

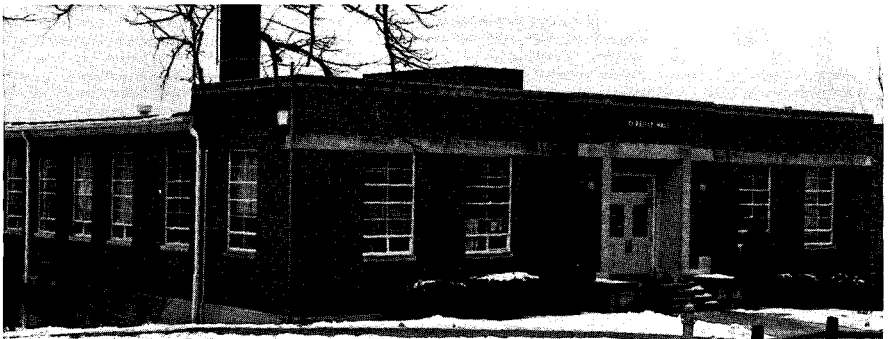
VII College of Arts and Sciences

Francis M. Lazarus, Dean
Richard E. Peterson, Assistant Dean

The objectives of graduate work in the College of Arts and Sciences coincide with the general aims and philosophy of education that characterize the University of Dayton.

The College of Arts and Sciences includes the following departments and programs: American Studies, Anthropology, Biology, Chemistry, Communication Arts, Computer Science, Criminal Justice, Data Processing, Economics, English, General Studies, Geology, History, Home Economics, Languages, Mathematics, Medical Technology, Military Science, Performing and Visual Arts (Fine Arts, Music, Theatre, Photography), Philosophy, Physical Science, Physics, Political Science, Psychology, Religious Studies, Social Work, Sociology, Urban Community Development, and Urban Life.

Programs leading to the Master of Arts or the Master of Science are offered in American Studies, Biology, Chemistry, Communication Arts, English, History, Humanities, Mathematics, Philosophy, Physics, Political Science, Psychology, and Theological Studies. The Department of Chemistry offers the Master of Clinical Chemistry. The Department of Computer Science offers the Master of Computer Science. The Department of Philosophy offers the Master of Humanities in Philosophy. The Master of Public Administration is also offered through the Political Science Department. An interdisciplinary Master of Clinical Laboratory Technology degree is offered in cooperation with the Schools of Education and Business Administration. The Doctor of Philosophy degree is offered by the Biology Department.



AMERICAN STUDIES (AMS)

Francis J. Henninger, Director of the Program

American Studies is an ambitious attempt to come to grips in a new way with the human species, to see how it was and how it is in order to improve the ways it will be. This attempt is directed toward how it was and is in America because American words, deeds, and thoughts, civilization and culture, both past and present, are comparatively easy to search out, to analyze, and to understand; and because upon the American people, more than any other, rests the proximate fate of the world.

Because American Studies is both interdisciplinary and multi-disciplinary in its direction, an advisory committee composed of members from several departments has been formed. Its members are: Economics, Larwence Hadley; English, Peter Arons; Teacher Education, Joseph Watras; History, Roberta Alexander; Philosophy, Joseph Kunkel; Political Science, David Ahern; Psychology, Charles Kimble; and Religious Studies, William Roberts.

ADMISSION REQUIREMENTS

An applicant must have achieved the baccalaureate degree and must have completed at least 72 semester hours in any combination of American Studies, Anthropology, Economics, Education, English, Fine Arts, History, Music, Philosophy, Political Science, Psychology, Sociology, and Religious Studies.

PROGRAM REQUIREMENTS

The student will take 30 to 36 semester hours of courses, three to nine in American Studies depending upon his undergraduate preparation. The remaining 27 semester hours will be taken in two to four of the cooperating disciplines, not less than six nor more than 18 in any one discipline. Courses must be chosen, with the help of a faculty advisor, from at least two of the groups.

When accepted into the program, the student must designate, as accurately as possible, which of the cooperating disciplines will be studied for the degree, and the earliest studies must include courses in at least two of those disciplines. The faculty advisor will determine whether the student shall take AMS 300 or AMS 301 or both. The student shall complete such requirements at the earliest opportunity.

When 12 semester hours toward the Master of Arts in American Studies have been completed, the student will sit for an examination to determine the ability to integrate, or at least make sophisticated comparisons among, bodies of information from at least two of the disciplines chosen for his degree. The examination will be composed and the answers evaluated by a committee of faculty from American Studies and the disciplines in which the student is working.

In the last term the student will take AMS 590, Interdisciplinary Research. In essence this is a master's thesis course. The end product of the course is the final

achievement of the student's program: a self-designed study of information from at least two disciplines demonstrating a mature ability to produce scholarship from the integration or the comparison of the two.

Courses are chosen from the following groups:

GROUP A

English

- ENG 572 The Romantic Age in American Literature
- ENG 576 Major American Writers
- ENG 580 American Realism and Naturalism
- ENG 584 Studies in Twentieth-Century American Literature
- ENG 591 Studies in Literature
- ENG 605 Studies in an Author
- ENG 609 Studies in a Genre or Mode
- ENG 613 Studies in a Literary Movement

GROUP B

Foundations of Education

- EDF 502 Philosophical Studies in Education
- EDF 550 History of Higher Education in the United States
- EDF 554 History of Education in the United States

History

- HST 550 Founding of America
- HST 554 The Age of Jefferson and Jackson
- HST 555 The Old South
- HST 556 Civil War and Reconstruction
- HST 572 Southern Appalachia
- HST 575 The Progressive Period, 1900-1920
- HST 576 Between the Wars
- HST 577 Contemporary American History
- HST 578 Interpretations in American History
- HST 660 Studies in U.S. History Before 1877
- HST 670 Studies in U.S. History After 1877

Philosophy

- PHL 621 American Pragmatism
- PHL 625 Philosophy of Language
- PHL 628 Recent Judaic and Christian Philosophy
- PHL 642 Epistemology
- PHL 644 Philosophy of Science
- PHL 651 Philosophy of the Person
- PHL 652 Ethics
- PHL 653 Aesthetics
- PHL 654 Philosophy of Religion
- PHL 655 Social and Political Philosophy
- PHL 656 Philosophy of Law
- PHL 657 Morality, Social Ethics, and Law

Religious Studies

REL 530	Theological Movements
REL 562	Contemporary Moral Problems
REL 568	Evolution and Ethics
REL 571	Theology and Imagination
REL 575	Theology and Film
REL 576	Theology and Art
REL 577	The Religious Quest in Literature
REL 582	Models of Catechesis
REL 583	Religious Psychology
REL 587	Religious Education as Autobiography
REL 592	Contemporary Issues

GROUP C*Economics*

MBA 500A	Graduate Survey in Economics
MBA 540	Managerial Economics
MBA 541	Labor Relations and Labor Economics
MBA 545	National Economic Policy and Forecasting
MBA 550	Government and Business
MBA 570	Business and Society

Foundations of Education

EDF 501	Learning Theory and Education
EDF 504	Human Development and Education
EDF 518	School and the Society
EDF 578	Politics of Education

Political Science

POL 502	Colloquium in American Politics
POL 505	The Politics of Bureaucracy and Regulation
POL 521	Seminar: Intergovernmental Relations
POL 545	Seminar: Urban Politics and Policy
POL 546	Seminar: Public Opinion and Political Behavior
POL 552	Government Planning
POL 555	Urban and Local Administration
POL 557	Seminar: State Government and Politics
POL 571	Seminar: Judicial and Constitutional Politics
POL 572	Administrative Law
POL 576	Public Personnel Administration
POL 579	Seminar: Selected Topics in Public Policy

Psychology

PSY 522	Advanced Cognitive Processes
PSY 524	Human Information Processing
PSY 525	Basic Processes in Learning and Memory
PSY 526	Psychology in Perspective
PSY 571	Experimental Child Psychology
PSY 573	Developmental Psychology
PSY 585	Experimental Social Psychology
PSY 586	Social Psychology Applied to Community Problems
PSY 587	Social Influences and Group Dynamics
PSY 588	Interpersonal Processes
PSY 589	Attitudes

American Studies

AMS 590	Interdisciplinary Research
AMS 300	American Cultures
AMS 301	Interpretations of American Culture

COURSE OF INSTRUCTION

AMS 590. INTERDISCIPLINARY RESEARCH: A study of the principles of interdisciplinary scholarship as well as of what can and probably cannot be accomplished by it. Contact with a teacher on a regular basis. The student produces a self-designed study of information from at least two disciplines. *3 sem. hrs.*



BIOLOGY (BIO)

Charles J. Chantell, Chairperson of the Department

Kenneth J. McDougall, Director of the Program

The Biology Department offers programs leading to the Master of Science and the Doctor of Philosophy. Ph.D. applicants without a Master's degree will initially be placed in the M.S. program. Students who show outstanding ability may by-pass the M.S. and proceed directly toward the Ph.D.

The degrees are in Biology, but each program is tailored to the student's own interests and career plans. Specialization is accomplished by selection of courses, by choice of thesis or dissertation topic, and by participation in weekly seminars in the area of interest. The specific program is determined after consultation between the student and the advisory committee. Primarily to answer the needs of those already in scientific or teaching professions, the Biology Department also offers a Master of Science program without a thesis requirement. Four major areas of specialization are available. These areas and typical spectra of graduate courses available are as follows:

Animal and General Physiology

Bioinstrumentation	Endocrinology
Pathophysiology	Immunology
Cell Physiology	Comparative Animal Physiology
Biochemistry	Biometrics
Experimental Embryology	etc.

Ecology/Field Biology

Bioinstrumentation	Vertebrate Zoology
Population Biology	Invertebrate Zoology
Community Ecology	Microbial Ecology
Field Biology	Biometrics

Plant and Cell Physiology

Physiology of Higher Plant	Cell Physiology
Advanced Plant Physiology	Radiation Biology
Plant Development	Bioinstrumentation
Biochemistry	Biometrics
Biochemical Genetics	etc.

Microbiology and Genetics

Bioinstrumentation	Biochemical Genetics
Pathogenic Bacteriology	Advanced Microbiology
Microbial Ecology	Immunology
Electron Microscopy	Biochemistry
Clinical Studies	Biometrics

ADMISSION POLICIES

Applicants with bachelor's degrees from accredited schools may be admitted to full graduate standing if their grades are well above the average required for the bachelor's degree. Those with lower averages may be considered for acceptance on a probationary status, in which case particular attention will be given to the last 60 semester hours of the undergraduate program. Applications are also accepted from holders of the MS who are qualified for doctoral work. Admission to the PhD program at the University of Dayton requires research experience equivalent to the MS thesis. Ordinarily, a student will not be accepted with full standing into a PhD program unless funds are available for support.

Applicants should have the equivalent of the science and mathematics requirements of the University of Dayton's Bachelor of Science in biology. These include one year of calculus, physics, and organic chemistry, plus sufficient background in biology to demonstrate a knowledge of cell biology, genetics, development, and environmental biology. Normally, a student who lacks more than one prerequisite will not be admitted to full graduate status. However, the summer session prior to entry can be used to remove a deficiency. Complete, current GRE scores (verbal, quantitative and analytical) are required of all applicants.

ADVISEMENT

Each new student is assigned a provisional advisor for assistance during the first semester. Prior to registration for the second semester each student selects a major professor, who serves as director of the student's advisory committee. The composition of this committee is representative of the general field of study in which the student expects to work.

The committee helps to plan the student's entire program. Prior to the beginning of the second semester of the MS program the student declares a choice of thesis or non-thesis option. The committee generally meets with the student twice a year to offer suggestions and to assess progress in the program and thesis research.

PROGRAM REQUIREMENTS

Master of Science

The MS degree requires 24 semester hours of course work plus a thesis. A typical MS program includes in the 24 hours four semesters of BIO 601 (special topics in the area of specialization), BIO 552-553 (Biological Instrumentation), and supporting courses from the area of interest.

Students declaring the non-thesis option are required to complete 30 hours of course work and are expected to complete both BIO 552 and 553 in order to increase laboratory experience in the absence of thesis research. A research paper can be required by the advisory committee.

All students are expected to attend BIO 501, Departmental Seminar, each semester. This is considered to be an important unifying experience for all aspects of the graduate program.

All students working toward the master's degree must complete the program within five years after admission to full graduate standing. All students are expected to develop teaching skills by teaching at least one laboratory course during their time in residence.

SEQUENCE OF EVALUATION

The program is centered around development of professional competence. Each student is assessed in the following steps: a preliminary diagnostic evaluation at the beginning of the program; a qualifying examination at the beginning of the second year of full-time graduate study; a candidacy examination over the area of specialization (PhD students only); and a defense of thesis.

Preliminary Evaluation

An orientation program introduces new students to the department. During this period, there will be an assessment of the student's background knowledge of biology, genetics, developmental biology, and environmental biology. According to the outcome of these examinations and after consultation with the faculty, a student may wish to enroll in one or more of the core undergraduate courses to provide a sufficiently broad base for a professional career. Normally no graduate credit is given for these courses.

Qualifying Examination

At the beginning of the second full year of graduate work, the student will take a qualifying examination. The purpose of the examination is to aid the student's committee in planning the remainder of his program. The examination will cover basic biological concepts, subject matter of graduate courses taken, and broad areas of the student's specialty. The emphasis will be not only on facts but on the student's command of self-expression, ability to reason, and to integrate knowledge. Depending on the outcome of this examination, and overall performance during the first year, the student then completes the requirement for the M.S. or withdraws from the program. Students showing outstanding ability and wishing to proceed towards the Ph.D. degree may be given the option of by-passing the M.S.

Students who choose to complete a master's degree are considered candidates for that degree after the qualifying examination. A student who wished to continue beyond the master's degree will be advised to continue for the doctorate or to terminate his studies at the University on the basis of his performance in earning the master's degree.

COMBINED B.S./M.S. PROGRAM IN BIOLOGY

The B.S./M.S. in Biology is an accelerated, highly structured program that is designed for students who show an early interest in, and a strong potential for, research in the biological sciences. The combined program provides an undergraduate liberal arts education, a broad, basic background in the biological sciences, the development of expertise in a biological subfield, and a thorough introduction to research instrumentation and techniques. Graduates from the program are prepared

for either direct entry into the job market or for continuation toward the Ph.D. degree.

An early commitment to the program and utilization of 3rd Term sessions during the third and fourth years allows completion of all required B.S. and M.S. course work in five years. Normally the Bachelor's degree is awarded at the end of the 1st Term of the fourth year. Qualifying examinations for Master's candidacy take place during the 1st Term of the fifth year. The M.S. component of the combined program requires a research thesis. If the thesis work is underway during the fourth year it can ideally be finished by the end of the fifth year. The Master's degree is awarded upon the successful defense of the M.S. thesis.

Potential applicants to the B.S./M.S. Program in Biology should declare their intentions to the Department Chairperson as soon as possible. Formal entry into the combined B.S./M.S. program should occur during the junior year. Details on application procedures, admissions criteria, curricula and financial support can be obtained directly from the Biology Department. The Undergraduate Bulletin contains a complete description of the B.S./M.S. Program in Biology.

Doctor of Philosophy

There are no set course requirements for the Ph.D. degree; each student follows the program outlined by the advisory committee. In practice most students find it helpful to take 80 to 90 semester hours of graduate course credits beyond the baccalaureate to attain the level of competence suitable for a doctoral candidate. When it is desirable, a student will be encouraged to take some work at neighboring institutions or summer laboratories. As in the MS program, BIO 501, 552, 553 and 601 are required courses in the Ph.D. program.

PhD Candidacy Examination

This oral examination for PhD students is administered by the advisory committee, which may be supplemented by members requested by the committee and / or the department chairman. The examination will be taken no later than the student's sixth semester of full graduate standing or, for the student who has a master's degree in an appropriate field at the time of enrollment, no later than the fourth semester. The purpose of the examination is to judge the student's competence in the special area and in related fields. Following the examinations the student may be directed to (a) complete the dissertation, (b) strengthen his preparation by demonstrating competence in one or more areas, (c) withdraw from the program. At the committee's discretion, additional competence in an area may be demonstrated by special examination or by completion of specific courses to the committee's satisfaction. The student is considered a candidate for the PhD after successful completion of these requirements.

Defense of Thesis or Dissertation

The examination on thesis, whether for the MS or the PhD, will constitute an oral examination on the matter of the thesis or dissertation. Normally the student presents a seminar on the thesis research within the week following the exam-

ination. A Ph.D. student must present the dissertation for defense within five years after admission to candidacy or repeat the candidacy examination.

All those working toward the master's degree must complete the program within five years after admission to full graduate standing.

TOOLS OF RESEARCH

Since the needs of the individual student vary with the background and type of research chosen, this requirement will be determined by the committee. The tools of research are normally for PhD candidates only and, as determined by advisory committees, may include one or two of the following: a reading knowledge of French, German, Russian, or Spanish; ability to program a digital or analog computer.

RESIDENCE REQUIREMENT

A student is strongly advised to devote as much time as possible to graduate studies. Normally attendance at the University as a full-time student for one full year for the MS and for two full years for the PhD will satisfy the residence requirement. If the advisory committee encourages attendance of a semester or a summer as a full-time student at a neighboring institution, that time may be applied to the residence requirement.

COURSES OF INSTRUCTION

Certain 400-level undergraduate courses in biology and other science or engineering departments may be taken for graduate credit if recommended by the major advisor and approved by the Biology Chairperson and the Graduate Dean.

BIO 501. SEMINAR: Presentation of biological research data by staff members and visiting scientists. Required of all graduate students each semester. *0 sem. hr.*

BIO 502. VERTEBRATE ZOOLOGY: The morphology, physiology, ecology, and distribution of representative vertebrate groups. Three hours lecture per week. *3 sem. hrs.*

BIO 502L. VERTEBRATE ZOOLOGY LABORATORY. *1 sem. hr.*

BIO 505. MICROBIAL ECOLOGY: A study of the diversity of microorganisms and the interrelationships between microorganisms and their environments. Emphasis is placed on aquatic ecosystems. *3 sem. hrs.*

BIO 505L. MICROBIAL ECOLOGY LABORATORY: Examination of the methods of isolation and enumeration of microorganisms and techniques for determining their activities in the field and laboratory. *1 sem. hr.*

BIO 512. RADIATION BIOLOGY: Principles concerning the nature of ionizing radiation, its use in studying biological systems, and its effect on organisms. Two hours lecture and two two-hour laboratory periods per week. *4 sem. hrs.*

BIO 517. ENDOCRINOLOGY: Discussion of hormonal regulation of metabolism, growth and reproduction. Three hours lecture. *3 sem. hrs.*

BIO 517L. ENDOCRINOLOGY LABORATORY: Laboratory dealing with functional analysis of the mechanisms and activity of the endocrine system. *1 sem. hr.*

BIO 521. BIOCHEMICAL GENETICS: An analysis of the nature of the gene and gene action. Particular attention will be given to genetic control of protein synthesis and to recent advances in biochemical and physiological genetics. Two hours lecture. 2 sem. hrs.

BIO 521L. BIOCHEMICAL GENETICS LABORATORY: A laboratory to accompany BIO 521 employing an experimental approach to genetic problems. Students work the entire term on a project they choose. 1 sem. hr.

BIO 522. IMMUNOLOGY: Discussion of antigens, antibody, antigenicity, immunogenicity, and antigen-antibody reactions including hypersensitivity, immune tolerance and transplants. Biochemistry recommended. 3 sem. hrs.

BIO 523. ADVANCED MICROBIOLOGY: Lectures, readings and discussions on current concepts in basic and applied microbiology, with emphasis on modern methods of microbial taxonomy, major groups of bacteria, microbial ecology, and industrial fermentation. 3 sem. hrs.

BIO 524. CELL PHYSIOLOGY: The molecular basis for structure and function and energy transduction in animal and plant cells as well as the organization, function and development of membrane and subcellular organelles. 3 sem. hrs.

BIO 524L. CELL PHYSIOLOGY LABORATORY: Isolation and chemical characterization of cellular organelles, study of cell structure by light microscope. 1 sem. hr.

BIO 530. COMPARATIVE ANIMAL PHYSIOLOGY: Organized on a function-system basis, the course deals with environment-organism interaction and with integrative systems of the principal phyla of animals. 3 sem. hrs.

BIO 530L. COMPARATIVE ANIMAL PHYSIOLOGY LABORATORY 1 sem. hr.

BIO 531. EXPERIMENTAL EMBRYOLOGY: Morphological and physiological aspects of development along with an introduction to teratology. Three hours lecture per week. 3 sem. hrs.

BIO 533. COMMUNITY ECOLOGY: The composition, aspect, and ecological structure of biotic communities. The role of the community in specific terrestrial and aquatic ecosystems, in regard to energetics, mineral cycling, and response to environmental factors within major North American biomes. 3 sem. hrs.

BIO 535. PROBLEMS IN FIELD BIOLOGY: A course designed to acquaint students with field-oriented problems in biology. 1-3 sem. hrs.

BIO 538. POPULATION BIOLOGY: An advanced course considering the relationship of genetics and ecology. Emphasis on the growth and regulation of natural populations. Prerequisites: ecology and genetics. 3 sem. hrs.

BIO 538L. POPULATION BIOLOGY LABORATORY: Field and laboratory exercises to accompany BIO 538. 1 sem. hr.

BIO 540. PHYSIOLOGY OF HIGHER PLANTS: Uptake and transport of materials, energy metabolism, and growth in higher plants. Three hours lecture per week. 3 sem. hrs.

BIO 540L. PHYSIOLOGY OF HIGHER PLANTS LABORATORY: 1 sem. hr.

BIO 546. PLANT DEVELOPMENT: Study of the major organ systems of the vascular plants with emphasis on the nature of their cell types and tissue composition and their patterns of development. 3 sem. hrs.

BIO 546L. PLANT DEVELOPMENT LABORATORY 1 sem. hr.

BIO 550. BIOMETRICS: The design and analysis of experiments in quantitative biology. Rectilinear and curvilinear regression, correlation, and the distribution function of various statistics. 3 sem. hrs.

BIO 552. BIOLOGICAL INSTRUMENTATION: The theory of separation, measuring and data handling techniques, and their application to modern biology. Required of all graduate students. Two hours lecture and two two-hour laboratory periods per week. 4 sem. hrs.

BIO 553. BIOLOGICAL INSTRUMENTATION: A continuation of BIO 552. 2 sem. hrs.

BIO 554. ELECTRON MICROSCOPY: Theory and use of the electron microscope. Techniques for preparation of biological materials for viewing under the electron microscope. Normally, required of all who plan to use electron microscopy in their research. Two hours lecture and two three-hour laboratory periods per week. 4 sem. hrs.

BIO 555. LABORATORY TECHNIQUES (TOPIC): Advanced treatment of new techniques and instrumentation used in specialized areas of biology. Changes with advances in a specialty reflected in the course title. 1-3 sem. hrs.

BIO 560. ADVANCED PLANT PHYSIOLOGY: A treatment of several areas of plant physiology based on current research literature. Since the course is taught from current journals, the topics change. May be repeated. Prerequisite: a course in plant physiology. 2 sem. hrs.

BIO 564. PATHOPHYSIOLOGY: The role of physiological stress in human physiology and its relation to the disease process. Attention to status assessment through the critical interpretation of clinical laboratory data. 3 sem. hrs.

BIO 564L. PATHOPHYSIOLOGY LABORATORY 1 sem. hr.

BIO 580. CLINICAL STUDIES (TOPIC): Hospital or other clinical experience in patient-oriented areas of biology such as microbiology, mycology, immunology, parasitology and physiological chemistry. Permission required. 1-6 sem. hrs.

BIO 596. CURRENT BIOLOGICAL PROBLEMS: The consideration of recent developments in biological thought and procedure. By permission of chairman only. 1-3 sem. hrs.

BIO 599. THESIS 3-6 sem. hrs.

BIO 601. SPECIAL TOPICS: The development, presentation, and discussion of topics in specialized areas of biology. Required of all graduate students each semester. 1 sem. hr.

BIO 699. DISSERTATION 3-6 sem. hrs.

MASTER OF CLINICAL LABORATORY TECHNOLOGY

Charles J. Chantell, Program Director

ADVISORY STAFF

Margaret R. Carroll, M.A., M.T. (ASCP), Clinical Assistant Professor of Medical Technology, Miami Valley Hospital

Charles J. Chantell, Ph.D., Associate Professor of Biology, College of Arts and Sciences

Helen B. Frye, Ph.D., Professor of Secondary Education, School of Education

Shirley A. Pohl, M.A., M.T. (ASCP) Clinical Assistant Professor of Medical Technology, Good Samaritan Hospital

Harry A. Washing, Ph.D., Associate Professor of Management, School of Business Administration

The goal of the CLT program is to educate practicing clinical laboratory scientists (MT, CT, NMT) as specialists in health science administration or health science education. The program emphasizes an interdisciplinary approach utilizing existing graduate and upper-level undergraduate courses from the College of Arts and Sciences, School of Business Administration and the School of Education plus elective courses to add depth and breadth to the individual's graduate study. Each student's curriculum can be structured to meet his or her specific needs and career objectives.

ADMISSIONS POLICIES

The MCLT program is open to students who have 1) earned a baccalaureate degree in a health science field from an accredited institution, 2) have professional certification from the appropriate accrediting body, and 3) have had work experience in their professional specialty. Formal acceptance into the MCLT program will normally occur in the Fall. However, potential applicants can enroll in the Graduate School at any time as Unclassified Students. Courses taken during this time can be credited in the MCLT program upon formal acceptance of the applicant.

Applicants may be admitted to full graduate standing if their grade point average is the equivalent of 2.7 or higher. Those with lower averages may be considered for acceptance on a probationary status. In the latter case particular attention will be given to the last sixty semester hours of the undergraduate program with special emphasis on grades in science courses.

Graduate Record Examination scores for the verbal, quantitative and analytical segments of the test will be required for admission. Applicants should request that three letters of reference, preferably from academic and clinical sources, be submitted to the Graduate Office. Along with the application form, a prospective student should submit a letter of not more than 1,000 words stating his or her career objectives and reasons for entering the program.

ADVISEMENT

After formal acceptance into the program, each student is assigned a committee of three faculty from the Advisory Staff who reflect the student's area of interest.

Initial course selections will be made by the student and the Program Director. Formal committee meetings will be held at the end of each academic year to plan an appropriate curriculum and review progress. The committee and the student will agree on a suitable topic for the Clinical Studies project (BIO 580). The student will develop, through written presentation, a project dealing with an administrative or educational aspect of laboratory function. After the completion of 24 credit hours of program courses, a final meeting of the student and the Advisory Committee takes place. The purpose of this meeting is to assess the program, evaluate the clinical project and administer a comprehensive examination. The format of this examination includes written and oral portions covering areas determined by the committee. Successful completion of this examination and positive assessment of completed work results in approval of the student's candidacy for the Master of Clinical Laboratory Technology degree upon completion of 30 hours of program course work.

PROGRAM REQUIREMENTS

The MCLT degree requires a minimum of 30 hours of course work. The overall structure of the program has three curricular groupings.

GROUP 1

Semester Credit Hours

Required Courses 10 to 11

The following courses are required of all MCLT students:

EDS 652	Techniques in Hospital Instruction	2
MBA 500D	Graduate Survey in Management	3
CLT 597 or 598	Practicum in Clinical Laboratory Administration or Education .	3
BIO 580	Clinical Studies (Topic)	1 to 2
BIO 601	Special Topics	1

The EDS and MBA courses are taken early in the program, the CLT and BIO courses are taken late in the program.

GROUP II

Science Electives 6 to 9

So as to maintain and strengthen technical skills, all CLT students must take at least two elective science courses. These can be chosen from Biology and Chemistry upper-level undergraduate and graduate courses and include, but are not limited to, the following:

BIO 403, 403L	BIO 521, 521L	BIO 554	CHM 551-2
BIO 466, 466L	BIO 522	BIO 555	CHM 555
BIO 512	BIO 550	BIO 564, 564L	CHM 557-8
BIO 517, 517L	BIO 552-3		CHM 559

GROUP III

Management/Education Electives 10 to 14

The remainder of each CLT student's program should emphasize the administrative or teaching end-goal. Appropriate courses from the College of Arts and Sciences, the Technical Institute, and the Schools of Business Administration and Education include, but are not limited to, the following:

PSY 431	MBA 500B	MBA 585	EDA 513	EDS 609
ETI 455	MBA 500E	MBA 586	EDF 419	
MGT 314	MBA 580	MBA 587	EDF 501	
MGT 318	MBA 583		EDF 502	
MGT 440			EDF 505	

COURSES OF INSTRUCTION

Descriptions of all the above mentioned courses, except CLT 597 and 598, can be found under the appropriate Department or Program headings in the graduate and undergraduate bulletins.

CLT 597. PRACTICUM IN CLINICAL LABORATORY ADMINISTRATION: Course limited to three to six students at one time: a personalized work study experience with a laboratory supervisor concentrating on patterns of work flow, requisition distribution, recording and reporting systems, emergency procedures, priority decision making, personnel work and time assignments, use of quality control data, and relationships with other hospital personnel. Prerequisite: MBA 500. *3 sem. hrs.*

CLT 598. PRACTICUM IN CLINICAL LABORATORY EDUCATION: Course limited to three to six students at one time: a personalized work study experience with an educational coordinator of a hospital medical technology program. Emphasis is placed on planning, structuring and evaluating learning experiences. An opportunity is afforded to relate educational theory to practice. Prerequisite: EDS 604. *3 sem. hrs.*



CHEMISTRY (CHM)

B. Lawrence Fox, Chairperson of the Department

The Department of Chemistry offers graduate programs leading to the Master of Science and the Master of Clinical Chemistry.

CHEMISTRY PROGRAM

The purpose of the master's program in chemistry is to present to the student a rigorous approach to modern theories in chemistry and to increase his desire and potential for fundamental research through a program of literature search and laboratory experimentation.

Written examinations are given to assist the student and advisor in formulating the student's program.

Admission Requirements

The undergraduate prerequisites are the minimum requirements specified by the American Chemical Society. Those students who have graduated from A.C.S.-approved schools will have fulfilled these requirements. Others may have to take certain courses concurrently from the undergraduate program to meet A.C.S. requirements.

Program Requirements

Twenty-four semester hours of course work and six semester hours of research are normally required for the Master of Science. The 24 semester hours must include at least three semester hours in each of the major fields of organic, physical, and inorganic chemistry. The student and his advisor decide upon the remainder of the program. Electives in other departments may be chosen with the approval of the departmental graduate committee.

All candidates for the Master of Science are required to submit proof of their ability to do independent work. Normally this proof takes the form of a thesis. Additional course work may be substituted if the student has previously demonstrated research proficiency commensurate with the master's degree as judged by the departmental graduate committee.

Biochemistry Option

This program is designed for students planning careers in biochemistry or the medical sciences. Those who want to specialize in biochemistry should have undergraduate preparation in general, analytical, organic, and physical chemistry. The degree will require 24 semester hours of approved course work and six semester hours of thesis research. Up to six semester hours of approved biology courses may be included.

CLINICAL CHEMISTRY PROGRAM

The purpose of the program leading to the Master of Clinical Chemistry is to provide experienced clinical laboratory personnel advanced training in basic chemistry, analytical procedures, modern biochemistry, and clinical chemical research. It may also prepare the student for an advanced degree (PhD) program in clinical chemistry.

Admission Requirements

All entering students must have prior work experience in a clinical laboratory. Typical students will have bachelor's degrees in areas such as medical technology, chemistry, biology or premedicine/predentistry. Undergraduate course requirements include the equivalent of 2 semesters each of general and organic chemistry and one semester each of quantitative analysis and physical chemistry. Students lacking one of these requirements may be admitted on the condition that the deficiency is rapidly corrected by coursework, no graduate credit being allowed.

Laboratory Experience

The normal requirements for the master's degree are 24 semester hours in course work and six semester hours for an approved thesis and oral defense of the thesis. Six semester hours in course work may be substituted for the thesis work, if the candidate can show previous experience in clinical chemistry research and whenever this exception will not prejudice his program. Approval of the departmental committee is required for waiver of thesis work. Students are required to pass an oral examination to prove competence in clinical chemistry laboratory practices.

In this program, CHM 525, 525L, 526, and 526L, Principles of Organic chemistry, may not be taken for credit. Credit for certain undergraduate courses may be allowed at the discretion of the departmental committee.

Each candidate, in consultation with an advisor, will select a program of studies designed according to the student's goals and background, to fulfill the requirements for the master's degree. The program, and any subsequent changes, must be approved by the departmental committee.

	<i>Suggested Courses:</i>	<i>Semester Hours</i>
CHM 517	Inorganic Chemistry	3
CHM 506, 506L	*Identification of Organic Compounds.....	4
CHM 515, 515L	Analytical Chemistry	3
CHM 551, 552	General Biochemistry I, II.....	6
CHM 555	Special Topics in Clinical Chemistry	1
CHM 557, 558	Applications of Clinical Chemistry I, II.....	2
CHM 512	Intermediate Organic Chemistry	3
BIO 550	Biometrics	3
CHM 560, 561	Research	6

*CHM 507 must be taken by students who do not enroll in CHM 506.

COURSES OF INSTRUCTION

CHM 504. SPECIAL TOPICS IN THEORETICAL CHEMISTRY: A treatment of special topics surveyed in CHM 527-528. Prerequisite: CHM 304. 3 sem. hrs.

CHM 506. IDENTIFICATION OF ORGANIC COMPOUNDS: Systematic study of the reactions of functional groups and of the physical and spectral properties of organic compounds leading to their identification. Two class periods per week. Prerequisite: CHM 313-314. 2 sem. hrs.

CHM 506L. IDENTIFICATION OF ORGANIC COMPOUNDS: Laboratory course to accompany CHM 506. Two three-hour laboratory periods per week. 2 sem. hrs.

CHM 507. INTRODUCTION TO SPECTROSCOPY: A lecture course that treats NMR, IR, and MS theory and interpretation. One class meeting per week. Prerequisite: CHM 314 or equivalent. 1 sem. hr.

CHM 512. INTERMEDIATE ORGANIC CHEMISTRY: Modern theory of organic chemistry and reaction mechanisms. Prerequisite: CHM 314 or equivalent. 3 sem. hrs.

CHM 515. ANALYTICAL CHEMISTRY: Methods of analysis based on modern instrumentation including chemical, electrical and spectral methods. 2 sem. hrs.

CHM 515L. ANALYTICAL CHEMISTRY LABORATORY: A laboratory course to accompany CHM 515. 1 sem. hr.

CHM 517. INORGANIC CHEMISTRY: An introductory course. The fundamentals of modern inorganic chemistry including atomic structure, principles of structure and bonding, acid-based chemistry, periodicity, coordination compounds, nonaqueous solvents, electrochemistry, molecular symmetry, and the chemistry of representative elements. 3 sem. hrs.

CHM 539. SPECIAL TOPICS IN PHYSICAL CHEMISTRY: Topics of current interest in areas such as chemical instrumentation, electronics, physical biochemistry, macromolecular chemistry, and spectroscopy. 3 sem. hrs.

CHM 541. TOPICS IN PHYSICAL CHEMISTRY: Modern aspects of physical chemistry, which may include the solid state, electrochemistry, or mathematical methods of physical chemistry. 3 sem. hrs.

CHM 544. COORDINATION CHEMISTRY: Properties of transition metal ions, reaction mechanisms in coordination compounds, bioinorganic systems, electron transfer mechanisms, and the experimental tools common to coordination chemistry. 3 sem. hrs.

CHM 546. SPECIAL TOPICS IN MODERN ANALYTICAL CHEMISTRY: Modern analytical methods. Subject matter may include NMR, EPR, electroanalytical methods, GLC, mass spectrometry, IR and Raman spectroscopies, visible and ultraviolet spectrophotometric methods, x-ray techniques, ESCA and Auger spectroscopies, atomic absorption, and fluorescence. 3 sem. hrs.

CHM 550. SPECIAL TOPICS IN ORGANIC CHEMISTRY: Modern physical organic chemistry, spectroscopy, photochemistry, molecular rearrangements, stereochemistry, and natural products. 3 sem. hrs.

CHM 551. GENERAL BIOCHEMISTRY I: The chemistry of proteins, carbohydrates, lipids, and nucleic acids. The metabolism of these compounds is related to bioenergetics, membranes, enzymes, and certain disease processes. Prerequisites: CHM 314 and 302 or special permission of the instructor. 3 sem. hrs.

CHM 552. GENERAL BIOCHEMISTRY II: Electron transport and oxidative phosphorylation, lipid metabolism, nitrogen metabolism, nucleic acid and protein synthesis, biochemical genetics, regulation, hormones, and nutrition. Prerequisite: CHM 551. 3 sem. hrs.

CHM 553. TOPICS IN BIOCHEMISTRY: Topics of current interest in biochemistry. Pre-requisite: CHM 551, or 552 or permission of instructor. *1-3 sem. hrs.*

CHM 554. DIRECTED READINGS *1-3 sem. hrs.*

CHM 555. SPECIAL TOPICS IN CLINICAL CHEMISTRY: Topics of current interest in clinical chemistry. *1-3 sem. hrs.*

CHM 557. APPLICATIONS OF CLINICAL CHEMISTRY I: The relationship between medical practice and clinical chemistry. Each class will be devoted to the study of hospital cases related to a single disorder. Physicians present the medical aspects. A clinical chemist presents the laboratory work and specific problems. *1 sem. hr.*

CHM 558. APPLICATIONS OF CLINICAL CHEMISTRY II: A continuation of CHM 557. *1 sem. hr.*

CHM 560-561. RESEARCH *3 sem. hrs. each term*

CHM 562L. INTRODUCTORY BIOCHEMISTRY LABORATORY: Spectrophotometry; pH and dissociation; thin-layer, column, and paper chromatography; enzymology and enzyme purification, quantitative and qualitative techniques for studying proteins, amino acids, lipids, carbohydrates, and nucleic acids; and radioisotopic tracer techniques. Corequisite: CHM 551 or special permission of instructor. *2 sem. hrs.*

NOTE: The following courses are not applicable to any master's degree in Chemistry:

CHM 502. PHYSICAL CHEMISTRY: A concise treatment of theoretical chemistry. Pre-requisite: CHM 124. *3 sem. hrs.*

CHEM 525-526. PRINCIPLES OF ORGANIC CHEMISTRY: An introduction to the fundamentals of organic chemistry. Prerequisite: CHM 124. *3 sem. hrs. each term*

CHM 525L-526L. PRINCIPLES OF ORGANIC CHEMISTRY: Laboratory course to accompany CHM 525-526. *One three-hour laboratory per week.*

NOTE: The following courses apply only to the Biochemistry option or Master of Clinical Chemistry degree.

CHM 527-528. THEORETICAL PRINCIPLES OF CHEMISTRY: Prerequisite: CHM 201 or equivalent. Corequisite: MTH 218. *3 sem. hrs. each term*

CHM 527L-528L. THEORETICAL PRINCIPLES OF CHEMISTRY: Laboratory course to accompany CHM 527-528. One three-hour laboratory per week. *1 sem. hr. each term*

COMMUNICATION ARTS (COM)

Don B. Morlan, Chairperson of the Department

The graduate program of the Department of Communication Arts leads to the Master of Arts.

Recognizing that in our increasingly complex society there is now and will continue to be a need for specialists in communication, the Communication Arts Graduate Program concentrates on the development of an academically rigorous program particularly appropriate for the student seeking a terminal degree in mass or speech communication who is or plans to be employed in a communication related profession.

The Communication Arts Graduate Program also encourages interdisciplinary study with cooperating disciplines to achieve a course of study flexible enough to meet the needs of the Ph.D. bound student, the student returning to or continuing with education, and the primary and/or secondary teacher wishing to improve and update education.

ADMISSION REQUIREMENTS

1. The student seeking admission should have a bachelor's degree from a recognized institution of higher learning. In the case of seniors who have almost completed undergraduate requirements, the Graduate Committee may permit the taking of graduate courses which will be applied to the master's degree only after the appropriate bachelor's degree has been awarded.
2. The student seeking admission should have a 2.8 undergraduate cumulative point average (or the equivalent). The Graduate Committee will recognize the potential merits of professional experience and/or maturity as they review an applicant's credentials.
3. The student seeking admission will ordinarily have completed those studies necessary in mass and/or speech communication to pursue graduate study with success. The Graduate Committee will also recognize demonstrated professional accomplishments in a communication field.
4. The student seeking admission for the interdisciplinary plan (Plan B), will ordinarily have completed those studies necessary in the minor area to pursue the interdisciplinary graduate program with success.

Applicants who do not meet the above requirements and yet wish to pursue the graduate program in Communication Arts may, at the discretion of the graduate committee, be admitted on conditional status. Such students may be assigned appropriate undergraduate credit which will not count toward the graduate degree or may be placed on probation until the successful completion (grade B or better) of specific Communication Arts graduate courses (including but not limited to the Department's core courses — COM 501 and COM 536).

Graduate credit from other accredited institutions of graduate learning will be reviewed by the Graduate Committee. Transfer of such credit may be accepted to a maximum of six semester hours.

GRADUATE ASSISTANTSHIPS IN COMMUNICATION ARTS

Graduate assistantships are available. The assistantships carry a stipend and a tuition remission for courses required for the degree. The assistantships are for 1 year with possible renewal for 1 additional year. No student can receive an assistantship for more than 2 academic years.

Assistantships in the Department are, for the most part, teaching assistantships. However, some assistantships may carry a reduced teaching load when combined with other Department responsibilities such as coaching forensics or faculty research assistance.

The minimum requirements for assistantship in the Department are:

1. The equivalent of an academic minor in communication and related areas or a demonstrated successful professional background in a communication oriented occupation for a minimum of 3 years.
2. A 2.8 undergraduate cumulative point average (or the equivalent) and a 3.0 in the academic major or minor (communication).

PROGRAM OPTIONS AND REQUIREMENTS

Requirements for All Students

All Communication Arts graduate students must complete COM 501 (Critical Study of Communication Research and Methods) and COM 536 (Theories and Models of Communication). Each course is offered 1 term of each academic year.

Plan A — Communication Arts (Non Interdisciplinary)

There are 2 options under Plan A.

1. Thesis Option

Students take 24 semester hours of course work and 6 hours of thesis credit. Following the completion of the thesis, students are required to present a portion of their thesis in a special program for Communication Arts faculty and interested graduate students. The program cannot be scheduled until the thesis has been approved by the thesis committee.

Before the completion of 18 semester hours of course work, students must select their thesis committee.

Students must submit a prospectus which follows Department format to the thesis committee and have it approved before major work on the thesis is undertaken.

For details on the prospectus, thesis and special presentation, consult the handbook "Graduate Study in Communication" that is found in the Communication Arts Department office.

2. Non Thesis Option

Students take 36 semester hours of course work. Students are required to write a comprehensive 6-hour examination over their course work. The examination cannot be taken until students have completed successfully 27 semester hours of course work. A student must be enrolled to take the examination.

Students may take the written examination a total of 2 times. Students who do not

pass the examination the second time will be dropped from the Communication Arts program. For details on the examination, consult the handbook "Graduate Study in Communication," found in the Communication Arts Department Office.

Plan B — Communication Arts/Interdisciplinary

Courses in Business Administration, English, Psychology and Political Science have been designated for Communication Arts/Interdisciplinary study (Plan B) leading to the Master of Arts. There is 1 option under Plan B.

Plan B

Students take 36 semester hours of course work; 24 of those hours must be in Communication Arts and 12 of those hours in one of the interdisciplinary areas. Students are required to write a comprehensive 6-hour examination over their communication and interdisciplinary course work. The examination cannot be taken until students have completed successfully 27 semester hours of course work. A student must be enrolled to take the examination.

Students may take the written examination a total of 2 times. Students who do not pass the examination the second time will be dropped from the Communication Arts program. For details on the examination and the Communication Arts/Interdisciplinary program, consult the handbook "Graduate Study in Communication," found in the Communication Arts Department Office.

COURSES OF INSTRUCTION

COM 501. CRITICAL STUDY OF COMMUNICATION RESEARCH AND METHODS: Introduction to the study of communication research and methods. Required course for all Communication Arts Graduate Students. *3 sem. hrs.*

COM 502. METHODS OF RHETORICAL CRITICISM: Critical survey and application of traditional to contemporary methods of rhetorical criticism. Prerequisite: COM 501. *3 sem. hrs.*

COM 503. EXPERIMENTAL METHODS IN COMMUNICATION RESEARCH: Procedures and methods used in designing and executing experimental research in the field of communication. Experimental Designs; Hypothesis Formation; The Experimental Plan; and Data Analysis. Prerequisite: COM 501. *3 sem. hrs.*

COM 506. ETHICS OF COMMUNICATION: Investigation and application of the general ethical principles of persuasion and the special problems related to professional areas: platform and business communication, electronic and print journalism, public relations, classroom communication, and forensic behavior. *3 sem. hrs.*

COM 508. THE PROCESS OF INTERPERSONAL COMMUNICATION: Focus on the theories, concepts, constructs, and research related to the process of interpersonal communication. *3 sem. hrs.*

COM 511. THEORIES OF PERSUASION: An examination of the major approaches to the study of persuasion from classical rhetorical to contemporary behavioral theorists. *3 sem. hrs.*

COM 515. GENERAL SEMANTICS: Study of language meaning barriers to effective communication as developed by major theorists in General Semantics. Special emphasis on the works of Alfred Korzybski and Samuel Bois. *3 sem. hrs.*

COM 517. ORGANIZATIONAL COMMUNICATION: A study of communication activities within organizations: theories and systems of organizational communication, internal communication systems, research methods, and the interface of management and communication. *3 sem. hrs.*

- COM 521. THE INVESTIGATION OF LISTENING PROBLEMS: Examination of listening theory and problems with implementation through research performed in the students' perspective professional areas. Major objective is the improvement of listening techniques. *3 sem. hrs.*
- COM 526. APPLIED PROFESSIONAL COMMUNICATION: A practical examination of professional writing and speaking. *3 sem. hrs.*
- COM 527. SMALL GROUP COMMUNICATION: An examination of the theoretical and practical aspects of small group communication. Topics include: Communication and Decision-Making, Communication and Conformity, and Within-Group Communication. *3 sem. hrs.*
- COM 530. DEVELOPMENT OF MASS MEDIA: History and analysis of the development and interdependence of mass media, print and electronic. Emphasis on its role and responsibility in political and economic progress of U.S. *3 sem. hrs.*
- COM 531. DIRECTED STUDY IN COMMUNICATION: An intensive study of a specialized area of communication selected through consultation with the instructor. Permission, may be repeated once with change of instructor. *3 Sem. hrs.*
- COM 536. THEORIES AND MODELS OF COMMUNICATION: Survey and analysis of current theories and models of communication. Required course for all Communication Arts Graduate Students. *3 sem. hrs.*
- COM 537. CONFLICT RESOLUTION THROUGH COMMUNICATION: An analysis of the different methods of communication employed to resolve conflicts. Types of conflict include: Marital Conflict; Role Conflict; and Societal Conflict. *3 sem. hrs.*
- COM 540. LAW AND NEWS MEDIA: Limitations of freedom of the press. The right of the people to know and the news media to report, within limits of decency, fair comment, and privacy. Censorship. Off the record material. Libel laws. Copyright restrictions. Postal regulations. *3 sem. hrs.*
- COM 555. PUBLIC RELATIONS WORKSHOP: Investigation and application of communication as students plan and implement a public relations program for an established organization. *3 sem. hrs.*
- COM 562. TOPICS IN COMMUNICATION: Selected topics in communication, for examples, mass communication, historical and contemporary public address and criticism. May be repeated when topic and instructor change *3 sem. hrs.*
- COM 566. ARGUMENTATION: Principles of argumentation and logic are applied during construction of a professional brief. Oral proficiency stressed. *3 sem. hrs.*
- COM 591. PUBLIC RELATIONS INTERNSHIP: Practical public relations participation in an approved organization eight hours weekly. Class meetings, oral presentation, analytical report required. Permission. Prerequisite: COM 555. *3 sem. hrs.*
- COM 598-599. THESIS *3-6 sem. hrs.*

COMPUTER SCIENCE (CPS)

Thomas A. Schoen, S.M., Chairperson of the Department
Edward J. Neuendorf, S.M., Director of the Program

The graduate program in the Department of Computer Science leads to the Master of Computer Science. This is a professional degree program designed primarily for the manager, engineer, educator, or technician involved in computer-related activities. It is assumed that the student's undergraduate education has been in a field other than computer science. The program is not designed as a preparation for the PhD, although it may serve this purpose in certain cases.

A student in the program must be a graduate of an accredited college with a nominal background in mathematical thinking. No specific undergraduate mathematics courses are required; several of the graduate courses, however, have calculus as a prerequisite. As prerequisites for the program, the student must demonstrate the knowledge and experience equivalent to the satisfactory completion of CPS 144: Fortran, CPS 245: Assembler Programming, and CPS 248: Intermediate Programming.

The degree requires 33 semester hours, 21 of which must be taken from Computer Science courses numbered 510 or above. There is no foreign language requirement and there is no formal thesis requirement. While there are no specific course requirements, each student's program requires the approval of a faculty advisor. CPS courses numbered below 510 may be taken as electives only with the approval of the advisor. Courses numbered 510 and above may require proficiency in one or more of the following languages: Fortran, Cobol, PL/I.

COURSES OF INSTRUCTION

CPS 501. SCIENTIFIC PROGRAMMING: Fortran programming and applications. Not open to MCS students. *3 sem. hrs.*

CPS 502. COMPUTING — GENERAL SURVEY: A nontechnical introduction to the history and organization of digital computers. Survey of the diverse applications of computers in government, business, education, and the arts. Discussion of the psychological and sociological impact of the computer age. Primarily for students in humanities and education. *3 sem. hrs.*

CPS 504. BUSINESS APPLICATIONS OF COMPUTERS: Introductory business programming in Cobol. Primarily for MBA students. *3 sem. hrs.*

CPS 510. SYSTEMS ANALYSIS: Basic system analysis tools; identifying requirements, planning, and measuring effectiveness of computer information systems; system life cycle studies. Prerequisite: programming ability. *3 sem. hrs.*

CPS 512. SYSTEMS DESIGN: Development of design guidelines for computer systems considering hardware, software, and user requirements. *3 sem. hrs.*

CPS 528. DISCRETE STRUCTURES: Survey of various mathematical topics with applications to Computer Science, e.g. graph theory, Boolean Algebra, formal logic. 3 sem. hrs.

CPS 532. DATA STRUCTURES: Basic concepts of data; linear lists, strings, arrays, and orthogonal lists; representation of trees and graphs; multilinked structures; symbol tables and searching techniques; sorting techniques. 3 sem. hrs.

CPS 536. OPERATING SYSTEM: Study of OS / 370 or similar systems and the functions of data, job, and task management. Prerequisite: CPS 245. 3 sem. hrs.

CPS 538. OPERATING SYSTEM PRINCIPLES: Models and algorithms pertinent to the design of computer operating systems; concurrent processes including synchronization, communication, and deadlock problems; process and device scheduling policies; memory management, including virtual memory techniques and paging policies, design of file systems, reliability and protection. Prerequisites: CPS 532, 536. 3 sem. hrs.

CPS 542. DATA BASE MANAGEMENT SYSTEMS: Physical and logical organization of data files; hierarchical, network and relational data base models; data definition language and data manipulation language of a commercial data base management system such as IDMS; query languages. Fee. Prerequisites: CPS 532, Cobol. 3 sem. hrs.

CPS 544-545. SYSTEMS PROGRAMMING: Analysis of compilers and their construction; programming techniques discussed in the current literature; advanced computer applications in both mathematical and nonnumeric areas. Prerequisites: data structures, operating system. 6 sem. hrs.

CSP 552. DISCRETE EVENT SIMULATION TECHNIQUES: Simulation models; random number generation testing; special purpose simulation languages such as GPSS and GASP IV; statistical analysis of output; regenerative models; trace-driven models. Emphasis on models related to computer operating system design and performance evaluation. Fee. Prerequisites: CPS 532, MTH 367 or equivalent. 3 sem. hrs.

CPS 553-554. NUMERICAL METHODS: Solution of nonlinear equations, interpolation and approximation, differentiation and integration, systems of linear equations, eigenvalues, eigenvectors, and introduction to solution of ordinary differential equations. Emphasis placed on applications. Prerequisite: calculus. 6 sem. hrs.

CPS 555-556. NUMERICAL ANALYSIS: Quadrature methods, the numerical solution of ordinary and partial differential equations; matrices and large scale systems, modern iterative matrix methods, minimax approximation, orthogonal functions, and data smoothing. Prerequisite: linear algebra. 6 sem. hrs.

CPS 577. COMPUTER SYSTEMS DESIGN I: Principles of design of combinatorial and sequential circuits in general and their use in arithmetic and logic units, storage elements, and input/output interfaces. The logical structure of small scale but complete computer systems. State of the art SSI, MSI, and LSI circuits are demonstrated and some student participation is expected. Prerequisite: CPS 245 and CPS 528 or equivalent. 3 sem. hrs.

CPS 578. COMPUTER SYSTEMS DESIGN II: The design and programming of one or more specific bus-structured micro (or mini) computers. The use of micro computers in special purpose or dedicated applications. Serial, parallel, analog to digital, digital to analog, interrupt, and "handshaking" communication (or in general, interfacing) to the outside world. Much hands-on participation of the student is expected. Prerequisite: CPS 577 or equivalent. 3 sem. hrs.

CPS 582. AUTOMATA THEORY: Finite automata, sequential machines, turing machines, computability, existence of self-reproducing machines. *3 sem. hrs.*

CPS 591. SPECIAL RESEARCH PROBLEMS: Individual readings and research in a specialized area. May be taken more than once for additional credit. Prerequisite: permission of the department. By arrangement. *1-3 sem. hrs.*

CPS 592. SPECIAL TOPICS: Lectures and / or laboratory experience in specialized areas determined by the department. May be taken more than once for additional credit. Prerequisite: permission of the department. By arrangement. *1-3 sem. hrs.*



ENGLISH (ENG)

R. Alan Kimbrough, Chairperson of the Department

The program leading to the Master of Arts with a major in English offers the opportunity for an intensified study of English and American literature, language and writing; it develops in the student a competence in independent research and in the exercise of sound literary judgement. It is particularly useful for teachers in secondary schools and community college.

ADMISSION REQUIREMENTS

Students seeking admission must have completed studies in English and American literature which will enable them to pursue graduate studies with distinction. Students will ordinarily have completed, with a grade point average of at least 3.00, 24 semester hours in literature, of which at least 18 are in upper-division courses.

PROGRAM REQUIREMENTS

Normally 30 semester hours are required. Every applicant who, after twelve hours of graduate work, has attained a grade point average of at least 2.75 will be given a Diagnostic Examination; this examination will be reviewed with the candidate by the candidate's advisor and two other members of the graduate staff. They will also review, at this time, the candidate's academic background and comments by faculty members who have had the candidate in classes. On the basis of this material and the review, the Committee will make recommendations about the candidate's graduate program to the chairman; among these recommendations will be the total number of hours the candidate needs for completion of the degree. Exceptionally well qualified students may earn the master's degree in fewer than 30 semester hours; students with deficiencies may be required to take up to 36 semester hours of graduate study.

ENG 601, Research and Bibliography, is required of each applicant for the degree. ENG 588, Studies in Criticism, is required of each applicant who has not had a satisfactory undergraduate course in literary criticism. Students in the program must take at least 12 hours of 600-level courses (including ENG 601).

Because the Master of Arts is not a specialist degree, candidates must take a balanced program of courses. Normally such a program will include a balance of early and later literature and of English and American literature or a balance of literature, writing, and teaching.

A thesis upon a topic approved by the graduate committee of the Department, for which six semester hours of credit are granted, can be accepted if the interview committee recommends this option.

COURSES OF INSTRUCTION

Prerequisite for enrolling in any of the following courses for graduate credit is at least 24 semester hours in literature. All 600-level courses normally meet for two hours but yield

three semester hours of credit. The starred courses (*) may be repeated for graduate credit when the topics or contents change.

ENG 505. CREATIVE WRITING*: Supervised practice in various literary forms. Both group discussions and individual conferences and critiques. Permission of chairman required. 3 sem. hrs.

ENG. 507. STUDIES IN WRITING*: Special topics in composition. 1-6 sem. hrs.

ENG 514. MEDIEVAL ENGLISH LITERATURE: A study of the dominant types in the literature of England from the beginning to 1500. 3 sem. hrs.

ENG 515. CHAUCER: A study of the life, the times, and the language of Chaucer. The main concentration is on *The Canterbury Tales* as rendered in Middle English. 3 sem. hrs.

ENG. 522. EARLY RENAISSANCE LITERATURE: A survey of the literature of the sixteenth century from Thomas More to Sidney and Spenser. 3 sem. hrs.

ENG 524. SHAKESPEARE*: A study of significant aspects of Shakespeare's plays and poems. 3 sem. hrs.

ENG 532. LATER RENAISSANCE LITERATURE: A survey of the literature of the early seventeenth century from Bacon, Jonson, and Donne to Marvell, exclusive of Milton. 3 sem. hrs.

ENG 536. STUDIES IN DRAMA TO 1642*: Studies in English drama from the beginning to the closing of the theatres. 3 sem. hrs.

ENG 538. MILTON: A study of the major and minor poems and of selected prose of Milton. 3 sem. hrs.

ENG 542. STUDIES IN NEO-CLASSICAL LITERATURE*: Studies in literature from Dryden to Johnson. 3 sem. hrs.

ENG 552. ENGLISH ROMANTICISM: A study of the major poets and critics of the Romantic Age. 3 sem. hrs.

ENG 556. STUDIES IN NINETEENTH-CENTURY LITERATURE*: A study of the literature in England in the nineteenth century. 3 sem. hrs.

ENG 560. TWENTIETH-CENTURY BRITISH LITERATURE: A consideration of significant developments in modern British literature. 3 sem. hrs.

ENG 572. AMERICAN ROMANTICISM: A study of significant developments in American literature of the mid-nineteenth century. 3 sem. hrs.

ENG 576. MAJOR AMERICAN WRITERS*: An intensive comparative study of two or three American writers. 3 sem. hrs.

ENG 580. AMERICAN REALISM AND NATURALISM: A study of representative writers from the post-Civil War period in American literature. 3 sem. hrs.

ENG 584. STUDIES IN TWENTIETH-CENTURY AMERICAN LITERATURE*: A study of significant developments in American literature of the twentieth century. 3 sem. hrs.

ENG 588. STUDIES IN CRITICISM*: A treatment of significant topics in theoretical and/or practical criticism. 3 sem. hrs.

ENG 590. TEACHING OF COLLEGE ENGLISH: Discussion, instruction, and practice in the methods of teaching composition and literature. Required of and open only to assistants. 1 sem. hr.

ENG 591. STUDIES IN LITERATURE*: An analysis of selected literary problems or areas. 1-6 sem. hrs.

ENG 592. HISTORY OF ENGLISH: A study of stages in the development of the English language and of influences shaping its development from the beginning to the present time. 3 sem. hrs.

ENG 594. THE STRUCTURE OF ENGLISH: Studies in the grammatical structure of modern English in the light of historical development. Traditional and modern linguistic points of view considered. 3 sem. hrs.

ENG 599. THESIS 3-6 sem. hrs.

ENG 601. RESEARCH AND BIBLIOGRAPHY: An introduction to the methods and tools of literary scholarship. Required of all degree applicants. 3 sem. hrs.

ENG 605. STUDIES IN AN AUTHOR*: A consideration of the body of an author's work and its relationship to the life of the author. 3 sem. hrs.

ENG 609. STUDIES IN A GENRE OR MODE*: An intensive analysis of a significant literary form or mode. 3 sem. hrs.

ENG 613. STUDIES IN A LITERARY MOVEMENT*: An analysis of a significant literary school, group, or movement. 3 sem. hrs.

ENG 621. STUDIES IN THE TEACHING OF LITERATURE*: An exploration of ways to teach literature more effectively for particular students. 3 sem. hrs.

ENG 625. STUDIES IN THE TEACHING OF COMPOSITION*: An exploration of ways to teach writing more effectively for particular groups of students. 3 sem. hrs.



HISTORY (HST)

Leroy V. Eid, Chairperson of the Department

The Department of History through its graduate program seeks to develop in students that combination of mature judgment and scholarly competence associated with the ability to conduct research, to write effectively and to evaluate historical conclusions and interpretations. As a secondary purpose, the program is designed to prepare students for successful careers especially in teaching, government services, and archival management.

ADMISSION REQUIREMENTS

Applicants for the graduate program in History must have completed a total of twenty-four semester credit hours of History, and achieved a grade point average of at least 3.00 in all History courses.

PROGRAM REQUIREMENTS

A research seminar (HST 601) is required of all students. In addition, the candidate must take at least three other 600-level courses (one of which must be a graduate seminar [HST 610-680]). No more than two independent study courses (HST 696) may be taken with the same professor.

Up to six semester hours of work may be taken outside the History Department with the approval of the chairman.

There is a written examination covering the minor field and an oral examination covering the major area. For details on these examinations and on the fields examined, consult the most recent "Graduate History Information Sheet" to be found in the History Department's office.

A proficiency examination in a foreign language is required of all graduate assistants and of all others wanting recommendations for further graduate work. The student may choose to show competence in any foreign language that is pertinent to his major program.

The master's program may be completed under either of the two following options.

Option A

Thirty semester hours of acceptable course work and research are required. These must include three semester hours for the research seminar (HST 601), six semester hours for the thesis (HST 699), and at least nine semester hours earned in other 600-level courses (one of which must be in a graduate seminar [HST 610-680]).

The thesis should be 80 to 160 pages in length, and stylistically it should conform to Turabian. Three years from the time it is begun are to be allowed for the completion of the thesis, though, in case of extenuating circumstances, the

time allotment can be extended. Three copies of the thesis are required, and approval is by the director and two readers chosen by the director.

An oral comprehensive examination in the field of the thesis is taken concurrently with an oral examination on the major area chosen by the student.

Option B

Thirty-three semester hours of acceptable course work are required, including three semester hours for the research seminar (HST 601) and at least nine semester hours earned in other 600-level courses (one of which must be a graduate seminar [HST 610-680]). The student does not write a thesis.

COURSES OF INSTRUCTION

For the convenience of teachers and other employed persons, courses will be offered in the late afternoon and evening hours except during the third term, second session, when they will be offered primarily in the morning hours.

Courses numbered in the 500s appear also in the undergraduate catalog. Enrollment is open to both graduate students and advanced undergraduate students. See the Department's "Graduate History Information Sheet" for methods used to evaluate graduate work in such double-numbered courses. Only double-numbered courses given in the evening have a high proportion of graduate students. Courses numbered in the 600s are restricted to graduate students. The particular emphases of 600-level courses will be announced each term in the "History Course Descriptions" bulletin found in the History Department's office. These courses may be repeated for graduate credit when topics and content change. HST 601 (Graduate Research Seminar) is required of all students.

HST 502. MAIN CURRENTS IN ANCIENT HISTORY: Aspects of the civilizations of ancient Near Eastern countries, Greece, and Rome selected because of their integration into Western civilization. Emphasized topics: Hebrew world view and value system, Greek democracy, Roman political and social institutions. *3 sem. hrs.*

HST 505. MEDIEVAL EUROPE: The development of European history from the 4th to the 14th century: birth of the Middle Ages; development of Christianity; Byzantine, Islamic, and Carolingian Empires; feudalism; Crusades; rise of universities; birth of national cultures. *3 sem. hrs.*

HST 507. RENAISSANCE AND REFORMATION: The development of European history from the 14th century to the middle of the 17th. Emphasis on the economic, political, social, and religious aspects of the Renaissance, Protestant Revolution, and Catholic Reformation. *3 sem. hrs.*

HST 511. ERA OF ABSOLUTISM, ENLIGHTENMENT: Intellectual and cultural developments between the later Reformation and the era of the French Revolution, with emphasis on political, economic, and social trends of the Old Regime. *3 sem. hrs.*

HST 513. THE REVOLUTIONARY ERA, 1789-1918: Analysis of the European nations and people emphasizing the themes of war and revolution as well as ideological, scientific, and technological developments. *3 sem. hrs.*

HST 514. TWENTIETH-CENTURY EUROPE: Causes and outcome of World War I; internal policies of nations between the two World Wars; diplomatic actions leading to World War II; and the impact of World War II. *3 sem. hrs.*

HST 515. SOVIET UNION SINCE 1917: A detailed survey and analysis of the U.S.S.R. from the Revolution of 1917 to the present. 3 sem. hrs.

HST 518. MILITARY HISTORY: The evolving concept and philosophy of war; the development and interrelationships of weapons, tactics, and strategy; and the role of military affairs in politics. 3 sem. hrs.

HST 524. THE PARLIAMENTARY CONCEPT IN ENGLISH HISTORY: The origins and development of common law and parliamentary government in England, stressing the medieval period. 3 sem. hrs.

HST 526. TUDOR-STUART ENGLAND: Economics, diplomacy, society, and culture in England from 1485 to 1714. For the Tudor period, emphasis on the development of the national state, royal absolutism, and the Reformation; for the Stuart period and Cromwellian Interregnum, the evolution of the constitutional question. 3 sem. hrs.

HST 528. MODERN ENGLAND — 1815 TO PRESENT: The development of England as an industrialized nation and as a 19th-century empire; the results of industrialization, urbanization, and loss of empire due to two world wars. 3 sem. hrs.

HST 532. NORTH AFRICA IN MODERN TIMES: Study of Morocco, Algeria, Tunisia, and Libya since the 16th century, with stress on the history of the institutions of these countries which enabled them ultimately to expel European imperialism. 3 sem. hrs.

HST 536. SOUTH AFRICA IN MODERN TIMES: The establishment of the Bantu people and institutions and their subjection to assaults by Boers and British. Study seeks to illuminate the present dominant governmental policy of apartheid. 3 sem. hrs.

HST 537. WEST AFRICA IN MODERN TIMES: West Africa's significance since the 18th century, with special reference to 19th century states, the commercial revolution, religious ferment, imperialistic rivalry, and the recent independence movement. 3 sem. hrs.

HST 538. THE MIDDLE EAST, NINETEENTH AND TWENTIETH CENTURIES: Survey of the Ottoman Empire, Iran, Egypt, and the modern states of the Middle East in international politics. 3 sem. hrs.

HST 543. MODERN CHINA: The political, cultural and international developments in China from the 18th century to the present. 3 sem. hrs.

HST 547. DIPLOMATIC HISTORY OF THE FAR EAST SINCE 1840: Survey of the diplomatic relations of China, Korea, and Japan among themselves and with other powers. Emphasis on major diplomatic events. 3 sem. hrs.

HST 548. JAPAN SINCE PERRY: The economic, social, and political developments of modern Japan, from the end of the "Seclusion" to the present. 3 sem. hrs.

HST 549. HISTORY OF THE COLD WAR: A study of the origins and development of the Cold War from the 1940's to the present. 3 sem. hrs.

HST 550. THE FOUNDING OF AMERICA: Foundations of American nationality and democratic growth under the British colonial system, with special attention to the economic, political, social and cultural life of the era. 3 sem. hrs.

HST 555. THE AMERICAN SOUTH: Studies the role of the South in American History. 3 sem. hrs.

HST 556. CIVIL WAR AND RECONSTRUCTION: Remote and immediate causes of the Civil War, especially from 1850 to 1861; problems of North and South during the war; consequences of the war; efforts to create a new Union, 1865-1877; problems resulting from those efforts. 3 sem. hrs.

HST 557. CONTEMPORARY LATIN AMERICA: A survey of modern trends in Latin America from the late 19th century to the present with a special emphasis on United States-Latin American relationships. 3 sem. hrs.

HST 572. SOUTHERN APPALACIA: A study and appraisal of the internal and external historical forces that have shaped the Southern Appalachian region. 3 sem. hrs.

HST 575. THE PROGRESSIVE PERIOD, 1900-1920: The major historical trends in these years which saw the universal acceptance of America's claim to world power. Due attention to cultural as well as political developments. 3 sem. hrs.

HST 576. BETWEEN THE WARS: Intensive study of United States history from 1919 to 1941, emphasizing Normalcy, the Depression, the evolving New Deal, and the approach to World War II. 3 sem. hrs.

HST 577. CONTEMPORARY AMERICAN HISTORY: Diplomatic and domestic history of the United States since the beginning of World War II, including the War, wartime conference diplomacy, Russia and the Cold War, cultural trends of mid-century, social equality, and the politics of protest. 3 sem. hrs.

HST 578. INTERPRETATIONS IN AMERICAN HISTORY: Specific topics for investigation and interpretation as determined by the instructor. The objective is to study new interpretations of historical events. Prerequisite: a general knowledge of American history. 3 sem. hrs.

HST 579. AMERICAN ARCHITECTURAL HISTORY AND PRESERVATION: A career-oriented course offering a theoretical background in historical preservation and techniques used in identification, research, and recording of historic landmarks worthy of preservation as part of the community heritage. 3 sem. hrs.

HST 580. HISTORY OF AMERICAN DIPLOMACY: An analytical study of America's foreign relations from the founding of the Republic through the "imperial period" to the Cold War. 3 sem. hrs.

HST 582. HISTORY OF MEXICO: Mexico since 1820, with emphasis on the revolution of 1910 and the struggle for democracy. Consideration of diplomatic and cultural relations between Mexico and the U.S. 3 sem. hrs.

HST 584. CARIBBEAN SINCE 1801: The cultural, social, economic, and political history of the islands and the northern shore of South America in modern times, stressing areas that have gained independency or autonomy. 3 sem. hrs.

HST 600. HISTORIOGRAPHY: A study of the principal historians and the chief contributions to the development of historical writing. Some familiarity with historical method required in research papers. 3 sem. hrs.

HST 601. GRADUATE RESEARCH SEMINAR: Investigation and synthesis of primary research materials in the student's field of concentration. The seminar is unified around methodological solutions to problems in research and writing. Required of all students. 3 sem. hrs.

HST 610. STUDIES IN EARLY EUROPEAN HISTORY: Selected developments in government, law, urban life, and learning from Rome's decline to the 15th century. Byzantine and Islamic contributions are included. 3 sem. hrs.

HST 620. STUDIES IN MODERN EUROPEAN HISTORY 3 sem. hrs.

HST 631. STUDIES IN AFRICAN HISTORY 3 sem. hrs.

HST 632. STUDIES IN MIDDLE EASTERN HISTORY 3 sem. hrs.

HST 640. STUDIES IN ASIAN HISTORY 3 sem. hrs.

HST 660. STUDIES IN U.S. HISTORY BEFORE 1877 3 sem. hrs.

HST 670. STUDIES IN U.S. HISTORY AFTER 1877 3 sem. hrs.

HST 680. STUDIES IN LATIN AMERICAN HISTORY 3 sem. hrs.

HST 696. SPECIAL STUDIES: Tutorial readings or research in special fields. By permission of chairman only. 1-3 sem. hrs.

HST 699. THESIS 3-6 sem. hrs.



MATHEMATICS (MTH)

John W. McCloskey, Chairperson of the Department

Graduate studies in the Department of Mathematics offer students the opportunity to acquire skills in areas normally pursued after the baccalaureate level. The program leads to a Master of Science degree, with emphasis in various applications or pure mathematics. While one of the goals of the program is to develop the student's knowledge of mathematical principles and methods to serve as a basis for solving technical problems in a professional career, the curriculum can also serve as a foundation for additional studies at the doctoral level.

Students interested in the more applied option have the opportunity to gain experience in modeling techniques followed by work on technical projects supplied by local industrial or scientific institutions. Both a departmental microcomputer and the university's mainframe computer are available for student use in connection with projects and / or coursework.

A Master of Science in Teaching degree with concentration in mathematics is also offered in conjunction with the School of Education.

ADMISSION REQUIREMENTS

In addition to the undergraduate preparation required for admission to graduate work at the University of Dayton, the Department of Mathematics has three prerequisites for admission into its graduate program:

MTH 302 Linear Algebra and Matrices (or equivalent)

MTH 361 Introduction to Abstract Algebra (or equivalent)

MTH 430 Analysis I (or equivalent)

Any of these prerequisite courses may be taken by a student during his first year of graduate study if they were not part of his undergraduate program.

PROGRAM REQUIREMENTS

Thirty semester hours are required. These may include (a) maximum of six semester hours of approved 400 level mathematics courses, (b) a maximum of six semester hours of approved courses outside the department and (c) a maximum of six semester hours for a thesis in special cases.

For the MS degree, a student must successfully pass a written examination covering the content of his area of concentration, as well as an oral examination within three months of the expected date of graduation. No written comprehensive examination is required for the MST degree.

COURSES OF INSTRUCTION

MTH 519-520. STATISTICAL INFERENCE: Sample spaces, Borel Fields, random variables, distribution theory, characteristic functions, exponential families, minimax and Bayes procedures, sufficiency, efficiency, Rao-Blackwell theorem, Neyman-Pearson Lemma, uniformly most powerful tests, multi-variate normal distributions. *3 sem. hrs. each*

MTH 521-522. REAL VARIABLES: The topology of the real line, continuity and differentiability, Riemann and Stieltjes integrals, Lebesgue measure and Lebesgue integral. Measure and integration over abstract spaces, L_p spaces, signed measures, Jordan-Hahn decomposition, Radon-Nikodym theorem, Riesz Representation theorem, and Fourier series. *3 sem. hrs. each*

MTH 525. COMPLEX VARIABLES I: Analytic Functions, integration on paths, the general Cauchy theorem. Singularities, residues, inverse functions and other applications of the Cauchy theory. 3 sem. hrs.

MTH 526. COMPLEX VARIABLES II: Infinite products, entire functions, the Riemann mapping theorem and other topics as time permits. Prerequisite: MTH 525 or equivalent. 3 sem. hrs.

MTH 531. ADVANCED DIFFERENTIAL EQUATIONS: Existence and uniqueness theorems, linear equations and systems, self-adjoint systems, boundary value problems and basic non-linear techniques. Prerequisite: MTH 403 or equivalent. 3 sem. hrs.

MTH 535. PARTIAL DIFFERENTIAL EQUATIONS: Classification of partial differential equations; methods of solution for the wave equation, Laplace's equation, and the heat equation; applications. Prerequisite: MTH 403 or equivalent. 3 sem. hrs.

MTH 540. MATHEMATICAL MODELING: An introduction to the use of mathematical techniques and results in constructing and modifying models designed to describe and / or predict behavior of real world situations. Computer simulation and limitations thereon, dimensional analysis, scaling, and approximations at various levels. Prerequisite: Permission of the instructor. Second term each year. 3 sem. hrs.

MTH 541. MATHEMATICS CLINIC: Student teams will be responsible for the development or modification and testing of a mathematical model designed for a particular purpose. Faculty guidance will be provided. Prerequisite: Permission of the Chairperson. 3 sem. hrs.

MTH 545. SPECIAL FUNCTIONS: The special functions arising from series solutions of Sturm-Liouville problems which are encountered in engineering and the physical sciences. Hypergeometric functions, Bessel functions, Legendre polynomials. Prerequisite: MTH 403 or equivalent. 3 sem. hrs.

MTH 551. METHODS OF MATHEMATICAL PHYSICS: Linear transformations and matrix theory, linear integral equations, calculus of variations, eigenvalue problems. Prerequisite: MTH 403 or equivalent. 3 sem. hrs.

MTH 555-556. NUMERICAL ANALYSIS: Quadrature methods, the numerical solution of ordinary and partial differential equations; matrices and large scale systems, modern iterative matrix methods, minimax approximation, orthogonal functions, and data smoothing. Prerequisite: MTH 302 or equivalent. 3 sem. hrs. each

MTH 561. MODERN ALGEBRA I: Groups, rings, integral domains and fields; extensions of rings and fields; polynomial rings and factorization theory in integral domains; modules and ideals. 3 sem. hrs.

MTH 562. MODERN ALGEBRA II: Finite and infinite field extensions, algebraic closure, constructible numbers and solvability by use of radicals, Galois theory, and selected advanced topics. Prerequisite: MTH 561. 3 sem. hrs.

MTH 565. LINEAR ALGEBRA: Vector spaces, linear transformations and matrices; determinants, inner product spaces, invariant direct-sum decomposition and the Jordan canonical form. 3 sem. hrs.

MTH 571. TOPOLOGY I: An axiomatic treatment of the concept of a topological space; various operators on a set that define a topology; bases and subbases; connectedness, compactness; continuity, homeomorphisms, separation axioms and countability axioms; convergence in topological spaces. *3 sem. hrs.*

MTH 572. TOPOLOGY II: Compactification theory, paracompactness and metrizability theorems, uniform spaces, function spaces, and other advanced topics of current interest. Prerequisite: MTH 571 or equivalent. *3 sem. hrs.*

MTH 573. FUNCTIONAL ANALYSIS: The study of linear metric spaces with emphasis on Banach and Hilbert spaces. The Hahn-Banach theorem, the Banach Fixed Point Theorem, and their consequences. Approximations and other selected advanced topics. *3 sem. hrs.*

MTH 575. DIFFERENTIAL GEOMETRY: Vector and tensor algebra; covariant differentiation. An introduction to the classical theory of curves and surfaces treated by means of vector and tensor analysis. *3 sem. hrs.*

MTH 590. TOPICS IN MATHEMATICS: This course, given upon appropriate occasions, deals with specialized material not covered in the regular courses. May be taken more than once as topics change. Prerequisite: consent of advisor. *3 sem. hrs. each term*

MTH 598. THESIS *3-6 sem. hrs.*



PHILOSOPHY (PHL)

Jane S. Zembaty, Chairperson of the Department

The graduate program in philosophy leading to the Master of Arts provides the conditions for cooperative study and research enabling a student to acquire a more comprehensive knowledge and understanding of major philosophical positions in both the history of philosophy and in contemporary philosophy and develop abilities for critical philosophical reflection.

Some of the students earning this degree have gone on to do doctoral work in philosophy and other academic areas. Some have gone on to teach philosophy at four-year and two-year colleges. Still others have pursued the program out of a general interest in advanced philosophical studies or in conjunction with further professional studies.

A distinctive feature of the graduate program in philosophy is the emphasis on the continuity of philosophic inquiry from the ancient and the medieval eras to the modern and contemporary periods. Of special philosophical interest is the concept of personhood. Each philosophy graduate student initially arranges a program in consultation with the chairperson of the Philosophy Department and thereafter in consultation with an assigned academic advisor. A program of study developed in accordance with student objectives normally calls for exposure to areas beyond those of immediate interest to the student.

REQUIREMENTS

Students working toward the Master of Arts in Philosophy are subject to the general graduate policies and requirements of the University and the College of Arts and Sciences. In addition, the following departmental requirements hold.

Admission

A formal statement of a student's objectives in taking the philosophy program is requested along with his or her application. For admission to regular status, a student must have had at least 24 semester hours in undergraduate philosophy or have equivalent competence. Otherwise, the student can apply for conditional or unclassified status.

Course Work

Students pursuing the Master of Arts need a minimum of 30 semester hours of satisfactory graduate work. Six of these may be given for a satisfactory thesis (if the thesis option is chosen), or six may be given for satisfactory graduate or professional course work in nonphilosophy subjects.

Readings Examination

Students pursuing the Master of Arts degree must show competency in understanding prime source material of major philosophers in the history of philosophy. This is evidenced by passing an oral examination based on the reading list available through the Department. Authors include Plato, Aristotle and Aquinas or Anselm for the ancient and medieval period and Descartes, Hume and Kant for the modern period.

OPTIONS

Students working toward the Master of Arts with a major in Philosophy have the following departmental options available to them.

Thesis

Students may choose to write a research thesis in view of their personal and professional objectives. For further information consult the chairperson.

Language Examination

Students wishing to continue their philosophic studies are strongly urged to learn at least one or two foreign languages to improve their professional skills in philosophy. Language examinations may be arranged through the chairperson of the Philosophy Department. If they are passed, the results will be noted on the student's official records. But no graduate credit is awarded for passing a language examination.

DISTINCTIVE PROGRAM OPPORTUNITIES

Financial Aid

Graduate teaching assistantships are available for the first and second years of study. Current stipends are \$3,200 for the first year and \$3,400 for the second year. Tuition and fee remissions amount to about \$1,800 per year. Residence counsellorships, which include stipends as well as tuition and fee remission are also available for qualified students. The Research Council of the University offers competitive summer research grant opportunities for research by graduate students with stipends of \$1,000. for the summer. The Library assists graduate students in the purchase of inter-library loan materials and in photocopying expenses for thesis research.

Teaching Apprenticeship

All graduate teaching assistants participate in a two-year apprenticeship program. In the first year, students work closely with a faculty member in the teaching of the introductory course in philosophy and participate in monthly seminars on pedagogical problems and solutions encountered at this level. In the second year, students who successfully complete their first-year apprenticeship are eligible to teach the introductory course under supervision in both semesters. Teaching assistants sign up each semester for one hour credit in PHL 698 *Teaching Apprenticeship in Philosophy*.

Satisfactory completion is shown by the grade CR (credit) on the transcript. These credits do not reduce the 30 semester hours of coursework required for the degree.

Joint M.A. in Philosophy — J.D. in Law

The Department also affords opportunities to qualified law students to pursue the Master of Arts Degree in Philosophy jointly with the Juris Doctor at the University of Dayton Law School. For additional information, consult the chairperson of Philosophy.

COURSES OF INSTRUCTION

The Department regularly reviews its curriculum and cycles its courses to help meet the needs of its students and fulfill program objectives. The curriculum consists of courses utilizing classic and contemporary primary texts in four areas to promote breadth at the Master's degree level:

Continuity of Western Philosophic Problems

Diversity of Worldwide Philosophic Styles and Methods

Persons and Knowledge

Persons and Values

Courses offered twice each three-year period have a double-asterick. Courses offered once each three-year period have a single-asterick. The remainder of the courses are offered as specific needs of students become apparent and program development is necessary. A Course Registration Guide is regularly published in advance of registration with notice on course objectives, content, texts, methods of instruction, and methods of evaluation for the course. Graduate classes normally meet in the late afternoon and early evening hours during the Fall and Winter Semesters. In the Summer, courses may be arranged through the chairperson.

CONTINUITY OF WESTERN PHILOSOPHIC PROBLEMS

*PHL 601. PHILOSOPHY OF PLATO: A detailed analysis of some of Plato's major dialogues such as the *Meno*, *Theaetetus*, *Sophist*, *Parmenides*, and *Timaeus*. 3 sem. hrs.

**PHL 602. PHILOSOPHY OF ARISTOTLE: A study of some of the major metaphysical, logical, epistemological, moral, and political issues discussed in Aristotle's texts, 3 sem. hrs.

PHL 603. MEDIEVAL STUDIES: A study of the writings of a particular medieval philosopher and/or a particular problem in medieval philosophy. 3 sem. hrs.

*PHL 604. PHILOSOPHY OF AQUINAS: A study of the moral, social, political, legal, religious, epistemological, and metaphysical issues raised by St. Thomas in his own writings, as developed in those of his commentators, and as they bear on problems in recent philosophy. 3 sem. hrs.

*PHL 605. PHILOSOPHY OF DESCARTES: A critical examination of Descartes' philosophy in his major works in view of the characteristic claims of rationalism. 3 sem. hrs.

*PHL 606. PHILOSOPHY OF HUME: A detailed examination of the epistemological, metaphysical, and ethical issues discussed in Hume's major texts and by contemporary commentators. 3 sem. hrs.

****PHL 607. PHILOSOPHY OF KANT:** An in-depth study of either Kant's theoretical philosophy such as the problem of metaphysics as found in the *Dissertation of 1770*, the *Critique of Pure Reason*, and the *Prolegomena to Any Future Metaphysics*, or his practical philosophy such as the problem of objective ethics as found in the *Critique of Practical Reason* and in the *Foundations of the Metaphysics of Morals*.
3 sem. hrs.

***PHL 608. PHILOSOPHY OF HEGEL:** A study of *The Phenomenology of Spirit* as an introduction to Hegel's overall philosophy with special attention to important passages such as the master-slave dialectic which has influenced subsequent philosophical development.
3 sem. hrs.

DIVERSITY OF WORLD-WIDE PHILOSOPHIC STYLES AND METHODS

***PHL 621. AMERICAN PRAGMATISM:** An examination of the major philosophic writings in the American Pragmatic tradition with stress on C. S. Peirce, William James, or John Dewey.
3 sem. hrs.

***PHL 622. EXISTENTIALISM:** A study of existentialism as an original view of the human person and the lived-world by one major existential philosopher such as Sartre or Heidegger.
3 sem. hrs.

***PHL 623. MARXIST PHILOSOPHY:** An examination of the central concepts developed and analyzed by Karl Marx in his major works. Also studied are some contemporary developments of Marxist thought.
3 sem. hrs.

***PHL 624. PHENOMENOLOGY:** A study of the origins of phenomenology in the descriptive psychology of Brentano, its development to a form of transcendental idealism by Husserl, and the attempt of Husserl to establish philosophy as a rigorous science by a phenomenological method. The bearing of phenomenology on Heidegger's and Sartre's attempts to develop a phenomenological ontology will also be explored.
3 sem. hrs.

***PHL 625. PHILOSOPHY OF LANGUAGE:** An in-depth examination of such topics as meaning, naming, referring, and truth with emphasis on contemporary theories and problems in the Anglo-American tradition.
3 sem. hrs.

PHL 626. ORIENTAL PHILOSOPHY: A critical examination of Hindu and Buddhist philosophies with concentration on the ultimate reality, consciousness, and salvation.
3 sem. hrs.

PHL 627. PROCESS PHILOSOPHY: A critical study of Alfred North Whitehead's *Process and Reality* in view of its historical setting, his other works, and the works of such process philosophers as Bergson and Hartshorne.
3 sem. hrs.

PHL 628. RECENT JUDAIC AND CHRISTIAN PHILOSOPHY: An examination of current approaches and solutions to the perennial problems of Judaic and Christian philosophy by such thinkers as Alston, Dupre, Grisez, Mavrodes, McNerny, Noonan, Plantinga, Smart, Weiss and others. Topics include: the relation of religious belief to reason; the significance of suffering and of death; moral beliefs and natural law; immortality and resurrection.
3 sem. hrs.

PERSONS AND KNOWLEDGE

***PHL 641. ADVANCED LOGIC:** A study of both formalization and interpretation of such concepts as necessity, entailment, consistency, completeness, negation, and a wide range of propositional attitudes.
3 sem. hrs.

***PHL 642. EPISTEMOLOGY:** An examination of recent developments in the theory of knowledge in Anglo-American philosophy, with emphasis on alternative theories of cognitive justification, scepticism, and the 'justified true belief analysis' of knowledge. *3 sem. hrs.*

PHL 643. METAPHYSICS: A detailed analysis of some central metaphysical concepts such as identity and personal identity, causality and necessity, freedom and determinism. Topics can vary but will include an examination of the concept of metaphysics itself. *3 sem. hrs.*

PHL 644. PHILOSOPHY OF SCIENCE: An examination of selected methodological issues in either the physical or social sciences, with emphasis on the following: explanation; confirmation; theory and concept formation; observation and the problem of objectivity. *3 sem. hrs.*

PERSONS AND VALUES

PHL 651. PHILOSOPHY OF THE PERSON: An investigation into the nature of human beings as described in those contemporary models that do not exclusively concentrate on the cognitive abilities or features of the human being. Such issues as freedom, motivation, action, consciousness, intentionality, and interpersonal relations will be examined philosophically. *3 sem. hrs.*

***PHL 652. ETHICS:** A critical review and evaluation of ethical and metaethical theories since G. E. Moore. *3 sem. hrs.*

PHL 653. AESTHETICS: A critical examination of important concepts as well as problems and theories in the philosophy of art. *3 sem. hr.*

PHL 654. PHILOSOPHY OF RELIGION: A study of the nature of religion and a critical evaluation of the issues related to religious language and the concept and existence of God. *3 sem. hrs.*

PHL 655. SOCIAL AND POLITICAL PHILOSOPHY: A critical philosophic examination of major social and political philosophies as well as the central concepts in social and political philosophy. *3 sem. hrs.*

PHL 656. PHILOSOPHY OF LAW: A study of legal norms and values in legal reasoning with clarification of core concepts of a legal system such as responsibility, defenses, fault, and equity and of the major styles of legal theory such as natural law and positive law. Different patterns of legal decision-making, e.g., criminal, civil, and constitutional will be stressed. *3 sem. hrs.*

PHL 657. MORALITY, SOCIAL ETHICS, AND LAW: A philosophic study of certain important moral, social, and religious values such as equality, order, liberty, life, property, rights, justice, respect, and charity especially in the context of legislative, judicial, and inter-institutional decision-making. *3 sem. hrs.*

SPECIAL COURSES

PHL 690. SEMINAR: Topics, authors, and/or problems in philosophy selected by the professor. *3 sem. hrs.*

PHL 695. DIRECTED STUDIES: To augment the graduate student's previous training or to allow advanced study on a particular problem, philosopher, or historical era. Arrange through the chairman. *3 sem. hrs.*

PHL 698. TEACHING APPRENTICESHIP IN PHILOSOPHY: Participation each term as a teaching apprentice to faculty and in the direct teaching of lower-level undergraduate philosophy courses. Required of and open only to graduate philosophy assistants. *1 sem. hr.*

PHL 699. THESIS. *3-6 sem. hrs.*

PHYSICS (PHY)

James R. Schneider, Chairperson of the Department

The Master of Science program in the Department of Physics seeks to provide the student with a thorough understanding and appreciation of the discipline. Advanced study in physics may be used to develop competence for involvement in research and development programs in industry and government, to enrich the background for teaching physics on the junior college or secondary school level, or to prepare for advanced degree (PhD) academic programs.

ADMISSION REQUIREMENTS

Applicants will be admitted to advanced study in physics if the graduate admission committee of the department determines they are qualified for the degree program. A series of examinations covering basic physics subjects on the intermediate level are available to candidates entering the program. These assist the student and the department to choose the courses appropriate to the student's needs. The applicant will be required to make up any deficiencies which the department deems necessary to attain the level of the graduate course. In general, a properly prepared student should have the following background:

1. Physics courses which are approximately the equivalent of the following University of Dayton courses:

PHY 303 Intermediate Mechanics

PHY 408 Intermediate Electricity and Magnetism

PHY 301 Thermodynamics

PHY 390 Introduction to Quantum Mechanics

2. Mathematics through differential equations and preferably advanced calculus.
3. Additional upper-level undergraduate physics courses relating to the area of the student's interest, such as electronics, optics, solid state, or atomic and nuclear physics.

PROGRAM REQUIREMENTS

The formal requirement for the degree is 30 semester hours of course work properly distributed. Eighteen of these must be graduate physics courses. No foreign language competency is necessary for the Master of Science with a major in Physics. Each program, tailored to the student's own interests and career plans, is determined after consultation between the student and the advisory committee in accord with the following guidelines:

1. A core sequence is required of all degree students:

Semester Hours

PHY 511	Classical Mechanics	3
PHY 515	Statistical Mechanics.....	3
PHY 523	Electromagnetic Theory I	3
PHY 525	Quantum Mechanics I.....	3

2. An area of concentration is accomplished through special topic courses and involvement in the current research activities of the faculty and staff of the Department of Physics. These activities include experimental and theoretical solid state physics with emphasis on optical, electrical, and magnetic properties of material, laser interactions with materials, semiconductors, optical spectroscopy, surface phenomena, resonance studies, and environmental applications of physics.

3. By the end of the first term, students are expected to be sufficiently familiar with computer programming to solve basic problems in physics using the computer. This requirement can be fulfilled on an *ad hoc* basis or by taking a formal programming course.

4. Courses in such related disciplines as mathematics, chemistry, and engineering may be chosen up to a maximum of 12 semester hours with the approval of the chairman of the department.

5. A maximum of six semester hours of graduate credit may be granted for advanced undergraduate courses (300-400 level) with the approval of the graduate committee of the department.

NOTE: Courses for which undergraduate credit has been allowed may not be repeated for graduate credit.

6. The master's thesis is recommended for those students who have no comparable experience. An oral examination before a committee designated by the chairman of the department must be passed before credit can be given. A maximum of six semester hours towards a degree can be given for thesis work.

COURSES OF INSTRUCTION

PHY 505. MODERN PHYSICS FOR ENGINEERS: Special topics in atomic physics, the solid state, and nuclear physics; elementary quantum mechanics and application to the free particle and the one-electron atom; to some extent, X-rays, elementary particles, and cosmic rays. 3 sem. hrs.

PHY 511. CLASSICAL MECHANICS: Analytical dynamics; variational techniques, Hamilton's Principle; the Lagrangian, the Hamiltonian, Hamilton-Jacobi and Poisson Bracket formulations of mechanics; Galilean and Lorentz invariance; and relativistic dynamics. Prerequisite: PHY 303-403 or equivalent. 3 sem. hrs.

PHY 512. CLASSICAL THEORY OF FIELDS: Hamilton's Principle extended to fields; Lagrangian formulation used to obtain conservation laws, symmetry and invariance principles; the Klein-Gordon, Maxwell, and Dirac equations cited as examples of scalar, vector, and spinor fields; interacting fields and radiative solutions. Prerequisite: PHY 511 or consent of instructor. 3 sem. hrs.

PHY 515. STATISTICAL MECHANICS: Basic assumptions; statistics of independent particles; the Maxwell Boltzman distribution; Fermi-Dirac, Bose-Einstein statistics; applications of distribution laws. 3 sem. hrs.

PHY 518. THEORETICAL PHYSICS I: Topics can include calculation techniques in modern physics, complex variable theory, dispersion relations, linear vector spaces, operators, matrix mechanics, eigenvalue equations. Prerequisites: MTH 403-404 or consent of instructor. 3 sem. hrs.

PHY 519. THEORETICAL PHYSICS II: Topics can include orthogonal functions, Dirac delta function, Laplace's equation, Poisson's equation, D'Alembert's equation, transformation theorems, Green's function, group theory. Prerequisite: PHY 525 or consent of instructor.
3 sem. hrs.

PHY 520. ADVANCED SOLID STATE PHYSICS: Crystal structure, thermal properties of solids; insulators; band theory of solids; semi-conductors; luminescence. Prerequisite: PHY 525 or consent of instructor.
3 sem. hrs.

PHY 521. ADVANCED NUCLEAR PHYSICS: Basic properties of the nucleus; the deuteron; nuclear binding energies; scattering; nuclear forces; high energy particles. Prerequisite: PHY 525 or consent of instructor.
3 sem. hrs.

PHY 523. ADVANCED ELECTRICITY AND MAGNETISM I: The boundary value problems of electrostatics and magnetostatics in material media; conservation laws; existence and nature of electromagnetic radiation derived from Maxwell's equations.
3 sem. hrs.

PHY 524. ADVANCED ELECTRICITY AND MAGNETISM II: Radiating systems, interference and diffraction; wave guides and resonant cavities; Cherenkov radiation, bremsstrahlung, and multipole fields; special applications of electromagnetic theory. Prerequisite: PHY 523.
3 sem. hrs.

PHY 525. QUANTUM MECHANICS I: The physical basis of quantum mechanics, wave packets, free particle motion: Schrodinger's equation applied to potential problems; harmonic oscillator and the hydrogen atom; three-dimensional extrapolation and scattering.
3 sem. hrs.

PHY 526. QUANTUM MECHANICS II: Linear vector spaces and spin; time dependent and time independent perturbation theory; development of the formal theory of scattering; discussion of the importance of symmetries and rotations. Prerequisite: PHY 525.
3 sem. hrs.

PHY 531. ADVANCED GRADUATE LABORATORY: Advanced experiments in classical mechanics, electricity, magnetism, and atomic, nuclear, and solid state physics. Prerequisite: Approval of graduate advisor.
3 sem. hrs.

PHY 540. INTRODUCTION TO POLYMER SCIENCE: An introduction to polymers. A largely nonmathematical survey of the field. Prerequisites: college chemistry and calculus.
3 sem. hrs.

PHY 541. PHYSICAL PROPERTIES OF POLYMERS: An intensive discussion of the interrelations between molecular and gross physical properties of polymers. Prerequisites: PHY 540 or equivalent, background in differential equations.
3 sem. hrs.

PHY 590. GRADUATE THESIS: A research problem in a selected topic of physics resulting in a written thesis.
0-6 sem. hrs.

PHY 595. GRADUATE SEMINAR: Weekly seminars presented by graduate students, faculty, and guest lecturers on current topics.
No credit.

PHY 599. SPECIAL PROBLEMS IN (NAMED AREA): Lecture, seminar, laboratory, or library work in designated areas of topical interest in physics. May be taken more than once.
1-3 sem. hrs.

POLITICAL SCIENCE (POL)

Gerald E. Kerns, Chairperson of the Department

Frederick R. Inscho, Director of the Master of Public Administration Program

The Department of Political Science offers three graduate programs; each one is designed to accomplish a particular objective.

The Master of Arts with a major in Political Science is primarily an academic degree leading toward increased knowledge of the political process, teaching, or advanced study. For this preparation, the department stresses thorough knowledge of a few of the subareas of political science rather than attempting a superficial acquaintance with all of them.

The Master of Arts with a major in Political Science and a specific concentration in International Affairs. This special program is intended to be a general degree in international affairs for people with interests in government or military service, international business or personal satisfaction.

The Master of Public Administration is a professional degree which is designed to prepare students for administrative careers in contemporary society.

MASTER OF ARTS

POLITICAL SCIENCE PROGRAM

ADMISSION REQUIREMENTS

For admission to the program leading to the Master of Arts the department requires the following:

1. Baccalaureate degree from an accredited college or university.
2. Undergraduate concentration in one of the fields of the social sciences.
3. Sufficient academic preparation and experiences that would indicate the student's ability to pursue graduate studies.
4. Candidates who have earned their degree in a pass-fail grading system must supply the department with their scores in the general section of the GRE.

NOTE: If the candidate's concentration has been outside of the social science areas, or deficiencies in academic records are indicated, the department may admit the student *conditionally* or require additional work. Courses considered prerequisite by the department may not later be included within the candidate's graduate program. In all cases, the standard University requirements of 2.5 will apply.

DEGREE REQUIREMENTS

After consultation with the graduate advisor and in accordance with the student's long range academic objectives, a candidate for the Master of Arts must complete the following requirements:

1. Thirty semester hours consisting of 18 semester hours of required courses and 12 semester hours of electives.

*Semester Hours**Required Courses (18 semester hours)*

POL 501	Scope and Methods of Political Science.	3
POL 502	Colloquium in American Politics	3
POL 503	Colloquium in Comparative Politics	3
POL 514	Development of Political Theory	3
POL 590	Research Seminar in Political Science	3
POL 597	Research Project	3

Electives (12 semester hours)

These must be selected from elective graduate courses in political science, 400-level undergraduate courses in political science, and / or graduate courses in cognate fields.

2. Oral defense of the research paper before students and faculty of the department at the completion of 30 semester hours of course work.

3. Students must achieve a minimum B (3.0) cumulative average in all courses. Their progress will be evaluated at the completion of 12 semester hours of credit. They must have a minimum of B average to obtain the degree.

Curriculum*General Courses*

POL 501	Scope and Methods of Political Science
POL 567	Independent Study in Political Science
POL 590	Research Seminar in Political Science
POL 597	Research Project

American Political Processes

POL 502	Colloquium in American Politics
POL 521	Intergovernmental Relations
POL 545	Urban Politics and Policy
POL 546	Seminar: Public Opinion and Political Behavior
POL 557	Seminar: State Government and Politics
POL 579	Selected Topics in Public Policy

Comparative Politics

POL 503	Colloquium in Comparative Politics
POL 522	Seminar in Asian Politics
POL 529	Seminar in European Politics
POL 583	Comparative Public Policy

Political Theory and Public Law

POL 514	Development of Political Theory
POL 569	Seminar: Selected Topics in Political Theory
POL 571	Seminar: Judicial and Constitutional Politics

MASTER OF ARTS CONCENTRATION IN INTERNATIONAL AFFAIRS

DEGREE REQUIREMENTS

Thirty-six semester hours of course work including:

- POL 503 Colloquium in Comparative Politics
- POL 515 International Relations
- ECO 510 International Economics
- POL 590 Research Seminar

While there is no formal language requirement for the degree, it should be recognized that proficiency in at least one modern foreign language is highly desirable for anyone in international affairs.

Candidates should structure their programs around courses in the two major areas offered in consultation with their faculty adviser, and must satisfactorily complete a research seminar in one of those areas. The major areas offered for the degree are:

International Relations

Comparative Politics and Modernization

Students must achieve a minimum B (3.0) cumulative average in all courses. Their progress will be evaluated at the completion of 12 semester hours of credit.

Curriculum

International Relations

- POL 515 International Relations
- POL 516 Comparative Foreign Policy Analysis
- POL 517 American Foreign Policy
- POL 518 United States National Security Policy
- POL 406 International Law and Organization
- HST 580 American Diplomatic History
- HST 549 The Cold War
- ECO 510 International Economics
- POL 576 Independent Study
- POL 590 Research Seminar

Comparative Politics and Modernization

- POL 503 Colloquium in Comparative Politics
- POL 520 Soviet Politics
- POL 522 Seminar in Asian Politics
- POL 523 Latin America Politics
- POL 525 Politics in the Middle East
- POL 529 Seminar in European Politics
- POL 554 Development Administration
- POL 457 Political Change in the Third World
- POL 569 Seminar in Political Theory:
Theory and Practice of Communism
- POL 583 Comparative Public Policy
- POL 576 Independent Study
- POL 590 Research Seminar

MASTER OF PUBLIC ADMINISTRATION

ADMISSION REQUIREMENTS

1. Baccalaureate degree from an accredited college or university.
2. Cumulative grade point average of 2.7 in a 4.0 grading system, or a combined score of at least 1000 on the verbal and quantitative sections of the Graduate Record Examination. Those with lower averages and GRE scores may be considered for acceptance on a conditional basis. In such cases particular attention will be given to the information requested in admissions requirements 4 and 5.
3. Students applying from schools operating on a Pass-Fail grading system are required to submit scores from the verbal and quantitative sections of the GRE. Other applicants are encouraged to submit GRE scores as additional evidence of their competence to do graduate work.
4. Consideration will also be given the following:
 - a. At least three letters of recommendation from individuals in a position to judge the applicant's capacity for graduate work. Persons who have graduated from college within the past five years are requested to submit at least one letter from a former professor.
 - b. The applicant's work experience and statement of career objectives.
 - c. The applicant's undergraduate academic preparation and achievements in disciplines related to the public service.
5. Applicants may be required to submit additional information when the Departmental Graduate Committee feels that such information is necessary.

DEGREE REQUIREMENTS

1. To receive the degree of Master of Public Administration, the student must satisfactorily complete thirty-six semester hours of course work with a cumulative grade point average of 3.0 or better.
 - a. The thirty-six hours of course work must include POL 510, POL 581, POL 511 and at least one course under the heading Environment of Public Administration. The required courses may be waived for students with appropriate academic backgrounds.
 - b. The remainder of the thirty-six hours must consist of courses selected from the M.P.A. curriculum. Exceptions will be made by the program director in case the student's interests and career objectives make other courses particularly useful. No more than six semester hours of courses outside the M.P.A. curriculum may be taken at the 400 level.
2. Within the general requirements of a and b above, the student may select one of three options:
 - a. The student may take 30 semester hours of academic courses and 6 hours of POL 595, Internship. A student taking this option is encouraged to begin his/her internship only after completing 18 credit hours of other courses and successfully passing the certifying examination.

- b. The student under certain conditions may take 30 hours of academic course work and 6 hours of POL 596, Public Service Project. This option is available only to students employed in administrative positions in public or quasi-public agencies other than internship positions. Students are encouraged to enroll in POL 596 only after completing 18 hours of other courses, and successfully passing the Certifying Examination.
 - c. The student may take his/her full 36 semester hours in regular academic courses. Students selecting this option are encouraged to complete at least three hours of POL 578, Independent Study in Public Administration.
3. Upon the completion of 18 semester hours of course work, including credit hours transferred from other schools or programs, each student must apply to the Director of the M.P.A. Program for a written certifying examination.

The examining committee will explore each student's (a) performance in the program to date, (b) strengths and weaknesses in mastering the discipline of public administration, and (c) potential for a career in the public service.

During the course of the examination, the following characteristics of the student will be evaluated specifically:

- a. Knowledge of factual matter important for a career in public administration.
- b. Skills in interpersonal relationships, problem analysis, and oral and written communication.
- c. Ability to deal with key concepts and to interrelate subject matters.

The examining committee will consist of faculty members from the University of Dayton. The committee will take one of three actions:

- a. Certify the student for further course work without restriction.
- b. Certify the student for further course work with restrictions.
- c. Require that the student be re-examined. No more than one re-examination per student may be given. Failure to pass the re-examination will result in removal from the program.

Curriculum

Administration and Management

POL 510	Public Administration
POL 535	Fiscal Administration
POL 576	Public Personnel Administration
POL 595	Government Internship
POL 596	Public Service Project
MBA 501	Managerial Accounting
POL 544	Managing for Smaller

Analytic Tools and Policy Analysis

POL 511	Quantitative Methods in Public Administration I
POL 512	Quantitative Methods in Public Administration II
ENM 551	Policy Analysis and Planning in Public Systems I
POL 579	Selected Topics in Public Policy
POL 584	Introduction to Public Policy
POL 552	Government Planning

Internal/Group/and Organizational Dynamics of Public Administration

- POL 581 Organization Theory
- POL 505 Politics of Bureaucratic Regulation
- COM 517 Organizational Communications
- COM 537 Conflict Resolution through Communication
- MBA 587 Organizational Behavior
- MBA 541 Labor Relations and Labor Economics

Environment of Public Administration

- POL 545 Urban Politics and Policy
- POL 555 Urban Administration
- POL 572 Administrative Law
- POL 521 Intergovernmental Relations
- POL 583 Comparative Public Policy
- POL 554 Development Administration
- POL 585 Ethics and Public Policy

Other Courses

- POL 540 Seminar in Public Administration
- POL 578 Independent Study in Public Administration

COURSES OF INSTRUCTION

Graduate students in Political Science and Public Administration may take no more than two 400-level courses for graduate credit, with the permission of the Chairman of the appropriate Graduate Committee. Undergraduate courses specified as a condition for admittance to the graduate program do not count as graduate credit.

POL 501. SCOPE AND METHODS OF POLITICAL SCIENCE: Analysis of theoretical approaches to the study of politics and the techniques and methodologies currently employed in political science research. 3 sem. hrs.

POL 502. COLLOQUIUM IN AMERICAN POLITICS: An examination of the various theoretical and empirical approaches developed in the study of American politics. Special consideration will be given to the works considered critical in the formation of a scientific study of American political life. 3 sem. hrs.

POL 503. COLLOQUIUM IN COMPARATIVE POLITICS: An examination of various theoretical and empirical approaches in the study of comparative politics and political development with special emphasis on cross-national comparison and the use of aggregate data in comparative analysis. 3 sem. hrs.

POL 504. LEGISLATIVE POLITICS: An examination of the actors, interactions and processes which shape public policy in the legislative arena. This course may be conjointly offered with POL 414. In such cases, the graduate requirements will be distinct from undergraduate requirements. 3 sem. hrs.

POL 505. THE POLITICS OF BUREAUCRACY AND REGULATION: Examination of the nature and meaning of bureaucracy in contemporary American society and the devices for its evaluation and control. This course may be conjointly offered with POL 413. In such cases, the graduate requirements will be distinct from undergraduate requirements. 3 sem. hrs.

POL 510. PUBLIC ADMINISTRATION: Study of the administrative organization, systems, processes, and methods as applied to governmental programs and operations, with a comparison of structural and behavioral approaches. 3 sem. hrs.

POL 511. QUANTITATIVE METHODS IN PUBLIC ADMINISTRATION I: Introduction to research techniques involving quantitative methods and analyses applicable to the formulation and implementation of public programs. Emphasis on basic statistics and research methodology. Aimed at an understanding of appropriate application and interpretation of quantitative methods, rather than competence in practical or scholarly use. 3 sem. hrs.

POL 512. QUANTITATIVE METHODS IN PUBLIC ADMINISTRATION II: Continuation of POL 511 with emphasis on application of analytic techniques to specific public management problems. Cost-benefit analysis and public sector applications of operations research will be emphasized. 3 sem. hrs.

POL 514. DEVELOPMENT OF POLITICAL THEORY: Study of the Western political heritage as fashioned by the great Western political thinkers from Plato through Marx and Lenin. 3 sem. hrs.

POL 515. INTERNATIONAL RELATIONS: Analysis of selected theories and approaches in the study of international relations, with particular emphasis on the nature of power and the sources of transformation in the contemporary international system. 3 sem. hrs.

POL 516. COMPARATIVE FOREIGN POLICY ANALYSIS: Systematic analysis of the internal and external factors shaping the foreign policies of selected states and of current models of foreign policy decision-making. Special emphasis will be placed on comparison of Soviet and American policy.

POL 517. AMERICAN FOREIGN POLICY: Study and analysis of the factors, both internal and external, which have shaped American foreign policy in the post World War II period, the major instruments of policy and their effectiveness, and the impact of changes since 1970. 3 sem. hrs.

POL 518. UNITED STATES NATIONAL SECURITY POLICY: Analysis of United States global security policies and defense strategies with attention to continuities and changes in doctrines, commitments, perceptions of the Soviet threat, and the impact of technology. 3 sem. hrs.

POL 520. SOVIET POLITICS: The nature of the Soviet state, its economic system, the role of the Communist party and the influence of Marxist-Leninist ideology will be examined along with contemporary problems and political dynamics. 3 sem. hrs.

POL 521. INTERGOVERNMENTAL RELATIONS: Study of the interaction process of various levels of government in the United States, including problems of federalism, inter-state cooperation, and federal-urban relations. 3 sem. hrs.

POL 522. SEMINAR IN ASIAN POLITICS: Systematic analysis of the political structures and processes of two or more countries in the Far East and two or more in Southeast Asia, with emphasis on their capabilities to maintain political stability. May be repeated once when focus changes. 3 sem. hrs.

POL 523. LATIN AMERICAN POLITICS: Systematic analysis of the political, economic, and social structures and forces shaping politics in selected Latin American countries. 3 sem. hrs.

POL 525. POLITICS IN THE MIDDLE EAST. Analysis of major political and social forces, such as religious and nationalism, that shape the contemporary Middle Eastern states. 3 sem. hrs.

POL 529. SEMINAR IN EUROPEAN POLITICS: Systematic analysis of the political structures and processes of two or more countries in Western Europe and two or more in the Soviet Union and Eastern Europe, with emphasis on selected contemporary political, economic, and social problems. May be repeated once when focus changes. 3 sem. hrs.

POL 535. FISCAL ADMINISTRATION: Study of governmental expenditures and revenues, budgetary and financial reporting, fiscal policy, and other areas of fiscal management, with emphasis on current practices and problems. 3 sem. hrs.

POL 540. SEMINAR IN PUBLIC ADMINISTRATION: Seminar on selected problems in public administration. May be repeated once when topic changes. 3 sem. hrs.

POL 544. MANAGING FOR SMALLER: An examination of the concept of public management under conditions of declining resources. Analysis of the root causes of urban decline and the problems associated with it. Exploration of non-traditional approaches to local governance in declining areas. 3 sem. hrs.

POL 545. URBAN POLITICS AND POLICY: A study of the political processes and governmental structures in urban areas with emphasis on the relations among governmental units, community power structure, and the formulation and execution of public policy. 3 sem. hrs.

POL 546. SEMINAR: PUBLIC OPINION AND POLITICAL BEHAVIOR: Study of conventional and unconventional modes of political behavior; attitudes, opinions, and beliefs which are useful in explaining political behavior. Emphasis on the political socialization of children and post-adolescents and on political information processing. 3 sem. hrs.

POL 552. GOVERNMENT PLANNING: Consideration of the planning function in the administrative process and the role of planning agencies in decision making and problem solving. Evaluation of trends and changing characteristics of planning in the United States. 3 sem. hrs.

POL 554. DEVELOPMENT ADMINISTRATION: Analysis of the development functions of public administration in selected countries. Focus will be on the administration of development programs as well as on the development of administrative capabilities in the Third World Countries. 3 sem. hrs.

POL 555. URBAN ADMINISTRATION: Study of the structures, processes, programs, policies, and problems of administrative agencies of local governments, with particular emphasis on metropolitan areas. 3 sem. hrs.

POL 557. SEMINAR: STATE GOVERNMENT AND POLITICS: A comparative study of the political institutions and processes of state governments in the United States, with emphasis on current issues. 3 sem. hrs.

POL 567. INDEPENDENT STUDY IN POLITICAL SCIENCE: Reading and research on special topics in political science under the direction of a faculty member. Research paper. May be repeated once when topic changes. 1-3 sem. hrs.

POL 569. SEMINAR: SELECTED TOPICS IN POLITICAL THEORY: An examination of selected issues or writers in political thought. Examples of topics: political concepts of authority, freedom, contemporary political theorists, modern ideologies. May be repeated once when the content changes. 3 sem. hrs.

POL 571. SEMINAR: JUDICIAL AND CONSTITUTIONAL POLITICS: Special topics, including aspects of the judicial process such as the actors within it (lawyers, juries, judges, prosecutors, police, etc.) and judicial policy making, its substance, the underlying philosophy, and the values, attitudes, prejudices, and behavior of its makers. May be repeated once when content changes. 3 sem. hrs.

POL 572. ADMINISTRATIVE LAW: Study of the judicial functions and activities of federal agencies; formal and informal processes in administrative hearings; basic principles of administrative law; judicial interpretation; the question of increased judicialization of the administrative process. *3 sem. hrs.*

POL 576. PUBLIC PERSONNEL ADMINISTRATION: Survey of the development of personnel administration in the federal government and some state and municipal governments, focusing on such questions as selection, training, and labor relations. *3 sem. hrs.*

POL 578. INDEPENDENT STUDY IN PUBLIC ADMINISTRATION: Intensive independent research under the direction of a faculty member. Research paper. May be repeated once when topic changes. *1-3 sem. hrs.*

POL 579. SELECTED TOPICS IN PUBLIC POLICY: Policy process, policy outcomes, and policy impact in an area or areas of public policy varying among such topics as transportation, education, welfare, national defense, science, civil rights, and urban and community development. May be repeated once when topic changes. *3 sem. hrs.*

POL 581. ORGANIZATION THEORY: Survey of current literature and research on the theory of complex organizations. Rationality in decision-making; problems of authority; behavioral, political, and technical influences on organizations. *3 sem. hrs.*

POL 583. COMPARATIVE PUBLIC POLICY: Study of the applicability and limitations of current approaches in public policy analysis for cross-national and / or cross-cultural comparison. Emphasis on the analysis of how such public policy issues as defense, welfare, education, and economic development are determined by select political systems in the developed and developing world. *3 sem. hrs.*

POL 584. INTRODUCTION TO PUBLIC POLICY: This course is designed to introduce students to the study of public policy and public policymaking. The central concerns of the course involve competing models of the policy process, the policymaking process in the United States, the interplay between the political and economic systems in policymaking, and the processes of policy analysis and policy evaluation. *3 sem. hrs.*

POL 585. ETHICS AND PUBLIC POLICY: An in-depth appraisal of moral principles, e.g. the principle of utility, double effect and Kant's principle of humanity; and their applicability to the policy arena and their application to select public policy issues, e.g., welfare, future generations, human rights, and foreign policy. *3 sem. hrs.*

POL 590. RESEARCH SEMINAR IN POLITICAL SCIENCE: Directed research on a selected topic in American or comparative politics which requires the application of a specific approach, generation and analysis of data which would result in a major research paper. *3 sem. hrs.*

POL 595. GOVERNMENT INTERNSHIP: Assignment to appropriate government agencies or units for the purpose of gaining wide experience with the administrative system through a rotating program of work experiences. *3-6 sem. hrs.*

POL. 596 PUBLIC SERVICE PROJECT. For students currently employed in administrative positions in public or quasi-public agencies. Completion of a written project relating theories and information from the field of public administration to the student's work experience and career objectives. *3-6 sem. hrs.*

POL 597. RESEARCH PROJECT: Required of all MA students. Completion of the research paper begun in POL 590; evaluation of the substance, methodology, and findings of the paper by the professor; and presentation of the paper before students and faculty of the Political Science Department. *3 sem. hrs.*

PSYCHOLOGY (PSY)

Kenneth J. Kuntz, Chairperson of the Department

The Department of Psychology offers five Master of Arts programs:

Clinical Psychology
Developmental Psychology
Experimental Human Factors Psychology
General Psychology
Social Psychology

In all programs emphasis is on integrating theory and literature with appropriate applied experience and on competence in the development of relevant and original research. This is the product of individual supervision and a low student-to-faculty ratio. The aim of the department is to prepare the student for further graduate work at the PhD level and / or for functioning at the MA level of specialization in an applied / community setting or through teaching and research.

ADMISSION REQUIREMENTS AND PROCEDURE

Under normal circumstances a grade point average of 3.0 or better (based on a 4.0 system) is required for admission to the graduate program. In addition, a minimum of 3.0 average in undergraduate course work in psychology is required.

It is expected that the applicant will have completed the requirements of a four-year undergraduate college, usually in liberal arts or science, including a minimum of 15 semester hours in psychology. These psychology courses must include a course in introductory statistics, a course in experimental psychology or research design or the equivalent, and six semester hours in upper-level psychology courses. For students in clinical psychology, one of these courses should be Theories of Personality and Psychotherapy.

Students without psychology preparation may be admitted to the Experimental-Human Factors Psychology program on a conditional basis. Regular admission will follow contingent upon the completion of undergraduate work specified by the admissions committee. Students are urged to contact the Program Director if they are considering this option.

Acceptance within a specific program is competitive, based upon the strength of the student's application and the number of positions available.

Applications

Application forms may be obtained from the Office for Graduate Studies at the University of Dayton to which all correspondence concerning the completion of the application should be directed. For the Fall term the application deadline is March 15th. Applications after this deadline will be accepted but will not be reviewed in the original screening of applicants. For information about application for the Spring and Summer terms contact the chairperson of the Department of Psychology.

Inquiries concerning the master's program, its curriculum, and the Department of Psychology should be directed to Prof. Kenneth J. Kuntz, Chairperson, Department of Psychology, University of Dayton, Dayton, Ohio 45469. It is the applicant's responsibility to supply the following information necessary for a completed application:

1. The completed application form.
2. Official transcript(s) of all undergraduate schooling (and graduate schooling where appropriate).
3. At least three letters of recommendation (at least two of these should be from professors familiar with the student's academic work).
4. Scores on the Graduate Record Examination (both aptitude and advanced psychology scores are required).
5. The Miller's Analogies Test score (MAT) is optional.
6. A summary of undergraduate grade point averages.

Under unusual circumstances the chairperson of the department may waive one or more of the application requirements.

Student Status

Each student admitted to the graduate program is placed in one of the following categories:

1. Regular standing: Students meeting the entrance requirements of the department.
2. Conditional standing: Students considered probationary pending the successful completion of 9 to 15 semester hours of graduate work or other requirements as determined by the department.
3. Unclassified standing: Students enrolled in graduate courses of the department who are not working toward a degree. Normally a student is not permitted to enroll for more than 15 semester hours of credit under this status.

MASTER PROGRAM REQUIREMENTS

All students enrolled in any of the five programs leading to the Master of Arts with a major in Psychology are subject to the following general requirements of the Department of Psychology. Full time students normally complete program requirements in four semesters:

1. The number of semester hours and required courses are specified by the individual programs described below.
2. Demonstration of continuing progress toward the degree which requires that students maintain a minimum average of B (3.0) in course work with no more

than two grades of C permitted. Students who fail to meet these requirements are either placed on academic probation or dismissed from the program.

3. No more than six semester hours of 400 level courses may apply toward the Master's degree, and normally no more than six semester hours of graduate work approved by the chairman may be transferred from other institutions.

4. Attendance at regularly scheduled extra-course seminars on selected issues in psychology and at occasional specialized programs.

5. Thesis dealing with an approved research problem, incorporating an appropriate review of theory and literature, and demonstrating originality and competence in the application of research methodology.

6. It is the student's responsibility to know and to meet the requirements of his / her program.

Breadth Requirement

All students in the graduate program of the department of psychology are required to fulfill a breadth requirement by successfully completing courses outside their major area of concentration. This requirement is designed to give the student a broad view of the discipline of psychology and is in lieu of a comprehensive examination. The breadth requirement is stated under the detailed requirements for each of the department's five graduate programs. The following courses normally fulfill the breadth requirements for each area. Exceptions must be requested by petition to the department.

Clinical Psychology:

PSY 553 Theories and Research in Psychopathology

PSY 555 Theories of Personality and Psychotherapy

Therapy and assessment courses by permission of the instructor.

Developmental Psychology:

PSY 571 Experimental Child Psychology

PSY 572 Perceptual and Attentional Development

PSY 573 Developmental Psychology

PSY 574 Cognitive Development in Children

Experimental Human Factors Psychology:

PSY 522 Advanced Cognitive Psychology

PSY 524 Human Information Processing

PSY 525 Basic Processes in Learning and Memory

PSY 528 Psychophysiology

PSY 529 Perception

Social Psychology:

PSY 585 Experimental Social Psychology

PSY 587 Social Influence and Group Dynamics

PSY 588 Interpersonal Processes

PSY 589 Attitudes.

Clinical Psychology

In addition to a broad academic background and competence in the application of research methodology, the Clinical Psychology Program provides the student with (a) thorough exposure to the areas of personality, psychopathology, and psychotherapy, (b) extensive training in the assessment of intelligence and personality, (c) supervised practice in individual, group, and behavior therapy techniques. Through field experience in various community and clinical settings affiliated with the University, the student can translate classroom learning into practicum experience. The program is designed to prepare the student for competence as an MA-level psychologist or for pursuing a doctoral degree in clinical psychology.

The Master of Arts with a major in Psychology (Clinical) requires 44 semester hours consisting of 40 hours of academic course work, including thesis, and four hours of practicum or clerkship as specified below.

	Semester Hours
Core Requirements	9
PSY 501 Experimental Design and Statistics I	3
PSY 502 Experimental Design and Statistics II	3
PSY 599 Thesis	3
Clinical Requirements	17
PSY 550 Interviewing	1
PSY 551 Assessment of Intelligence	3
PSY 553 Theories and Research in Psychopathology	3
PSY 555 Theories of Persoanlity and Psychotherapy	3
PSY 556 Assessment of Personality	3
PSY 569 Clinical Practicum	Total of 4
Clinical Electives	6
Select six credit hours from among the following courses*:	
PSY 558 Group Psychotherapy	3
PSY 560 Childhood Psychopathology and Psychotherapy	3
PSY 562 Behavior Therapy — Theory and Practice	3
PSY 564 Individual Psychotherapy	3
PSY 566 Family and Marriage Therapy	3
Free Electives	6
Breadth Requirement	6
Select three credit hours each from any two of the following areas: Developmental, Experimental-Human Factors, Social. Courses which fulfill this requirement are listed above.	

Total Credit Hours 44

*Special topic courses approved by the Clinical Program Committee may apply as clinical electives.

Developmental Psychology

The graduate program in developmental psychology offers the student intensive preparation for a profession in teaching and / or research. The aim of the program is to provide a broad background of knowledge of psychology, in general, and developmental psychology, in particular, in addition to cultivating research competence for the investigation of developmental processes. Toward these ends, the program consists of (1) a core curriculum of courses (2) opportunities for collaborative research with a faculty member in the student's second term (see the Department of Psychology's *Invitation to Graduate Study* for specific faculty research interests), followed by original research leading to the thesis. Emphasis is on the study of the development of perceptual, attentional, and cognitive processes in children as revealed by changes in learning, memory, problem solving, language, social and emotional behavior. In addition, students may have the opportunity to apply knowledge in these areas in affiliation or research with schools and social agencies.

The Master of Arts with a major in Psychology (Developmental) requires 36 semester hours, including thesis, as specified below.

	<i>Semester Hours</i>
Core Requirements.....	9
PSY 501 Experimental Design and Statistics I	3
PSY 502 Experimental Design and Statistics II.....	3
PSY 599 Thesis.....	3
Developmental Requirements.....	12
PSY 571 Experimental Child Psychology	3
PSY 572 Perceptual and Attentional Development	3
PSY 573 Developmental Psychology.....	3
PSY 574 Cognitive Development in Children	3
Free Electives*	6
(PSY 596 Experimental Research is strongly recommended as an elective.)	
Breadth Requirement	6
Select three credit hours each from any two of the following areas: Clinical, Experimental-Human Factors, Social. Courses which fulfill this requirement are listed above.	

Total Credit Hours 36

*PSY 457 TV and its Effects on Children, may also serve as an elective.

Experimental-Human Factors Psychology

The Master's program in Experimental Human Factors Psychology is designed to prepare the student for further graduate study at the PhD level, for teaching, and/or for a career as a research-applied scientist. The curriculum includes an exposure to the basic theoretical issues and quantitative research methodology — including the use of extensive computer facilities and other scientific equipment — associated with perception, cognition, motor skills, memory, thinking/problem solving, psychophysiology, and other human learning processes. Emphasis is on the integration of course work with research. Students have the opportunity to collaborate with faculty members in their current research programs and, where applicable, to observe their research consultation for outside agencies, in addition to receiving perceptorial instruction through supervised original research and classroom teaching.

The Master of Arts with a major in Psychology (Experimental-Human Factors) requires 36 semester hours, including thesis, as specified below.

Semester Hours

Core requirements	9
PSY 501 Experimental Design and Statistics I	3
PSY 502 Experimental Design and Statistics II	3
PSY 599 Thesis	3

Experimental-Human Factors Requirements	9
PSY 535 Human Factors	3
PSY 531 Man-Machine Systems	3
PSY 532 Special Topics in Human Factors	3

Experimental-Human Factors Electives	9
Select one of the following. Selection must be approved by advisor.	
PSY 504 Seminar in Experimental Design and Statistics	3
PSY 505 Computer Application to Behavioral Science	3
PSY 595 Seminar in Special Topics in Psychology	3

Select at least two of the following with approval of advisor.	
PSY 522 Advanced Cognitive Processes	3
PSY 524 Human Information Processing	3
PSY 525 Basic Processes in Learning and Memory	3
PSY 526 History and Systems	3
PSY 528 Psychophysiology	3
PSY 529 Perception	3
PSY 596 Experimental Research	3
Free Electives	3

Breadth Requirement	6
Select three credit hours each from any of the two following areas: Clinical, Developmental, Social. Courses which fulfill this requirement are listed above. (Note: With permission the breadth requirement may be fulfilled in whole or part by selecting approved courses from departments other than psychology).	

General Psychology

For a limited number of students with specific interests and specialized career goals the Master of Arts with a major in General Psychology is offered. Before matriculation, or very early in the student's graduate career, the student and a faculty advisor specify objectives and design a curriculum tailored to the individual student. Courses selected reflect the student's needs and objectives, the overall requirements of the Department of Psychology, and may include courses from other departments of the University.

The Master of Arts with a major in Psychology (General) requires 36 semester hours, including thesis, as specified below.

	<i>Semester Hours</i>
Core Requirements	9
PSY 501 Experimental Design and Statistics I	3
PSY 502 Experimental Design and Statistics II.....	3
PSY 599 Thesis.....	3

General Program Electives..... 15

With the approval of the Chairman of the Department and / or the academic advisor general program electives may be selected from other departments of the University.

A maximum of six credit hours beyond the breadth requirement is normally allowed in any area of concentration.

Breadth Requirement:

Select three credit hours each from the following areas: Clinical, Developmental, Experimental-Human Factors, Social. Courses which fulfill this requirement are listed above.

Total Credit Hours 36

COURSES OF INSTRUCTION

Quantitative Methods

PSY 501. EXPERIMENTAL DESIGN AND STATISTICS I: Study of the logic of the design of experiments in psychology with special emphasis on the use of the analysis of variance. Students will be expected to perform statistical procedures on the computer using canned statistical packages. Prerequisite: Undergraduate statistics. 3 sem. hrs.

PSY 502. EXPERIMENTAL DESIGN AND STATISTICS II: Further study of the logic of the design of experiments in psychology with special emphasis on the use of bivariate correlation and regression, and multiple regression. Students will be expected to perform statistical procedures on the computer using canned statistical packages. Prerequisite: PSY 501. 3 sem. hrs.

PSY 504. SEMINAR IN EXPERIMENTAL DESIGN AND STATISTICS: Study of special topics in design and statistics such as multivariate analysis, nonparametric statistics, program evaluation, and math modeling. The specific topic will vary from one offering to the next. Prerequisite: Permission of instructor. 3 sem. hrs.

Social Psychology

The Master's program in Social Psychology offers the student the opportunity to combine experimental and theoretical knowledge with applied experience. In addition to basic content such as group dynamics, attitudes, and interpersonal attraction, courses are offered in current areas of interest such as community problems and women's studies. Students are encouraged to further their knowledge of social psychology through designing and conducting their own experiments and through work with various community agencies. The aims of the program are to prepare the student for further graduate work at the PhD level and / or for a master's level career in work or consultation with social-community agencies or business and industry.

The Master of Arts with a major in Psychology (Social Psychology) requires 36 semester hours, including thesis, as specified below.

	Semester Hours
Core Requirement	9
PSY 501 Experimental Design and Statistics I	3
PSY 502 Experimental Design and Statistics II	3
PSY 599 Thesis	3

Social Requirements:

PSY 585 Experimental Social Psychology	3
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Social Electives	9
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Select nine credit hours from among the following:

PSY 586 Applied Social Psychology	3
PSY 587 Social Influence and Group Dynamics	3
PSY 588 Interpersonal Processes	3
PSY 589 Attitudes	3

Free Electives	9
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Breadth Requirement:	6
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Select three credit hours each from any two of the following areas: Clinical, Developmental, Experimental-Human Factors. Courses which fulfill this requirement are listed above.

Total Credit Hours 36

PSY 505. COMPUTER APPLICATIONS TO BEHAVIORAL SCIENCE: Consideration of computer languages, systems commands and text editing facilities, available statistical packages, and psychological studies in which the use of the computer was critical to the experimental design. Prerequisite: PSY 501, or permission of instructor. *3 sem. hrs.*

Experimental Psychology

PSY 522. ADVANCED COGNITIVE PROCESSES: Basic research paradigms for the experimental investigation of cognitive processes, with attention to the current information-processing theories of cognition. Topics include selective attention, visual short-term memory, pattern recognition, encoding processes, imagery, search and retrieval processes, theories of human memory, and cerebral dominance. *3 sem. hrs.*

PSY 524. HUMAN INFORMATION PROCESSING: Current psychological and artificial intelligence models of cognition. Topics include coding mechanisms in the central nervous system; simulation of sensory processes and recognition; computer models of human memory; semantic information processing by humans and machine; fast retrieval theories; recent theories of language comprehension and problem solving. *3 sem. hrs.*

PSY 525. BASIC PROCESSES IN LEARNING AND MEMORY: Fundamental paradigms, concepts and findings in learning and memory including reinforcement, insight, serial learning, transfer, short- and long-term memory, recognition, recall, etc. *3 sem. hrs.*

PSY 526. HISTORY AND SYSTEMS: Traces the evolution of psychology since 1890. Emphasis is placed on integrating the various systems and schools of thought within the spectrum of modern psychology. (Also PSY 471.) *3 sem. hrs.*

PSY 528. PSYCHOPHYSIOLOGY: Neurophysiology of attention, sensation, perception, emotion, learning, memory, and motor control. Emphasis on electrophysiological indicants and cybernetical analyses. *3 sem. hrs.*

PSY 529. PERCEPTION: Systematic study of methods and research findings in the field of human perception, with an evaluation of theoretical interpretations. Prerequisites: PSY 501 or permission of instructor. (Also PSY 323.) *3 sem. hrs.*

PSY 531. MAN-MACHINE SYSTEMS: Introduction to man-machine design problems. Treats design process from proposal stage to final testing and evaluation. Emphasis is upon methods and techniques which promote effective communication between man and machine. *3 sem. hrs.*

PSY 532. SPECIAL TOPICS IN HUMAN FACTORS. Wide ranging topics related to human factors psychology are envisioned. For example: human tracking performance, tactical communication, vigilance, motor memory, skill development, visual displays, technical invention, electrophysiological indicants of human performance, etc. May be repeated up to three credit hours. Prerequisite: Graduate standing or permission of the instructor. *1-3 sem. hrs.*

PSY 535. HUMAN FACTORS: An advanced, graduate level introduction to the field of human factors emphasizing the design of machines to meet human needs. Research methodology, human models, and performance within stressful environments emphasized within a man-machine system conceptual framework. Prerequisite: Permission of the instructor. *3 sem. hrs.*

Clinical Psychology

PSY 550. INTERVIEWING: Introduction to the structure and purpose of various clinical interviews. Supervised practice of essential interviewing skills and report writing. *1 sem. hr.*

PSY 551. ASSESSMENT OF INTELLIGENCE: Theoretical rationale and techniques of individual mental testing, with emphasis on the Wechsler Scales and the Stanford-Binet. Major content areas include theories of intelligence, test development and evaluation, clinical interpretation, and current research. *3 sem. hrs.*

PSY 553. THEORIES AND RESEARCH IN PSYCHOPATHOLOGY: Survey of major theories, research evidence, and methodological problems in determining the etiology of the various behavior disorders. Practice in the use of diagnostic classifications. 3 sem. hrs.

PSY 555. THEORIES OF PERSONALITY AND PSYCHOTHERAPY: Survey and critical analysis of the major current theories of personality and psychotherapy integrating their contributions into a diversified, functional, and adaptable approach to therapy. Prerequisite: 553, permission of instructor. 3 sem. hrs.

PSY 556. ASSESSMENT OF PERSONALITY: Variety of approaches to personality assessment as well as the techniques of administration and interpretation of specific instruments. Emphasis is on the MMPI, Rorschach, and TAT. Strategies of test construction and evaluation, ethical issues, and research are discussed. 3 sem. hrs.

PSY 558. GROUP PSYCHOTHERAPY: Survey of theories and techniques of group psychotherapy, including a review of the theoretical and empirical literature, as well as a training group experience. Prerequisite: PSY 555 or permission of instructor. 3 sem. hrs.

PSY 560. CHILDHOOD PSYCHOPATHOLOGY AND PSYCHOTHERAPY: Overview of psychopathology in children, with a major emphasis on individual treatment, parent counseling, and prevention. Prerequisite: PSY 555 or permission of instructor. 3 sem. hrs.

PSY 562. BEHAVIOR THERAPY — THEORY AND PRACTICE: Survey of the various behavior therapy techniques, their theoretical foundations and experimental support. Prerequisite: PSY 555 or permission of instructor. 3 sem. hrs.

PSY 564. INDIVIDUAL PSYCHOTHERAPY: In-depth study of the principles and techniques of dynamic, individual psychotherapy as developed from clinical and empirical findings. Prerequisite: PSY 555 or permission of instructor. 3 sem. hrs.

PSY 566. FAMILY AND MARRIAGE THERAPY: Survey of the major therapeutic approaches to family and marital problems and related research findings. Prerequisite: PSY 555 or permission of instructor. 3 sem. hrs.

PSY 569. CLINICAL PRACTICUM: Experience in interviewing, psychological testing and therapy is acquired through placement in approved mental health agencies. Prerequisite: Clinical standing and concurrent registration in assessment and therapy courses. Clinical students register for one semester hour of practicum each term. To be repeated to four semester hours. 1 sem. hr.

Developmental Psychology

PSY. 457. TELEVISION AND ITS EFFECTS ON CHILDREN: Psychological research on the effects of television on children will be read. The research will be addressed to television's role as a socialization medium, rather than as an entertainment medium. Major emphasis will be placed on analyzing and evaluating the research. Available for graduate credit with permission of instructor. 3 sem. hrs.

PSY 571. EXPERIMENTAL CHILD PSYCHOLOGY: Evaluation of some current theoretical issues in developmental psychology and the experimental methods useful in attempts toward their solution, along with a survey of data from such research. Prerequisite: PSY 351 or equivalent. 3 sem. hrs.

PSY 572. PERCEPTUAL AND ATTENTIONAL DEVELOPMENT: Theory and methodology relating to perceptual and attentional development beginning with birth. Emphasis on visual capacities, influence of variables on perceptual development, individual differences and the effects of early experience on perceptual/cognitive functioning and sensory integration related to reading development. Prerequisite: Graduate standing or permission of instructor. 3 sem. hrs.

PSY 573. DEVELOPMENTAL PSYCHOLOGY: Theory and research on psychological development from birth to adolescence . Major emphasis on topics relating to personality and social development including such topics as: adoption, child abuse, children's rights, attachment, aggression, moral and prosocial behavior and cross-cultural socialization. Prerequisite: Graduate standing or permission of instructor. *3 sem. hrs.*

PSY 574. COGNITIVE DEVELOPMENT IN CHILDREN: Major approaches to the study of cognitive development; attentional and mediational development as demonstrated in children's learning, memory, and problem solving; language development and Piaget's theory. Prerequisite: Graduate standing or permission of instructor (also PSY 452.) *3 sem. hrs.*

Social Psychology

PSY 443. PSYCHOLOGY OF WOMEN: Scholarly approach to current topics, which vary but may include sex role learning, images of women in the mass media, sex differences, and pros and cons of the feminist movement. Open to all interested students, male and female. Available for graduate credit with permission of instructor. *3 sem. hrs.*

PSY 585. EXPERIMENTAL SOCIAL PSYCHOLOGY: Designed to provide information and perspective about such social psychological topics as attitude change, interpersonal attraction, fairness in exchange, attribution, aggression, helping and intrinsic motivation. Prerequisite: Graduate standing. *3 sem. hrs.*

PSY 586. APPLIED SOCIAL PSYCHOLOGY: Application of social psychology in situations encountered in business and governmental agencies will be studied. Emphasis on organizational structure and communication, conflict, equity, and motivation in organizations. Current approaches to problems in social services and industry will be examined. Prerequisite: PSY 585 and permission of instructor. *3 sem. hrs.*

PSY 587. SOCIAL INFLUENCE AND GROUP DYNAMICS: Theory and research in two major areas of social psychology. Specific course content may vary, but probable topics include group problem-solving and decision-making, the classic conformity research, group cohesiveness, communication networks, and group conflict. *3 sem. hrs.*

PSY 588. INTERPERSONAL PROCESSES: Seminar in research in some prominent sub-areas of social psychology. Emphasis on critical skills and research ideas in topics as non-verbal communication, self-indulgence, affiliation and attraction, and equity theory. Prerequisite: PSY 585, permission of instructor. *3 sem. hrs.*

PSY 589. ATTITUDES: Seminar in formation, change and measurement of attitudes. Learning, cognitive consistency, and functional approaches will be critically examined. Practical attitude content areas as political persuasion or sex-role attitudes may be examined. Prerequisite: PSY 585 or permission of instructor. *3 sem. hrs.*

Independent Study and Research

PSY 595. SEMINAR IN SPECIAL TOPICS IN PSYCHOLOGY: Various topics of special interest to faculty and students. An intensive critical evaluation of the appropriate literature. Prerequisite: Graduate standing or permission of instructor. *1-3 sem. hrs.*

PSY 596. EXPERIMENTAL RESEARCH: Individual graduate students explore particular research areas. Under guidance of the instructor, research projects are formulated and conducted. Project reports are required. May be repeated. Prerequisite: permission of instructor. *1-3 sem. hrs.*

PSY 597. READINGS: Designed for individual, student-faculty study in a specialized area of interest. Topic and criteria for evaluation to be specified prior to registration. May be repeated. Prerequisite: permission of instructor. *1-3 sem. hrs.*

PSY 599. THESIS: An original research project incorporating an appropriate review of theory and literature and demonstrating competence in the application of research methodology. Required of all graduate students. *3 sem. hrs.*



RELIGIOUS STUDIES (REL)

Reverend Matthew F. Kohmescher, S.M., Chairperson of the Department
Richard A. Boulet, Director of the Program

The Graduate Department of Religious Studies is an ecumenical community of students and professors engaged in the study, research, and interpretation of religious issues. It considers these issues from the context of the more classical disciplines of the Judaeo-Christian traditions as well as the burgeoning areas of multi-cultural and cross-disciplinary concerns. It offers a Master of Arts individualized to meet each student's need, whether it be for vocational or advanced degree preparation.

The master's program in Theological Studies is conceived as a broad comprehensive approach to the study of religion and theology. Its major concern is to develop in the degree candidate a methodology whereby the student may approach the field from a number of perspectives: the contribution of the biblical sources, the historical development of Western theological thought, especially the Roman Catholic tradition, the comparative study of world religious phenomena, an ecumenical awareness, and the establishment of an interdisciplinary mentality. Unique facilities are afforded by the Marian Library, which has an exceptional collection of rare books offering the opportunity for original research.

The master's program in Pastoral Ministries offers the student an opportunity to prepare for a variety of service careers emerging in the contemporary church. It is intended to prepare the students for pastoral positions as teachers of catechetics and religious education, directors of religious education, parish ministers, campus ministers, etc. by providing a sound academic and theological background while incorporating various methodologies in order that they may acquire the background and skills to use the resources of Tradition to minister to the contemporary church. It is expected that students will draw upon the resources of other departments of the University and other schools in the consortium in the construction of their programs.

The programs leading to each degree may be pursued in summer sessions or full time, i.e., throughout the year. They must be completed within seven calendar years from the time of matriculation.

The University is an active member of the Consortium for Higher Education Religion Studies (CHERS) with several area seminaries (cf. p. 11). This membership makes possible dialog with students of other institutions, interchange of facilities, sharing of library resources, and cooperative innovative programming. Through cross-registration, it makes available to the students the courses at the member institutions and thus provides the opportunity for even more flexible construction of their degree programs.

The University administers a doctoral program in theology (S.T.D) sponsored by the Pontifical Marianum University. Prerequisite: a licentiate in theology (S.T.L.) or its equivalent. (See Chapter VI.)

ADMISSION REQUIREMENTS

An applicant is admitted to graduate study if the admitting committee of the department is satisfied that the applicant is fully qualified to undertake graduate study. A minimum of 24 semester hours in philosophy and theology with a 3.0 grade-point average is recommended.

PROGRAM REGULATIONS

Both Master of Arts programs are to be pursued in a personally individualized manner. Upon admission to the program each student (in conjunction with an appointed advisor and taking into consideration the student's needs, interests, and background) is to draw up a proposal for the program to be followed. This program proposal is then submitted to the graduate committee for its approval. The graduate committee is responsible for the final approval and / or amendment of the proposal in consultation with the student and the student's advisor. The same procedure is followed for any modification of the original proposal during the course of the student's pursuit of the program.

Course Work

The candidate must take 36 semester hours of course work or 30 semester hours of course work and 6 semester hours of thesis credit. In the construction of a program it is expected that the majority of the student's course work will be taken in the Department of Religious Studies. A 3.0 quality point average in departmental courses and in the student's overall program is required for graduation.

Language Proficiency

There is no language requirement for either degree. For specialization in the biblical or historical areas a working knowledge of the language employed in the area, e.g., Hebrew, Greek, or Latin is encouraged. The language proficiency is particularly recommended to those students preparing for doctoral work.

Theological Competency

At the completion of the program of studies the degree candidate must manifest theological competency. This will usually be done by the written and oral presentation of a theological position on a topic chosen by the student and approved by the project advisor and the graduate committee. The student may elect to take a written and oral examination instead of the foregoing.

Thesis

A student desiring to do so may, with approval, write a thesis for six semester hours of work and do 30 semester hours of course work. An oral defense of the thesis will be required.

COURSES OF INSTRUCTION

When constructing programs and program proposals, students are advised to consult, in addition to the following courses offered in the Department, the catalog of course offerings of the Consortium for Higher Education Religion Studies (CHERS).

Biblical Languages

REL 501, 503. BIBLICAL HEBREW I, II: Introduction to the morphology and syntax of biblical Hebrew to facilitate the handling of basic tools and the reading of simple prose texts. *3 sem. hrs. each*

REL 502, 504. BIBLICAL GREEK I, II: Introduction to Hellenistic Greek. Vocabulary, grammar, and syntax. Selective readings of New Testament texts. *3 sem. hrs. each*

Biblical Studies

REL 511. CONTEMPORARY OLD TESTAMENT CRITICISM: Introduction to the principal methodological approaches to the Old Testament and a survey of the major results of contemporary biblical scholarship. *3 sem. hrs.*

REL 512. OLD TESTAMENT BACKGROUND: Introduction to ancient Near Eastern studies, a survey of the literature and the relationship to the Old Testament with special attention to selected topics. May be taken more than once. *3 sem. hrs.*

REL 513. OLD TESTAMENT EXEGESIS: Critical and exegetical study of selected writings of the Old Testament. May be taken more than once. (1) Hexateuch, (2) Historical Books, (3) Prophets, (4) Psalms, (5) Wisdom Literature, (6) Apocalyptic Literature. *3 sem. hrs.*

REL 514. OLD TESTAMENT THEOLOGY: An examination of the discipline of Old Testament theology. Special consideration to the relationship of history and theology. *3 sem. hrs.*

REL 517. NEW TESTAMENT BACKGROUNDS: Thorough study of selected individual points, e.g., Gnosticism, Qumran, needed for an understanding of the New Testament. May be taken more than once. *3 sem. hrs.*

REL 518. NEW TESTAMENT EXEGESIS: Critical exegetical study of selected writings of the New Testament. May be taken more than once. (1) Synoptics: Matthew and Mark, (2) Luke/Acts, (3) John, (4) Pauline Corpus, (5) Pastoral Epistles, (6) Book of Revelation. *3 sem. hrs.*

REL 519. NEW TESTAMENT THEOLOGY: A thorough study of one theme in the theology of the New Testament. May be taken more than once. *3 sem. hrs.*

Historical Theology

REL 520. HISTORY AND THEOLOGY OF THE MEDIEVAL CHURCH: Early Medieval foundations, the Carolingian Renaissance, the preparation of the 11th and 12th centuries, as well as the post-13th-century movement toward nominalism, to give perspective to the High Scholasticism of the 13th century. *3 sem. hrs.*

REL 521. CHRISTIAN DOCTRINE IN THE EARLY CHURCH: The development of doctrine from the post-apostolic age to the beginning of the Middle Ages including the Apostolic Fathers, the Apologists, Gnosticism, Irenaeus, Marcion, Tertullian, John of Damascus, and the Schools of Antioch, Alexandria, and Cappadocia. *3 sem. hrs.*

REL 522. FATHERS OF THE CHURCH: Analysis of the life and thought of individual Fathers of the Church. May be taken more than once. (1) Augustine, (2) Origen. *3 sem. hrs.*

REL 523. TRENT TO VATICAN II: Historical account of Christianity's theological response to the major reformers and of further theological developments of Christianity in the context of philosophy, science, and political revolutions up to Vatican II. *3 sem. hrs.*

REL 524. PROTESTANT CHRISTIANITY: Survey of the development of Protestant thought from the Reformation to the present. Analysis, in their own writings and their historical context, of selected Protestant theologians, such as Luther, Calvin, Knox, Cranmer, Schleiermacher, Ritschl, Harnack, and Barth. *3 sem. hrs.*

Systematic Theology

REL 530. MODERN THEOLOGICAL METHODS AND MOVEMENTS: Selected theological works or movements in Theology in the 19th and 20th centuries. May be taken more than once. *3 sem. hrs.*

REL 531. THEOLOGY OF HOPE: Study of the development and implications of the new theology of hope. *3 sem. hrs.*

REL 532. PROCESS THEOLOGY: An analysis of process theology, its central themes, and its implications for an understanding of God, the man, and the religious life. *3 sem. hrs.*

REL 534. SEARCH FOR IMMORTALITY: Study of how a variety of disciplines understand immortality. A theological evaluation of these insights with reference to traditional and prospective theology. *3 sem. hrs.*

REL 535. GOD AND HUMAN EXISTENCE: A survey of Christian theologies of God, traditional and modern, and the viewpoints they represent on the nature and purpose of human existence. *3 sem. hrs.*

REL 537. CHRISTOLOGY: An examination of the approaches taken by contemporary theologians in discussing Jesus and his significance for Christian faith. *3 sem. hrs.*

REL 538. THE QUESTION OF THE HISTORICAL JESUS: Detailed consideration of two major problem areas of New Testament interpretation, the question of the historical Jesus and the new hermeneutics, studying them in their historical perspective, present state of development, and possible future directions. *3 sem. hrs.*

REL 540. ECCLESIOLOGY: Study of selected teachings on the nature, structure, and mission of the Church and her relationship to other Christian churches, to world religions, and to the world. *3 sem. hrs.*

REL 541. THEOLOGY OF MINISTRY: Study of ministry as the right and responsibility of all Christians; Jesus' dying and rising as the unifying thread linking the description, division and chief aspects of ministry to evangelization and the kingdom; pastoral implications of the foregoing. *3 sem. hrs.*

REL 543. SACRAMENTAL THEOLOGY: Detailed study of the principle of sacramentality and of the individual sacraments, stressing the historical development of each and its contemporary renewal. *3 sem. hrs.*

REL 546. LITURGY: Study of the theological perspective on the history and the future of Christian liturgy. *3 sem. hrs.*

REL 547. CONTEMPORARY SPIRITUALITY: An examination of the meaning of Christian Spirituality in light of the Scriptures and contemporary theological insights. Emphasis on the baptismal roots of the call to Christian holiness and the principal dimensions of this call, coupled with a study of the various states of life that can lead to the fullness of Christian perfection. *3 sem. hrs. each*

REL 548. THEOLOGY OF PRAYER: Study of the meaning of prayer, focusing on prayer in the Hebrew and Christian Scriptures, prayer as reflected in selected classical mystical writers, and contemporary approaches to prayer. *3 sem. hrs.*

REL 549. MARIAN QUESTION TODAY: Detailed treatment of selected issues of contemporary interest relating to the role of the Virgin Mary in the history of salvation. May be taken more than once. *3 sem. hrs.*

Christian Ethics

REL 561. APPROACHES TO MORALITY: An attempt to establish the foundations of Christian morality, consisting of an historical survey of approaches and developments from the New Testament period to the present. *3 sem. hrs.*

REL 562. CONTEMPORARY MORAL PROBLEMS: An open approach to contemporary moral issues within theological perspectives. *3 sem. hrs.*

REL 568. EVOLUTION AND ETHICS: The contemporary theology of Christian existence as a whole, stressing the conscious unity of existence; the implications of evolution for theology and ethics. *3 sem. hrs.*

Religion and Culture

REL 571. THE IMAGINATION AND MODERN THEOLOGY: An attempt to show the role of reason and the imagination in the formulations of various approaches to theological issues. *3 sem. hrs.*

REL 575. THEOLOGY AND THE FILM: Focus on the mutual issues of film and religion as both reflect and affect the values and images of a culture. *3 sem. hrs.*

REL 576. THEOLOGY AND ART: An investigation into the relationship between religion and art with a treatment of Renaissance and post-Renaissance painting and sculpture as manifestations of Christian apocalyptic and humanistic world-views at given times. *3 sem. hrs.*

REL 577. THE RELIGIOUS QUEST IN LITERATURE: Study of the religious quest as found in various modes of poetry, novel, and drama with emphasis on the form of literary expression. *3 sem. hrs.*

Pastoral Ministries

REL 581. THEOLOGY OF REVELATION: Study of God's self-disclosure to His people as found in scripture, tradition, and the living experience of the Church immersed in history. *3 sem. hrs.*

REL 582. MODELS OF CATECHESIS: A consideration of the role that models play in the development and teaching of the basics of Christian belief — Jesus, grace, church, redemption, sin, etc. *3 sem. hrs. each*

REL 583. RELIGIOUS PSYCHOLOGY: Study of the human response to God in the light of contemporary psychology. The implications for catechesis in the various stages of human development, in the process of conversion and commitment, and in the crises of faith. *3 sem. hrs.*

REL 584. CONTEMPORARY CATECHETICAL PROCESS: An attempt to identify and relate specific characteristics of various historical and contemporary approaches to religious education. Specific emphasis on the thought of authors such as Bushnell, Moran, Westenhoff, Lee, etc., exploring their impact on developing a philosophy of religious education in a pluralistic society for the future. *3 sem. hrs. each*

REL 585. PASTORAL COUNSELING: Brief study of the methods of counseling with emphasis on those modes most in practice today. Concentration on the major problems faced by a counselor in the pastoral area. *3 sem. hrs.*

REL 586. LEADERSHIP IN PARISH MINISTRY: Study of the traditional parish structure as seen against the background of biblical and historical perspectives of the local church. An examination of the forces for change in the contemporary parish with an effort, out of the theoretical framework of leadership and administration, to assist the student to develop a philosophy and strategy of leadership. *3 sem. hrs.*

REL 587. RELIGIOUS STUDIES AS AUTOBIOGRAPHY: An invitation to reflect systematically on the religious dimension of one's own life story by asking questions about meaning, purpose, values, identity, etc., through the study of the lives of great religious figures. An assessment of the potential of this autobiographical approach for religious education. *3 sem. hrs.*

REL 588. TEACHING MORALS AND VALUES IN RELIGIOUS EDUCATION: An integration of theory and practical techniques for teaching Morals and Values in Religious Education today. An exploration of Value and Moral Development with special emphasis on authors such as Piaget, Kohlberg, Erikson, Fowler, Rokeach, etc. *3 sem. hrs. each*

General Courses of Instruction

REL 590. SELECTED QUESTIONS: A study of specific questions and developments in biblical, historical, systematic, or catechetical theology. May be taken more than once. *3 sem. hrs.*

REL 592. CONTEMPORARY ISSUES: A graduate workshop and / or seminar investigating and analyzing a specific area of theology and interdisciplinary scholarship concerning contemporary issues. *1-6 sem. hrs.*

REL 593. DIRECTED STUDY: A directed study of a particular theologian, problem, or historical period. May be taken more than once. *1-3 sem. hrs.*

REL 599. THESIS *6 sem. hrs.*

