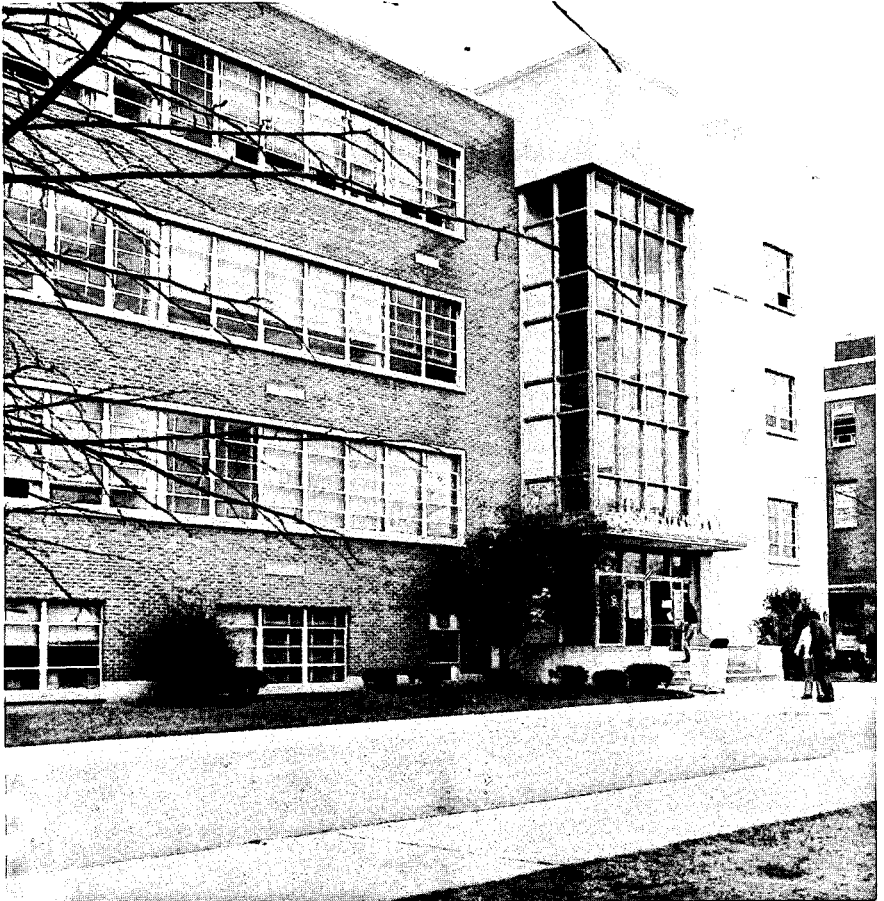


## VI College of Arts and Sciences

Leonard A. Mann, S.M., Dean

Rocco M. Donatelli, Associate Dean for Humanities

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. Specific objectives and requirements of the several departments are presented in the programs described in the following sections of this chapter.



## 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.

The graduate program in American Studies leads to the Master of Arts.

### 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 he is accepted into the program, the student must designate, as accurately as he can, which of the cooperating disciplines he wishes to study for his degree, and his 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 soonest opportunity or must interrupt his progress until he does.

When he has completed 12 semester hours toward his Master of Arts with a concentration in American Studies, the student will sit for an examination to determine his ability to integrate, or at least to make sophisticated comparisons among, bodies of information from at least two of the disciplines he has chosen to study 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 his 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.

The student chooses from the following courses:

### GROUP A

#### *English*

ENG	570	Studies in Early American Literature
ENG	572	The Romantic Age in American Literature
ENG	576	Major American Writers
ENG	582	Studies in American Literature Since the Civil War

### GROUP B

#### *Foundations of Education*

EDF	502	Comparative Philosophies of Education
EDF	550	History of Higher Education in the United States

#### *History*

HST	552	Revolution and Confederation
HST	553	American Colonial History
HST	554	The Age of Jefferson and Jackson
HST	555	The Old South
HST	556	Civil War and Reconstruction
HST	572	Appalachia and the New South
HST	574	The Gilded Age, 1877-1900
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	513	Morality, Social Ethics and Law
PHL	515	Philosophy of Law
PHL	516	Value Theory
PHL	565	American Pragmatism
PHL	570	Existentialist Philosophy
PHL	571	Perception and Knowledge
PHL	575	Contemporary Philosophies of Evolution
PHL	577	Recent Christian Thought
PHL	592	Analytic Philosophy

#### *Religious Studies*

REL	530	Theological Movements
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	Advanced Psychology of Learning
EDF	518	School and the Social Order

*Political Science*

POL	502	Colloquium in American Politics
POL	521	Seminar: Intergovernmental Relations
POL	545	Seminar: Urban Politics and Policy
POL	557	Seminar: State Government and Politics
POL	571	Seminar: Judicial and Constitutional Politics
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 and other similarly occupied students 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, Chairman of the Department

The Biology Department offers programs leading to the Master of Science and the Doctor of Philosophy. Students who show outstanding ability may by-pass the MS and proceed directly toward the PhD.

The degrees are in Biology, but each student's program is tailored to his 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 his 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 courses available are as follows:

### *Animal and General Physiology*

Bioinstrumentation	Endocrinology
General Physiology	Immunology
Applied Physiology	Comparative Animal Physiology
Cell Physiology	Biometrics
Biochemistry	Advanced Biochemistry
Experimental Embryology	etc.

### *Ecology / Animal Biology / Field Biology*

Ecology	Vertebrate Zoology
Population Biology	Vertebrate Morphology
Community Ecology	Vertebrate Paleontology
Biosystematics	Invertebrate Zoology
Aquatic Biology	Evolution
Field Biology	etc.

### *Plant and Cell Physiology*

Physiology of Higher Plants	Cell Physiology
Developmental Plant Anatomy	Advanced Cell Physiology
Plant Life Cycles	Bioinstrumentation
Advanced Plant Physiology	Biometrics
Biochemistry	Advanced Biochemistry
Biochemical Genetics	etc.

*Microbiology and Genetics*

General Bacteriology	Genetics
Pathogenic Bacteriology	Biochemical Genetics
Bacterial Physiology	Advanced Microbiology
Antibiotics and Chemotherapy	Immunology
Clinical Studies	etc.

**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 into a PhD program unless funds are available to help support him.

Applicants should have the equivalent of the science and mathematics requirements of the University of Dayton's Bachelor of Science in Biology. These include 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 deficiency.

**ADVISEMENT**

Each new student is assigned a provisional advisor who assists him during the first semester. Prior to registration for the second semester each student selects a major professor, who serves as chairman 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 his choice of thesis or non-thesis option. The option may not be changed later than the qualifying examination period. 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 usually 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 urged to complete both BIO 552 and 553 in order to increase laboratory experience in the absence of thesis research. In some cases a research paper may be necessary.

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.

#### DOCTOR OF PHILOSOPHY

There are no set course requirements for the PhD degree; each student follows the program mapped out for him by his committee. In practice many students find it helpful to take 40 to 50 semester hours of graduate course credits 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.

#### SEQUENCE OF EVALUATION

The programs are 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 insure that he has a sufficiently broad base for his professional career. Normally no graduate credit is given for these courses.

#### QUALIFYING EXAMINATION

At the beginning of his 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 ability to express himself, to reason, and to integrate his knowledge. Depending on the outcome of this examination and his overall performance during the first year, the student then completes the requirement for the MS or withdraws from the program. Students showing outstanding ability and wishing to proceed towards the PhD degree may be given the option of by-passing the MS.

Students who choose to complete a master's degree are considered candidates for that degree after the qualifying examination. A student who wishes 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.

### 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 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 his thesis research within the week following his examination. A PhD student must present his dissertation for defense within five years after admission to candidacy or he must repeat the candidacy examination.

A suitable examination will be arranged for those students taking a non-thesis MS degree. 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 his committee. The tools of research are normally for PhD candidates only and, if required, 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 his full energies to his graduate studies. Normally he must attend the University as a full-time student for one full year in order to satisfy the residence requirement for the MS and for two full years in order to satisfy the residence requirement for the PhD. If his advisory committee encourages him to spend a semester or a summer as a full-time student at a neighboring institution, he may apply that time to the residence requirement.

### COURSES OF INSTRUCTION

Any upper-level undergraduate course in biology may be taken for graduate credit if approved as a part of the student's program.

BIO 501. SEMINAR: Presentation, analysis, and discussion of data dealing with biological research of current interest. Required of all graduate students each semester. *0-1 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: A laboratory and field course dealing with the morphology, physiology, ecology, and distribution of vertebrate groups. *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 514. BIOCHEMISTRY: Lectures and readings on carbohydrates, lipids, amino acids, proteins, enzymes, nucleic acids, and the metabolism of those compounds. Three hours lecture per week. *3 sem. hrs.*

BIO 515. BACTERIAL PHYSIOLOGY: Lectures, assigned readings, and discussions dealing with the structure, function, and biochemistry of bacteria and the organelles. Three hours lecture. *3 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 518. CYTOLOGY: The molecular basis for structure in animal and plant cells, including consideration of organization, function, and development of subcellular organelles and energy transduction. *3 sem. hrs.*

BIO 518L. CYTOLOGY LABORATORY: Isolation and chemical characterization of cellular organelles. Other experimental studies on cellular functions. Two three-hour laboratory periods per week. *2 sem. hrs.*

BIO 519. VIROLOGY: Lectures, selected readings and laboratory assignments dealing with the biology of plant, animal and microbial viruses. Tissue culture techniques will be considered. Two hours lecture and one three-hour laboratory period per week. *3 sem. hrs.*

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 and one three-hour laboratory per week. *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. hrs.*

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

**BIO 531L. EXPERIMENTAL EMBRYOLOGY LABORATORY:** Laboratory to accompany BIO 531. *1 sem. hr.*

**BIO 532. VERTEBRATE MORPHOLOGY:** The general biology of vertebrates with emphasis on the structure and function of morphological systems. The mechanical aspects of skeletal structure, locomotion, feeding and circulation. *3 sem. hrs.*

**BIO 532L. VERTEBRATE MORPHOLOGY LABORATORY:** Dissection of animals from each vertebrate class with emphasis on morphological systems and specializations. Stress on anatomical laboratory techniques. *1 sem. hr.*

**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 534. VERTEBRATE PALEONTOLOGY:** The evolutionary history of the chordates. Emphasis on the selection factors, morphological adaptation, and paleoecology of the transitional groups and the higher classes. *3 sem. hrs.*

**BIO 534L. VERTEBRATE PALEONTOLOGY LABORATORY:** One or two one-day field trips, one overnight visit to a major museum, laboratory sessions examining extant and fossil skeletal material at U.D. and the Dayton Museum of Natural History. *1 sem. hr.*

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

**BIO 537. BIOSYSTEMATICS:** A study of the principles of classification, stressing the evidence used in phylogenetic and evolutionary schema. *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:** Required laboratory to accompany BIO 540. *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. Normally 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 562. ADVANCED CELL PHYSIOLOGY:** Critical examination of current research in several areas of cell physiology. Since the course is taught from current journals, the topics will change. May be repeated. Prerequisite: a course in cell physiology.

*2 sem. hrs.*

**BIO 564. APPLIED PHYSIOLOGY:** Detailed consideration of stress in human physiology with emphasis on environmental variables as stressors. Attention to status assessment through the critical interpretation of clinical laboratory data. Prerequisites: BIO 403, CHM 313-314, and one year of physics.

*3 sem. hrs.*

**BIO 564L. APPLIED PHYSIOLOGY LABORATORY**

*1 sem. hr.*

**BIO 566. ANTIBIOTICS AND CHEMOTHERAPY:** A survey of the effects of antibiotics and chemotherapeutic agents on microorganisms and man. Mode of action, principles of antimicrobial chemotherapy, application to basic research and industrial production. Prerequisites: courses in cell biology and organic chemistry.

*3 sem. hrs.*

**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.

*3-6 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**

*1-6 sem. hrs.*

## CHEMISTRY (CHM)

John J. Lucier, S.M., Chairman 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 the student advanced training in basic chemistry, analytical procedures, modern biochemistry, and clinical chemical research. It will also prepare the student for an advanced degree (PhD) program in clinical chemistry.

## ADMISSION REQUIREMENTS

Candidates for the degree are required to have a minimum of 24 semester hours of chemistry (general, quantitative, and organic chemistry). Typical students will have completed the bachelor's degree in areas such as medical technology, chemistry, ciology, or preprofessional studies (premedical, predental).

## LABORATORY EXPERIENCE

All students are required to have clinical laboratory experience. A training program available through cooperation of local hospitals is required of all students.

## PROGRAM REQUIREMENTS

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.

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>Semester Hours</i>
CHM	530	Physical Chemistry .....	3
CHM	535, 535L	Analytical Chemistry .....	4
CHM	531, 531L	Identification of Organic Compounds .....	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
—	—	Elective .....	3
BIO	550	Biometrics .....	3
CHM	560, 561	Research .....	6

Individual candidates may find courses of interest in the graduate chemistry curriculum, the biology curriculum, the Department of Business Management, and elsewhere.

## COURSES OF INSTRUCTION

CHM 533. INTERMEDIATE ORGANIC CHEMISTRY: Modern theory of organic chemistry and reaction mechanisms. Prerequisite: CHM 314 or equivalent. 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 540. QUANTUM CHEMISTRY: Introduction to the concepts of quantum mechanics with applications to chemical systems. 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 542. KINETICS AND CHEMICAL STATISTICS: Phenomenological and mathematical characterization of kinetic systems. Treatment of ensembles and their partition functions with applications to solid, liquid and vapor states. Development of Bose-Einstein and Fermi-Dirac statistics. 3 sem. hrs.

CHM 543. CHEMICAL THERMODYNAMICS: Study of first, second, and third laws to develop free-energy functions for use in chemical equilibrium. 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 545. INORGANIC REACTIONS AND STRUCTURE: Survey of modern inorganic chemistry treating organometallic chemistry, homogeneous catalysis, stereochemical nonrigidity, boron chemistry, acid-base theories, and selected nonmetal topics. 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 547. BONDING IN INORGANIC COMPOUNDS: Atomic theory; bonding theories, especially molecular orbital theory; the ionic model: molecular symmetry; and the structure of solids. 3 sem. hrs.

CHM 549. ADVANCED ORGANIC CHEMISTRY: The chemistry of multiple bond systems, resonance aromaticity, electrocyclic additions, carbenes, oxidation reduction, electrophilic substitution, and addition reactions. 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. Prerequisite: CHM 551, 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 period will be devoted to the thorough study of selected hospital cases related to a single disorder. Physicians in charge of the cases 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 559. CLINICAL CHEMISTRY LABORATORY: An introduction to the instrumentation and language of clinical chemistry laboratories. The laboratory will include basic procedures, techniques, reagents, instrumentation, and an introduction to the concept of quality control. Students will perform procedures used in representative modern clinical laboratories for routine analyses and special tests. Three three-hour laboratory periods per week. *3 sem. hrs.*

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 two courses are not applicable to any master's degree in Chemistry:

CHM 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. *1 sem. hr. each term*

Note: All the following courses are applicable only to the Master of Science in Clinical Chemistry and the Biochemistry option:

CHM 527-528. THEORETICAL PRINCIPLES OF CHEMISTRY: Prerequisite: CHM 126L 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*

CHM 529. INORGANIC CHEMISTRY: An introductory course. The fundamentals of modern inorganic chemistry including atomic structure, principles of structure and bonding, acid-base chemistry, periodicity, coordination compounds, nonaqueous solvents, electrochemistry, molecular symmetry, and the chemistry of representative elements. *3 sem. hrs.*

CHM 530. PHYSICAL CHEMISTRY: A concise treatment of theoretical chemistry. Prerequisite: CHM 124. 3 sem. hrs.

CHM 531. IDENTIFICATION OF ORGANIC COMPOUNDS: An analytical course. Functional groups, physical properties, and instrumental methods for the identification of organic compounds. Prerequisites: CHM 315-316. 1 sem. hr.

CHM 531L. IDENTIFICATION OF ORGANIC COMPOUNDS: Laboratory course to accompany CHM 531. Two three-hour laboratory periods per week. 2 sem. hrs.

CHM 532. SPECIAL TOPICS IN THEORETICAL CHEMISTRY: A treatment of special topics surveyed in CHM 527-528. Prerequisite: CHM 304. 3 sem. hrs.

CHM 535. ANALYTICAL CHEMISTRY: Methods of analysis based on modern instrumentation including chemical, electrical and spectral methods. 2 sem. hrs.

CHM 535L. ANALYTICAL CHEMISTRY LABORATORY: A laboratory course to accompany CHM 535. 2 sem. hrs.



## COMMUNICATION ARTS (COM)

George C. Biersack, Chairman of the Department

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

Communication Arts is an academic discipline whose significant traditions are directly linked to the inventions and refinements of the ancient Greeks. The department subscribes to the Aristotelian concept of discovering all possible means of persuasion on any given subject and of utilizing these means appropriately in the classical categories of ethical, pathetic, and logical proofs. To meet the challenge of modern interpersonal relations, local to international, there is a critical need for the basic principles and sophisticated skills of the communication arts.

### ADMISSION REQUIREMENTS

The applicant for graduate study must meet the following requirements:

1. A bachelor's degree from a recognized institution of higher learning. In the case of seniors who have almost completed graduation requirements, the graduate committee of the Department of Communication Arts 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. A 2.8 cumulative point average (or the equivalent). The graduate committee will recognize the potential merits of professional experience and maturity in a specific field as a factor for consideration relative to the student's ability.
3. A competent cultural background, demonstrated through satisfactory undergraduate studies or professional accomplishment and growth.
4. Twenty-four semester hours in an area of Communication Arts or demonstrated equivalent skill in a specific field, coupled with satisfactory undergraduate studies.
5. Demonstration of a comprehensive background in theory and necessary skill in oral communication.
6. For the interdisciplinary plan (Plan B), the demonstrated possession of a substantial background in both the major and the minor areas of study.

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 as unclassified students. Such students will be assigned appropriate undergraduate credits which will not count toward the graduate degree.

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.

## PROGRAM REQUIREMENTS

## PLAN A – COMMUNICATION ARTS

There are two options in the program Plan A, both of them involving Communication Arts courses only. The student may elect to complete either of the following:

1. Twenty-four semester hours of course work and six semester hours of thesis credit (including an oral defense of the thesis),
2. Thirty semester hours of course work followed by an oral comprehensive examination.

The following graduate courses lead to the Master of Arts with a concentration in Communication Arts:

	<i>Semester Hours</i>
COM 506 Ethics of Communication .....	3
COM 511 Persuasion Techniques .....	3
COM 516 Barriers to Effective Communication.....	3
COM 521 The Investigation of Listening Problems.....	3
COM 526 Studies in Communication Skills.....	3
COM 530 Development of Mass Media .....	3
COM 531 Problems – Seminar.....	6
COM 536 Communication Theory.....	3
COM 598-599 Thesis .....	each 3

A student choosing the second option of Plan A may select six semester hours of courses to fulfill the equivalent of the thesis requirement. The option courses are the following:

	<i>Semester Hours</i>
COM 517 Organizational Communication .....	3
COM 555 Public Relations Workshop .....	3
COM 562 Topics in History and Criticism of Public Address.....	6
COM 566 Argumentation.....	3
COM 591 Public Relations Internship.....	3

## PLAN B – COMMUNICATION ARTS AND INTERDISCIPLINARY STUDY

Certain offerings from the Business Administration, English, Psychology, and Political Science programs have been designated as appropriate for Communication Arts interdisciplinary study Plan B leading to the Master of Arts. Information on applicable courses may be obtained from the departmental office. There are two options under Plan B. In either option, a consultation with the chairman of the department concerned is required.

1. The student may elect to complete not less than 18 semester hours of study in Communication Arts and not more than 12 semester hours of study in one of the interdisciplinary areas followed by an oral comprehensive examination by a

committee composed of Communication Arts faculty members and a faculty representative from the interdisciplinary area involved, or

2. Twelve semester hours of study in Communication Arts, six semester hours of thesis credit, and 12 semester hours of study in one of the interdisciplinary areas, followed by oral comprehensive examinations on both the course work and the thesis. The oral comprehensive committee for course study will include both Communication Arts faculty and a faculty representative from the interdisciplinary area; the thesis *must* be done in an area of the communication arts, and its oral comprehensive examination committee will be composed of Communication Arts faculty only.

## COURSES OF INSTRUCTION

COM 506. ETHICS OF COMMUNICATION: The general ethical principles of persuasion and the special ethics of platform communication, business communications, conference responsibilities, broadcast-journalism reporting, classroom communication, theatric message, and forensic behavior. *3 sem. hrs.*

COM 511. PERSUASION TECHNIQUES: A review of the classical tradition of persuasion from 600 B.C. to the present. The principles of classical rhetoric based on the theories of Aristotle, Cicero, and Quintilian and their effect on modern theories and techniques in oral communication. Analysis of the modern approach to persuasion supplemented by research projects in the area of business and industry. *3 sem. hrs.*

COM 516. BARRIERS TO EFFECTIVE COMMUNICATION: Circumstances that prevent effective personal and group communication. Problems of language, semantics, and the lack of factual knowledge in private conversation, business, industrial management, inter-departmental communications, and politics. *3 sem. hrs.*

COM 517. ORGANIZATIONAL COMMUNICATION: A study of communication activity within organizations: theories and systems of organizational communication, internal communication systems, organizational communication research methods, and the interface of management and communication. Emphasis on the practical application of communication skills. *3 sem. hrs.*

COM 521. THE INVESTIGATION OF LISTENING PROBLEMS: The importance and complexities of listening. The place of listening in society and its direct relationship to the various forms of communication. Analysis of the many related skills in effective listening and the reasons for poor listening habits. Research pursued to demonstrate how listening can be improved. *3 sem. hrs.*

COM 526. STUDIES IN COMMUNICATION SKILLS: For senior majors and graduate students. Development and implementation of the basic skills in oral communication. Comprehensive study of speech situations in business and the professions: the interview, group discussions, the technique of mediation, good will, and the after-dinner situation. Stress on the composition and development of lecture-length speeches. *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. PROBLEMS SEMINAR:** An internship in a business or industry or a specialized area in communication arts such as public address, forensics, radio, and / or television. Progress reports as assigned in the seminar sessions. This seminar offers students the opportunity to gain practical experience that will supplement their theoretical background. May be repeated with change in problem and faculty member. Permission required. *6 sem. hrs.*

**COM 536. COMMUNICATION THEORY:** Survey of contemporary communication design methods in organizational structures with emphasis on experimental approaches and contributions of major universities. Identification of important personalities and professional literature. Research project. *3 sem. hrs.*

**COM 555. PUBLIC RELATIONS WORKSHOP:** Application of policy objectives. Students plan and carry out a public relations program for an established organization, working out realistic and efficient solutions to communication and public relation problems. Case studies in public relations in business, industry, and social institutions including schools and communities and in governmental public relations policy. *3 sem. hrs.*

**COM 562. TOPICS IN HISTORY AND CRITICISM OF PUBLIC ADDRESS:** The application of rhetorical and communication theory to the criticism of public discourse as it affects and reflects social change in selected historical and / or contemporary movements, crises, campaigns, or institutions. May be repeated when topic and content change. *6 sem. hrs.*

**COM 566. ARGUMENTATION:** Intradisciplinary application of the theories and techniques of argumentation and logic with oral proficiency to the needs of specific disciplines and professions. From reviewed fundamentals, progress to examination of evidence, reasoning, ethics, refutation, and rebuttal with application of formal and inductive logic. *3 sem. hrs.*

**COM 591. PUBLIC RELATIONS INTERNSHIP:** Participation in a recognized and approved public relations organization. Selected senior or graduate students appointed as interns in public relations departments of business, educational, philanthropic, or governmental agencies work a minimum of eight hours per week supervised by agency staff and school faculty. Analytical report and evaluation required. Prerequisite: COM 555 or permission of chairman. *3 sem. hrs.*

**COM 598-599. THESIS:** Proposal submitted by the candidate for the Master of Arts must be approved by the director and his graduate committee. *3 sem. hrs. each*

## COMPUTER SCIENCE (CPS)

Thomas A. Schoen, S.M., Chairman of the Department

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 the 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. Students should have a knowledge of a higher-level programming language such as Fortran, PL/I or COBOL, and knowledge of an assembly language. Deficiencies may be met by private study or by taking undergraduate courses such as CPS 144, Fortran Programming; CPS 145, COBOL Programming; and CPS 245, Assembler Programming. (See the undergraduate issue of the Bulletin for course descriptions.)

The degree requires 30 graduate semester hours, 12 of which may be taken from departments other than Computer Science. There is no foreign language requirement and there is no formal thesis requirement. There are no specific course requirements; each student's program requires only approval of his faculty advisor.

Questions on procedures for admittance to the program should be directed to the Office for Graduate Studies, 229-2343. Other questions may be directed to the Department of Computer Science, 229-3831.

### 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: Applications of computers to 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 515. ANALOG COMPUTATION AND SIMULATION:** Basic principles of analog computation, analog solution of linear and nonlinear differential equations, simulation, function generation. Applications to science and engineering. Prerequisite: differential equations. *3 sem. hrs.*

**CPS 516. PARALLEL HYBRID COMPUTATION:** Basic principles of parallel hybrid computers, elementary logic components and their use, combinatorial logic, Boolean operations, sequential logic and synchronization. Microprograms. Prerequisite: analog computation. *3 sem. hrs.*

**CPS 525. SYSTEMS OPTIMIZATION TECHNIQUES:** Linear programming, network analysis including pert, game theory, queuing theory, inventory theory, Markov chains, simulation, and other topics. *3 sem. hrs.*

**CPS 528. DISCRETE STRUCTURES:** Set algebra including mappings and relations; algebraic structures including semigroups and groups; elements of the theory of directed and undirected graphs; Boolean algebra and propositional 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 / 360 or similar systems and the functions of data, job, and task management. *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. *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 ORGANIZATION:** Minimization of Boolean functions, error-detecting and error-correcting codes, principles of design for arithmetic operations, including a survey of functional units for implementation; memory devices, central processing units, and input / output equipment. Prerequisite: discrete structures. *3 sem. hrs.*

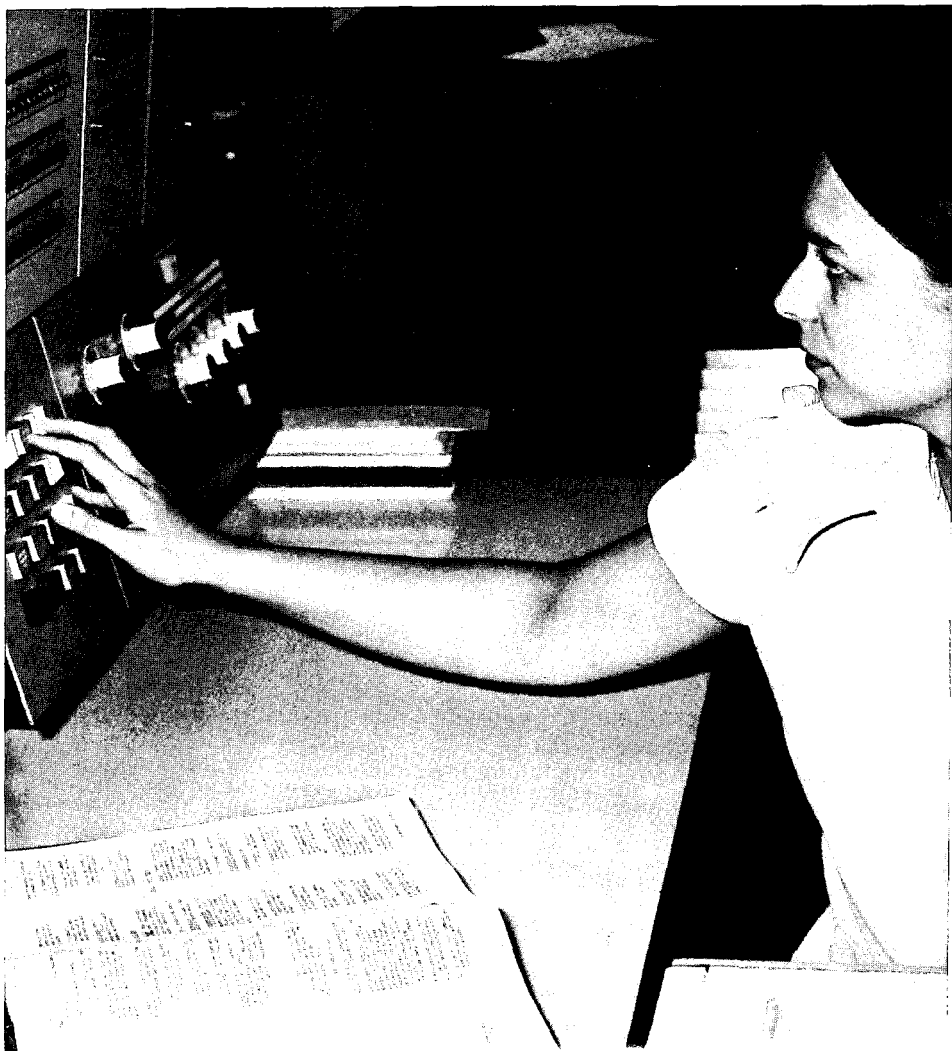
**CPS 582. AUTOMATA THEORY:** Finite automata, sequential machines, turing machines, computability, existence of self-reproducing machines. *3 sem. hrs.*

**CPS 591. SPECIAL RESEARCH PROBLEMS:** Individual readings and research in a specialized area. (See CPS 592.) 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 such specialized areas as those listed below. May be taken more than once for additional credit. Prerequisite: permission of the department. By arrangement.

- |                            |                          |                          |
|----------------------------|--------------------------|--------------------------|
| 1. Artificial Intelligence | 5. Logical Design        | 9. Sequential Machines   |
| 2. Computer Architecture   | 6. Microprogramming      | 10. Simulation Languages |
| 3. Information Retrieval   | 7. Numerical Analysis    | 11. Supervisory Systems  |
| 4. Linguistic Analysis     | 8. Programming Languages | 12. Utility Programs     |

*1-3 sem. hrs.*



## ENGLISH (ENG)

Michael H. Means, Chairman 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 and develops in the student a competence in independent research and in the exercise of sound literary judgment. It is particularly useful for teachers in secondary schools and community colleges.

Courses will be offered in the late afternoon or evening and on Saturday morning during the first and second terms and the first half of the third term and in both the evening and the day during the second half (the summer session) of the third term.

### ADMISSION REQUIREMENTS

The student seeking admission must have completed studies in English and American literature which will enable him to pursue his graduate studies with distinction. He 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. Graduate Record Examination scores may be required.

### PROGRAM REQUIREMENTS

Normally 30 semester hours are required. Every applicant, after 12 semester hours of graduate courses with a grade-point average of at least 2.75, will be given a diagnostic examination and interview. Exceptionally well qualified students may earn the master's degree in less than 30 semester hours; students with deficiencies may be required to take up to 36 semester hours of graduate study.

ENG 595, Research and Bibliography, and either ENG 587, Studies in the History of Criticism, or ENG 588, Studies in Criticism, are required of each applicant for the degree. The remainder of the student's program should be equally divided between courses from sequence 514-542 and sequence 546-582.

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 500-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. STUDIES IN MEDIEVAL LITERATURE\*: The principal forms and movements in the literature of the Middle Ages, usually read in translation. 3 sem. hrs.
- ENG 516. CHAUCER I: Intensive analysis of *The Canterbury Tales*. 3 sem. hrs.
- ENG 517. CHAUCER II: Study of *Troilus and Criseyde* and the minor poems of Chaucer. 3 sem. hrs.
- ENG 516 is not a prerequisite.
- ENG 522. STUDIES IN SIXTEENTH-CENTURY LITERATURE\*: The nondramatic literature of the English Renaissance. 3 sem. hrs.
- ENG 526. SHAKESPEARE I: The development of Shakespeare's art from the beginning to *Twelfth Night*, including the early comedies and tragedies, the histories, and the romantic comedies. 3 sem. hrs.
- ENG 527. SHAKESPEARE II: Shakespeare's development from *Hamlet* to *The Tempest*, including the major tragedies, problem plays, and dramatic romances. ENG 526 is not a prerequisite. 3 sem. hrs.
- ENG 532. STUDIES IN SEVENTEENTH-CENTURY LITERATURE\*: A consideration of principal poets and prose writers of the Stuart, Commonwealth, or Restoration Periods. 3 sem. hrs.
- ENG 536. STUDIES IN DRAMA TO 1642\*: A survey of English drama from the beginning to the closing of the theatres. 3 sem. hrs.
- ENG 538. STUDIES IN MILTON\*: A treatment of major and minor poems and related prose of Milton. 3 sem. hrs.
- ENG 542. STUDIES IN EIGHTEENTH-CENTURY LITERATURE\*: A study of the writers of the Augustan, Post-Augustan, and Pre-Romantic Ages. 3 sem. hrs.
- ENG 546. STUDIES IN THE NOVEL\*: A consideration of the development and the characteristic forms of the novel. 3 sem. hrs.
- ENG 552. STUDIES IN ROMANTICISM\*: The nature and progress of English Romanticism as revealed in the principal poets of the early part of the 19th century. 3 sem. hrs.
- ENG 556. STUDIES IN NINETEENTH-CENTURY LITERATURE\*: A treatment of the significant poets and essayists of the Victorian Age. 3 sem. hrs.
- ENG 562. STUDIES IN TWENTIETH-CENTURY LITERATURE\*: A study of significant movements, forms, and writers in the literature of the 20th century. 3 sem. hrs.
- ENG 566. STUDIES IN DRAMA SINCE 1660\*: A selective study of significant developments in drama from the Restoration to the present. 3 sem. hrs.
- ENG 570. STUDIES IN EARLY AMERICAN LITERATURE\*: A study of the cultural and literary roots of American literature. 3 sem. hrs.
- ENG 572. THE ROMANTIC AGE IN AMERICAN LITERATURE: A consideration of the writers of the mid-19th century. 3 sem. hrs.
- ENG 576. MAJOR AMERICAN WRITERS\*: An intensive comparative study of two or three American writers. 3 sem. hrs.

ENG 582. STUDIES IN AMERICAN LITERATURE SINCE THE CIVIL WAR\*: A consideration of the principal movements in poetry, fiction, or drama of the late 19th or the 20th century.  
3 sem. hrs.

ENG 587. STUDIES IN THE HISTORY OF CRITICISM\*: A consideration of significant developments in the history of critical thought.  
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 593. SURVEY OF LINGUISTICS: A study of the concepts and procedures of general linguistics, with emphasis on the relationships between linguistics and other disciplines.  
3 sem. hrs.

ENG 595. RESEARCH AND BIBLIOGRAPHY: An introduction to the methods and tools of literary scholarship. Required of all degree applicants.  
3 sem. hrs.

ENG 599. THESIS  
3-6 sem. hrs.



## HISTORY (HST)

Leroy V. Eid, Chairman of the Department

The graduate program in the Department of History leads to the Master of Arts. It seeks to develop in the student that combination of mature judgment and scholarly competence associated with the ability to make, compare, test, and evaluate historical conclusions and interpretations. As a secondary purpose, the program is designed to prepare the student for a successful career in teaching, government services, or specific fields of private endeavor.

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.

### PROGRAM REQUIREMENTS

A research seminar (HST 601) is required of all students in the master's program. In addition, the candidate must take at least three other 600-level courses. 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.

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 his competence in any foreign language that is pertinent to his major area.

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.

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. The student does not write a thesis. Option B is recommended for students who do not plan to enter doctoral studies.

## COURSES OF INSTRUCTION

Courses numbered in the 500s appear also in the undergraduate catalog. Enrollment is open to both graduate students and advanced undergraduate students. Courses numbered in the 600s are restricted to graduate students. The particular emphases of 600-level courses will be announced each term. 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 peoples 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 525. BRITISH LEGAL HISTORY: Origin of the common law; the forms of action and the development of the land law and of tortious and contractual actions; the legal position of women; Blackstone's *Commentaries*. 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 the slave trade, 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 551. AMERICAN COLONIAL HISTORY: The foundations of American nationality: European background of America, development of the colonial system, transplanting of ideas and institutions from the Old World, growth of democratic tendencies. 3 sem. hrs.

HST 552. REVOLUTION AND CONFEDERATION: The problems of empire relationships since 1754; the causes, conduct, and consequences of the American Revolution; the postwar problems leading to the adoption of the Federal Constitution. 3 sem. hrs.

HST 554. THE AGE OF JEFFERSON AND JACKSON: From the 1790s to the 1850's, the range of historical, cultural, social, and political trends traditionally associated with the Presidencies of Jefferson and Jackson. 3 sem. hrs.

HST 555. THE OLD SOUTH: A study of political, social, economic, and cultural history, emphasizing pre-Civil War Southern life — ruralism, cotton culture, extractive economics, slavery, developing political minority status in the nation. Prerequisite: a general knowledge of 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 572. APPALACHIA AND THE NEW SOUTH: A study and appraisal of the internal and external forces that have shaped the Southern states since the Civil War. All aspects of Southern life will be considered. 3 sem. hrs.

HST 574. THE GILDED AGE, 1877-1900: A study in the political, diplomatic, economic, social, and cultural developments of the age. The rise of big business, organized labor, and the Populist revolt will be studied. 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 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 650. THE PHILOSOPHY OF HISTORY: Survey of the various metaphysical interpretations of the meaning of history; analysis of literature concerned with the epistemological problems of writing 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 the chairman only. *1-3 sem. hrs.*
- HST 698. TEACHING OF COLLEGE HISTORY: Discussion, instruction, and practice in the methods of teaching history and leading discussions. Required of and open only to graduate assistants. Credit does not count toward graduation. *1 sem. hr.*
- HST 699. THESIS *3-6 sem. hrs.*



## MATHEMATICS (MTH)

John W. McCloskey, Chairman of the Department

The Department of Mathematics offers graduate studies in order to give properly prepared persons an opportunity to acquire skills in those branches of mathematics normally studied after the baccalaureate degree. The graduate program leads to the Master of Science. The curriculum is intended to serve as a firm basis for doctoral studies and research.

### ADMISSION REQUIREMENTS

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

MTH 361            Introduction to Abstract Algebra (or equivalent)  
MTH 421-422      Advanced Calculus (or equivalent)

### PROGRAM REQUIREMENTS

Thirty semester hours of 500-level courses are required. These may include a maximum of six semester hours of approved courses outside the department and a maximum of six semester hours for a thesis in special cases.

The 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.

### 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. REAL VARIABLES I: The topology of the real line, continuity and differentiability, Riemann and Stieltjes integrals, Lebesgue measure, relationship between Riemann integrability-Jordan content and measure, Lebesgue integral. 3 sem. hrs.

MTH 522. REAL VARIABLES II: Absolute continuity, differentiation and integration, the classical Banach spaces, Fourier series, extensions of the Lebesgue integral. Prerequisite: MTH 521. 3 sem. hrs.

MTH 523. MEASURE THEORY AND INTEGRATION I: General theory of measure and integration over abstract spaces, abstract  $L_p$  spaces; product measures, Fubini's theorem, finite signed measures, Jordan-Hahn decomposition, Radon-Nikodym theorem, Riesz Representation theorem. Prerequisite: MTH 521. 3 sem. hrs.

MTH 524. MEASURE THEORY AND INTEGRATION II: Integration over locally compact spaces, Baire measures, Borel measures, regular measures, content, Riesz-Markov theorem, advanced topics. Prerequisites: MTH 522, 523, and 571. 3 sem. hrs.

MTH 525. COMPLEX VARIABLES I: Fundamental concepts, analytic functions, integration, singularities, and series. 3 sem. hrs.

MTH 526. COMPLEX VARIABLES II: Entire, meromorphic, periodic, and multiple-valued functions; analytic continuation, conformal mapping, and other topics. Prerequisite: MTH 525 or equivalent. 3 sem. hrs.

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

MTH 532. ADVANCED DIFFERENTIAL EQUATIONS II: Asymptotic behavior and stability, Liapounov's theorems, perturbation theory. Prerequisite: MTH 531. 3 sem. hrs.

MTH 535. PARTIAL DIFFERENTIAL EQUATIONS I: Classification of partial differential equations; methods of solution for the wave equation, Laplace's equation, and the heat equation; numerical solutions, applications. Prerequisite: MTH 402 or equivalent. 3 sem. hrs.

MTH 536. PARTIAL DIFFERENTIAL EQUATIONS II: Existence and uniqueness theorems, canonical form, Green's theorems and operational methods, boundary value problems. Prerequisite: MTH 535. 3 sem. hrs.

MTH 545. SPECIAL FUNCTIONS: The special functions frequently encountered in engineering and the physical sciences. Use of the hypergeometric function and generating functions throughout to develop the theory. The theories of infinite products and asymptotic expansions. Prerequisite: MTH 404 or 461. 3 sem. hrs.

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

MTH 552. METHODS OF MATHEMATICAL PHYSICS II: Linear and nonlinear oscillators, partial differential equations and potential theory, functional transformations, special functions. Prerequisite: MTH 551. 3 sem. hrs.

MTH 555-556. ADVANCED NUMERICAL ANALYSIS: Quadrature methods and the numerical solution of ordinary differential equations; matrices and large-scale linear systems; norms and spectral radii of matrices; modern iterative matrix methods, including the successive overrelaxation method; numerical solution of partial differential equations. Consideration of methods suitable for use on digital computers. Prerequisite: consent of instructor. 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; groups with operators; 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, advanced topics in groups and rings. Prerequisite: MTH 561. 3 sem hrs.

MTH 565. LINEAR ALGEBRA: Vector spaces, linear transformations and matrices; determinants, invariant direct-sum decomposition, rational and Jordan canonical forms; inner product spaces, the spectral theorem, bilinear and quadratic forms. 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.*

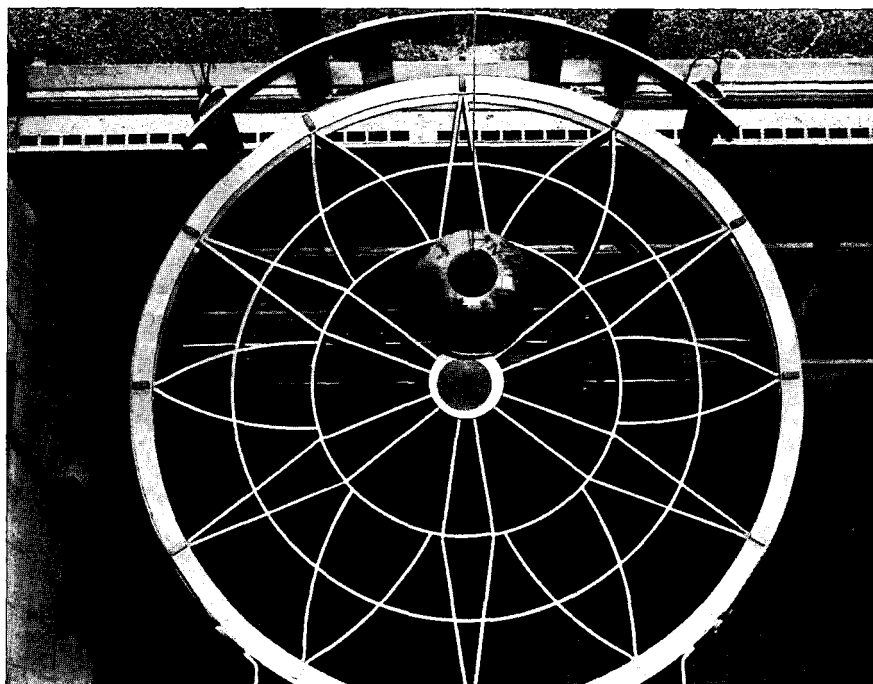
**MTH 573. TOPOLOGICAL VECTOR SPACES I:** The study of various topologies within linear spaces with emphasis on Banach and Hilbert spaces. The Hahn-Banach theorem and its consequences. Closed graph and open mapping theorems. Prerequisites: MTH 522, 565, and 571, or equivalents. *3 sem. hrs.*

**MTH 574. TOPOLOGICAL VECTOR SPACES II:** Detailed study of Banach algebras and spectral theory. Prerequisite: MTH 573. *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)

Raymond M. Herbenick, Chairman of the Department

The graduate program in philosophy leading to the Master of Arts provides the conditions for cooperative study and research in which a student can acquire a more comprehensive knowledge and understanding of major philosophical positions in the history of philosophy and in contemporary philosophy, develop abilities for critical philosophical reflection, and learn to apply philosophical principles to the solution of present-day problems.

Students have been able to pursue programs of graduate study in philosophy to prepare for doctoral studies in philosophy and other academic areas, as well as for teaching and counseling responsibilities in 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. Each philosophy graduate student initially arranges his program in consultation with the chairman 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 with a major 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.

### READING LISTS

Students pursuing the Master of Arts with a major in Philosophy must show competency in the history of philosophy. Students may take either oral examinations or course work within prescribed guidelines to demonstrate such competency. Reading lists are available through the Department. Students are encouraged to satisfy this requirement early in their programs of study.

### CANDIDACY

Each student is formally a candidate for the Master of Arts after

1. demonstrating competency in the history of philosophy by satisfying the reading list requirements;
2. satisfactorily completing 18 semester hours of graduate work; and
3. obtaining official approval of a thesis project, if one is chosen.

### OPTIONS

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

### THESIS

A student wishing to engage in a research thesis is to consult the chairman, academic advisor, and prospective thesis advisors and readers so that suitable appointments can be made. Afterwards, the student is to

1. submit in triplicate an outline of a thesis project prepared according to the departmental format available in the chairman's office no later than two months before the end of the term immediately prior to the tentative graduation date;
2. submit three copies of the thesis for review by the first Monday of November for graduation in the fall term, by the first Monday of March for graduation in the spring term and by the first Monday in June for graduation in the summer term;
3. revise the thesis in light of the suggestions of thesis readers and advisors and prepare the final copies in accord with the official manual for these available through the Office for Graduate Studies;
4. successfully defend the thesis orally after all other requirements are fulfilled.

### 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 chairman 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.

### TEACHING APPRENTICESHIP FOR GRADUATE ASSISTANTS

As part of their contractual obligation, graduate assistants participate in the Teaching Apprenticeship Program in Philosophy (PHL 598). This involves participation in seminars on the teaching of philosophy at the undergraduate level and in the supervised teaching of the lower level course in philosophy, Introduction to Philosophy (PHL 103). This program is open only to graduate philosophy assistants. It is offered each term for one semester hour of academic credit upon satisfactory completion of the apprenticeship in a given term. Satisfactory completion of this internship will be shown on the transcript and the grade K (credit) will be recorded. The grade K does not affect the cumulative point average. Receipt of academic credits for this teaching apprenticeship program in philosophy *does not* reduce the 30 semester hours requirement for the master's degree. The graduate assistant registers each semester for PHL 598.

### SPECIAL PROGRAMS

The Department of Philosophy also offers an experimental tutorial program leading to the degree Master of Humanities in Philosophy (MHP) and affords the opportunity to qualified law school students to pursue the Master of Arts jointly with the Juris Doctor at the University of Dayton Law School. For additional information see the department chairman.

### COURSES OF INSTRUCTION

PHL 510. PHILOSOPHY OF SCIENCE: A study of contemporary philosophical accounts of scientific explanation, prediction, confirmation, and discovery in the natural, life, and social sciences. 3 sem. hrs.

PHL 513. MORALITY, SOCIAL ETHICS AND LAW: A study of the notion of justice in its relation with law against the background of the classical views on the subject; those principles governing legal reform; how justice itself is served by the eminently Christian principle of charity; the problems of the legislation and enforcement of morals in society. 3 sem. hrs.

PHL 515. PHILOSOPHY OF LAW: A study of the relationship between law and society. Various styles of legal theory such as natural law, legal positivism, legal realism as well as the concept of a legal system, legal reasoning, freedom and responsibility. 3 sem. hrs.

PHL 516. VALUE THEORY: A study of classic and contemporary theories of values in both the Continental and Anglo-American traditions, including methodological issues of value description, the dimensions of value and value classification, rules of valuation, the theory of practical reasoning and deontic logic, the theory of preference, the logic of preference, and the fact-value distinction. 3 sem. hrs.

PHL 520. PHILOSOPHY OF AUGUSTINE: The moral, social, political, legal, religious, epistemological, and metaphysical issues raised by St. Augustine in his own writings and those raised by his commentators, and their bearing on problems in recent philosophy. 3 sem. hrs.

PHL 525. 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 they are developed in those of his commentators, and as they bear on problems in recent philosophy. 3 sem. hrs.

PHL 540. MEDIEVAL STUDIES: A study of the writings of a particular medieval philosopher and / or a particular problem in medieval philosophy. May be repeated for credit when the philosopher or problem varies. 3 sem. hrs.

PHL 541. PHILOSOPHY OF PLATO: A detailed analysis of selected texts of Plato. May be repeated for credit when the topics and texts vary. 3 sem. hrs.

PHL 542. PHILOSOPHY OF ARISTOTLE: A detailed examination of selected works of Aristotle. May be repeated for credit when texts and topics vary. 3 sem. hrs.

PHL 545. MODERN FRENCH PHILOSOPHY: An examination of the leading philosophical movements in France with particular emphasis on Descartes, Pascal, and Malebranche. 3 sem. hrs.

PHL 553. PHILOSOPHY OF KANT: An examination of the *Critique of Pure Reason* with emphasis on its metaphysical implications or a study of Kantian ethics in *Foundations of the Metaphysics of Morals* and the *Critique of Practical Reason*, with emphasis on the questions of law, freedom, happiness, and God. May be repeated for credit when the topic and texts vary. 3 sem. hrs.

PHL 555. MODERN GERMAN PHILOSOPHY: A study of the post-Kantian influences in modern Germanic philosophy through the idealistic developments of Fichte, Schelling, and Hegel, with emphasis on their rational theological thought, their return to metaphysics, and their varying intellectual intuitionisms. 3 sem. hrs.

PHL 556. PHILOSOPHY OF HEGEL: A study of that part of the *Phenomenology of Spirit* in which Hegel rejects a formalistic explanation of the categories of understanding in favor of the dialectic of reason culminating in Absolute Reason. Additional reference may be made to his *Science of Logic*, *Lectures on the Philosophy of Religion*, and *Lectures on the History of Philosophy*. 3 sem. hrs.

PHL 560. MODERN BRITISH PHILOSOPHY: A study of 17th and 18th century empiricists such as Bacon, Hobbes, Locke, Berkeley, or Hume. Their psychological-epistemological approach to experience, facts, ideas, knowledge, substance, and causality and their relation to positivism. 3 sem. hrs.

PHL 565. AMERICAN PRAGMATISM: An investigation of the major writings of C. S. Peirce, William James, or John Dewey in the pragmatic tradition. May be repeated for credit when topic varies. 3 sem. hrs.

PHL 570. EXISTENTIALISM: A study of existentialism as an original view on man and his world by one major existential philosopher. May be repeated for credit when topic varies. 3 sem. hrs.

PHL 571. PERCEPTION AND KNOWLEDGE: A survey of some fundamental neuro-physiological, psychological, and phenomenological studies on perception with emphasis on the various epistemological issues. 3 sem. hrs.

PHL 575. CONTEMPORARY PHILOSOPHIES OF EVOLUTION: A study of the influence of evolutionary thought in Bergson, James, Dewey, Whitehead, Marxism, or contemporary Christian thought as in Teilhard de Chardin. 3 sem. hrs.

PHL 576. CONTEMPORARY PROBLEMS IN THE PHILOSOPHY OF GOD: An examination of the works of contemporary religious philosophies. 3 sem. hrs.

PHL 577. RECENT CHRISTIAN PHILOSOPHY: A study of the most recent attempts of some Catholic thinkers and theologians to develop approaches and solutions to the perennial problems of a Judaeo-Christian philosophy. 3 sem. hrs.

PHL 578. PHILOSOPHY OF RELIGION: The problems arising in contemporary philosophy of religion. Naturalistic and supernaturalistic responses to the central question "What is religion?" The classical arguments for God's existence, the problem of evil, the cognitive value of mystical experience, revelation and reason, meaning (or symbol) and verification in religious discourse. *3 sem. hrs.*

PHL 580. PHILOSOPHY OF BERTRAND RUSSELL: The main philosophical positions of Russell especially his epistemological empiricism, logical atomism, philosophic analysis of language, philosophy of religion, morality and political philosophy. *3 sem. hrs.*

PHL 585. PHENOMENOLOGY: A critical analysis of the phenomenological method as defined and applied by Husserl, Merleau-Ponty, Sartre, Ricoeur, or other major phenomenologists. May be repeated for credit when content varies. *3 sem. hrs.*

PHL 590. 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 591. SEMINAR: Topics, authors, and / or problems in philosophy selected by the professor. *3 sem. hrs.*

PHL 592. PHILOSOPHY OF ORDINARY LANGUAGE: A study of the objectives and methods of recent language-oriented philosophers such as Strawson, Ryle, J. L. Austin, Quine, Chomsky, and Wittgenstein. *3 sem. hrs.*

PHL 594. SYMBOLIC LOGIC: A study of the techniques and rationales of propositional and predicate, inductive and ordinary, modal and many-valued logics as practical tools for philosophers; selected topics in the philosophy of logic. *3 sem. hrs.*

PHL 598. 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. *3 sem. hrs.*

PHL 599. THESIS *3-6 sem. hrs.*

PHYSICS (PHY)

James R. Schneider, Chairman 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 student's program, tailored to his 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:		<i>Semester Hours</i>
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 topics 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 303-304 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)

Antonio E. Lapitan, Chairman of the Department

Henry J. Anna, Director of the Master of Public Administration Program

The Department of Political Science offers two 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 some of the subareas of political science rather than attempting a superficial acquaintance with all of them.

The Master of Public Administration is a professional degree which is designed to prepare students for administrative careers in contemporary society, or for further graduate study in the area.

### 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 *probationally* or require additional work in topics where he / she is considered deficient. 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.

For admission to the program leading to the Master of Public Administration, the department requires the following:

1. Baccalaureate degree from an accredited college or university.
2. Cumulative average of 2.5 in a 4.0 grading system.
3. Students applying from schools operating on a Pass-Fail grading system are required to submit GRE scores taken in the field of political science. Other applicants are encouraged to submit GRE scores as additional evidence of their competence to do graduate work.

NOTE: In addition, consideration will be given the following:

1. Letters of recommendation from persons in a position to judge the applicant's capacity for graduate work.
2. The applicant's work experience and statement of career objectives.
3. The applicant's undergraduate academic preparation and achievements in disciplines related to the public service: undergraduate courses in political science are particularly desirable.

REQUIREMENTS OF THE POLITICAL SCIENCE PROGRAM

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 514	Development of Political Theory .....	3
POL 502	Colloquium in American Politics .....	3
POL 503	Colloquium in Comparative Politics.....	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 (new course)
POL 597	Research Project (new course)

*American Political Processes*

POL 502	Colloquium in American Politics
POL 521	Seminar: Intergovernmental Relations
POL 545	Seminar: Urban Politics and Policy
POL 546	Seminar: Public Opinion and Political Behavior

- POL 557 Seminar: State Government and Politics  
 POL 579 Seminar: 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 582 Seminar in Comparative Public Administration  
*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

## REQUIREMENTS OF THE PUBLIC ADMINISTRATION PROGRAM

To receive the Master of Public Administration the student must satisfactorily complete 30 semester hours of course work with a cumulative grade point average of 3.0 or better.

The 30 semester hours of course work must include POL 510, POL 580 or 581, at least one course under the heading Analytical and Conceptual Skills, and at least one course under the heading Societal Context of Administration. POL 510 may be waived for students with appropriate academic background in public administration.

The remainder of the 30 semester hours of course work must consist of courses selected from the MPA 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 MPA curriculum may be taken at the 400 level.

Within the general requirements above, the student may select one of three options:

A. The student may take 24 semester hours of academic courses and six semester hours of POL 595, Internship. A student taking this option is encouraged to begin the internship only after completing 15 semester hours of other courses.

B. The student under certain conditions may take 24 semester hours of academic course work and 6 semester 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 may enroll in POL 596 only after completing 15 semester hours of other courses.

C. The student may take the full 30 semester hours in regular academic courses. Students selecting this option must complete at least three semester hours of POL 578, Independent Study in Public Administration.

Upon the completion of 15 semester hours of course work, including semester hours transferred from other schools or programs, each student must apply to the chairman of the graduate committee of the Department of Political Science for a certifying examination. The examination provides an opportunity to discuss with each student (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:

1. Knowledge of subject matter important for a career in public administration.
2. Skills in interpersonal relationships, problem analysis, and oral and written communication.
3. The appropriateness of the student's values to an administrative career in the public service.

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

1. Certify the student for further course work without prescribing particular courses.
2. Certify the student for further course work and at the same time prescribe those courses which the student must take in order to complete a satisfactory program.
3. Refuse to certify the student for further course work in the public administration program.

## CURRICULUM

### *General Courses*

POL	510	Public Administration
POL	521	Seminar: Intergovernmental Relations
POL	540	Problems in Public Administration
POL	578	Independent Study in Public Administration
POL	595	Internship
POL	596	Public Service Project

### *Organizational Leadership and Management*

POL	535	Fiscal Administration
POL	576	Public Personnel Administration
POL	580	Organizational Systems
POL	581	Organizational Theory
MBA	541	Labor Relations and Labor Economics
MBA	581	Administrative Management Practices
MBA	582	Organizational Behavior
COM	517	Organizational Communication

### *Analytical and Conceptual Skills*

POL	552	Government Planning
POL	579	Selected Topics in Public Policy
POL	511	Quantitative Methods in Public Administration
ENM	551	Policy Analysis and Planning in Public Systems

### *Societal Context of Administration*

POL	502	Colloquium in American Politics
POL	514	Development of Political Theory
POL	545	Seminar: Urban Politics and Policy
POL	557	Seminar: State Government and Politics
POL	546	Seminar: Public Opinion and Political Behavior

- POL 572 Administrative Law  
POL 555 Urban and Local Administration  
POL 583 Seminar: Comparative Public Policy

## 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 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: A 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 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: Introduction to research techniques involving quantitative methods and analyses applicable to the formulation and implementation of public programs. Examples from applications to current organizational operations, program and policy analysis and planning, measuring and forecasting social trends, and related public policy and organizational developments. Aimed at an understanding of appropriate application and interpretation of quantitative methods, rather than competence in practical or scholarly use. Prerequisite: MTH 207 or permission of the instructor. *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 521. SEMINAR: 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 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. PROBLEMS IN PUBLIC ADMINISTRATION: Seminar on selected problems in public administration. May be repeated once when topic changes. 3 sem hrs.

POL 545. SEMINAR: 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. GOVERNMENTAL 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 555. URBAN AND LOCAL 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. 3 sem. hrs.

**POL 579. SEMINAR: 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 580. ORGANIZATIONAL SYSTEMS:** Application of systems theory to the operation of governmental, business, and educational organizations. Conventional theories are related to the systems approach to an understanding of organizations. *3 sem. hrs.*

**POL 581. ORGANIZATIONAL 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.*

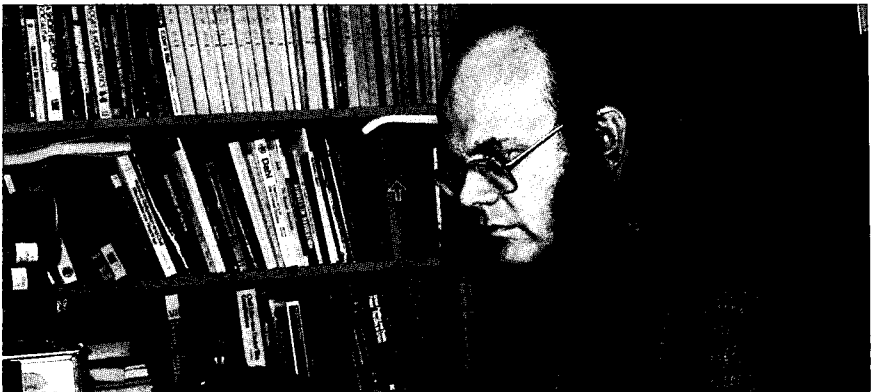
**POL 583. SEMINAR: COMPARATIVE PUBLIC POLICY:** Study of the applicability and limitations of current approaches in public policy analysis for cross-national and / or cross-cultural comparison. Emphasis on the analysis of how such public policy issues as defense, welfare, education, and economic development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

**POL 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. *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, Chairman of the Department

The Department of Psychology offers five Master of Arts programs:

Clinical Psychology  
Developmental Psychology  
Experimental-Cognitive Psychology  
Social Psychology  
General Psychology

In all programs emphasis is on integrating theory and literature with appropriate applied experience and on competence in the development of appropriate 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. Graduate work is normally expected to be completed in four semesters.

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

All applicants must have the equivalent of one course in college algebra and have received a grade of C or better in that course.

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

### APPLICATIONS

Application forms can be obtained from the Office for Graduate Studies at the University of Dayton and all correspondence concerning the completion of the application should be directed to that office. Inquiries concerning the master's program, its curriculum, and the Department of Psychology should be directed to Dr. Richard J. Popp, Chairman, Department of Psychology, University of Dayton,

Dayton, Ohio 45469. It is the applicant's responsibility to obtain all information necessary for the completion of an application.

A completed application consists of the following:

1. The completed application form.
2. Official transcript of all undergraduate schooling (and graduate schooling when appropriate).
3. Three letters of recommendation concerning the applicant's academic ability (usually from professors at schools previously attended).
4. The Millers Analogy Test score, M.A.T.
5. The graduate Record Examination Score, G.R.E. (both aptitude and advanced scores).

Under special circumstances the chairman of the department may waive application requirements.

### STUDENT STATUS

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

1. Regular standing: Students meeting all the entrance requirements of the department.
2. Conditional standing: Students who are required to complete admission requirements as determined by the department. Such students are considered as probationary pending the results of 9 to 15 semester hours of graduate work.
3. Unclassified: Students enrolled in graduate courses of the department who may not be necessarily working for a degree.

### MASTER'S 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:

1. The number of semester hours and required courses as specified by the individual programs described below.
2. Minimum average of B (3.0) in course work.
3. Attendance at regularly scheduled extra-course seminars on selected issues in psychology and at occasional specialized workshops.
4. 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.
5. Time limit of seven years in which to complete the program (period of service in the Armed Forces not included).

### 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 thorough exposure in the areas of personality, psychopathology, and psy-

chotherapy, extensive training in the assessment of intelligence and personality, and supervised practice in individual, group, and behavior therapy techniques. Through traineeships 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 PhD in clinical psychology.

The Master of Arts with a major in Psychology (Clinical) requires 44 semester hours, consisting of 39 semester hours of academic course work, including thesis, and five clerkships, as listed.

<i>Research — Quantitative</i>	<i>Semester Hours</i>
PSY 501    Advanced Statistics I.....	3
PSY 502    Advanced Statistics II.....	3
PSY 599    Thesis.....	3

*Research — Methods: One of the following.*

PSY 521    Advanced Research Design.....	3
PSY 568    Research in Clinical Psychology.....	3
PSY 585    Experimental Social Psychology.....	3

*Theoretical*

PSY 553    Theory and Research in Psychopathology.....	3
PSY 555    Theories of Personality and Psychotherapy .....	3

*Psychodiagnosis*

PSY 555    Techniques of Interviewing.....	1
PSY 551    Assessment of Intelligence.....	3
PSY 552    Internship in Intelligence.....	1
PSY 556    Assessment of Personality .....	3
PSY 557    Clerkship in Projective Techniques .....	1

*Techniques of Therapy: Two of the following courses plus clerkships.*

PSY 558    Group Psychotherapy .....	3
PSY 559    Clerkship in Group Psychotherapy.....	1
PSY 560    Childhood Psychopathology and Psychotherapy.....	3
PSY 561    Clerkship in Child Therapy .....	1
PSY 562    Behavior Therapy: Theory and Techniques .....	3
PSY 563    Clerkship in Behavior Therapy .....	1
PSY 564    Individual Psychotherapy: Theory and Practice.....	3
PSY 565    Clerkship in Individual Psychotherapy .....	1
PSY 566    Child-Family Psychotherapy.....	3
PSY 567    Clerkship in Family Therapy.....	1

*Clinical Psychology elective: One three-semester-hour course.*

*Prescribed courses in outside areas: Two courses to equal six semester hours from two of the areas below.*

*Developmental*

PSY 571    Experimental Child Psychology .....	3
PSY 572    Perceptual and Attentional Development in Children.....	3
PSY 573    Developmental Psychology.....	3

<i>Experimental-Cognitive</i>		
PSY 522	Advanced Cognitive Processes .....	3
PSY 525	Basic Processes in Learning and Memory.....	3
PSY 528	Psychophysiology.....	3
PSY 529	Perception.....	3
<i>Social</i>		
PSY 585	Experimental Social Psychology.....	3

DEVELOPMENTAL PSYCHOLOGY

The graduate program in developmental psychology offers the student intensive preparation for a profession in teaching and 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 and (2) collaborative research with a faculty member in the student's second term, 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, and 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 listed.

		<i>Semester Hours</i>
PSY 501	Advanced Statistics I.....	3
PSY 502	Advanced Statistics II.....	3
PSY 599	Thesis.....	3
PSY 571	Experimental Child Psychology.....	3
PSY 572	Perceptual and Attentional Development in Infants and Children.....	3
PSY 573	Developmental Psychology.....	3
PSY 452	Cognitive Development in Children.....	3
— —	Free electives.....	6

*Prescribed courses in outside areas:* One course from each of the areas below to equal nine semester hours.

<i>Clinical</i>		
PSY 553	Theories and Research in Psychopathology .....	3
PSY 555	Theories of Personality and Psychotherapy .....	3
<i>Experimental-Cognitive</i>		
PSY 522	Advanced Cognitive Processes .....	3
PSY 525	Basic Processes in Learning and Memory.....	3
PSY 528	Psychophysiology.....	3
PSY 529	Perception.....	3
<i>Social</i>		
PSY 585	Experimental Social Psychology.....	3

EXPERIMENTAL-COGNITIVE PSYCHOLOGY

The master's program in Experimental-Cognitive 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, language, 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 preceptorial instruction through supervised original research and classroom teaching.

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

	<i>Semester Hours</i>
PSY 501    Advanced Statistics I.....	3
PSY 502    Advanced Statistics II.....	3
PSY 522    Advanced Cognitive Processes .....	3
PSY 527    Current Theories of Human Learning and Memory .....	3
PSY 528    Psychophysiology.....	3
PSY 529    Perception.....	3
PSY 599    Thesis.....	3
Two courses from the following to equal six semester hours.	
PSY 503    Advanced Quantitative Methods in Psychology.....	3
PSY 505    Computer Applications to Behavioral Science.....	3
PSY 521    Advanced Research Design.....	3
PSY 524    Human Information Processes.....	3
PSY 525    Basic Processes in Learning and Memory.....	3
PSY 526    Psychology in Perspective .....	3
PSY 597    Readings .....	3
<i>Prescribed courses in outside areas: One course from each area to equal nine semester hours.</i>	
<i>Clinical</i>	
PSY 553    Theories and Research in Psychopathology .....	3
PSY 555    Theories of Personality and Psychotherapy .....	3
<i>Developmental</i>	
PSY 571    Experimental Child Psychology.....	3
PSY 572    Perceptual and Attentional Development in Children.....	3
PSY 573    Developmental Psychology.....	3
<i>Social</i>	
PSY 585    Experimental Social Psychology.....	3

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 an MA-level career in work or consultation with social-community agencies.

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

	<i>Semester Hours</i>
PSY 501    Advanced Statistics I.....	3
PSY 502    Advanced Statistics II.....	3
PSY 585    Experimental Social Psychology.....	3
PSY 596    Experimental Research.....	3
PSY 599    Thesis.....	3
— — —    Elective.....	3
Three courses from the following four to equal nine semester hours.	
PSY 586    Social Psychology Applied to Community Problems .....	3
PSY 587    Social Influences and Group Dynamics .....	3
PSY 588    Interpersonal Processes.....	3
PSY 589    Attitudes .....	3
<i>Prescribed courses in outside areas: Three courses (including one clinical and one experimental-cognitive) to equal nine semester hours.</i>	
<i>Clinical</i>	
PSY 553    Theories and Research in Psychopathology.....	3
PSY 555    Theories of Personality and Psychotherapy .....	3
<i>Developmental</i>	
PSY 571    Experimental Child Psychology.....	3
PSY 572    Perceptual and Attentional Development in Children.....	3
PSY 573    Developmental Psychology.....	3
<i>Experimental-Cognitive</i>	
PSY 522    Advanced Cognitive Processes .....	3
PSY 525    Basic Processes in Learning and Memory.....	3
PSY 528    Psychophysiology.....	3
PSY 529    Perception.....	3

GENERAL PSYCHOLOGY

For a limited number of students with specific and specialized career goals, the Master of Arts with a major in General Psychology is offered. Before matriculation into the program, the student and a faculty advisor specify objectives and

design a curriculum tailored to the individual student. Courses selected reflect the student's needs in interaction with overall graduate program requirements and the resources available within the Department of Psychology and the University community.

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

	<i>Semester Hours</i>
PSY 501    Advanced Statistics I.....	3
PSY 502    Advanced Statistics II.....	3
PSY 599    Thesis.....	3
<i>Required courses and electives as specified by advisor.....</i>	
<i>Prescribed courses in outside areas: Three courses (including one clinical and one experimental-cognitive) to equal nine semester hours.</i>	
<i>Clinical</i>	
PSY 553    Theories and Research in Psychopathology.....	3
PSY 555    Theories of Personality and Psychotherapy.....	3
<i>Developmental</i>	
PSY 571    Experimental Child Psychology.....	3
PSY 572    Perceptual and Attentional Development in Children.....	3
PSY 573    Developmental Psychology.....	3
<i>Experimental-Cognitive</i>	
PSY 522    Advanced Cognitive Processes.....	3
PSY 525    Basic Processes in Learning and Memory.....	3
PSY 528    Psychophysiology.....	3
PSY 529    Perception.....	3
<i>Social</i>	
PSY 585    Experimental Social Psychology.....	3

COURSES OF INSTRUCTION

500-519 QUANTITATIVE METHODS

- PSY 501. ADVANCED STATISTICS I: A survey of the principles of sampling, estimation, and hypothesis-testing as applied to bivariate regression, simple analysis of variance, and sturdy statistics. Prerequisite: undergraduate statistics. 3 sem. hrs.
- PSY 502. ADVANCED STATISTICS II: Application of the general linear model in complex factorial designs and selected multivariate techniques, including multiple regression, principle-components and canonical correlation. Prerequisite: PSY 501. 3 sem. hrs.
- PSY 503. ADVANCED QUANTITATIVE METHODS IN PSYCHOLOGY: Quantitative techniques used in mathematical models and theories with applications to particular psychological theories. Emphasis on the breadth of applications of quantitative methods in psychology. 3 sem. hrs.
- PSY 504. SEMINAR IN STATISTICS: To gain a working knowledge of specialized statistical techniques such as analysis of variance, nonparametric statistics, correlational methods. The specific technique may vary from one offering to the next. Prerequisite: PSY 501. 3 sem. hrs.

**PSY 505. COMPUTER APPLICATIONS TO BEHAVIORAL SCIENCE:** Survey of several psychological studies in which the use of the computer was critical to the experimental design. Prerequisites: PSY 501, permission of instructor. *3 sem. hrs.*

### 520-529 EXPERIMENTAL PSYCHOLOGY

**PSY 521. ADVANCED RESEARCH DESIGN:** Theory of scaling; concepts on the transformation of data as applied to problems of sensory and cognitive functions. Prerequisites: PSY 501, permission of advisor. Two hours of lecture and one two-hour laboratory period per week. *3 sem. hrs.*

**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 man and machines; fast retrieval theories; recent theories of language comprehension and problem solving. *3 sem. hrs.*

**PSY 525. BASIC PROCESSES IN LEARNING AND MEMORY:** The fundamental paradigms, concepts, and findings in the study of human learning, including recall, recognition, serial learning, paired-associate learning, transfer of training, short-term memory, and language processing. *3 sem. hrs.*

**PSY 526. PSYCHOLOGY IN PERSPECTIVE:** Examination of the major systems and theories since 1850 to achieve a historical synthesis of modern psychology and to place it in a context of the other arts and sciences. *3 sem. hrs.*

**PSY 527. CURRENT THEORIES IN LEARNING AND MEMORY:** Investigation of recent theoretical contributions to the study of human learning. *3 sem. hrs.*

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

**PSY 529. PERCEPTION:** A systematic study of methods and research findings in the field of human perception, with an evaluation of theoretical interpretations. Prerequisites: PSY 501, permission of instructor. *3 sem. hrs.*

### 550-569 CLINICAL PSYCHOLOGY

**PSY 550. TECHNIQUES OF INTERVIEWING:** Supervised experience in clinical interviewing as a preliminary to assessment, diagnosis, and / or treatment in addition to developing an understanding of the individual. Prerequisite: Permission of the instructor. *1 sem. hr.*

**PSY 551. ASSESSMENT OF INTELLIGENCE:** The basic instruments for assessment of intelligence including the Stanford-Binet, WAIS, WISC, and WPPSI. Discussion of theories of intelligence, test development, clinical interpretation, and current research with the instruments. *3 sem. hrs.*

**PSY 552. INTERNSHIP IN INTELLIGENCE:** Supervised experience in the use and interpretation of intelligence tests with the aim of providing exposure to a wide variety of subjects. Corequisite: PSY 551. *1 sem. hr.*

**PSY 553. THEORIES AND RESEARCH IN PSYCHOPATHOLOGY:** Survey of major theories on the etiology of the various behavior disorders, using the standard classification system. Theoretical and empirical research on the symptoms and dynamics of these disorders. *3 sem. hrs.*

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

**PSY 556. ASSESSMENT OF PERSONALITY:** Survey and evaluation of the use and interpretation of the major tests used to assess personality and psychopathology including MMPI, Rorschach, TAT. Discussion of test development, theoretical rationale, and research on the instrument. Prerequisite: PSY 553. *3 sem. hrs.*

**PSY 557. CLERKSHIP IN PROJECTIVE TECHNIQUES:** Supervised experience in the use and interpretation of the various personality assessment instruments. Prerequisite: PSY 553. Corequisite: PSY 556. *1 sem. hr.*

**PSY 558. GROUP PSYCHOTHERAPY:** A study of group theory, its origins and applications, and specific techniques related to group therapy, including a review of literature and research in the field. Prerequisite: PSY 555. *1 sem. hr.*

**PSY 559. CLERKSHIP IN GROUP PSYCHOTHERAPY:** Supervised experience in various techniques of group psychotherapy. Prerequisites: PSY 555, permission of the instructor. Corequisite: PSY 558. *1 sem. hr.*

**PSY 560. CHILDHOOD PSYCHOPATHOLOGY AND PSYCHOTHERAPY:** Survey from various theoretical perspectives of the major behavior disorders of childhood, their description, causes, treatment, and prevention. *3 sem. hrs.*

**PSY 561. CLERKSHIP IN CHILD THERAPY:** Supervised experience in psychotherapy and / or behavior modification with preadolescent children. Prerequisites: PSY 560, permission of instructor. *3 sem. hrs.*

**PSY 562. BEHAVIOR THERAPY – THEORY AND PRACTICE:** Survey of the various behavioral therapy techniques and their theoretical and experimental origins. Prerequisite: PSY 555. *3 sem. hrs.*

**PSY 563. CLERKSHIP IN BEHAVIOR THERAPY:** Supervised experience in the use and application of behavioral therapy techniques. Prerequisites: PSY 555, permission of the instructor. Corequisite: PSY 562. *1 sem. hr.*

**PSY 564. INDIVIDUAL PSYCHOTHERAPY – THEORY AND PRACTICE:** Survey approach to individual psychotherapy with emphasis on specific therapeutic skills developed from empirical findings and related to theoretical and ethical issues inherent in various views of psychotherapy. Prerequisite: PSY 555. *3 sem. hrs.*

**PSY 565. CLERKSHIP IN INDIVIDUAL PSYCHOTHERAPY:** Supervised experience in the use and application of various techniques used in individual psychotherapy. Prerequisites: PSY 555, permission of the instructor. Corequisite: PSY 564. *1 sem. hrs.*

**PSY 566. CHILD-FAMILY PSYCHOTHERAPY:** Survey of the various therapeutic techniques, theoretical orientations, and research appropriate to child-family psychotherapy. Prerequisite: PSY 555. *3 sem. hrs.*

**PSY 567. CLERKSHIP IN FAMILY THERAPY:** Supervised experience in the use and application of various techniques associated with child-family psychotherapy. Prerequisite: permission of the instructor. *1 sem. hr.*

**PSY 568. RESEARCH IN CLINICAL PSYCHOLOGY:** Based on a systematic study of the theoretical constructs of psychology and their applications to clinical research, including problems of inference and methodology, the course provides an exposure and evaluation of research in the major areas of clinical psychology. Prerequisite: PSY 501. *3 sem. hrs.*

### 570-579 DEVELOPMENTAL PSYCHOLOGY

**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 306 or equivalent (PSY 403 recommended). *3 sem. hrs.*

**PSY 572. PERCEPTUAL AND ATTENTIONAL DEVELOPMENT IN INFANTS AND CHILDREN:** Research methodology and findings relating to perceptual and attentional development beginning with birth. Emphasis on visual capacities, the influence of variables on perceptual development, individual differences and the effects of early experience on perceptual-cognitive functioning, and the relationship of sensory integration to reading. Prerequisites: PSY 302, 306, 310, or permission of instructor. *3 sem. hrs.*

**PSY 573. DEVELOPMENTAL PSYCHOLOGY:** Theory and research in psychological development from conception to adolescence. Emphasis on personality and social development including attachment and dependency, aggression, sex-role learning, moral development, and cross-cultural socialization. Prerequisite: PSY 306 or equivalent or permission of instructor. *3 sem. hrs.*

### 580-589 SOCIAL PSYCHOLOGY

**PSY 585. EXPERIMENTAL SOCIAL PSYCHOLOGY:** Study of scientific method in general and social psychology methods in specific to develop and demonstrate an ability to plan, conduct, and report on investigations in social psychology. Stress on applying design methods to concepts and issues in social psychology. Prerequisites: PSY 302, 310, 408. *3 sem. hrs.*

**PSY 586. SOCIAL PSYCHOLOGY APPLIED TO COMMUNITY PROBLEMS:** The nature of community problems with crime, drug abuse, alcoholism, poverty, race relations, and mental health; what social psychologists can contribute to their solution. Each student will spend a few hours weekly in field work with a community organization addressing itself to one or more of these problems. Readings; written report on field experience. Prerequisite: PSY 585. *3 sem. hrs.*

**PSY 587. SOCIAL INFLUENCES AND GROUP DYNAMICS:** Two major areas of social psychology, social influence and group dynamics, covering such topics as group problem-solving, behavioral and hysterical contagion, the classic conformity research, and social facilitation. Students will be required to design an experiment in the form of a research proposal. Prerequisite: PSY 585. *3 sem. hrs.*

**PSY 588. INTERPERSONAL PROCESSES:** Some prominent subareas of social psychology, including interpersonal attraction, attribution, social exchange theories, person perception, the acquaintanceship process, and ingratiation. Prerequisite: PSY 585 or permission of the instructor. *3 sem. hrs.*

**PSY 589. ATTITUDES:** This seminar surveys definitions of attitudes and related concepts (e.g., beliefs), standard scales (e.g., equal-interval), recent scaling models (e.g., unfolding), and artifacts of persuasion research (e.g., suspicion). Both classical and recent studies of attitude formation and change are critically examined for their support of dominant theories of persuasion. Prerequisite: PSY 585. *3 sem. hrs.*

### 590-599 INDEPENDENT STUDY AND RESEARCH

**PSY 595. SEMINAR IN SPECIAL TOPICS IN PSYCHOLOGY:** Various topics of special interest to the faculty and students. An intensive critical evaluation of the appropriate literature. *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. *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., Chairman 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. 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. Another program in Theological Studies is offered conjointly by the University of Dayton and St. Leonard College for seminarians enrolled at St. Leonard College. Details of this program along with the descriptions of the courses offered at St. Leonard can be found in the catalog of St. Leonard College, Centerville, Ohio.

The University is an active member of the Consortium for Higher Education Religion Studies (CHERS) and of the All-Ohio and Dayton Cluster of Seminaries. This membership makes possible dialogue 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.

## 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. Graduate Record Examination scores are recommended as a part of the applicant's materials.

## 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.

## LANGUAGE PROFICIENCY

For both programs a working knowledge of a modern language is recommended. For specialization in the biblical or historical areas a working knowledge of the language employed in the area, e.g., Hebrew, Greek, or Latin, may be required. The language requirement 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 in the Southern Area 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 and exegetical study of selected writings of the New Testament. May be taken more than once. (1) Synoptics, (2) Luke-Acts, (3) John, (4) Pauline Corpus, (5) Pastoral Epistles. *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:** An 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. **THEOLOGICAL MOVEMENTS:** Study of selected movements in theology in the 19th and 20th centuries or of the life and work of selected modern theologians. 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. **THE CHRISTIAN DOCTRINE OF GOD:** Concentration on the recent discussion about God, examining the major options in contemporary theology including the theologies of the "death of God." 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 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 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: An investigation of the theory behind and the use of models in catechesis with emphasis on the implications various models of the Church have for understanding the task of catechesis.  
3 sem. hrs.

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 PROCESSES: Study of the role of structure in catechesis in the light of those structures used by effective centers of catechesis, especially in the U.S.A. An approach to the understanding and evaluation of life experiences and intuitional insights as to content and method in the relationship established by structure.  
3 sem. hrs.

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.*

### 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.*

