimate certification in school administration and/or supervision may be elected, subject to institutional approval, while pursuing the master's degree in a teaching field. Graduate programs leading to the Master of Arts in Education Degree have been developed in many secondary teaching fields in cooperation with the College of Applied Arts and Technology, the College of Arts and Sciences, and the College of Business. Specific information regarding these graduate programs is found elsewhere in this publication.

SPECIAL PROGRAM REQUIREMENTS***Master of Arts in Education**

In addition to the general requirements for all master's degrees found elsewhere in this publication, the following specific requirements are in effect for the Master of Arts in Education:

For Admission—The student preparing for the standard secondary teaching certificate must select a major field of interest in which he has at least a minor of 18 hours. If he does not have at least a minor, he will be required to take work at the undergraduate level sufficient to develop a satisfactory minor.

All applicants must have earned a grade of "C" or better in student teaching in order to be eligible for admission to a Master of Arts in Education program.

For Admission to Candidacy—Every candidate for the Master of Arts in Education Degree must have had a minimum of 15 semester hours professional work at the undergraduate and/or graduate level.

All candidates must possess a valid teaching certificate based on four years of standard college preparation in the state in which it was issued.

Students shall present an acceptable score on the aptitude test of the Graduate Record Examination prior to admission to candidacy for the degree.

Each candidate shall have had an interview with an appropriate graduate committee. The committee shall recommend an applicant's admission to candidacy to the Graduate Council following a positive appraisal of the student's personality, character, academic proficiency, and other factors deemed important for completion of the particular curriculum in which the student is working.

Additional criteria may be employed by a graduate committee providing these criteria shall first have been approved by the Teacher Education Committee and filed with the Dean of the Graduate School.

For Program Planning—Every candidate for the degree shall present a minimum of 9-10 semester hours in professional education as a component of the graduate program and a minimum of 27 semester hours in the combined undergraduate and graduate programs.

The remainder of the course work shall be determined by the institution in terms of the student's need, provided (1) that at least 12 hours shall be in an approved field or fields of interest outside professional education, and (2) that all such course work shall be approved upper division or graduate in level.

* Students must also meet the general requirements of the Graduate School.

The degree will be granted only to candidates offering a minimum of 30 hours of course work in his major field of emphasis, including graduate and undergraduate work.

Students who plan to pursue post master's degree curricula for supervisors, elementary or secondary principals, or pupil personnel directors should incorporate at least six hours of approved behavioral science courses in their program of studies for the master's degree where possible.

For Residence—Candidates for the Master of Arts in Education Degree are permitted to complete up to 12 hours of approved course work through the Division of Continuing Education and/or by transfer from other accredited graduate institutions, with the restriction that not more than six hours may be accepted by transfer. However, one-half the program requirements **must** be completed in full-time residence. This requirement may be met during the academic year or through consecutive summer sessions.

The full-time residence requirement for students enrolling concurrently for initial certification and graduate study shall be extended to include one-half the total program requirements.

Teacher personnel are not permitted to enroll for more than four semester hours per semester while fully employed.

For Thesis—While the thesis is not required in any program leading to the Master of Arts in Education Degree, students with special research interests are encouraged to consider a thesis.

For Comprehensives—The candidate will have an opportunity to demonstrate professional growth through a written and/or oral examination covering education and major program components during the term in which graduation is scheduled. A representative of the College of Education shall participate in the evaluation process.

For Curriculum Requirements for Graduate Programs in Education—Common to all programs leading to the degree, Master of Arts in Education, is the professional education core, from which a minimum of nine hours must be completed. Professional course options are presented below:

Required prior to the completion of nine hours, EDF 669, two hours.

A minimum of seven hours shall be elected from the following:

ESH 612	Curriculum Development	2 hours
EDF 615	Human Development	3 hours
EDF 632	History of Education in the United States	2 hours
EDF 636	Philosophy of Education	2 hours
EDF 650	Educational Sociology	3 hours
ESH 655	Integration of Modern Curriculum and Learning Principles	4 hours

The latitude of course selection provided above imposes an additional responsibility upon the student and his advisor. Individuals interested in post-master's degree certificates in administration and supervision should exercise particular care in course selection.

Students who wish to complete the maximum number of requirements by extension must file, through their advisor, a complete program of study with the Dean of the Graduate School prior to the completion of more than six hours of credit off-campus.

Rank I Certification

The College of Education in cooperation with offering departments within the College of Education, the College of Applied Arts and Technology, the College of Arts and Sciences, the College of Business, and the Graduate School, offers Rank I programs for guidance counselors, school administrators, supervisors, directors of pupil personnel, and teachers.

Program guidelines are highly flexible. General institutional guidelines for teachers include: six hours additional professional education electives, a minimum of 24 hours in the teaching field in the combined master's degree and sixth year program, and six hours free electives. Proposed programs should be filed through the advisor with the Dean of the Graduate School no later than the time 12 hours have been completed toward the program.

State guidelines by which the institution is governed in the administration of sixth year programs are reproduced below.

1. Teacher education institutions desiring to offer programs leading toward a Rank I classification for teachers under the Foundation Law shall submit their guidelines for Rank I programs to the State Department of Education for approval.

2. For a Rank I classification under the Foundation Law the 30-semester-hour program of graduate study shall be planned in consultation with the student's adviser at the graduate school attended and shall be related to the professional needs of the teacher.

3. The appropriate official designated by the teacher education institution shall certify to the State Department of Education when the curriculum requirements have been completed for the Rank I program at the institution.

4. Of the 30-semester-hour program at least 15 semester hours shall be taken in residence at the college making the recommendation. The remaining 15 semester hours credit may be taken at the same institution or, upon approval of the college adviser, at other institutions.

5. All course work for Rank I shall carry graduate credit and at least 15 semester hours credit shall be from courses open only to graduate students. An academic standing of "B" shall be required on the 30 semester hours submitted for Rank I and no credit shall be accepted for courses carrying a grade lower than "C".

6. Twenty-four out of a total of 60 semester hours completed in a combination of the master's degree program and the 30-semester-hour program 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, including such courses as the behavioral sciences, the social sciences, philosophy, the humanities and communications.

7. All guidelines except (6) are applicable not only to the programs for elementary and secondary teachers for Rank I but also for preparation-certification programs for school leaders, guidance counselors, librarians, and school psychometrists—effective September 1, 1962.

8. A person who has completed a specialist's degree in education with a total of 30 semester hours of graduate work or a specialist's program such as in reading, special education, and similar special programs with a total of 30 semester hours of graduate work or a doctorate shall qualify for Rank I."

For further details, the reader should consult the appropriate departmental section or advisor.

College Teaching

The College of Education cooperates with participating colleges and the Graduate School in offering a core of courses and supervised teaching experiences for prospective and in-service teachers intending to seek employment or now placed in post-secondary schools and colleges.

The College Teaching Core, for which responsibility is shared with participating departments, provides for formal attention to be given to such matters as the sociology of college students, varying academic climates, and teaching tools and strategies. Core courses include ESH 695, 696, 697, 698, and ESH 699.

Inquiries about program opportunities should be addressed to the Dean of the Graduate School.*

THE JOINT DOCTORAL PROGRAM IN EDUCATION (Ed. D. and Ph. D)

The College of Education provides course work for the major field of study in support of the Joint Doctoral Program cooperatively offered, through the Graduate School, with the University of Kentucky.

SPECIAL PROGRAM REQUIREMENTS:**

For Admission—The applicant should present a score of at least 1000 on the combined aptitude tests of the Graduate Record Examination.

* New programs are being proposed and early announcement is expected.

** Students must also meet the general requirements of the cooperating graduate school.

A score of 600 on the National Teachers Examination is required.

The applicant should rank at or above the 60th percentile on the Miller Analogies Test.

Normally three years of appropriate experience are required.

For Committee—The student's advisory committee shall be comprised of: the dissertation director, at least one faculty representative of the major area, and one representative from the minor area, from the University of Kentucky; and, one representative of the major area and one representative from the minor area from Eastern Kentucky University.

For Residence—The student must complete a minimum of 18 semester hours of his doctoral course work, take the qualifying examinations, and complete the dissertation project at the University of Kentucky.

The minimum residence period at the University of Kentucky is one academic year.

For Program—The following majors are offered through the program: administration and supervision, foundations, guidance and counseling, vocational education, business education, curriculum—elementary, secondary, and special education.

EDUCATIONAL ADMINISTRATION (EAD)

Henry G. Martin, Chairman

The Department of Educational Administration, cooperating with other departments and the Graduate School, offers course work for elementary and secondary principals, and for school supervisors. Program guidelines are outlined below.

SPECIAL PROGRAM REQUIREMENTS*:

For Rank I Certification as Supervisor, Principal and/or Superintendent.—Rank I programs for school leaders must conform to state guidelines enumerated above.

Until September 1, 1970, the institution will continue to endorse applications for the Standard Leadership Certificate under which the holder may practice as a supervisor, elementary or secondary principal, or school superintendent. (In the latter case, endorsement at the time of appointment is necessary). Policy subsequent to that date is outlined under the sections of this *Catalog* titled, "Standard Elementary" and "Standard Secondary Principalship."

* Students must also meet the general requirements of the Graduate School.

However, students who find comprehensive course requirements excessively restrictive may elect a restricted certification program in order to gain greater latitude in course selection. Program options with the Rank I Certificate include: elementary principalship, secondary principalship, or supervisor of instruction. While the philosophy governing these program options is compatible with the programs leading to the Professional Certificate in Administration and Supervision, specific course and area requirements are subject to change.

Curriculum for the Standard Leadership Certificate.

Administrative Core 28 hours

Courses listed or their equivalents must be completed at the master's or sixth year level.

EAD 600, EAD 601, EAD 602, EAD 603, EAD 605, ELE 610, EAD 611, ESH 612, EPG 616, EAD 662, ESH 663.

Subject Matter Core 9 hours

Will usually have been satisfied at the master's degree level. Course selection to be made with assistance of the advisor.

Behavioral Science Core 15 hours

Suggested electives include: ANT 600, ANT 610, MGT 500, POL 556, POL 557, POL 630, POL 640, PSY 500, EPG 602.

Curriculum for the Rank I Certificate for Elementary Principals.

Administrative Core 17 hours

EAD 600, ELE 610, ESH 612, EPG 616, EAD 662, and EAD 611 or ESH 663. For Subject Matter and Behavioral Science requirements, see the Standard Leadership Curriculum above.

Electives

Curriculum for the Rank I Certificate for Secondary Principals.

Administrative Core 17 hours

EAD 600, ESH 612, EPG 616, EAD 662, ESH 663, and ELE 610 or EAD 611. For Subject Matter and Behavioral Science requirements, see the Standard Leadership Curriculum above.

Electives

Curriculum for Supervisors of Instruction.

Supervision Core 17 hours

EAD 600, ELE 610, EAD 611, ESH 612, EPG 616, and ESH 663.

Subject Matter Core 15 hours

To be selected with the assistance of the advisor.

Behavioral Science Core 9 hours

For suggested Behavioral Science electives, see the Standard Leadership Curriculum above.

Electives

For Professional Certification in Administration and Supervision—

For persons holding the standard elementary or secondary teaching certificate based upon the master's degree, Eastern offers appropriate course work for certification as an elementary or secondary principal, or as a supervisor of instruction. These programs require completion of a minimum of 15 hours of course work beyond the master's degree.

Parenthetically, an additional 15 hours are necessary for certification as a superintendent.

Applicants for the **elementary principalship** program should hold the standard **elementary** certificate.

Curriculum for Elementary School Principals.

Required Core

EAD 600,* ELE 610,* EAD 611, EPG 616, EAD 606.

*Should be completed as part of master's degree program.

Electives

Courses should be selected with the advisor from:

EAD 601, EAD 602, EAD 603, EAD 605.

Applicants for the **secondary principalship** program should hold the standard **secondary** certificate.

Curriculum for Secondary Principals.

Required Core

EAD 600,* EAD 611, EPG 616, EAD 607, ESH 663*.

*Should be taken as part of the master's degree program.

Electives

Courses should be selected with the advisor from:

EAD 601, EAD 602, EAD 603, EAD 605.

Curriculum for Supervisors of Instruction.

Required Core

ELE 610, ESH 663, EAD 611, and an advanced course in reading, if not completed as part of the master's degree program.

Electives*

EPG 616 or EPG 521; SED 545 or SED 619.

*Elective only in the sense that one of each pair may be chosen.

EDUCATIONAL ADMINISTRATION (EAD)

EAD 507. (Formerly EDU 507.) Problems in Educational Administration. **One to three hours. A.**

Prerequisite: Approval of advisor and the chairman of the department.

For independent work, special workshops, or a special topic, or seminar.

GRADUATE COURSES

EAD 600. (Formerly EDU 600.) Introduction to Educational Administration. **Three hours.** I, II.

Study of theories of administration and practice of these theories at the system level and community level. Studies of administrative functions of school personnel are examined. Research in the administration field by CPEA makes up a large part of the materials for the course.

EAD 601. (Formerly EDU 601.) School Personnel Administration. **Two hours.** A.

To acquaint school administrators with problems that arise in the management of school personnel.

EAD 602. (Formerly EDU 602.) School Buildings and Grounds. **Two hours.** A.

Emphasis on the cooperative planning of school buildings that will fit the school program as identified by educational specifications. Equipping, furnishing and maintaining the buildings are studied.

EAD 603. (Formerly EDU 603.) School Finance. **Two hours.** A.

A study of the financing of the public schools. Stress is given to the importance of the administrator's understanding the problems and issues of school finance at the local, state, and federal levels in order that he may provide leadership that will pave the way for adequate support.

EAD 605. (Formerly EDU 605.) Kentucky School Law. **Two hours.** A.

The principles of school law, constitutional provisions relating to public schools in Kentucky, school districts, buildings and other school property, school officers, the State Department of Education, school support, conduct of schools, compulsory attendance, school faculties and other employees, retirement, tenure, vocational education, rehabilitation education, higher education and court interpretation of the laws.

EAD 606. (Formerly EDU 606.) The Elementary School Principal. **Three hours.** II.
Prerequisite: EAD 600.

The organization and management of the elementary school. A study of the various duties, demands, and responsibilities of the elementary school principal in providing professional and educational leadership.

EAD 607. (Formerly EDU 607.) The Secondary School Principal. **Three hours.** II.
Prerequisite: EAD 600.

The organization and management of the secondary school. A study of the various duties, demands, and responsibilities of the secondary school principal in providing professional and educational leadership.

EAD 611. (Formerly EDU 611.) Supervision of Instruction. **Three hours.** I.

Objectives and problems of school supervision; techniques and functions of supervision; current practices in supervision; problems of organizing instruction to meet increasing responsibilities of public schools; analyzing teachers' difficulties; planning supervisory programs; selecting and organizing instructional materials; techniques for developing desirable professional relations; problems of in-service education for teachers.

EAD 662. (Formerly EDU 662.) The Role of the Principal. **Three hours.** I, II.
Prerequisite: EAD 600.

The organization and management of the local school. A study of the various duties, demands, and responsibilities of the principal in providing professional and educational leadership.

EDUCATIONAL FOUNDATIONS (EDF)

William A. McKenney, Jr., Chairman

EDF 507. (Formerly EDU 507.) Problems in Educational Foundations. **One to three hours. A.**

Prerequisite: Approval of advisor and the Chairman of the Department of Educational Foundations.

For independent work, special workshops, or a special topic, or seminar.

EDF 516. (Formerly EDU 516.) Child Development Laboratory I. **Three hours. A.**
Each participant selects a child for study, writes a description of the child, and gathers significant data about the child from all available sources of information. Emphasis is placed upon skills in observation, objectivity in recording, and realism in analysis of causes of behavior. The course, for in-service teachers, continues for the entire school year, and each participant must complete his analysis in a structured summary.

EDF 517. (Formerly EDU 517.) Child Development Laboratory II. **Three hours. A.**
A continuation of EDF 516, but with added emphasis on procedures for analysis of the dynamics of behavior. A structured framework of six broad areas of factors and processes in child development is employed. The records must be summarized in terms of developmental tasks within these areas.

EDF 518. (Formerly EDU 518.) Child Development Laboratory III. **Three hours. A.**
A continuation of EDF 517.

EDF 526. (Formerly EDU 526.) Applying Research to Classroom Problems. **Two hours. I.**

Study and interpretation of recent research for the help it can give in dealing with classroom situations and problems. Class members will be encouraged to focus on situations and problems directly related to their own teaching.

EDF 537. (Formerly EDU 537.) Comparative Education. **Three hours. I.**
A study of the development of educational thought and practice in selected nations of Europe, the Orient, and South America. Emphasis will be placed on intellectual, historical, and sociological factors responsible for similarities and differences among the selected systems. Special emphasis will be given to a comparison of American and Communist educational techniques.

EDF 615. (Formerly EDU 615.) Human Development. **Three hours. I, II.**
Study of the forces which influence personality development and learning, implications for classroom procedures, and the role of the teacher in using these forces to promote optimum development and learning. Each student is expected to choose and conduct intensive research on some problem of interest in the area of human behavior.

EDF 632. (Formerly EDU 632.) History of Education in the United States. **Two hours. I, II.**

Rise and development of public education in the United States with special emphasis upon the work of Horace Mann; sociological, psychological, and scientific movements in education; desirable education reorganization; the influence of John Dewey; brief study of the development of public education in Kentucky.

EDF 636. (Formerly EDU 636.) Philosophy of Education. **Two hours. I, II.**
Meaning and scope of philosophy and education; contrasting philosophies and conceptions of education; the nature and meaning of education in relation to the individual and the social order; education and democracy; social progress and social control; the nature of thinking; educational aims and values; subject matter and methodology in relation to the educative process; character education; evaluation and interpretation of present-day issues and problems in education.

EDF 638. (Formerly EDU 638.) Modern Trends in Educational Philosophy. **Two hours. A.**

Prerequisite: EDF 636 or its equivalent.

A study of alternative philosophies and their implications for current educational theory and practice.

EDF 650. (Formerly EDU 650.) Educational Sociology. **Three hours. I, II.**

Relation of sociology to education; sociological problems and their educational implications; social groups and institutions in relation to education; social forces and their significance in society; the sociological determination of educational objectives; social elements and values in the curriculum; democracy in school administration and supervision; essential elements of a socialized educational program.

EDF 669. (Formerly EDU 669.) Research in Education. **Two hours. I, II.**

Functions of educational research; types of research and the principal techniques of each type; bibliography; discovering education problems for study; organization and interpretation of data; preparing and evaluating research reports; class discussions and reading reports.

Required of all candidates for the Master of Arts in Education Degree who do not prepare a thesis.

EDF 670. (Formerly EDU 670.) Thesis. **One to three hours. A.**

Designed for students who are preparing a thesis in partial fulfillment of the requirements for the degree of Master of Arts in Education. If the thesis requirement is waived, EDF 669, Research in Education, is required.

EDF 681. (Formerly EDU 681.) Leadership in Child Study. **Two hours. A.**

Prerequisite: Master's degree or permission of Chairman of the Department of Educational Foundations.

Designed for those who expect to assume leadership roles in helping teachers understand the behavior of pupils. Both extensive and intensive attention is given to methods of observation, the keeping of anecdotal records, selection of data, home visitation and interpretation.

EDF 682. (Formerly EDU 682.) Inter-Institutional Seminar in Child Development. **Three hours. A.**

For graduate students who are interested in current research in child development. The daily, all-day program generally held for two weeks in the summer includes lectures, films, large and small group discussions, and committee assignments. Emphasis is placed upon the study of current research and writing which can be published in the Seminar's annual publication. Registration by permission from Chairman of the Department of Educational Foundations.

EDF 683. (Formerly EDU 683.) Analysis of Recent Research in Human Development. **Three hours. A.**

Prerequisite: EDF 615.

Designed for graduate students who are interested in current efforts to learn more about the behavior of children, and to find ways of utilizing this knowledge in the educative process. Experiences consist of individual and group research into current and recent exploration and study of factors and processes which affect the development and learning of children. Evaluation of this research is through critical group discussion in seminar-like atmosphere.

EDUCATIONAL PSYCHOLOGY and GUIDANCE (EPG)

Robert Hayes, Chairman

The Department of Educational Psychology and Guidance assumes primary responsibility for advisement and program development for students interested in graduate study in guidance and counseling, non-school counseling (including student personnel), and school social work (in cooperation with the Department of Anthropology and Sociology).

Admissions and other general requirements existing for teacher education programs apply.

SPECIAL PROGRAM REQUIREMENTS*:

In Guidance and Counseling—The Master of Arts in Education Degree in Guidance and Counseling is required for initial certification in elementary and secondary guidance. The degree leads to the provisional certificate which is valid for a ten year period of time, renewable through practice in a public school setting three years of the first, and each subsequent, ten year interval. Applicants should have had three years of successful teaching experience, or two years of teaching and one year of other full-time employment.

Professional Education Core	9-10 hours
Guidance Area	24 hours
EPG 613, 614, 616, PSY 624, EPG 618, 620, EPG 622*, 642, PSY 622, EPG 602	

Course sequencing—First enrollment(s): EDF 669, EPG 613, and 642.

PSY 622, a recommended elective, may be taken concurrently with EPG 602. EPG 602 is prerequisite to EPG 618, Practicum in Counseling, which should be scheduled during the student's final enrollment.

* Elementary guidance candidates should substitute EPG 625 for EPG 622.

In Non-School Guidance—Two basic programs are possible within the area of "non-school guidance." Completion of either program leads to the Master of Arts Degree. Neither requires teacher certification.

One curriculum pattern is designed to prepare individuals for professional guidance positions with various private and governmental agencies with vocational or social welfare functions. That program outline follows:

Professional Core	11 hours
Required courses include: PSY 504, 622, EDF 615, 669.	
Guidance Core	15 hours
EPG 613, 614, 616, 618, EPG 620, 622, and 642 are required.	
Electives	4 hours
Electives should be chosen to meet special areas of professional interest.	

The second program is designed for the preparation of persons interested in various guidance functions inherent in institutions of higher education, i.e., the technical school, junior college, or college.

Program requirements are detailed below.

Professional Core	8 hours
PSY 622, ESH 696, EDF 669.	

* Students must also meet the general requirements of the Graduate School.

Guidance Core	24 hours
EPG 602, 613, 616, 618, 620, 622, 642, 644, and ESH 695 are required.	
Electives	2-3 hours
Elect at least one course from: ESH 697, PSY 500, PSY 510, 590, 624, 641, 644, ESH 690. See advisor prior to initial registration for proper course sequencing.	

For the Standard Guidance Certificate (Rank I).—The Standard Guidance Program leads to the Rank I Certificate under the Foundation Law and does not require renewal. Prerequisite to admission, the applicant must hold the master's degree and the Provisional Guidance Certificate.

Curriculum for the Standard Guidance Program.

Guidance Core	18 hours
EAD 600, ESH 612, SED 619, EDF 681, EPG 647, 648	
Behavioral Science Core	12 hours
Suggested electives include: ANT 600, ANT 610, PSY 500, PSY 504, PSY 622.	

Plans for study are individualized to the extent possible. Courses cited are intended for direction rather than for prescription.

For the Standard Pupil Personnel Certificate.—Persons interested in certification as directors of pupil personnel must, after September 1, 1970, complete the requirements for the standard certificate. The master's degree is prerequisite to admission to the program. Candidates may have completed the program for guidance counselors or in an appropriate teaching field.

Curriculum for the Pupil Personnel Program.

For persons holding the standard teaching certificate.	16 hours
EPG 608, SED 545 or EPG 511, PSY 504, EPG 613, EPG 614, EPG 616.	
For persons holding the provisional guidance certificate.	15-16 hours
EPG 608, SED 545 or EPG 511, PSY 504, EAD 601, EAD 605, one two or three hour elective.	

For the School Social Work Certificate.—The Master of Arts Degree in Education with emphasis in school social work is offered cooperatively with the Department of Anthropology and Sociology. Teaching certification is prerequisite or co-requisite to admission to the program.

Curriculum for the School Social Work Program.

Professional Education Core	13 hours
EAD 605, EPG 613, EDF 650, ESH 655, EDF 669*	

* Starred courses should be taken early in the program.

School Social Work Component	15 hours
SWK 500, SWK 502, SWK 505, SWK 607,* SWK 608	
Related Electives	5-6 hours
EPG 511, EPG 620 or PSY 504	

EDUCATIONAL PSYCHOLOGY AND GUIDANCE (EPG)

EPG 507. Problems in Educational Psychology and Guidance.

Prerequisite: Approval of the advisor and Chairman of the Department of Educational Psychology and Guidance.

For independent work, special workshops, or a special topic, or seminar.

EPG 511. (Formerly PSY 511.) Psychology of the Exceptional Child. **Three hours.** I, II.

Prerequisite: PSY 211.

Psychological problems of children having superior or inferior intellectual ability. Includes examination of research studies, procedures in identification of exceptional children, and assessment of their potentials and limitations. Social adjustment of such children is considered.

EPG 515. (Formerly EDU 515.) The Role of the Teacher in Guidance. **Three hours.** A.

Designed to aid the prospective teacher in examining the concepts, principles, and foundations of guidance as these apply to the role of the teacher. Particular emphasis will be given to those guidance functions which can be performed by teachers. The interrelationships of counselor, teacher, and administrator as these are related to guidance will be stressed.

EPG 521. (Formerly EDU 521.) Measuring and Evaluating Pupil Progress. **Three hours.** I.

A thorough study of modern concepts of evaluation. Emphasis on assumptions, approaches, and procedures used in measuring, evaluating, and reporting pupil progress.

EPG 523. (Formerly EDU 523.) Guiding Classroom Learning. **Three hours.** II.

Emphasis on understanding and applying principles of learning in a classroom setting. Study of ways in which a teacher can develop his instructional program so that an optimal learning environment can be effected.

EPG 602. (Formerly PSY 602.) Counseling Psychology. **Three hours.** II.

Prerequisite: PSY 211.

A survey of counseling methods and concepts. Consideration of research findings and problems.

EPG 608. (Formerly EDU 508.) Administration of Pupil Personnel Services. **Three hours.** A.

Designed for the preparation of pupil personnel workers; a study of various approaches to understanding of the pupil with an educational setting as the basis of a study. The course also includes the relationship of attendance to pupil progress; social and economic factors affecting attendance; school census and personnel records. Study is made of personnel work in typical schools in Kentucky.

EPG 613. (Formerly EDU 613.) Principles of Pupil Personnel Services and Guidance. **Two hours.** I.

The introductory course in guidance and counseling. Designed to familiarize the student with the background, purpose, and role of guidance and counseling. Pupil personnel services as a team approach in education. Coverage of guidance services such as counseling, group counseling, group guidance, information, inventory, placement, and consultative service. Role and function of the counselor and his relationship to other staff. Role of the teacher and administrator in guidance.

EPG 614. (Formerly EDU 614.) Organization and Administration of Guidance Services. **Two hours. I.**

Focus on the selection of materials and organization of programs for school guidance. Types of organizational patterns, methods of initiating a program, and evaluative techniques are considered. The relationship of guidance personnel to other staff members and to the community is examined.

EPG 616. (Formerly EDU 616.) Measurement and Guidance. **Three hours. I.**

An intensive study of measurement and other techniques for guidance and counseling in schools, including counseling and guidance principles and techniques. Some attention is given to statistical methods. Recent developments in guidance and counseling are evaluated and effective programs are given special consideration. Fee, \$2.00.

EPG 618. (Formerly EDU 618.) Practicum in Counseling. **Two hours. II.**

Designed to build proficiency in counseling and interviewing. Includes brief review of modern counseling and interviewing techniques and their purpose in guidance; major emphasis is given to compilation and study of case histories of records, and actual interviewing and counseling with pupils, teachers, parents, supervisors, and administrators.

EPG 620. Group Processes in Guidance. **Two hours. I, II.**

Prerequisite: EPG 613, or experience as a guidance counselor.

Theories, issues, and trends in the use of group methods in guidance.

Designed to assist counselors to better understand and apply sound principles of group processes as part of the on-going program.

EPG 622. (Formerly EDU 522.) Occupational and Educational Information. **Two hours. II.**

Prerequisite: EPG 613 or 614, or experience as a guidance counselor.

A survey of the development and use of occupational and educational information in counseling and guidance.

EPG 625. (Formerly EDU 625.) Guidance in the Elementary School. **Three hours. A.**

A survey of the current trends, issues, and concepts of elementary guidance and counseling. Current programs of elementary guidance are analyzed and implications for integration in the students' situations are examined. Opportunity for observation of elementary students is provided so that the developmental pattern of these youth may be integrated more accurately into the didactic material. The relationship of the elementary counselor to other staff members is considered.

EPG 642. (Formerly EDU 642.) Applied Statistical Methods. **Two hours. I.**

Measurement in psychology and education; frequency distributions; measures of central tendency; measures of variability; applications of the normal distribution curve; prediction; correlation methods; reliability and validity of tests.

EPG 644. Student Personnel in Higher Education. **Three hours. A.**

Principles of student personnel work, role and functions, and problem areas in student personnel. Emphasis upon communications, legal problems, community college needs, and structural organization.

EPG 645. Internship in Student Personnel. **Two hours. A.**

Supervised experience for student personnel trainees. Opportunities provided to share responsibilities for all phases of the school guidance program. Jointly supervised by counselor education staff and student personnel staff.

EPG 647. Advanced Practicum. **Two hours. A.**

Supervised practice in counseling with emphasis upon the evaluation of counseling interviews. Emphasis upon techniques and methods for analysis of counseling tapes and observations.

EPG 648. Internship: Guidance and Counseling. **Three hours. A.**

"On-the-job" supervised experience for counselors. Joint supervision by local school director of guidance and counselor education staff. Opportunities provided to share responsibilities for all phases of the school guidance program.

ELEMENTARY EDUCATION (ELE)

William A. Morris, Chairman

The Department of Elementary Education is primarily responsible for program advisement and development in the areas of elementary education, elementary education-reading (M. A. in Education), and Rank II and Rank I programs for elementary teachers. For the teacher certified in another field, a joint initial and standard certification program is available.

SPECIAL PROGRAM REQUIREMENTS*:

In Elementary Education—The curriculum is designed to improve the professional competence and skills of teachers in elementary schools. Successful completion of the approved program qualifies the graduate for receipt of the standard elementary teaching certificate.

Professional Education Core	9-10 hours
Elementary Education Component	8-9 hours
One course from ELE 576, ELE 673, ELE 675 is required. Additional electives should be made from ELE 610, 666, and 672 to meet the requirements of this component.	
Non-Professional Subject Matter	12 hours
Courses such as ART 602, PHE 596, AGR 577, GEO 501, SPE 560, PHE 560, are suggested. Selection will be made by mutual arrangement between the student and his advisor.	

In Reading—Eastern Kentucky University was the first institution in the Commonwealth to implement an organized program for the training of reading teachers. While state guidelines for certification have not yet been finally approved, it is expected that completion of the program will be honored when the specialized certificate is extant. At present, persons are recommended for the standard elementary or secondary certificate (Rank II) and should choose academic electives which support the certificate.

Program requirements follow.

Professional Education Core	9-10 hours
Reading Core	11-12 hours
ELE 576, 665, 675, 677.	
ELE 354, 358, or ESH 574 is prerequisite and must be taken for undergraduate credit prior to this sequence.	
Academic Electives	12 hours

For Rank II Certification, the Fifth Year Program—In recognition of the increasing demands for the continuing education of teachers, the

* Candidates must also meet general requirements of the Graduate School.

College of Education offers, in cooperation with other departments of the University a **fifth year** of study leading to the Rank II elementary or secondary certificate. This program will appeal to the teacher unable to qualify for a Master of Arts or Science degree program either because of prior preparation or level of previous academic achievement. It will be attractive to teachers unable or unwilling to meet the usual residence requirements.

Requirements include: (1) twelve hours must be completed at the graduate level; (2) twelve hours must be taken in an academic area or areas; (3) the remaining eight hours required should be chosen to fit general or specific needs of candidates without regard to offering department; (4) twelve of the 32 hours must be professional education.

Six hours of approved course work may be transferred from accredited four year colleges.

Programs of study must be approved and filed with the Dean of the Graduate School no later than the term during which six hours are to be completed.

Candidates for the certificate must maintain a 2.25 grade point standing. No more than 40 credits (32 required) may be submitted to achieve the necessary average.

All credits must be completed within ten years of enrollment in the program.

For the candidate who wishes to transfer later to a degree program, not more than 12 hours of appropriate credits will be allowed toward degree requirements.

Curriculum for Elementary Fifth Year Program

Required Education Core EPG 521, 523, 526	8 hours
Elementary Education An advanced course in reading (approved by advisor), three hours Choice of two from: ELE 356, 358, 672, 674	9 hours
Discipline(s) other than Education Selected in consultation with advisor	12 hours
Electives (Chosen from either Education or other disciplines with consent of advisor)	3 hours

ELEMENTARY EDUCATION (ELE)

ELE 501. (Formerly GEO 501.) Geography in Education. **Three hours.** I, S.

Prerequisite: Twelve hours of social science or six hours of geography.

Geography in the present day school systems from elementary school to university. Special emphasis directed toward course objectives, outlines, problems, evaluation of departments, geographic literature and equipment, and other materials.

ELE 507. (Formerly EDU 507.) Problems in Elementary Education. One to three hours. A.

Prerequisite: Approval of advisor and the chairman of the department. For independent work, special workshops, or a special topic, or seminar.

ELE 519. (Formerly EDU 519.) Teaching in the Kindergarten. Three hours. A.

Designed primarily for students who are interested in the theory and practice of teaching kindergarten. Content will focus upon the kindergarten movement; organization, equipment, curriculum, and procedures used with children of kindergarten age; and the leaders and literature of kindergarten education. Some opportunity will be provided for observing and participating in kindergarten.

ELE 520. (Formerly EDU 520.) Creative Experiences in Early Childhood Education. One to Three hours. A.

Designed for prospective and in-service nursery school, kindergarten, and day-care center teachers to explore ways of fostering creativity in children under six. Focus will be upon the nature of creativity, development of skills used in creative expression, and activities which promote creativeness in the pre-school child.

ELE 527. Growth and Development in Early Childhood. Three hours.

Prerequisite: EDF 317.

Focuses specifically on the physical, social, psychological, and intellectual development of the child under six and the role of the kindergarten teacher in working with young children.

ELE 528. Practicum in Kindergarten Education. Four hours.

Prerequisite: EDU 463, ELE 519, and ELE 527.

Supervised observation and teaching for five half days per week for one semester under professional supervision.

ELE 541. (Formerly EDU 541.) Survey of Elementary Curricular Programs. Three hours. I, II.

Designed for those students in physical education, art, or music who are seeking certification for grades 1-12. This course studies the elementary curriculum as it meets the needs of the child in every sense in which the school is responsible. The role of special teachers, the problems of individual learners, and function of the entire school-community are examined in their relation to one another.

ELE 576. (Formerly EDU 576.) Techniques and Materials for Remedial Reading. Three hours. I, II.

Prerequisite: ELE 354 or its equivalent.

Methods, materials, and techniques appropriate to the correction of reading difficulties.

ELE 610. (Formerly EDU 610.) Elementary School Curriculum. Three hours. I, II.

Study in depth of principles, practices, materials, and procedures in current curriculum development and revision in the elementary school.

ELE 664. (Formerly EDU 664.) Investigations in Language Arts. One to Three hours. A.

Designed for graduate students who desire to make a critical study of the investigative and theoretical literature dealing with the teaching of language arts (listening, spelling, handwriting, oral and written expression) in the elementary school. Research in the teaching of reading is not included.

ELE 665. (Formerly EDU 665.) Investigations in Reading. One to Three hours. II.

Prerequisite: Permission of the instructor.

Individual research and study of investigative and theoretical literature dealing with the teaching of reading in the elementary school.

ELE 666. (Formerly EDU 666.) Investigations in Elementary School Mathematics. One to Three hours. II.

Designed for graduate students who desire to make a critical study of the investigative and theoretical literature dealing with the teaching of mathematics in the elementary school.

ELE 667. (Formerly EDU 667.) Investigations in the Teaching of Social Studies. **One to Three hours. A.**

Designed for graduate students who desire to make a critical study of the investigative and theoretical literature dealing with the teaching of social studies.

ELE 670. Trends in Elementary Science Education. **Three hours. A.**

Modern trends, practices, and foundation programs as they pertain to elementary and junior high science teaching. Major emphasis on laboratory investigations appropriate for elementary and junior high science. Six laboratory discussion hours.

ELE 671. Reading Improvement in the Primary Grades. **Three hours. III.**

An intensive study of methods and materials appropriate for developing reading readiness and for guiding reading instruction in grades K-3. Emphasis is upon the newer approaches and latest research.

ELE 672. (Formerly EDU 672.) Improving the Teaching of Mathematics in the Elementary School. **Three hours. I.**

Designed to help the experienced teacher and graduate student understand more fully trends, issues, and concepts involved in initiating or continuing a modern elementary mathematics program. The influence of research findings on the curriculum will be examined. Emphasis will be given to the teaching of mathematics using a variety of multi-sensory materials.

ELE 673. (Formerly EDU 673.) Developmental Reading in the Elementary School. **Three hours. I.**

Advanced study of methods, materials, and organizational procedures appropriate for the teaching of developmental reading in the elementary school.

ELE 674. (Formerly EDU 674.) Improvement of Language Arts Instruction in the Elementary School. **Three hours. A.**

Examination of current trends and curriculum problems relating to the teaching of language arts in the elementary school. Major emphasis is on listening, oral and written expression, spelling and handwriting. Attention is not given to the teaching of reading.

ELE 675. (Formerly EDU 675.) Diagnosis of Reading Problems. **Three hours. I.**

Prerequisite: ELE 354 or its equivalent.

Theory and interpretation of diagnostic procedures necessary for the appraisal of reading problems.

ELE 677. Practicum in Remedial Reading. **Three hours. I, II.**

Prerequisite: ELE 576.

Supervised experiences in diagnosis and correction of reading problems.

ELE 678. Practicum in Elementary Mathematics Education. **Three hours. A.**

Prerequisite: ELE 672.

Practicum experiences in diagnosing children's problems in elementary school mathematics; observation and limited teaching to overcome identified problems.

HEALTH, PHYSICAL EDUCATION and RECREATION

Ned L. Warren, Chairman

The Department of Health, Physical Education, and Recreation is primarily responsible for advisement and program development for the following programs: Master of Arts in Education with emphasis in physical education; Master of Science, physical education; Specialist in Education, for college teachers of physical education; Specialist in Education, physical education, Rank II and Rank I (fifth and sixth year non-degree) programs for teachers.

Curriculum for Master of Arts in Education with an emphasis in Physical Education

Professional Education	9-10 hours
Physical Education Core PHE 649, 650, 652, 680 or 695, and one additional 600 level PHE course.	15 hours
Other Electives	6 hours

Curriculum for Master of Science in Physical Education

Education (EDF) 669	2 hours
Physical Education Core PHE 621, 649, 652, and 680 or 695.	12 hours
Physical Education Restricted Electives (To be selected from the following) PHE 620, 622, 623, 624, 650, 651, 662, 669, 675, 680, 691, 695, 698.	8-9 hours
Other Electives	7-8 hours

Curriculum for Specialist in Education Degree in Physical Education for College Teachers

The Specialist in Education Degree in Physical Education for college teachers is a sixty hour graduate program which may be entered by a student holding a B.S., M.A., or M.S. Degree with an undergraduate major or minor in physical education. For those entering the program at the fifth year, the M.A. in Education or M.S. Degree may be earned enroute to the Specialist in Education Degree. Requirements for the sixty hour program include:

Physical Education Core PHE 649, 650, 651, 652, 675, 695, 698, and 699.	23 hours
College Teaching Core ESH 695, 696, 697, 698, 699.	16 hours
Physical Education Restricted Electives (To be selected from the following) PHE 620, 621, 622, 623, 624, 662, 669, 680, 691.	12 hours
Other Electives	9 hours

Curriculum for Specialist in Education Degree in Physical Education

The Specialist in Education Degree is a sixty hour graduate program which may be entered with a bachelor's or master's degree by the holder of an undergraduate degree with a major or minor in physical education. For those entering the program at the fifth year, the M.A. in Education or M.S. Degree may be earned enroute to the Specialist in Education Degree. Requirements for the sixty hour program include:

Physical Education Core PHE 649, 650, 651, 652, 675, 695, and 699.	23 hours
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Education Core	9 hours
EDF 669 and seven hours to be selected from the following courses: ESH 612, 655, EDF 615, 632, 636, 650.	
Physical Education Restricted Electives (To be selected from the following)	21 hours
PHE 620, 621, 622, 623, 624, 662, 669, 680, 691.	
Other Electives	7 hours

Curriculum for Fifth Year Non-Degree Program in Physical Education

Education	8 hours
EPG 521, EPG 523, EDF 526	
Physical Education	15-16 hours
Electives	8-9 hours

Curriculum for Sixth Year Non-Degree Program in Physical Education

The sixth year non-degree program is available to students with a master's degree desiring an additional thirty hours of graduate course work. These thirty hours will include as many of the following courses as the student has not completed at the master's level:

Physical Education Core	17 hours
PHE 649, 650, 651, 652, 675, 695.	
Other Electives (Twelve to thirty hours to complete a thirty hour program.)	13 hours

HEALTH (HEA)

HEA 588. School Health Services. Three hours. A.

Study of school health services, and the relationship to the total health and school program. Detailed study in theory, evaluation techniques, and follow-up procedures in the health screening program.

HEA 597. Health Instruction. Three hours. A.

Consideration of health problems, and health materials, and development of a curriculum guide for health instruction in grades 1-12.

PHYSICAL EDUCATION (PHE)

PHE 510. (Formerly PHE 410.) Non-Class Curricular Physical Education Activities for Women. Two hours. I, II.

Policies, principles and philosophy of participation in physical education programs for women. Attention given to intramurals, extramurals, sports days, play days, girls athletic and recreation associations, psychology of coaching women's sports, and administration of women's sports programs.

PHE 540. (Formerly PHE 340.) Advanced Swimming and Water Leadership. **Two hours. II.**

Prerequisite: GSP 180 (Swimming or equivalent. Waived if student can pass skill test.

Emphasis advanced skills and water safety, proper conduct of competitive swimming meets, pool management, lifeguarding and pool filtration. Red Cross Instructors (WSI) rating given at completion.

PHE 554. (Formerly PHE 354.) Modern Dance Technique and Choreography. **Two hours. I, II.**

Prerequisite: PHE 345.

Modern dance technique, improvisation, choreography and production.

PHE 562. Physical Education for the Exceptional Child. **Two hours. I, II.**

Prerequisite: PHE 320 and 325.

Emphasis on conditions producing exceptional children; classification of atypical cases, purposeful physical education activities for exceptional children; and application of adaptive physical education activities.

PHE 568. (Formerly PHE 46 and 468.) Administration and Organization of Physical Education. **Two hours. I, II.**

Policies and procedures of administration on the elementary and secondary school level. Emphasis on construction and care of facilities, equipment, and supervision of personnel.

PHE 575. (Formerly HEA 475 and PHE 475.) Tests and Measurements in Physical Education. **Three hours. I, II.**

Administration and scoring of tests; evaluation and use of results obtained.

PHE 590. Workshop in Physical Education. **One to four hours. A.** (This course may be repeated but credit will not be awarded for two workshops by the same sub-title.)

Identification and study of significant problems, teaching methods, research findings, evaluation techniques and the use of appropriate demonstrations and participation important to the improvement of teaching.

PHE 596. (Formerly PHE 496.) Workshop for Elementary Teachers in Physical Education Activities. **Three hours. A.**

Comprehensive review of techniques used in teaching physical education in the elementary grades. Emphasis placed on health evaluation, fitness testing, rhythmical activities, game activities, tumbling and self-testing activities.

PHE 620. Administration of Physical Education. **Three hours. I.**

Procedures, policies, and problems relating to administrative functions of physical education administration. Topical areas include program, facilities and equipment, public relations, personnel, finances and supervision.

PHE 621. Scientific Bases of Physical Education. **Three hours. I.**

Biological, sociological, and psychological interpretations of man as related to performance in physical education activities.

PHE 622. Sociology of Sport. **Three hours. II.**

The meaning of sport in contemporary societies and the impact of social order on development of attitudes about and promotion of amateur and professional sports.

PHE 623. Professional Preparation in Health, Physical Education and Recreation. **Three hours. II.**

Study of undergraduate curricula designed to prepare health, physical education, and recreation specialists with attention to curriculum development, recruitment, selective admission and retention, certification, placement, and follow-up procedures.

PHE 624. Contemporary and Comparative Physical Education. **Three hours. II.**

Current trends in physical education resulting from political, sociological, and religious implications of various cultures of man.

PHE 649. (Formerly PHE 549.) Philosophical Bases of Physical Education. **Three hours. I.**

A development of philosophical approaches to physical education with an aim for discovering underlying principles on which physical education is based. Readings and discussion will relate to philosophical interpretations on questions of learning, curriculum, and administration, evaluation, and values.

PHE 650. (Formerly PHE 550.) Curriculum Designs in Physical Education. **Three hours. I.**

Problems relating to design of programs in physical education. Curriculum project developed by each student.

PHE 651. (Formerly PHE 551.) Equipment and Facilities in Physical Education. **Two hours. I.**

Problems relating to the programming of equipment and facilities. Visits to and evaluation of surrounding facilities.

PHE 652. Motor Learning and Performance. **Three hours. II.**

Physiological and psychological factors relating to the learning of motor skills.

PHE 662. (Formerly PHE 562.) Adapted Physical Education. **Three hours. II.**

Basic principles of a good adapted program for handicapped students. A project will be required of each student.

PHE 669. (Formerly PHE 569.) Organization and Administration of Athletics. **Three hours. A.**

Administrative problems of high school and college athletics. Considers staff, program, budget, safety, insurance, facilities, and other phases of administration.

PHE 675. Seminar in Physical Education. **Three hours. II.**

A course designed for research and discussion of critical questions in physical education. Issues to be selected will vary according to the concerns of seminar students.

PHE 680. (Formerly PHE 580.) Interpretation of Data in Physical Education. **Three hours. II.**

Statistical interpretation of physical education data. Written reports using statistics required.

PHE 691. (Formerly PHE 591.) Issues in Physical Education. **Three hours. I.**

Exploration of critical issues independently using resources and techniques appropriate for gathering supportive evidence and developing substantive positions. Written and oral presentations are required.

PHE 695. Advanced Testing and Evaluation in Health and Physical Education. **Three hours. I.**

Prerequisite: PHE 575, 680, or permission of the Instructor.

Comparative statistics, construction of measurement instruments, and evaluation techniques applied to health and physical education.

PHE 698. Research Design in Physical Education. **Two hours. I.**

An introduction to physical education research including examination of experimental research designs, laboratory methods, execution and reporting. Delimitation of research problems and presentation of thesis plans will be central to the course.

PHE 699. Thesis. **Four hours. I, II.**

Open only to Specialist Degree candidates.

RECREATION (REC)

REC 501. Recreation and Park Administration. **Three hours. I, II.**

Community organization, administrative practices, legal aspects, principles of programming, recruiting, selecting leaders, personnel practice, and public relations.

LIBRARY SCIENCE (LIB)

Juanita Phillips, Chairman

The Department of Library Science offers major course work for completion of requirements for the degree, Master of Arts in Education.

General requirements governing admission were described earlier.

Curriculum for Library Science

Professional Education Core 9-10 hours

Library Science Core 15 hours

LIB 500, 501, 521, 531, and LIB 541.

The certificate for the elementary librarianship may be validated for the secondary or twelve-grade librarianship upon completion of either ESH 462 or ESH 663.

The certificate for the secondary librarianship may be validated for the elementary or twelve-grade librarianship upon completion of (1) ESH 462, or ELE 673 and (2) ELE 367, or ELE 610.

Selected Electives 5-6 hours

Library Science 300 and 301 are prerequisite for admission to the program.

LIBRARY SCIENCE (LIB)

LIB 500. (Formerly LIB 311, School Library Management.) Organization and Administration of the School Library. Three hours. I, II.

Philosophy, objectives, and administration of the library in the elementary and secondary schools.

LIB 501. (Formerly LIB 401.) Young People's Literature. Three hours. I, II.

For teachers and librarians planning to work with young people. Emphasis placed on library materials to supplement school curriculum and encourage recreational reading in grades 7-12. Stresses reading interests, levels, and needs of young people, including types of adult materials suitable for more mature students and problems of selection.

LIB 521. (Formerly LIB 321.) Reference. Three hours. I, II.

Provides information for satisfactory use of library resources. Stresses essential reference work including dictionaries, encyclopedias, atlases, yearbooks, periodical indexes, and the more important subject and trade bibliographies.

LIB 531. (Formerly LIB 331.) Classification and Cataloging. Three hours. I, II.

Fundamental principles and methods of classification and cataloging of books and related materials. Attention is centered on classification and cataloging of school library books.

Skill in typing is necessary.

LIB 541. (Formerly LIB 441.) School Library Practice. Four hours. I, II.

Prerequisite: LIB 301, 500, 521, or 531.

Library practice is designed to give the trainee practical experience in many phases of school library service including circulation routines, teaching children the use of reference materials, and assisting in the cataloging of new books and materials. Reading guidance, story telling and the organization of unit materials are stressed.

LIB 551. Reading Interests and Advanced Book Selection. Three hours. A.

The role of reading in the educative process; reading habits and interests of groups and individuals; selection of readable materials. Methods of working with children and young adults in the school library; study in depth of titles suitable for children and young adults.

LIB 561. Non-Book Materials. Three hours. I.

Prerequisite: LIB 531.

The evaluation, selection, acquisition, cataloging, use, and preservation of all non-book materials (e.g. pamphlets, pictures, films, filmstrips, slides, transparencies, recordings) in a media center.

LIB 563. (Formerly LIB 463, Instructional Materials for the School Library.) Preparation of Instructional Media. Three hours. II.

Selection and preparation of free and inexpensive materials; displays (boards, bulletin, flannel, magnetic, chalk, posters); graphics (maps, graphs, charts, diagrams); and models.

LIB 569. (Formerly LIB 369, Audio-Visual Methods.) Instructional Media. Three hours. I, II.

Philosophy and techniques of the effective utilization of instructional media. Emphasis is on slides, tape and disc recordings, films, filmstrips, transparencies, programmed instruction, and the operation of equipment for presenting such media. (Also SHE 569).

LIB 607. (Formerly LIB 507.) Problems in Library Science. One to three hours. A.

Prerequisite: Approval of advisor and Chairman of the Department of Library Science.

Designed for graduate students who wish to do independent work on a problem in Library Science, or who wish to enroll in a special workshop or seminar focusing on a particular topic.

LIB 609. History of Books. Three hours. A.

Considers the records of early man, invention of the alphabet, manuscript books, and the making of books from earliest times to the present. Acquaints the student with the techniques and standards for the appraisal of the physical book.

SECONDARY and HIGHER EDUCATION (ESH)

Joe Wise, Chairman

The Department of Secondary and Higher Education has special advisory and program responsibility for the Master of Arts in Education program with emphasis in secondary reading.

Curriculum for Secondary Reading Program

Professional Education	9-10 hours
Reading Component	12 hours
ESH 574, ELE 675, 576, 677.	
Academic Electives	12 hours
(Electives in the academic areas should be in the fields related to reading, such as speech, psychology, library science, and English. Recommended courses include but are not limited to those listed below.)	
LIB 501, 551, 569, SED 560, 545, PSY 504, ENG 504, 540, 541.	

ESH 501. (Formerly EDU 501.) The Junior High School. **Two hours. A.**
Origin, development, and present status of the junior high school movement; the place of the junior high school in the public school system; the aims, purposes, and objectives of the junior high school; evaluation of types of programs; the junior high school plant; library, apparatus, and equipment of the junior high school.

ESH 507. (Formerly EDU 507.) Problems in Secondary Education. **One to three hours. A.**

Prerequisite: Approval of advisor and the chairman of the department.
For independent work, special workshops, or a special topic, or seminar.

ESH 569. (Formerly EDU 569.) Instructional Media. **Three hours. I, II.**
The philosophy and techniques of the effective utilization of instructional media. Emphasis is on slides, tape and disc recordings, films, filmstrips, transparencies, programmed instruction, and the operation of equipment for presenting such media. Sources of materials will be discussed. (Also LIB 569.)

ESH 574. (Formerly EDU 574.) Teaching Reading in the Secondary School. **Three hours. A.**

Prerequisite: EDF 317, admission to Teacher Education Program.

Designed to assist the secondary teacher in teaching reading in the content areas. Includes emphasis on developmental reading, reading skills, (vocabulary development, critical reading, concentration, and study techniques). Attention is given to appraisal of reading abilities, appropriate materials, evaluation, and organization of reading programs at the secondary level.

ESH 612. (Formerly EDU 612.) Curriculum Development. **Two hours. II.**

A critical study of issues and problems in curriculum development, the rationale underlying major positions of these issues, implications for work at various levels of the educational program, and principles and techniques of curriculum change.

ESH 628. (Formerly EDU 628.) Instructional Television. **Three hours. A.**

Exploration of television as a teaching tool. Theory and practice of planning the utilization of instructional television programs and courses. Emphasis on the cooperative role of the producer-director. The part of the television-studio teacher and the part of the television-classroom teacher is explored. History of educational television, television research, and the literature in the field are included. Supervised critical viewing of course segments is an integral part of the course.

ESH 655. (Formerly EDU 655.) Integration of Modern Curriculum and Learning Principles. **Four hours. I, II.**

Study of issues and problems in curriculum development with emphasis on the application of principles of learning to curriculum decisions. These decisions relate to such areas as the selection and guidance of learning experiences at various levels of the educational program and to principles and techniques for curriculum change.

ESH 663. (Formerly EDU 663.) Secondary School Curriculum. **Three hours. II.**

Aims of the public secondary schools; plans for evaluating curriculum procedures; qualities of good teaching; procedures of evaluating and improving classroom teaching; methods of making the school a more effective agency.

ESH 680. (Formerly EDU 680.) Organization and Supervision of Student Teaching. **Three hours. I.**

Prerequisite: Teaching experience.

For school and college personnel concerned with improving student teaching experiences.

ESH 685. (Formerly EDU 685.) Seminar: Problems in the Supervision of Student Teaching. **Three hours. A.**

Prerequisite: SHE 680 and prior or current experience with student teachers.

Designed to provide opportunity for school and college personnel to explore in depth problems and procedures relating to the supervision of student teaching. Direct experience will be an aspect of the critical study of individual and group problems.

ESH 690. (Formerly EDU 690.) College Teaching. Three hours. II.

Designed for students who are teaching or who expect to teach in junior or senior colleges. Critical exploration of the major decisions to be made by the college teacher in the changing scene in higher education. Attention will be given to knowing students as individuals and class groups, planning college courses, practical problems of selecting and guiding learning experiences, using varied instructional media, evaluating student progress.

ESH 695. Perspectives in Higher Education. Three hours. I.

A study of the origins, evolution, and trends in post-secondary education; the technical school, the junior college movement, the role of public and private colleges and universities in American education. Stress will be placed upon the sociology of higher education.

ESH 696. Theories of College Teaching. Three hours. II.

Prerequisite: ESH 695 or permission of instructor.

Psychology of college youth; a survey of cognitive and affective systems; the development of a system of instructional principles; and overview of standardized and classroom evaluation. Direct experience a requirement.

ESH 697. Curriculum in Higher Education. Three hours. II.

Consideration of issues, trends, and principles in curriculum development in higher education; the nature, place, and interrelationship of general education and work in fields of specialization. Opportunity for students from various fields to observe and appraise innovative practices, and to project programs of higher education.

ESH 698. Seminar in College Teaching. One hour. I, II.

To be taken concurrently with SHE 699. Topics in higher education. A research paper is required one semester.

ESH 699. Practicum in Higher Education. Three hours, I, II.

Supervised teaching in an acceptable post-secondary school or college. Restricted to candidates for the Specialist Degree.

SPECIAL EDUCATION and REHABILITATION (SED)

Wietse de Hoop, Chairman

SED 545. (Formerly EDU 545.) Introduction to the Education of Exceptional Children. Three hours. II.

Introduction to programs, problems, and procedures of working with children who are exceptional-mentally, physically or emotionally. Focuses on children who have problems of vision, hearing, and speech, as well as those with physical and neurological defects. Some attention is given to recent research dealing with the exceptional child and special education programs.

SED 560. (CL SPE 560.) Introduction to Speech Correction. Three hours. A.

Prerequisite: SPE 100.

Designed to help identify and deal with speech defects. Study of basic types of disorders, emphasis on good environment for the handicapped and sources of specialized help.

SED 570. (Formerly SPE 570.) Directed Study in Speech Pathology. One to three hours. A.

Directed projects in speech pathology. Proposal for the project must be submitted one semester in advance. Departmental permission is required.

SED 580. (Formerly SPE 580.) Directed study in Audiology. One to three hours. A.

Directed projects in audiology. Proposal for the project must be submitted one semester in advance. Departmental permission is required.

SED 619. (Formerly EDU 619.) Clinical Study of Exceptional Children. Two hours. A.

Methods are studied for diagnosing and teaching brilliant, retarded, physically handicapped, and emotionally maladjusted children.

The first of these is the fact that the majority of the cases reported in the literature are of the chronic type. This is in contrast to the acute type which is more common in the laboratory. The second is the fact that the majority of the cases reported in the literature are of the chronic type. This is in contrast to the acute type which is more common in the laboratory. The third is the fact that the majority of the cases reported in the literature are of the chronic type. This is in contrast to the acute type which is more common in the laboratory.

PSYCHIAL EDUCATION and REHABILITATION (PRED)

The purpose of this section is to discuss the importance of psychical education and rehabilitation in the treatment of mental illness. It is argued that these methods are essential for the long-term recovery of patients and should be given priority in mental health care. The text discusses various techniques and the role of the therapist in facilitating these processes.

NOTES

