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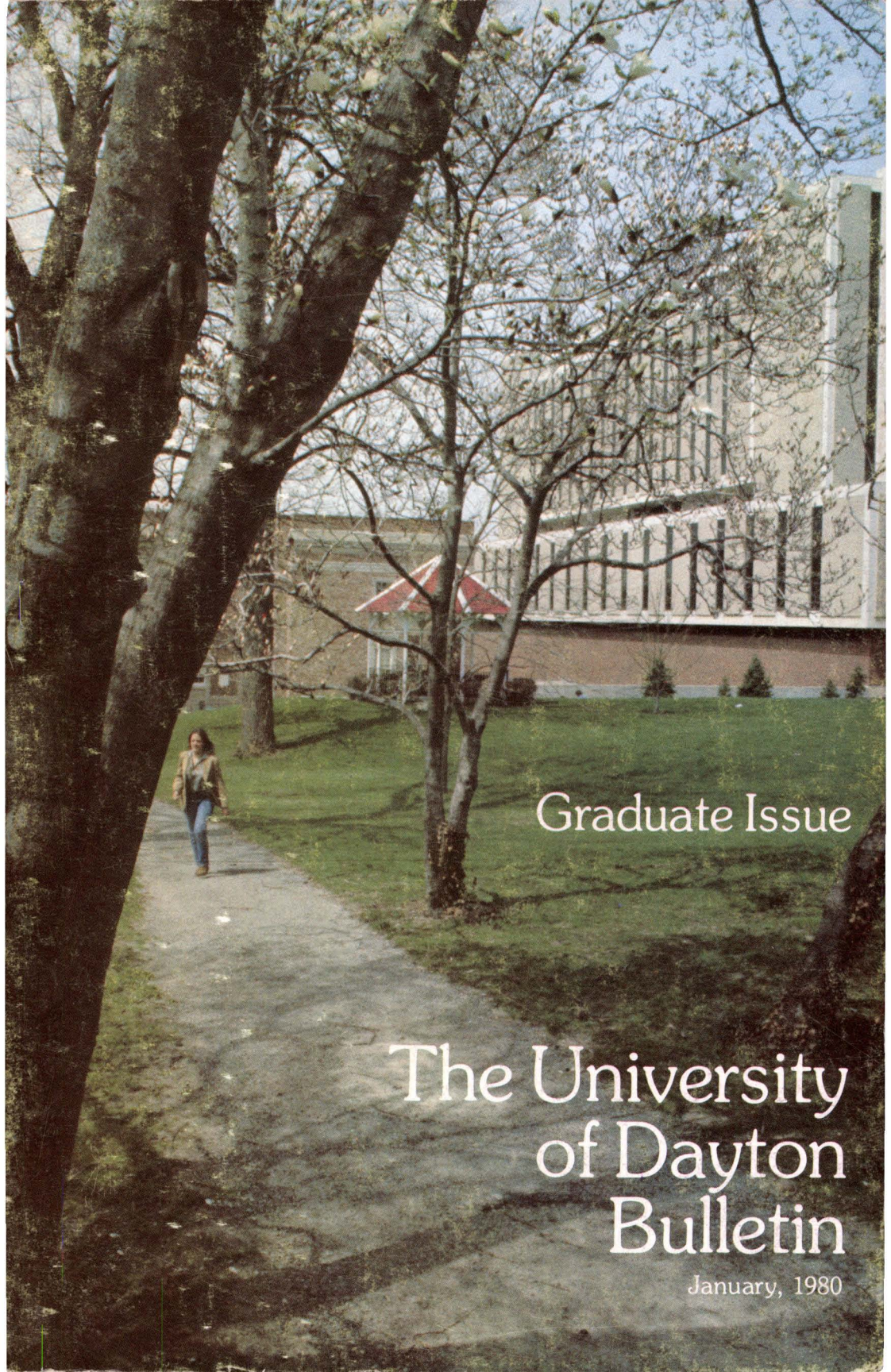
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Graduate Issue

The University
of Dayton
Bulletin

January, 1980

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DAYTON, OHIO 45409
THE UNIVERSITY OF DAYTON BULLETIN
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The University of Dayton Bulletin includes the Graduate Issue, Summer Session Issue, Fall Session Issue, School of Law Issue, and Undergraduate Issue.

The provisions of the various issues of this Bulletin are to be considered directive in character and not as an irrevocable contract between the student and the University. The University reserves the right to make any changes that seem necessary or desirable.

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Telephone: University of Dayton (513) 229-0123

University Office of Admissions (513) 229-4411

University Office for Graduate Studies (513) 229-2343

University of Dayton School of Law (513) 229-3211

THE UNIVERSITY OF DAYTON BULLETIN

GRADUATE ISSUE

JANUARY 1980

Reservation of the Right to Modify

The information contained in this bulletin is considered to be descriptive in nature. It does not constitute an irrevocable contract between the student and the University. The University reserves the right to make any changes in the contents of this bulletin or in the documented course of study that it deems necessary or desirable.

1980-81 ACADEMIC CALENDAR

First Term

Fri.-Sun., Aug. 22-24	New student orientation
Sat., Aug. 23, 1:00 p.m.	Last day to complete registration
Mon., Aug. 25	Classes begin at 8:00 a.m.
Mon., Sept. 1	Labor Day — no classes
Wed., Sept. 3	Last day to change schedules
Wed., Sept. 3	Last day to change grading options
Mon., Sept. 8	Last day to change grades for second summer session
Mon., Sept. 15	Last day to withdraw without record
Fri., Sept. 26	Closing date for submission of candidacy for graduation
Mon., Oct. 13	Columbus Day — no day classes; classes 4:30 & after meet
Date not known	Homecoming
Tues., Oct. 14	Freshmen midterm progress grades due in Registrar's Office
Mon., Oct. 27	Veterans Day — all classes meet
Wed., Nov. 12	Last day to withdraw with record of W
Wed., Nov. 26	Thanksgiving recess begins after last evening class
Mon., Dec. 1	All classes resume
Mon., Dec. 8	Feast of the Immaculate Conception — no day classes; classes 4:30 and after meet
Thurs.-Fri., Dec. 11-12	Examinations
Sat., Dec. 13	Examinations for Saturday classes
Mon.-Wed., Dec. 15-17	Examinations
Thurs.-Wed., Dec. 11-17	Examinations for classes 4:30 and after
Wed., Dec. 17	First term ends after last examination
Sat., Dec. 20	Diploma exercises
Mon., Dec. 22	Grades due in Registrar's Office
Mon., Jan. 26	Last day to change first term grades

Second Term

Sat., Jan. 3, noon	Last day to complete registration
Mon., Jan. 5	Classes begin at 8:00 a.m.
Tues., Jan. 13	Last day to change schedules
Tues., Jan. 13	Last day to change grading options
Mon., Jan. 19	Martin Luther King Day — no day classes; classes 4:30 and after meet
Mon., Jan. 26	Last day to withdraw without record
Mon., Jan. 26	Last day to change grades for first term
Fri., Feb. 6	Closing date for submission of candidacy for graduation
Fri., Feb. 13	Faculty Workshop — no day classes; classes 4:30 & after meet
Mon., Feb. 16	Lincoln-Washington Day — no day classes; classes 4:30 and after meet
Thurs., Feb. 26	Freshmen midterm progress grades due in Registrar's Office
Fri., Mar. 27	Last day to withdraw with record of W
Fri., Apr. 17	Good Friday — no classes
Mon.-Fri., Apr. 20-24	Examinations for day classes and classes 4:30 and after
Sat., Apr. 25	Examinations for Saturday classes
Sat., Apr. 25	Second term ends after last examination
Sun., Apr. 26	Commencement
Tues., Apr. 28	Grades due in Registrar's Office
Mon., June 1	Last day to change second term grades

Third Term — First Session

Sat., May 2, noon	Last day to complete registration
Mon., May 4	Classes begin at 8:00 a.m.
Thurs., May 7	Last day to change schedules for first session
Thurs., May 7	Last day to change grading option for first session
Tues., May 12	Last day to change schedules and grading options for full third term courses
Wed., May 13	Last day to withdraw without record from first session courses
Fri., May 22	Last day to withdraw without record from full third term courses
Mon., May 25	Memorial Day — no classes
Thurs., May 28	Ascension Thursday — no classes
Fri., May 29	Last day to withdraw with record of W from first session courses
Mon., June 1	Last day to change grades for second term
Wed.-Tues., June 10-16	Examinations for classes 4:30 and after
Sat., June 13	Examinations for Saturday classes
Mon.-Tues., June 15-16	Examinations for day classes
Tues., June 16	First session ends after last examination
Fri., June 19	Grades due in Registrar's Office
Mon., July 27	Last day to change third term, first session grades

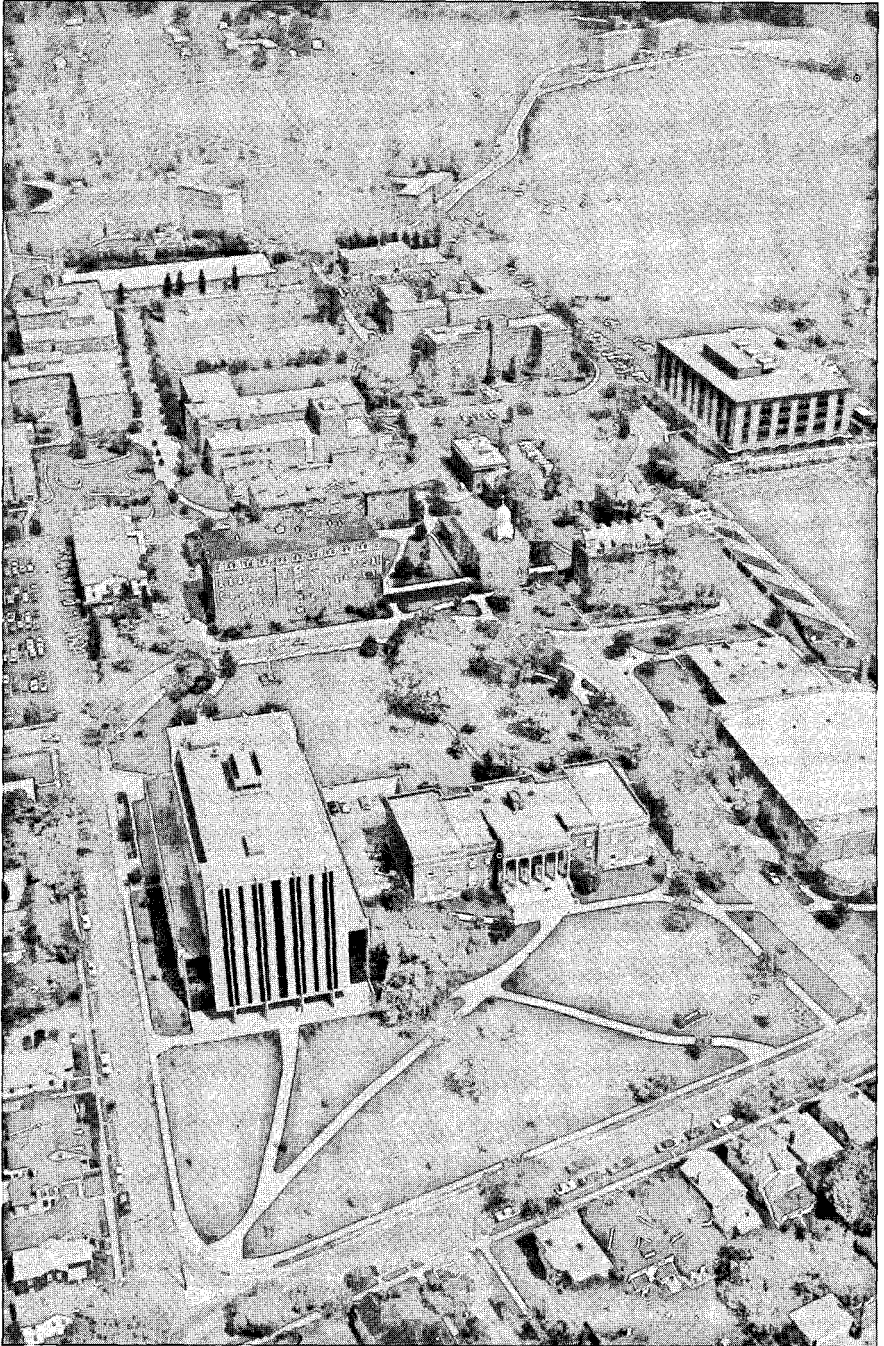
Third Term — Second Session

Fri., June 19, noon	Last day to complete registration for Saturday classes
Sat., June 20	Saturday classes begin
Sat., June 20, noon	Last day to complete registration for other than Saturday classes
Mon., June 22	Classes begin at 8:00 a.m.
Thurs., June 25	Last day to change schedules
Thurs., June 25	Last day to change grading options
Fri., June 26	Closing date for submission of candidacy for graduation
Wed., July 1	Last day to withdraw without record
Sat., July 4	Independence Day — no Saturday classes
Fri., July 17	Last day to withdraw with record of W for second session and for full third term courses
Mon., July 27	Last day to change grades for first session
Mon.-Fri., July 27-31	Examinations for classes 4:30 and after
Thurs.-Fri., July 30-31	Examinations for weekday classes
Sat., Aug. 1	Examinations for Saturday classes
Sat., Aug. 1	Second session ends after last examination
Sun., Aug. 2	Diploma exercises
Wed., Aug. 5	Grades due in Registrar's Office
Wed., Sept. 9	Last day to change third term and second session grades

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I The University of Dayton

Founded in 1850

The University of Dayton is a private, coeducational school founded and directed by the Society of Mary (the Marianists), a Roman Catholic teaching order.¹ It is among the nation's largest Catholic institutions of higher learning. Aware of the cultural richness of diversity, the University numbers among its students and faculty representatives of many faiths. For the same reason, the University has consciously drawn its students and faculty not only from the immediate community and adjoining states but from across the country and from numerous foreign countries.

The main campus is seventy-six landscaped acres on a hill overlooking the city of Dayton, Ohio. The buildings are a pleasantly eclectic architectural mixture of old and new. The faculty is well qualified and competent to provide students with superb instruction and prudent counseling.

A lively, friendly atmosphere; reasonable tuition rates; financial aid plans; numerous and varied religious, cultural, and social opportunities; an early-semester calendar allowing a number of study-recess options; intercollegiate and intramural athletic programs for both men and women; academic options such as interdisciplinary programs, field study and internships; academic, professional, and personal counseling; cooperative work-study plans; a placement service for students and graduates — these exemplify the myriad aspects of the character of the University of Dayton.

BRIEF HISTORY

In march, 1850, Marianist Father Leo Meyer, recently arrived from France, purchased Dewberry Farm in Dayton from John Stuart, a descendent of the old royal family of Scotland.

The University of Dayton had its earliest beginnings here on July 1, 1850, when St. Mary's School for Boys, a frame building that not long before had housed farm hands, opened its door to fourteen primary students from Dayton.

¹The Society of Mary, founded in France in 1817 by Father William Joseph Chaminade, presently conducts schools throughout the United States and in Africa, Australia, Canada, Japan, Europe, and South America. The Society operates Chaminade College in Hawaii and St. Mary's University in San Antonio, Texas.

By 1860, when Brother Maximin Zehler became president, enrollment approached one hundred. St. Mary's grew; an old history refers to the period of 1860-1875 as "the brick-and-mortar years." In 1870, visitors marveled at new St. Mary Hall, the largest building in the city of Dayton, and called it Zehler's Folly. But when the "college department" moved into it in 1871, it proved not too big at all. Construction went on.

Known at various times as St. Mary's School, St. Mary's Institute, and St. Mary's College, the school established its present identity in 1920, when it incorporated as the University of Dayton. The same year the University started its tradition of evening and Saturday classes, to serve the adult members of the surrounding community. In 1922, a school of law opened, also with evening classes. Other graduate programs followed. In 1923, the first summer session took place, its classes open to women as well as men. This decade of academic growth and innovation was as well a time of increased emphasis on sports here and across the country. Sports, however, were no novelty here: in 1874, for example, St. Mary's Institute's new gymnasium was the only one of its kind in Ohio, and tradition holds that the first organized basketball game in the state took place there.

The 1930's and the early 1940's, for obvious reasons, were in many ways a time of retrenchment for the University of Dayton as for most other schools. In 1935, even as it closed its preparatory school and graduated its last class from the old law school, the University inaugurated a college for women, with sisters of Notre Dame in charge of 27 entering students. Two years later, the college for women closed; the deans opened all divisions to women, and the University of Dayton became co-educational.

Today, the University of Dayton is a modern comprehensive university consisting of: the College of Arts and Sciences; the School of Business Administration; the School of Education; the School of Engineering and the Division of Engineering Technology; the School of Law and the Research Institute.

The total enrollment is approximately 9,500 students of whom approximately 3,000 are in graduate programs or law. Over 850 faculty and research professionals are on the staff.

Advanced degrees are given in the College at all Schools. The University of Dayton is accredited as a comprehensive university and is listed in the top 100 research universities in the United States.

STATEMENT OF PURPOSES

A graduate school, through its faculty, seeks to provide and maintain the academic milieu for excellence in graduate work. Therefore, its influence and encouragement extend first to its own members and their scholarly activity. Because it conceives as the form and substance of graduate work not the credits accumulated but the mastery of a subject and the understanding of its relationship to kindred subjects, the graduate school seeks further to impart to its students thorough knowledge in academic fields, special skills in research, and sharpened powers of independent thought. Yet, while it gives them the resources, the guidance, and the inspiration of

a scholarly staff in its classrooms, laboratories, and libraries, it expects the students themselves to bring marked initiative and energies to their work and to assume full responsibility for the progress of their studies.

In short, graduate work, for the student at the University of Dayton, has for its purpose an integrated program of advanced study based on adequate undergraduate preparation in a specific field. It presupposes academic and personal maturity and makes more than average demand upon the initiative, the industry, and the scholarship of the candidate for an advanced degree.

The official statement of purposes of the University of Dayton was approved by the Board of Trustees May 14, 1969.

“The University of Dayton, by tradition, by legal charter, and by resolute intent, is a church-related institution of higher learning. As such, it seeks, in an environment of academic freedom, to foster principles and values consonant with Catholicism and with the living traditions of the Society of Mary. Operating in a pluralistic environment, it deliberately chooses the Christian world-view as its distinctive orientation in carrying out what it regards as four essential tasks: teaching, research, serving as a critic of society, and rendering public service.

The University of Dayton has as its primary task to teach — that is, to transmit the heritage of the past, to direct attention to the achievements of the present, and to alert students to the changes and challenges of the future. It regards teaching, however, as more than the mere imparting of knowledge; it attempts to develop in its students the ability to integrate knowledge gained from a variety of disciplines into a meaningful and viable synthesis.

The University of Dayton holds that there is harmony and unity between rationally discovered and divinely revealed truths. Accordingly, it commits its entire academic community to the pursuit of such truths. It provides a milieu favorable to scholarly research in all academic disciplines, while giving priority to studies which deal with problems of a fundamentally human and Christian concern. It upholds the principle of responsible freedom of inquiry, offers appropriate assistance to its scholars, and endeavors to provide the proper media for the dissemination of their discoveries.

The University of Dayton exercises its role as critic of society by creating an environment in which faculty and students are free to evaluate, in a scholarly manner, the strengths and weaknesses found in the institutions developed by man. While, as an organization, it remains politically neutral, objective and dispassionate, it encourages its members to judge for themselves how these institutions are performing their proper tasks; to expose deficiencies in their structure and operation; to propose and to actively promote improvements when these are deemed necessary.

The University of Dayton recognizes its responsibility to support, with means appropriate to its purposes, the legitimate goals and aspirations of the civic community and to cooperate with other agencies in striving to attain them. It assists in promoting the intellectual and cultural enrichment of the community; it makes available not only the resources of knowledge that it possesses, but also the skills and techniques used in the accumulation and dissemination of knowledge; and, above all, it strives to inspire persons with a sense of community and to encourage men and women of vision who can and will participate effectively in the quest for a more perfect human society.”

BASIC ACADEMIC STRUCTURE

The University of Dayton includes the College of Arts and Sciences and four professional schools: the School of Business Administration, the School of Education, the School of Engineering (including Engineering Technology), and the School of Law. The deans, through their departments, administer the undergraduate and graduate programs, the ultimate responsibility for which rests with the Dean for Graduate Studies and Research, who is also responsible for all research connected with the University. At the head of the academic structure of the University is the Vice President for Academic Affairs and Provost.

ACADEMIC YEAR

The University of Dayton operates under an early semester, split third-term calendar. The academic year begins with the fifteen-week fall term, which ends before Christmas. The winter term, also fifteen weeks, begins in January and ends late in April. The third, or spring-summer term, is split into two complete sessions of six weeks each.

The advantages of such a calendar are many. Students may enroll for the traditional fall and winter semesters and have a four-month summer vacation; or they may add half terms or full terms to enrich their programs or speed the completion of their graduation requirements. (The University holds graduation ceremonies at the end of each term.) Students who are employed have extra time in spring and summer; or they may enroll for the third term and work during the fall or the winter term.

RELATED UNIVERSITY SERVICES

Besides the regular day sessions, the University conducts special as well as regular evening and summer sessions and offers short-term workshops, institutes, and conferences. Many of the programs presented during the regular day sessions are offered also in the evening and summer sessions, enabling students to work toward degrees on a part-time basis. All credited courses, whenever offered or in whatever form, conform to the same standards and are governed by the same policies and regulations prevailing during the regular day sessions.

The Metro Center especially serves the part-time students of the Dayton community, to make the University and its course offerings, both credit and noncredit, more easily available to them. Similarly, the Office of International Education serves students from other countries who are enrolled at the University as well as those students who are interested in traveling or studying in other countries.

OFF-CAMPUS CENTERS

The University of Dayton maintains off-campus centers, all of them in Ohio, for graduate study in the following disciplines: Business Administration: Columbus and Lima; Education: Lima, Springfield, and Steubenville. All programs and courses are closely supervised by the Deans of Education and Business as well as the Dean for Graduate Studies and Research. Most courses are taught by the same faculty teaching the same course on the main campus.

INSTITUTIONAL CONSORTIA

Dayton-Miami Valley Consortium

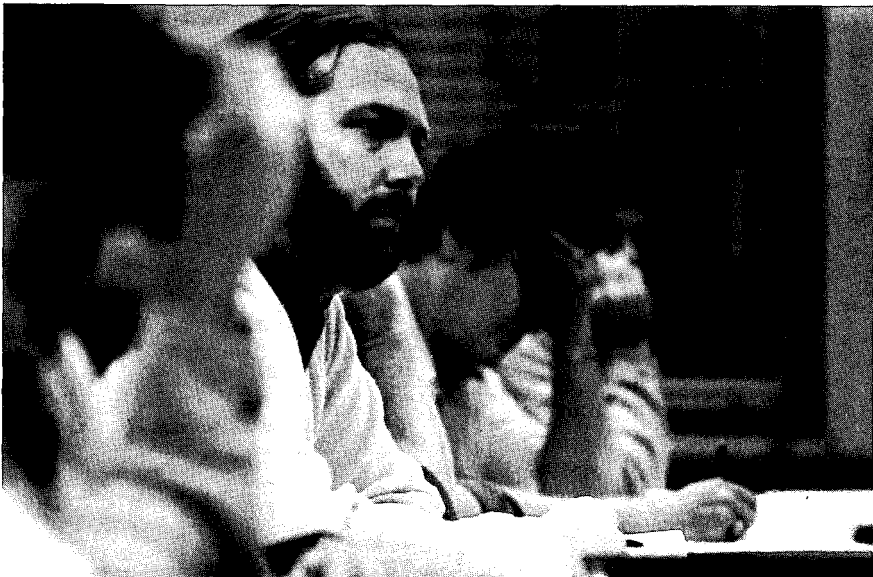
Fifteen institutions of higher learning in the Miami Valley, including the University of Dayton, have organized the Dayton-Miami Valley Consortium (DMVC). The participating institutions seek to increase inter-institutional cooperation, improve curricula, develop new courses and programs, share library resources, minimize cost, and centralize selected functions, by using computers, modern educational technology, and communication media.

Among the benefits of the Consortium is that regularly enrolled full-time students at one institution, under certain conditions, may register for credit at no additional charge in courses offered by other Consortium institutions in which no instruction is available at their own institution.

Consortium for Higher Education Religion Studies

The University is an active member of the Consortium for Higher Education Religion Studies (CHERS). This consortium makes possible cross registration, sharing library resources, dialogue with students of other institutions, interchange of facilities, and cooperative innovative planning. Area members include Earlham School of Religion, Mount St. Mary's Seminary, Payne Theological Seminary, St. Leonard College, University of Dayton, and United Theological Seminary. United Theological Seminary.

United Theological Seminary, Antioch College, the University of Dayton, and Wright State University jointly employ and share a Professor of Judaic Studies under a grant from the Harriet Sanders Trust of Dayton, Ohio.



ACCREDITATION

The University of Dayton is officially accredited by the following agencies:

The North Central Association of Colleges and Secondary Schools

The State of Ohio Department of Education

The National Council for Accreditation of Teacher Education for preparation of elementary and secondary school teachers

The Council on Social Work Education for the social work program

The Engineers' Council for Professional Development for chemical, civil, electrical, and mechanical engineering curricula; for programs of electrical, industrial, and mechanical technology; and for the Bachelor of Technology.

The University has the approval of the American Medical Association for its premedical program and of the American Chemical Society for its program in chemistry.

The School of Law is accredited by the American Bar Association and the Ohio League of Law Schools.

INSTITUTIONAL MEMBERSHIP

The University holds institutional membership in the following:

The American Association for Higher Education

The American Association of Colleges for Teacher Education

The American Association of Collegiate Registrars and Admissions Officers

The American Association of Collegiate Schools of Business Assembly

The American Association of University Women

The American College Testing Program

The American Collegiate Retailing Association

The American Council on Education

The American Political Science Association (Departmental Services)

The American Society for Engineering Education

The Association for American Law Schools

The Association of American Colleges

The Association of College and University Housing Officers

The Association of Governing Board of Universities and Colleges

The Association of Independent Colleges and Universities of Ohio

The Association of Urban Universities

The Catholic College Coordinating Council

The College Entrance Examination Board

The College and University Personnel Association

The Cooperative Education Association

The Council for Advancement and Support of Education

The Council of Graduate Schools

The Institute of International Education

The International Council on Education for Teaching

The National Association for Foreign Student Affairs

The National Association for Music Therapy (tentative approval)

The National Association of College Admissions Counselors

The National Association of College and University Business Officers

The National Association of Independent Colleges and Universities

The National Association of Schools of Music

The National Association of Schools and Public Affairs and Administration

The National Association of Student Personnel Administrators

The National Catholic Education Association

The National Scholarship Service and Fund for Negro Students

The North Central Association of Colleges and Secondary Schools

The Ohio Academy of Science

The Ohio College Association

II Financial Information

GENERAL POLICY

One half of the tuition and fees must be paid at the time of final registration for the term; the remaining one-half must be in the Bursar's Office no later than six (6) weeks after the beginning of the term.

A late registration fee will be assessed if registration is finalized on the first day of the term and later. A late payment fee will be assessed if the second one-half payment is received in the Bursar's Office after the first six (6) weeks of the term.

TUITION AND FEES *

Tuition for Courses Taken for Undergraduate Credit

Per registered semester hour for lecture course on campus only	\$70.00
Per clock hour for laboratory course.	20.00

Tuition for Courses Taken for Graduate Credit

Per registered semester hour except as below	74.00
Department of Religious Studies, per semester hour	67.00
School of Business Administration off-campus center, per semester hour	81.00
School of Education, per quarter hour	37.00
School of Education Lima Academic Center, per quarter hour.	37.00
School of Education Springfield Academic Center, per quarter hour.	37.00
School of Education Steubenville Center, per quarter hour.	39.00
Ed.S. program, per quarter hour	42.00
School of Engineering doctoral program, per semester hour.	81.00
Secondary and elementary teachers and school administrators, per semester hour (school related courses only).	58.00

Fees

Application fee, non-refundable	15.00
Foreign student application fee, non-refundable.	25.00
Basic University fee, each term on campus only (This fee payable only once during the third term.)	15.00
Audit per semester hour	30.00
Em credit per semester hour	15.00
Graduation fee.	35.00
Late registration service charge	15.00
Late payment fee (second payment)	15.00

An assessment of \$20.00 will be made for payment of tuition and fees by a bad check and cancellation of the student's registration will result until proper payment is made of tuition, fees and special assessment.

**Subject to change.*

CANCELLATION AND REFUNDS

Cancellations will be allowed only after the completion of the proper Drop-Add Form. For refund purposes the effective date of cancellation is the date the student submits the official Drop-Add Form, not the last day the student attends class. The date that appears on the official Drop-Add Form will be forwarded to the Bursar's Office, and that date will determine the amount of refund due, if any.

Students attending academic centers away from the main campus may write a letter to the appropriate dean requesting withdrawal if a drop / add form is not available. Requests for refunds must be in writing and addressed to the Bursar.

Students who discontinue class attendance without officially completing the withdrawal procedures will be responsible for the full amount of the applicable tuition and fees.

Tuition charges for cancellations the first and second terms will be made according to the following schedule:

During the first week of classes	20%
During the second week of classes	40%
During the third week of classes	60%
During the fourth week of classes	75%
During and after the fifth week of classes	100%

Tuition charges for cancellations each session of the split third term will be made according to the following schedule:

During the first week of classes	35%
During the second week of classes	70%
During or after the third week of classes	100%

TRANSCRIPTS

Transcripts are issued by the Registrar and will not be released without the written permission of the student. The first copy requested after graduation is complimentary. Other copies require the advance payment of two dollars for a single copy and fifty cents each for additional copies when the request is for multiple copies. All accounts must be paid before a transcript will be issued. Official transcripts may be sent to the student and to anyone designated by the student.

ASSISTANTSHIPS

A limited number of graduate assistantships is available. These carry a stipend and tuition remission for courses required for the degree. Recipients are expected to complete the requirements for the master's degree in two years.

Detailed information and forms for making application may be obtained from the chairman or director of the proposed graduate program.

III University Facilities and Services

LIBRARIES

The University of Dayton Raymond A. Roesch, S.M. Library contains book, journal, and microfilm collections for both graduate and undergraduate students. Its book holdings are over 530,000 volumes, and its journal titles number over 4,000. The Roesch Library is a partial Government Document Depository. It houses (in addition to the internationally famous Marian Library, which has auxiliary collections of its own) other special resources such as a rare book collection and an archives. The Roesch Library provides continuous reference service and operates almost entirely under the open stack system. On each floor, comfortable reading areas are convenient to the stacks. Typewriters and photocopiers, tape and record listening devices, seminar rooms and faculty carrels are among the Roesch Library's other facilities.

The Marian Library, on the seventh floor of the Roesch Library building, holds the world's largest collection of works on the Virgin Mary, which includes 54,000 books and pamphlets in over fifty languages, runs of 125 periodicals, a clipping file of over 40,000 items, growing microfilm offerings, and numerous medals and photographs. The Marian Library supplements its resources for Mariology with national and regional bibliographies; a significant depository of early printing, with 4,000 works dated before 1800; and reference works on the Bible, ecclesiastical and dogmatic history, Christian art (especially of the Eastern Churches and Medieval Europe), and the history of printing.

The Law Library, opened in 1974 with the reopening of the Law School, occupies the ground floor of the main library building. It has over 130,000 volumes and offers other modern research resources such as microforms.

The Louis J. Faerber Curriculum Materials Center, housing specialized collections of the School of Education, is on the first floor of Chaminade Hall.

The University's active membership in the Dayton-Miami Valley Consortium has significantly augmented the library resources available to its students. Some libraries in the Consortium will lend materials directly to the students from other schools; others require interlibrary loan forms, which may be secured from one of the reference librarians.

Other libraries in the area available to graduate students include the public system library and the libraries of the Engineers' Club, Miami Valley Hospital, certain units of Wright-Patterson Air Force Base, and certain local industries.

The University of Dayton offers on-line computerized literature searching to graduate students through the Information Systems Section of University of Dayton Research Institute. With the large array of data bases available, literature searching is possible on any topic from education, psychology, and sociology through business, history, and art to science and engineering. By working with a qualified information specialist and using the on-line interactive capabilities, the graduate student can identify those articles and reports pertaining specifically to his topic of interest. This service is unique among graduate schools in the area, and provides University of Dayton graduate students with a powerful, time-saving and useful tool for their research work.

COMPUTER CENTER

The University's Office for Computing Activities (OCA) operates a large time-sharing computer for the benefit of students, faculty, and staff as well as for academic support services, the registration process, and other administrative functions.

Various academic departments offer courses in or involving programming and the use of the computer, for which students regularly come to OCA's Data Center to do assignments. In addition, students not enrolled in courses specifically requiring computer use may learn about it and gain experience on a first-come, first-served basis. Open-shop terminals are in the Data Center, as are keypunch machines for those who need them. The Data Center distributes several manuals produced by the staff to explain the Computer Center's program library, equipment, and capabilities.

Student dispatchers, consultants, and programmers are hired each year to assist the staff in providing computing service to the University community. Students interested in working as any of these are encouraged to visit the office of the Manager of Operations, the Manager of Academic Services, or the Director of OCA.

RESEARCH INSTITUTE

As an integral unit of the University, the Research Institute administers sponsored research that the University agrees to perform for commercial organizations and governmental agencies. Research projects are in such broad and diverse areas as ecological studies, bone implants, blood flow, heart and muscle investigation, aerodynamics and structural mechanics, archaeological investigations, systems analysis, and the development of high strength magnetic materials.

Projects concerning a single discipline are conducted by the appropriate academic department, and multidisciplinary projects are normally conducted in research facilities under the direct jurisdiction of the Research Institute. There is strong emphasis on the integration of all research with the instructional activities of the University, and a concerted effort is made to provide opportunities for graduate students to acquire training and experience in research.

INTERNATIONAL EDUCATION

International education services are available to serve several important functions at the University; advise and service international students at the University of Dayton; and provide leadership in all other aspects of international education such as exchange programs, sister-school relationships, and recruitment of students from other countries. To complement these functions a resource center is maintained with materials dealing with work and exchange programs, travel, special international topics, and foreign cultural reviews as well as American material of interest to international students on this campus.

IV Student Life and Services

The Vice President for Student Development and Dean of Students and her staff are responsible for assisting in developing and maintaining an environment which will support the educational goals and the Christian values of the University of Dayton. While students are encouraged to accept responsibility to make decisions, it is understood that decision making involves risks. The Student Development staff provide individual and group counseling and supportive reinforcement, treating all students as individuals. All members of the Student Development staff are professional counselors.

HOUSING

The University of Dayton does not maintain on-campus housing for graduate students. Suitable rooms, apartments and other accommodations are available in the immediate vicinity within easy commuting distance. Probably the best current information can be obtained by consulting the program director or students in the department of interest.

Students new to the Dayton area are cautioned to arrange for housing prior to the beginning of a semester. Most choice accommodations are gone by the time classes start.

FOOD SERVICE

The University of Dayton's Food Service maintains two dining facilities: the Brass Lantern in Marycrest complex and El Granada, the main cafeteria in Kennedy Memorial Union. A large snack bar in the Union offers light meals as well as snacks. In addition, all of the residence halls have snack bars, which are open evenings and weekends.

Students may purchase either five-day or seven-day meal tickets or make their own daily arrangements. Five-day lunch tickets are available to commuters. On weekends, students may eat in the cafeterias on a cash basis if they wish. Numerous fast food services are available near the campus. Also, there are many fine restaurants in the Dayton area.

CAMPUS SECURITY AND PARKING

Campus Security is the recognized, lawful, professional police agency on all University property. It is the objective of this department to make the University a comfortable, efficient, and safe place. The University of Dayton Campus Security is dedicated to the preservation of freedom of movement and communication with a minimum of fear of property loss or personal injury.



A one-year parking permit may be obtained for a fee of \$15 at the Traffic Office, Gosiger Center. This is a color-coded decal indicating the lot to which the permit holder has been assigned. Parking facilities on the main campus are limited. Restrictions to assigned lots are enforced rigidly between 6 a.m. and 5 p.m. on weekdays. After 5 p.m. daily and on weekends, all University lots (except for restricted zones) are open to all permit holders. An evening student may obtain an evening permit for the same \$15 fee. Note, however, that evening students arriving on campus before 5 p.m. on weekdays may park only in Lot A.

The Traffic Office brochure, issued with the permit, lists traffic regulations in detail. Drivers are expected to know these and to observe them.

STUDENT IDENTIFICATION CARDS

All registered students must have validated student identification (ID) cards. This card, validated for the given term, is needed to withdraw books from the Roesch Library and to obtain numerous other University services. ID's are issued and validated by the office of the Registrar.

PRIVACY RIGHTS OF PARENTS AND STUDENTS

In compliance with Section 438 of the General Education Provisions Act the University of Dayton has published regulations designed to protect the privacy of parents and students as to the access to and the release of records maintained by this institution. (See University of Dayton Student Handbook.)

INFORMATION CENTER

The Information Center, on the first floor of the John F. Kennedy Memorial Union, gives students and others easy access to miscellaneous data such as the location and telephone numbers of faculty, staff, students, and organizations; the location of academic and other departments; the location of buildings and classrooms; bus schedules; the schedule of on-campus meetings and other events (academic, cultural, athletic, and recreational), listing specific times, places, admission prices if any, names of speakers or performers, etc.; and events in Dayton and the surrounding area that are of special interest or value to University students.

The Center maintains a lost-and-found department and a rack of useful pamphlets, flyers, maps, and University publications.

OFFICE OF UNIVERSITY ACTIVITIES

The Office of University Activities sponsors and coordinates extra-curricular and co-curricular activities for University organizations, departments, groups, and students in general. These not only enrich and enhance educational, cultural, and social development but foster a spirit of community in accord with the objectives of the University of Dayton.

Numerous and varied cultural, social, and recreational activities take place on campus, many of them in the Kennedy Memorial Union. Among the continuing programs are the University Arts Series, with renowned guests, chiefly in music, the dance, and literature; the Distinguished Speakers Series; the Religion in Life Series; the Music Division series of recitals and concerts by students and faculty; regular productions by the University Players of the Theatre Division; Noon Forums, a weekly series on subjects of current interest; a classic film series; and shows and exhibitions in the Kennedy Art Gallery.

In addition, the outstanding musical, dramatic, and artistic programs and events in the Dayton area are well publicized on campus. Most offer special student rates.

ATHLETICS AND INTRAMURAL SPORTS

Many people throughout the country have come to know the University of Dayton through the accomplishments of its intercollegiate athletic teams. Participation in athletics is part of the educational development the University offers all students. There are eight men's intercollegiate sports: football and soccer in the fall; ice hockey, wrestling, and both varsity and junior varsity basketball in the winter; and baseball, golf, and tennis in the spring. There are five women's intercollegiate sports: volleyball, tennis and field hockey in the fall; varsity basketball in the winter; and softball in the spring.

Welcome Stadium and the U.D. Arena are the focal points of intercollegiate activity. Welcome Stadium, carpeted with AstroTurf, seats 12,000 for football games, and the U.D. Arena seats 13,500 for basketball.

The Intramural Sports Department offers twenty activities for both men and women: badminton, basketball, bowling, cage ball, cross country, darts, flag football, frisbee, golf, handball, horseshoes, paddleball, pass/punt/kick, softball, table tennis, tennis, volleyball, weight lifting, wrestling, and wrist wrestling. A new Physical Activities Center is allowing for further expansion of the intramural program.

HEALTH SERVICES

Medical care is available at the Gosiger Memorial Health Center to all full-time and part-time graduate students. Basic medical care and most nonprescription medicines are provided without charge. The Health Center is open from 8 a.m. to 7 p.m. on weekdays and from 8 a.m. to 3 p.m. on Saturdays. Emergency care is available at all times. The doctor's hours are from 9 a.m. to 3:30 p.m. on weekdays. On Wednesday afternoons graduate students (and Marianists) are given priority in the doctor's clinic.

Pre-admission physical examinations are no longer required, but any student with a chronic health problem is advised to have his physician send records or recommendations to the Medical Director. Full-time graduate students are eligible for student health and accident insurance. For information about this program visit Room 111 at the Gosiger Health Center.

HUMAN RELATIONS OFFICE

The Human Relations Office serves students, faculty, staff, and administrators in several ways. It encourages and facilitates intergroup communication on campus. It serves as a primary conduit for two-way communication between the University of Dayton and the black community both on and off campus. It offers to minority students and others personal and group counseling, academic and cultural program support, and a variety of informational and guideline services. Its director is also the compliance officer for Affirmative Action/Equal Employment Opportunity (AA/EEO), Title IX of the Education Amendment of 1972, and Sections 503 and 504 of the Rehabilitation Act of 1973 (Affirmative Action and Nondiscrimination on the Basis of Handicap) at the University.

PSYCHOLOGICAL SERVICES

In keeping with the University's dedication to educating the whole person, the Psychological Services Center offers a complete testing and counseling program, to provide aid and guidance in personal, social, emotional, intellectual, and career development. (The work of the center goes beyond the campus, including testing and other psychological services to schools, business, and industry.)

Testing services for students help them identify their talents and aptitudes as well as, when warranted, their problems. The highly trained professional staff of the center are competent to deal not only with problems of personal, social, academic, and career adjustment but also with those of more serious concern. Since often counseling involves rather sensitive personal matters, all discussions between counselors and students are completely confidential.

Day-to-day academic counseling in all disciplines is provided by and through the various deans, departmental chairpersons, and faculty advisors.

PLACEMENT

The services of the Placement Office, St. Mary's Hall, which are available to seniors, graduate students, and alumni seeking positions in business, industry, and government, include the following:

1. Personal employment counseling.
2. A library of literature describing opportunities with more than 500 employers.
3. A listing of current job openings.
4. Direct referral to employers.
5. Campus interviews by representatives of business, industry, and government (conducted from October through March; announced in a monthly calendar which can be obtained in the Placement Office).

Part-time and summer employment are the responsibility of the Student Employment Coordinator, Office of Personnel Services. Teacher placement is the responsibility of the Teacher Placement Office, School of Education.

Information about graduate assistantships may be obtained from the appropriate departmental chairmen or program directors.

THE STUDENT HANDBOOK

Each student at the University of Dayton is responsible for knowing and observing the policies, regulations, and procedures contained in the official student handbook. This publication provides much other useful information on such subjects as University services, student organizations, student publications, and intercollegiate and intramural sports schedules.

Student handbooks are available at the opening of the fall term in the residence halls, the Information Center, and the Off-Campus Center for Community Relations.

V General Academic Information

The academic requirements and regulations described in this chapter are those of the University which, unless otherwise noted, take precedence over all others and apply to all graduate students. The student is expected to assume full responsibility for knowing and following all pertinent regulations and procedures of the graduate school as set forth in this Bulletin and for meeting the standards and requirements expressed herein.

The admission of candidates, their continuance and status, the awarding of academic credits, and the granting of degrees are all subject to the ordinary regulatory powers of the University. The University reserves the right to withhold or cancel, at its discretion, any of these privileges for reasons considered sufficient by its own governing body.

The University of Dayton presently awards the following degrees beyond the baccalaureate:

Master of Arts
Master of Business Administration
Master of Clinical Chemistry
Master of Clinical Laboratory Technology
Master of Computer Science
Master of Humanities in Philosophy
Master of Public Administration
Master of Science
Master of Science in Aerospace Engineering
Master of Science in Chemical Engineering
Master of Science in Civil Engineering
Master of Science in Education
Master of Science in Electrical Engineering
Master of Science in Engineering
Master of Science in Engineering Management
Master of Science in Management Science
Master of Science in Materials Engineering
Master of Science in Mechanical Engineering
Master of Science in Teaching
Juris Doctor
Doctor of Engineering
Doctor of Philosophy in Biology
Doctor of Philosophy in Engineering

ADMISSION

Men and women graduates of approved colleges or universities who hold the bachelor's degree are eligible for admission. Applicants must have had adequate undergraduate preparation in their proposed fields of study and must show promise for pursuing higher studies satisfactorily.

Inquiries concerning admission and requests for application forms should be addressed to the Office for Graduate Studies or to the Office of the Dean of the appropriate school or college of the University of Dayton. The application for admission to graduate work should be submitted by August 1 for the first term, by December 1 for the second term, by April 1 for the third term, and by June 1 for the second half of the split third term. It is the responsibility of the student that the application, with all necessary supporting documents, be complete and in order. Registration as a graduate student will not be permitted otherwise. A student anticipating use of the University Health Services must also file a medical record along with the application.

Upon admission, students are designated as full time or part time by their deans or program directors. The determination of such status for graduate assistants, students engaged in research, and in general all graduate students is made by their respective chairmen.

Graduate students are also classified according to their relationship to formal programs, as follows:

1. Regular status — the student who has met satisfactorily all the general requirements of the college or school and the specific requirements of the department in which the program is given.
2. Conditional status — the student who must fulfill some prerequisite imposed by the school or department before admission to regular status; and the student whose preparation cannot yet be determined.
3. Unclassified status — the student belonging to either of the categories below. The unclassified student will be considered as the student of a school or the college but will not be officially enrolled in a graduate program leading toward a degree.
 - a. Nonprogrammed — a student who fulfills all the requirements and is taking courses for credit but is not seeking a degree.
 - b. Transient — a properly qualified student working toward a degree in another institution who has written authorization from the dean of that institution to take specific courses at the University of Dayton for transfer of credit. The transient student must satisfy all registration requirements of the given course that are mandatory for students working for a degree at the University of Dayton.

INTERNATIONAL STUDENTS

Students from foreign countries should request information and applications from the Office of International Education. A student from a foreign country seeking admission to any graduate program must have completed a minimum of sixteen years of schooling, must have earned at least a bachelor's degree or its

equivalent, and must present evidence of outstanding success in his chosen field of study. An applicant who is a citizen of a foreign country will be required to supply the following information along with his formal application form:

1. A completed academic record.
2. Three recommendation letters.
3. Scores from the Test of English as a Foreign Language (TOEFL).
4. Scores from the Graduate Record Examination (GRE). Exception: Instead, MBA candidates must furnish scores from the Graduate Management Admissions Test (GMAT).
5. A medical questionnaire completed by a responsible medical authority.
6. Evidence of sufficient funds to cover tuition, room and board, and return transportation costs; and, from countries where applicable, evidence of exchange funds and export permission. (A master's degree requires approximately two calendar years for completion.) Moreover, the international student must carry health insurance and be prepared to pay the first annual premium (\$45.00) upon arrival at the University.

International students should complete the application procedure two months prior to the beginning of classes for any term. (See academic calendar.) Original inquiries should be made at least one year before the term in which the student seeks admission.

NOTE: There are no exceptions for international students to the above rules.

UNDERGRADUATE STUDENTS IN GRADUATE COURSES

An undergraduate student may register for graduate courses only under the following conditions:

1. Graduate courses to count toward the undergraduate degree:
 - a. Approval must be obtained from the director of the appropriate graduate program.
 - b. The student's total course load must not exceed 17 semester hours during that term.
2. Graduate courses to count toward the graduate degree:
 - a. Approval must be obtained from the director of the appropriate graduate program.
 - b. The student's total course load must not exceed 17 semester hours during that term.
 - c. The student must be within 15 semester hours of completing the semester-hour requirements for graduation in his undergraduate program.
 - d. Credit obtained for the graduate courses may not be counted toward both the bachelor's degree and for any future master's degree.
 - e. The undergraduate student whose status is less than full time or $\frac{3}{4}$ time must pay the graduate tuition rates to register in graduate courses for graduate credit.

VETERANS

All departments of the University have been approved by the Veterans Administration for training under the G.I. Bill. Veterans' affairs are handled by the VA Representative, second floor, St. Mary's Hall. All veterans wishing to utilize their educational benefits must contact this office each semester. Counseling by the Veterans Administration is available in the Guidance Center. For the purpose of VA certification, 8 or more semester hours are considered full time; 6 or 7 semester hours are $\frac{3}{4}$ time; 4 or 5 semester hours are $\frac{1}{2}$ time; 3 semester hours are less than $\frac{1}{2}$ time.

ADVISING

Initial academic advising is usually done by the program director or a temporary advisor. Following this the graduate student may be assigned to a permanent advisor or a graduate committee. In either case all details of the program will be decided by the student and advisor.

REGISTRATION FOR COURSES

The responsibility for being properly registered rests with the student. Registration is required each term or session of all students who enter course work for credit and of all students who wish to audit courses. The written approval of the proper dean or the designated director or advisor is required for admission to any course. Any student who has interrupted the normal sequence of his graduate program is required to apply to the designated advisor or program chairman for permission to resume study, at least two weeks prior to the first day of each term.

All students should consult the Graduate Composite for each term well in advance of registration in order to determine the scheduling of courses. Students enrolling at the off-campus centers (Columbus, Findlay, Lima, Springfield, Steubenville) should note that although the scheduling of off-campus classes follows the general pattern of the University calendar, they do not necessarily conform to the on-campus academic dates in all details. Law students should note a separate Law School calendar in Chapter XI.

DEGREE REQUIREMENTS

The College of Arts and Sciences and the Schools of Business Administration, Education, Engineering, and Law offer programs variously distributed in time, leading to the master's and doctor's degrees. Specific requirements and sequences leading to these degrees are described in Chapters VI through XI, as are the specific curricula, courses, and requirements of the schools and departments offering them.

Residence Requirement

For the master's degree, at least 24 semester hours of credit, or its equivalent, must be earned at the University of Dayton or its off-campus centers.

For the doctoral degree, two-thirds of the semester hours required beyond the master's degree should be earned at the University of Dayton. Generally, this is 48 semester hours beyond the master's degree. For the doctoral degree, a student must be a full-time student during at least two semesters or the equivalency.

Transfer Credits

A maximum of two courses of graduate work may be allowed in transfer from other accredited institutions to the University of Dayton provided the work is of B grade quality or better. The quality points are not transferred. Usually no transfer credit will be allowed for courses taken more than five years previous to matriculation in the graduate schools of the University of Dayton.

During the initial years of operation of any new program, exceptions to this limitation may be made with the approval of the Dean for Graduate Studies and Research.

Advanced Undergraduate Courses

Some, but not all, curricula permit certain 400-level undergraduate courses to be applied to graduate program credit requirements. When such courses are permitted for graduate-level credit, then the work done shall be of the grade of B or higher in order for that credit to be accepted toward a degree. The student must pay the graduate tuition rates when registering in these courses for graduate credit.

Elective Courses

Most graduate programs allow, and encourage, the student to select one or two courses from other related disciplines. Consult the advisor or program director for details.

Second Master's Degree

In some cases a student, either possessing a Master's degree or currently studying toward one, wishes to obtain an additional Master's degree in a related field. Only six semester hours from the first program may be applied towards the requirements of the additional degree.

Foreign Language Requirement

At the discretion of the department offering a particular program, a reading knowledge of a foreign language may be required for the master's degree. Graduate students can take language courses on class or tutorial basis by special arrangement through the Department of Languages, College of Arts and Sciences. No graduate credit is allowed for the fulfillment of language requirements.

Comprehensive Examination

A comprehensive examination is required in most programs. This examination may be oral or written, or both. Application for any comprehensive examination

must be approved by the chairperson of the student's major department at least two weeks prior to the examination. For further details, consult the explanation under the appropriate individual program in this Bulletin.

Thesis and Other Requirements

Students in a program requiring a thesis, an equivalent project, a candidacy examination, or a dissertation may begin work only with the approval of the program director or of an advisor delegated with the authority to give it. Both the form and the content of the final work must have the approval of at least three members of the department, including the faculty advisor and the chairperson or director.

At least three final copies of a master's thesis in approved form must be submitted at least two weeks before the date of graduation. Students in doctoral programs should consult appropriate sections of this Bulletin for requirements concerning candidacy and such matters as the number of copies of the dissertation, as well as for regulations governing topics, approval, and procedures.

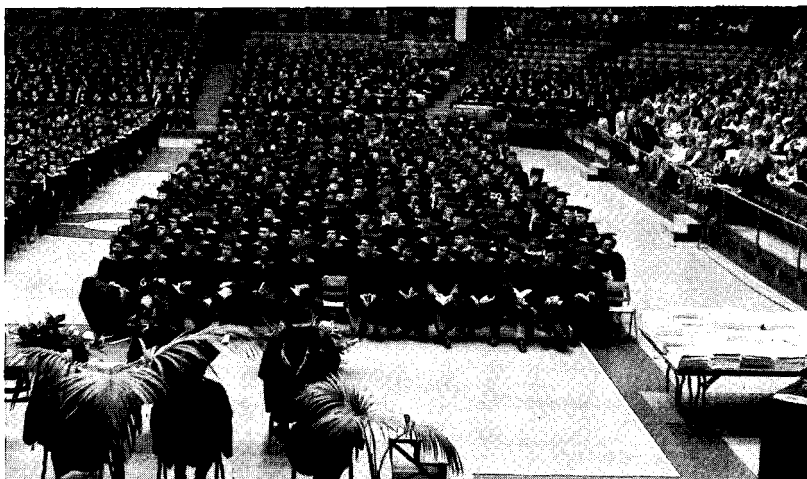
Sufficient Progress

Students are expected to maintain sufficient progress towards a degree. At various intervals, usually at each registration period, and especially at mid point in the program, the advisor or program director will discuss the rate of progress with the student. Students not showing promise of completing the program in a reasonable time may be advised to withdraw from the University.

Time Limit

All requirements for a master's degree must be satisfied within seven calendar years from the time of matriculation.

All requirements for a doctoral degree must be satisfied within five calendar years after admission to candidacy.



Academic Standards

To be in good standing, a graduate student must have a 3.0 quality point average at all times. Grades are expressed on the student's permanent record in the following manner:

- A —Excellent: 4 quality points for each semester or quarter hour.
- B —Average: 3 quality points for each semester or quarter hour.
- C —Poor: 2 quality points for each semester or quarter hour.
- F —Failed: 0 quality points.
- CR —Passed: Credit is given, but no corresponding quality points are given. This is used by certain departments when the thesis or special courses are not to affect the 3.0 cumulative quality point average needed to be in good standing.
- I —Incomplete: To be used when a course has terminated but the student, for an acceptable reason, has not completed the work of the course. The I has 0 quality points per hour and does not affect the cumulative point average. It can be changed to a letter grade if the student has completed his work within a period of four months. Otherwise this will remain on the permanent record indefinitely.
- K —Credit. This mark is used only for credits accepted as transfer credit from other institutions. No quality points are allowed.
- P —In Progress: For the thesis or for courses which have not terminated at the end of a semester. After the course or thesis is completed, the P is replaced on the permanent record by an A, B, C, F, or with the corresponding credit and quality point average.
- W —Withdrawal: Any withdrawal or change of course must be processed by an official Drop-Add Form through the Registration Center, with the approval of the graduate student's advisor. During the first three weeks of a full term (or 10 calendar days of a split term) a graduate student may withdraw from a class without record. Financial adjustments, if allowed, will be made only from the date of notification of withdrawal.
- X —Audit: This mark indicates that the graduate student has registered to audit the course. No credit hours or quality points are awarded for this mark. NOTE: Any course taken for audit may not be retaken for credit.
- Em —Examination: This mark indicates credit given to students (registered in the University) on the basis of examinations after admission to the University. The level of achievement which must be demonstrated by the student on these examinations is determined by the department in which the course is taught. Such credit shall be assigned only on authorization of the dean of the school or college in which the student is registered. No quality points are allowed.

The various deans will review at intervals the work of their graduate students, and in consultation with the program directors and / or chairmen of the departments, will recommend that those who are not doing work of a high caliber be advised to discontinue courses leading to a degree.

The disciplinary authority of the University is vested in the president by right, and in the deans and other officers on whom jurisdiction may be conferred for specific cases and in restricted areas.

VI Interdisciplinary and Joint Studies

INDIVIDUAL INTERDISCIPLINARY STUDIES

George B. Noland, Associate Provost

The University of Dayton, under the direction of the Dean for Graduate Studies and Research, offers individual interdisciplinary programs. Applicants must have a bachelor's degree and a general cumulative point average of 2.8. The student must write a formal request to the Graduate Council to begin such a program.

The degree will be a Master of Arts or a Master of Science with a major in the interdisciplinary area. The program should involve three disciplines and one faculty member from each discipline. The three faculty members constitute the advisory committee. The final program will be drawn up and approved by the advisory committee. Copies will be sent to the chairmen of the departments involved.

Fifteen semester hours must be taken in courses offered by the three departments. Nine semester hours may be divided between directed study and thesis but must be related to the interdisciplinary area. Six semester hours of related electives may be chosen.

An oral or written examination should take place after 12 to 15 semester hours of course work to insure the integration of the disciplines. The examining committee is chosen by the advisory committee.

It is recommended that the student discuss the proposed program with the Dean for Graduate Studies and Research before proceeding to draw up the formal proposal for the Graduate Council. This request must contain the following:

1. A general description of the proposed program and the reasons for choosing such a program.
2. The courses (at least 15 semester hours) which will be taken and the departments involved in the overall work.
3. If a project or thesis is desired: a clear statement of the specific nature of the topic, the research intended, and the purpose of the project or thesis.
4. The names of three faculty members as suggestions for the advisory committee. The appointment of the committee, however, rests with the Graduate Council. (The student is urged to discuss the proposal with each of the three before submitting it to the Graduate Council.)

AMERICAN STUDIES (AMS)

Francis J. Henninger, Director of the Program

The College of Arts and Sciences, under the guidance of the program director and an advisory committee composed of the representatives of several supporting disciplines offers the Master of Arts in American Studies. These supporting disciplines include: Economics, English, Foundations of Education, History, Philosophy, Political Science, Psychology and Religious Studies. See Chapter VII for details of the program.

CLINICAL LABORATORY TECHNOLOGY (CLT)

Stephen A. Sonstein, Director of the Program

The Master of Clinical Laboratory Technology program has as its goal the training of practicing scientists in health science administration or health science education. It involves an interdisciplinary core approach under the direction of the program director and cooperating faculty members in the Schools of Education and Business Administration.

Direct application of the material gained in coursework is insured during a hospital-based practicum under the direction of clinical faculty. See Chapter VII for details of the program.

COMMUNICATION ARTS (COM) INTERDISCIPLINARY STUDY

Donald Morlan, Director of the Program

The Communication Arts Interdisciplinary Study program leads to the Master of Arts. It requires 12 semester hours of study in Communication Arts, 12 semester hours of study in one of several designated interdisciplinary areas, and six semester hours of thesis credit, followed by oral comprehensive examinations on both the course work and the thesis. See Chapter VII.

FOUNDATIONS OF EDUCATION AND RESEARCH (EDF) INTERDISCIPLINARY STUDIES

John O. Geiger, Director of the Program

The Department of Educational Foundations and Research in the School of Education offers a program which enables students to attain a broad understanding of the field of education and also concentrate in a specific area. With the assistance of the faculty, students develop their own individualized program through a selection of graduate offerings in Education and other disciplines. See Chapter IX and consult with director for further details.



LAW AND BUSINESS ADMINISTRATION (LAW / MBA)

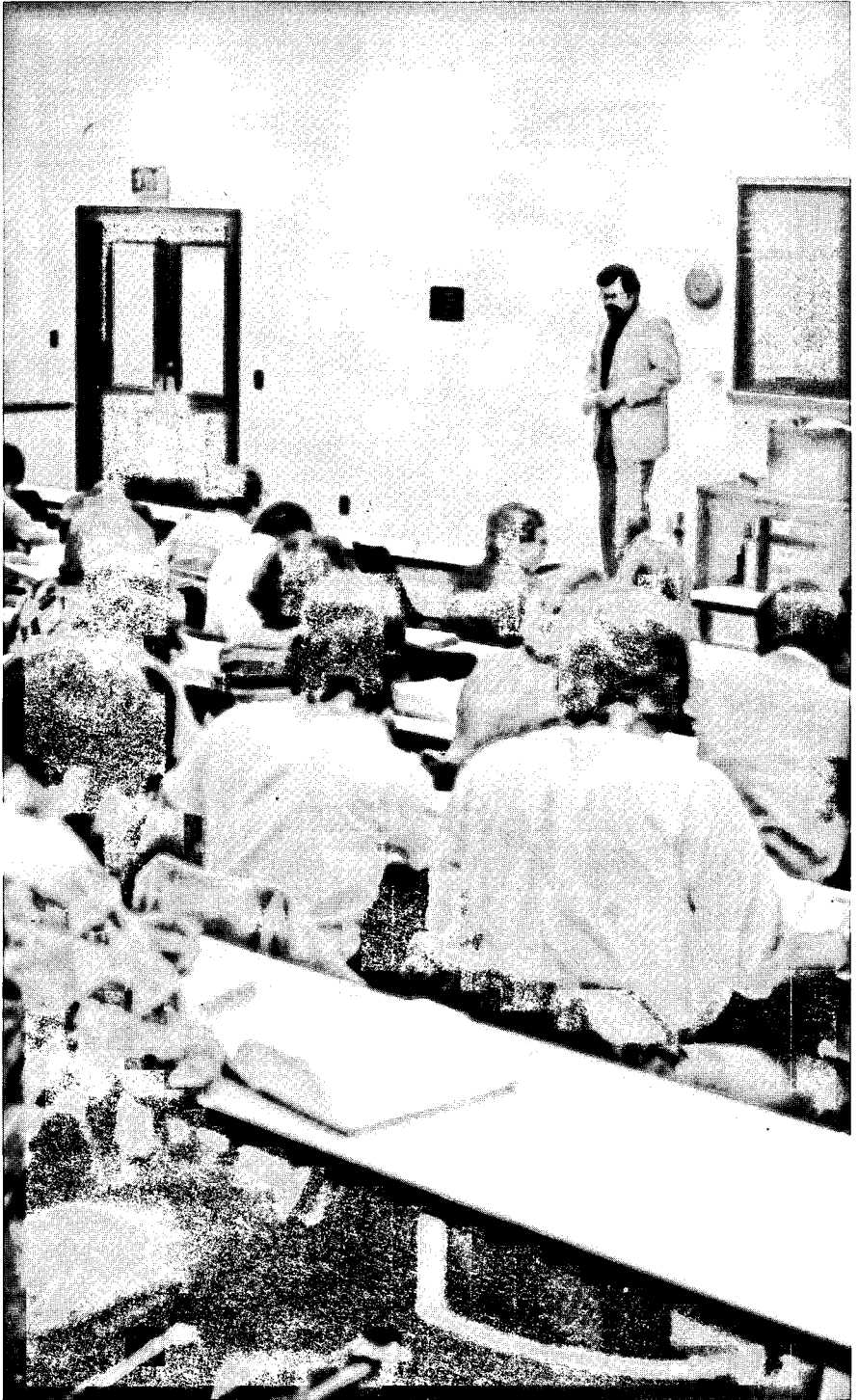
In cooperation with the School of Law, the School of Business Administration offers a joint program leading to the conferment of a Juris Doctor and the Master of Business Administration. By coordinating the scheduling of courses required for the joint program, the student is able to complete all work one semester sooner than would be necessary if the two degrees were pursued independently. The resulting combination of skills provides a strong background of increasing utility in today's environment. See Chapter VI; also see Chapter XI, and consult the directors of both programs.

LAW AND EDUCATION (LAW / EDU)

The Law School and the School of Education cooperate in offering a joint program leading to both the Juris Doctor and the Master of Science in Education. Because the program provides sufficient flexibility to accommodate particular needs and plans, its design and plan can be determined for each student individually. For further information, students interested in this joint program should consult program directors in both the Law School and the School of Education.

LAW AND PHILOSOPHY (LAW / PHL)

The School of Law and the Department of Philosophy in the College of Arts and Sciences cooperate in offering a joint degree program — concurrent studies in two disciplines that result in the Juris Doctor and the Master of Arts. Students interested in this combination must make separate application for admission to the law and the philosophy programs and satisfy the requirements of both, some of which, however, may overlap. See also Chapter VII and XI.



MANAGEMENT SCIENCE (MSC)

Landis S. Gephart, Director of the Program

The program leading to the Master of Science in Management Science, which is interdisciplinary, is administered by the Dean for Graduate Studies and Research of the University, with the cooperative support of the College of Arts and Sciences, the School of Business Administration, the School of Education, and the School of Engineering.

The objective of this program is to develop managerial capability and skill appropriate to each student's preferences and goals. The general methodologies of management science include system analysis, model building, information systems, planning and control, and the varied techniques of operations research, such as decision analysis, reliability engineering, mathematical optimization, and applied probability and statistics. The program emphasizes the models, techniques, and quantitative methods that are useful in the solution of real problems.

In most years the demand for current graduates in the Management Science program has greatly exceeded the number of students available. Graduates are sought in all areas of the public and private sector, from engineering to business to medicine.

All courses are offered in the evening. Thus the Management Science program is fully accessible to those who work full time and want to satisfy both occupational and academic objectives.

FINANCIAL AID

Assistantships are available at the University of Dayton for the encouragement of graduate work and the promotion of research. Detailed information may be secured from the Director of the Management Science Graduate Program.

ADMISSION

Applications are welcome from college graduates in all fields — engineering, the liberal arts, the physical sciences, and the social sciences. Advice on eliminating deficiencies in undergraduate backgrounds may be obtained by individual inquiry. There are three types of admission:

Regular admission is granted to applicants who are holders of the bachelor's degree from accredited colleges or universities and have demonstrated superior academic performance in their respective major fields. In general, they must be well trained in mathematics and statistics and must understand the use of computers.

Conditional admission is granted to applicants who do not qualify for regular admission but show promise of being able to complete the requirements of the management science program. Conditional admission may be granted to the following applicants:

1. The candidate for graduate work whose background does not include at least three terms of analytic geometry and calculus, two terms of statistics, and

competence in a computer language. Such an applicant may be required to complete certain prerequisite courses before admission to the program. These courses must be completed with a minimum grade of B. Any student requiring in excess of nine semester hours of prerequisites will be considered as unclassified.

2. The candidate whose preparation cannot be determined adequately and for whom any part of the qualifying education was obtained more than seven years before the proposed date of initiation studies in the graduate program.

3. The candidate in the final term of work toward a bachelor's degree pending the filing of supplementary transcripts and evidence of the awarding of the degree.

4. An undergraduate at the University of Dayton who is within six semester hours of graduation and who has permission of the department to register for graduate credit. The combined elections in both the undergraduate and graduate courses for one term may not exceed 12 semester hours, and only students who have excellent records should seek such approval.

Applicants in categories 1 and 2 above may be required to complete additional qualifying work beyond the normal degree requirements. If, after the completion of 15 semester hours of graduate work, the cumulative grade point average is not B (3.00) or better, dismissal from the graduate course may result. Applicants in categories 3 and 4 will be subject to reevaluation and reclassification upon completion of the bachelor's degree.

Unclassified students will be permitted to register for a maximum of 12 semester hours of graduate work.

GENERAL REQUIREMENTS

Each student admitted to graduate study in the program will be assigned a member of the department as a permanent advisor. The advisor will guide the student in the development of a program of study deemed best for his particular interest and objectives. The program of study, approved by the advisor and the department head, must be filed with and approved by the director of the Management Science program.

It is the student's responsibility to meet with the department head as soon as possible after acceptance into a graduate program through formal notification by the Office for Graduate Studies. Conditional attendance for one term is permissible until the program of study has been filed. Amendments to the original program of study are permissible with the approval of the advisor and program director.

All programs and amendments must be prepared in quintuplicate. A copy will be returned to the student. A copy will be retained by the Director's Office and one by the Office for Graduate Studies.

A student admitted to the master's program must have met the requirements for the bachelor's degree. He must successfully complete the minimum number of hours of graduate work which are approved by his advisor and which are required in the program for which he is registered. He must obtain a cumulative average of B (3.00) or better. At the discretion of the advisor an oral or written examination may be required to confirm the student's ability to complete the program satisfactorily.

PROGRAM OF STUDY

The Management Science program (MSC) is a master's degree program design of complex technological systems. This concentration, with its many options, would prepare them for careers in the service professions of management, analysis, and policy research. The program emphasizes the practical application of the techniques of management science / operations research in modern society. The program of study must include a minimum of 36 semester hours consisting of 18 semester hours in Management Science, 9 semester hours in a cognate field, and 9 semester hours in electives.

Major Field: Management Science

A minimum of 18 semester hours must be selected. The emphasis is on the techniques of management science / operations research / systems analysis.

Cognate Fields

Applied Mathematical Systems. Courses in this specialization are in the Departments of Mathematics and Electrical Engineering. One course, 3 semester hours, is to be selected from the following:

MTH 519, 531, 565.

Two courses, 6 semester hours, are to be selected from the following:

MTH 519, 520, 521, 522, 525, 526, 531, 532, 561, 562, 565.
ELE 509, 514, 515, 531, 532, 533, 534, 535.

Business Administration and Systems. This cognate field allows the student to prepare for a career in the management and administration of economic and business systems. Courses are taken from the MBA program of the School of Business. Two courses, 6 semester hours, are to be selected from the following:

MBA 520, 530, 540, 550, 560.

One course, 3 semester hours, is to be selected from the following:

MBA 581, 583, 587.

Computer Science allows the student to prepare for a career in the management, design, and / or administration of computer systems. Courses in this cognate field are in the Department of Computer Science. Three courses, 9 semester hours, are to be selected from the following:

CPS 510, 528, 532, 536, 544-545, 553-554.

Educational Administration and Systems as a cognate field allows the student to prepare for a career as a policy and management analyst for school districts and institutions of higher learning. Courses are in the School of Education. EDA 506 is required of all students; another course may be substituted only with approval. Two courses, 6 semester hours, are to be selected from the following:

EDF 501, 503, 518, 590, 596 or 597 (with permission).
 EDA 509, 511 or 512, 513 or 514, 517, 521.
 EDC 533.
 EDS 589.

Engineering as a cognate field allows the student to take courses (approved by the advisor) from any approved graduate program in the School of Engineering. The engineering programs available are as follows:

Aerospace	Civil	Materials
Chemical	Electrical	Mechanical

Public Administration and Systems courses allow the student to prepare for a career as a policy and management analyst for governmental and public organizations. Courses in this cognate field are from the Public Administration program of the Department of Political Science. POL 510 is required of all students. Two courses, 6 semester hours, are to be selected from the following:

POL 521, 535, 540, 545, 552, 575, 576, 578, 595.

Electives

Nine semester hours can be taken as electives. These graduate courses, which are to be approved by the advisor, may be selected from any approved graduate programs of the University. These programs include the major or cognate fields, as well as other areas as diverse as biology and communication arts. Possible areas of study are as follows:

Reliability	Optimization Theory
Maintainability	Production Systems
General Systems Theory	Stochastic Systems
Information Management	Systems Analysis
Inventory Theory	Systems Simulation
Marketing Analysis	Urban Policy Analysis
Mathematical Modeling	Educational Policy Analysis
Operations Research	

COURSES OF INSTRUCTION

MSC 501. DECISION THEORY AND APPLICATIONS: A study of utility theory and decision making under certainty, risk, and uncertainty. Application of Bayesian analysis to multistage decision problems. Application of these techniques to various engineering and industrial problems. 3 sem. hrs.

MSC 502. SIMULATION TECHNIQUES IN OPERATIONS RESEARCH: The construction of models which simulate real systems, the use of random numbers in obtaining sample observation of the model, and the inference of system properties from samples of observations of the model. 3 sem. hrs.

MSC 508. QUALITY CONTROL: Principles and applications of the latest quality control procedures. Design of quality control systems and procedures. Recent developments in statistical quality control such as multi-level continuous acceptance sampling, variable sampling, and life testing. 3 sem. hrs.

MSC 515. QUEUING THEORY AND APPLICATION: Emphasis on application of theory to industrial engineering. Machine interference, mathematical queuing models, a study of case histories (with solutions) including marketing models, servicing problems, Markovian models. Monte Carlo techniques and computer simulation models. *3 sem. hrs.*

MSC 516. INVENTORY THEORY AND APPLICATION: Theory and application of inventory control with respect to costs of ordering and manufacturing, holding and storage, shortage-penalty costs, revenues, and discount rates. Forecasting, material control, input capacity and scheduling, stochastic inventory models, and dynamic inventory models including real time computerized inventory control models. *3 sem. hrs.*

MSC 521-522. OPERATIONS RESEARCH: Study of methods of operations research, including formulating problems, weighing the objectives, construction of models, deriving solutions, testing the models and implementing results. Emphasis on applications to industrial problems. *6 sem. hrs.*

MSC 524. DISCRETE TIME SERIES: Emphasis on industrial applications of open loop statistical forecasts. Techniques of describing a time series by very general classes of functions, including trigonometric functions. *3 sem. hrs.*

MSC 525. SYSTEM RELIABILITY AND MAINTAINABILITY: Application of probability and statistical theory to the design of reliability systems in the broadest sense; theory behind and techniques to be used in designing evaluation methods and procedures for determining reliability of component parts and total systems. *3 sem. hrs.*

MSC 528. DESIGN AND ANALYSIS OF EXPERIMENTS: Advanced topics in statistical experiments with emphasis on the design aspects. Topics include confounding, fractional replication, factorial and nested designs. *3 sem. hrs.*

MSC 540. INPUT-OUTPUT ANALYSIS: A study of the basic ideas of input-output analysis, with emphasis on its application to economic and technological planning in public and private sectors of the economy. *3 sem. hrs.*

MSC 545. PRODUCTION PLANNING AND CONTROL: Study of principles of managerial control and evaluation of various systems of control as to applicability not only to various types of production but also to maintenance activities, to engineering, and to research and development. *3 sem. hrs.*

MSC 550. TECHNOLOGICAL FORECASTING: This course presents state-of-the-art techniques for technological forecasting in R and D and other related areas. Topics covered include the Delphi Method, techniques of technological forecasting, growth curves and various relevant mathematical models. Areas of application are tailored to student interests. *3 sem. hrs.*

MSC 551. TECHNOLOGY ASSESSMENT: Examines the impacts of technological change on society. Reviews the impacts of several major technological changes of the past, including both anticipated and unanticipated changes. Presents methods for assessing and predicting the consequences of technological change. *3 sem. hrs.*

MSC 555. HUMAN FACTORS CRITERIA IN SYSTEMS DESIGN: A MANAGERIAL OVERVIEW: This course will provide the student with a managerial overview of human factors criteria than should be considered in the design of man-machine systems, work situations, and man's physical environment. *3 sem. hrs.*

MSC 585. ORGANIZATIONAL SYSTEMS: Application of systems theory to the operation of governmental, business, and educational organizations. conventional theories related to the systems approach to an understanding of organizations. 3 sem. hrs.

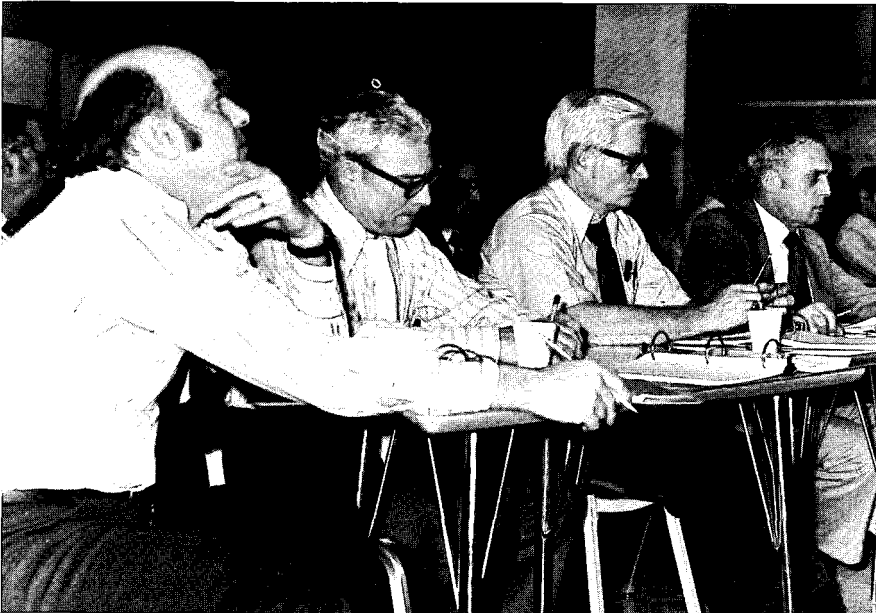
MSC 595. CURRENT PROBLEMS: (Subject will vary) Topics of current interest in specialized areas of Management Science. 3 sem. hrs.

MSC 599. THESIS 6 sem. hrs.

MSC 630. ADVANCED TOPICS IN LINEAR PROGRAMMING: Emphasis on computational techniques and applications of linear programming to industrial problems, primal-dual algorithm, decomposition principle, assignment, transportation and trans-shipment problems, network flow algorithm, and integer programming. Prerequisite: MSC 521. 3 sem. hrs.

MSC 631. NONLINEAR AND DYNAMIC PROGRAMMING: Development of the theory and computational techniques of nonlinear and dynamic programming. Applications of optimization methods, nonlinear programming problems, stochastic programming, gradient methods, dynamic programming. Kuhn-Tucker theory and quadratic programming. Prerequisite: MSC 630. 3 sem. hrs.

MSC 640. ADVANCED TOPICS IN RELIABILITY AND MAINTAINABILITY: The exact content of this course varies from year to year. The major emphasis is to study the latest research in the field and evaluate the impact on future practices in reliability and maintainability. Prerequisite: MSC 525 or equivalent. 3 sem. hrs.



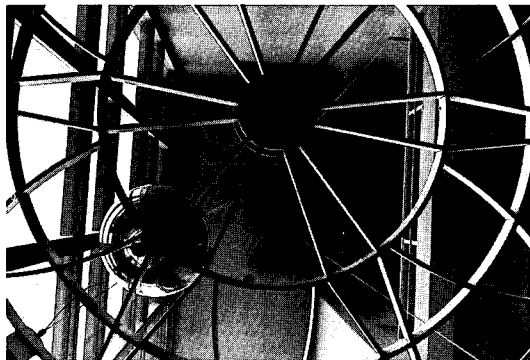
VII College of Arts and Sciences

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.

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

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



AMERICAN STUDIES (AMS)

Francis J. Henninger, Director of the Program

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

Because American Studies is both interdisciplinary and multi-disciplinary in its direction, an advisory committee composed of members from several departments has been formed. Its members are: Economics, Keith Ihlanfeldt; English, Peter Arons; Foundations of Education, Audrey Grob; History, Roberta Alexander; Philosophy, Joseph Kunkel; Political Science, Kenneth Howard; Psychology, Charles Kimble; and Religious Studies, John Ryan.

ADMISSION REQUIREMENTS

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

PROGRAM REQUIREMENTS

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

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

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

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

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

Courses are chosen from the following groups:

GROUP A

English

- ENG 572 The Romantic Age in American Literature
- ENG 576 Major American Writers
- ENG 580 American Realism and Naturalism
- ENG 584 Studies in Twentieth-Century American Literature
- ENG 591 Studies in Literature
- ENG 603 Studies in an Author
- ENG 609 Studies in a Genre or Mode
- ENG 613 Studies in a Literary Movement

GROUP B

Foundations of Education

- EDF 502 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 621 American Pragmatism
- PHL 625 Philosophy of Language
- PHL 628 Recent Judaic and Christian Philosophy
- PHL 642 Epistemology
- PHL 644 Philosophy of Science
- PHL 651 Philosophy of the Person
- PHL 652 Ethics
- PHL 653 Aesthetics
- PHL 654 Philosophy of Religion
- PHL 655 Social and Political Philosophy
- PHL 656 Philosophy of Law
- PHL 657 Morality, Social Ethics, and Law

Religious Studies

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

GROUP C*Economics*

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

Foundations of Education

- EDF 501 Advanced Psychology of Learning
- EDF 504 Human Development and Education
- EDF 518 School and the Society
- EDF 578 Politics of Education

Political Science

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

Psychology

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

American Studies

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

COURSE OF INSTRUCTION

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



BIOLOGY (BIO)

Charles J. Chantell, Chairperson of the Department

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

Animal and General Physiology

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

Ecology/Field Biology

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

Plant and Cell Physiology

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

Microbiology and Genetics

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

ADMISSION POLICIES

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

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

ADVISEMENT

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

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

PROGRAM REQUIREMENTS

Master of Science

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

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

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

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

SEQUENCE OF EVALUATION

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

Preliminary Evaluation

*An orientation program introduces new students to the department. During this period, there will be an assessment of the student's background knowledge of biology, genetics, developmental biology, and environmental biology. According to the outcome of these examinations and after consultation with the faculty, a student may wish to enroll in one or more of the core undergraduate courses to 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 command of self-expression, 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 wished to continue beyond the master's degree will be advised to continue for the doctorate or to terminate his studies at the University on the basis of his performance in earning the master's degree.

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

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

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

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

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

Doctor of Philosophy

There are no set course requirements for the Ph.D. degree; each student follows the program outlined by the advisory committee. In practice most students find it helpful to take 40 to 50 semester hours of graduate course credits beyond the baccalaureate to attain the level of competence suitable for a doctoral candidate. When it is desirable, a student will be encouraged to take some work at neighboring institutions or summer laboratories. As in the MS program, BIO 501, 552, 553 and 601 are required courses in the Ph.D. program.

PhD Candidacy Examination

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

Defense of Thesis or Dissertation

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

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

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

TOOLS OF RESEARCH

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

RESIDENCE REQUIREMENT

A student is strongly advised to devote as much time as possible to graduate studies. Normally 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 the advisory committee encourages attendance of 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

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

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

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

BIO 502L. VERTEBRATE ZOOLOGY LABORATORY.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- BIO 546. PLANT DEVELOPMENT: Study of the major organ systems of the vascular plants with emphasis on the nature of their cell types and tissue composition and their patterns of development. 3 sem. hrs.
- BIO 546L. PLANT DEVELOPMENT LABORATORY 1 sem. hr.
- BIO 550. BIOMETRICS: The design and analysis of experiments in quantitative biology. Rectilinear and curvilinear regression, correlation, and the distribution function of various statistics. 3 sem. hrs.
- BIO 552. BIOLOGICAL INSTRUMENTATION: The theory of separation, measuring and data handling techniques, and their application to modern biology. Required of all graduate students. Two hours lecture and two two-hour laboratory periods per week. 4 sem. hrs.
- BIO 553. BIOLOGICAL INSTRUMENTATION: A continuation of BIO 552. 2 sem. hrs.
- BIO 554. ELECTRON MICROSCOPY: Theory and use of the electron microscope. Techniques for preparation of biological materials for viewing under the electron microscope. Normally, required of all who plan to use electron microscopy in their research. Two hours lecture and two three-hour laboratory periods per week. 4 sem. hrs.
- BIO 555. LABORATORY TECHNIQUES (TOPIC): Advanced treatment of new techniques and instrumentation used in specialized areas of biology. Changes with advances in a specialty reflected in the course title. 1-3 sem. hrs.
- BIO 560. ADVANCED PLANT PHYSIOLOGY: A treatment of several areas of plant physiology based on current research literature. Since the course is taught from current journals, the topics change. May be repeated. Prerequisite: a course in plant physiology. 2 sem. hrs.
- BIO 564. PATHOPHYSIOLOGY: The role of physiological stress in human physiology and its relation to the disease process. Attention to status assessment through the critical interpretation of clinical laboratory data. 3 sem. hrs.
- BIO 564L. PATHOPHYSIOLOGY LABORATORY 1 sem. hr.
- BIO 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. 1-6 sem. hrs.
- BIO 596. CURRENT BIOLOGICAL PROBLEMS: The consideration of recent developments in biological thought and procedure. By permission of chairman only. 1-3 sem. hrs.
- BIO 599. THESIS 3-6 sem. hrs.
- BIO 601. SPECIAL TOPICS: The development, presentation, and discussion of topics in specialized areas of biology. Required of all graduate students each semester. 1 sem. hr.
- BIO 699. DISSERTATION 3-6 sem. hrs.

MASTER OF CLINICAL LABORATORY TECHNOLOGY

Charles J. Chantell, Program Director

ADVISORY STAFF

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

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

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

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

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

ADMISSIONS POLICIES

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

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

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

ADVISEMENT

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

Initial course selections will be made by the student and the Program Director. Formal committee meetings will be held at the end of each academic year to plan an appropriate curriculum and review progress. Upon the completion of 24 credit hours of program courses, a final meeting of the student and the Advisory Committee takes place. The purpose of this meeting is to assess the program, offer further suggestions and administer a comprehensive examination. The format of this examination is determined by the committee. Successful completion of this examination and positive assessment of completed work results in approval of the student's candidacy for the Master of Clinical Laboratory Technology degree upon completion of 30 hours of program course work.

PROGRAM REQUIREMENTS

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

GROUP I

Semester Credit Hours

Required Courses 12

The following courses are required of all MCLT students:

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

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

GROUP II

Science Electives 8

So as to maintain and strengthen technical skills, all CLT students must take at least two elective science courses. These can be chosen from Biology and Chemistry upper-level undergraduate and graduate courses and include the following:

BIO 425, 425L	BIO 522	BIO 555	CHM 551-2
BIO 466, 466L	BIO 550	BIO 564	CHM 555
BIO 517, 517L	BIO 552-3	BIO 566	CHM 557-8
BIO 521	BIO 554		CHM 559

GROUP III

Management/Education electives 12

The remainder of each CLT student's program should emphasize the administrative or teaching end-goal. Appropriate courses from the College of Arts and Sciences, the Technical Institute, and the Schools of Business Administration and Education include the following:

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

With the approval of the Advisory Committee some science courses can be included in this grouping.

COURSES OF INSTRUCTION

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

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

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



CHEMISTRY (CHM)

John J. Lucier, S.M., Chairperson of the Department

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

CHEMISTRY PROGRAM

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

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

Admission Requirements

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

Program Requirements

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

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

Biochemistry Option

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

CLINICAL CHEMISTRY PROGRAM

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

Admission Requirements

Candidates for the degree are required to have a minimum of 24 semester hours of chemistry (general, quantitative, organic, and physical chemistry). Typical students will have completed the bachelor's degree in areas such as medical technology, chemistry, biology, or preprofessional studies (premedical, pre dental). Clinical laboratory experience is usually required.

Laboratory Experience

All students are required to have clinical laboratory experience. Students are required to pass an oral examination to prove competence in the Clinical Chemistry Laboratory.

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

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

COURSES OF INSTRUCTION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

COMMUNICATION ARTS (COM)

Don B. Morlan, Chairperson of the Department

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

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

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

ADMISSION REQUIREMENTS

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

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

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

GRADUATE ASSISTANTSHIPS IN COMMUNICATION ARTS

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

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

The minimum requirements for assistantship in the Department are:

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

PROGRAM OPTIONS AND REQUIREMENTS

Requirements for All Students

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

Plan A – Communication Arts (Non Interdisciplinary)

There are 2 options under Plan A.

1. Thesis Option

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

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

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

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

2. Non Thesis Option

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

Students may take the written examination a total of 3 times. Students who do not

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

Plan B – Communication Arts/Interdisciplinary

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

Plan B

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

Students may take the written examination a total of 3 times. Students who do not pass the examination the third time will be dropped from the Communication Arts program. For details on the examination and the Communication Arts/Interdisciplinary program, consult the handbook "Graduate Study in Communication" that is found in the Communication Arts Department office.

COURSES OF INSTRUCTION

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

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

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

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

COM 516. BARRIERS TO EFFECTIVE COMMUNICATION: Circumstances that prevent effective personal and group communication in social and business organizations. Investigation of theory and practical application. *3 sem. hrs.*

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

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

COMPUTER SCIENCE (CPS)

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

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

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

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

COURSES OF INSTRUCTION

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

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

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

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

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

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

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

CPS 536. OPERATING SYSTEM: Study of OS / 360 or similar systems and the functions of data, job, and task management. *3 sem. hrs.*

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

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

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

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

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

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

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

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

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

CPS 591. SPECIAL RESEARCH PROBLEMS: Individual readings and research in a specialized area. (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, Chairperson of the Department

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

ADMISSION REQUIREMENTS

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

PROGRAM REQUIREMENTS

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

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

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

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

COURSES OF INSTRUCTION

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

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

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

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

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

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

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

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

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

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

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

ENG 542. STUDIES IN NEO-CLASSICAL LITERATURE*: The concern of the course is with the literature from Dryden to Johnson. 3 sem. hrs.

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

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

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

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

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

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

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

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

- ENG 590. TEACHING OF COLLEGE ENGLISH: Discussion, instruction, and practice in the methods of teaching composition and literature. Required of and open only to assistants. *1 sem. hr.*
- ENG 591. STUDIES IN LITERATURE*: An analysis of selected literary problems or areas. *1-6 sem. hrs.*
- ENG 592. HISTORY OF ENGLISH: A study of stages in the development of the English language and of influences shaping its development from the beginning to the present time. *3 sem. hrs.*
- ENG 594. THE STRUCTURE OF ENGLISH: Studies in the grammatical structure of modern English in the light of historical development. Traditional and modern linguistic points of view considered. *3 sem. hrs.*
- ENG 599. THESIS *3-6 sem. hrs.*
- ENG 601. RESEARCH AND BIBLIOGRAPHY: An introduction to the methods and tools of literary scholarship. Required of all degree applicants. *3 sem. hrs.*
- ENG 605. STUDIES IN AN AUTHOR*: A consideration of the body of an author's work and its relationship to the life of the author. *3 sem. hrs.*
- ENG 609. STUDIES IN A GENRE OR MODE*: An intensive analysis of a significant literary form or mode. *3 sem. hrs.*
- ENG 613. STUDIES IN A LITERARY MOVEMENT*: An analysis of a significant literary school, group, or movement. *3 sem. hrs.*
- ENG 621. STUDIES IN THE TEACHING OF LITERATURE*: An examination of ways in which literary study can best be made meaningful to particular types of students. *3 sem. hrs.*
- ENG 625. STUDIES IN THE TEACHING OF COMPOSITION*: An exploration of ways of teaching writing more effectively for particular groups of students. *3 sem. hrs.*



HISTORY (HST)

Leroy V. Eid, Chairperson of the Department

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

ADMISSION REQUIREMENTS

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

PROGRAM REQUIREMENTS

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

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

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

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

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

Option A

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

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

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

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

Option B

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

COURSES OF INSTRUCTION

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

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

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

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

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

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

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

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

- HST 515. SOVIET UNION SINCE 1917: A detailed survey and analysis of the U.S.S.R. from the Revolution of 1917 to the present. *3 sem. hrs.*
- HST 518. MILITARY HISTORY: The evolving concept and philosophy of war; the development and interrelationships of weapons, tactics, and strategy; and the role of military affairs in politics. *3 sem. hrs.*
- HST 524. THE PARLIAMENTARY CONCEPT IN ENGLISH HISTORY: The origins and development of common law and parliamentary government in England, stressing the medieval period. *3 sem. hrs.*
- HST 526. TUDOR-STUART ENGLAND: Economics, diplomacy, society, and culture in England from 1485 to 1714. For the Tudor period, emphasis on the development of the national state, royal absolutism, and the Reformation; for the Stuart period and Cromwellian Interregnum, the evolution of the constitutional question. *3 sem. hrs.*
- HST 528. MODERN ENGLAND — 1815 TO PRESENT: The development of England as an industrialized nation and as a 19th-century empire; the results of industrialization, urbanization, and loss of empire due to two world wars. *3 sem. hrs.*
- HST 532. NORTH AFRICA IN MODERN TIMES: Study of Morocco, Algeria, Tunisia, and Libya since the 16th century, with stress on the history of the institutions of these countries which enabled them ultimately to expel European imperialism. *3 sem. hrs.*
- HST 536. SOUTH AFRICA IN MODERN TIMES: The establishment of the Bantu people and institutions and their subjection to assaults by Boers and British. Study seeks to illuminate the present dominant governmental policy of apartheid. *3 sem. hrs.*
- HST 537. WEST AFRICA IN MODERN TIMES: West Africa's significance since the 18th century, with special reference to 19th century states, the commercial revolution, religious ferment, imperialistic rivalry, and the recent independence movement. *3 sem. hrs.*
- HST 538. THE MIDDLE EAST, NINETEENTH AND TWENTIETH CENTURIES: Survey of the Ottoman Empire, Iran, Egypt, and the modern states of the Middle East in international politics. *3 sem. hrs.*
- HST 543. MODERN CHINA: The political, cultural and international developments in China from the 18th century to the present. *3 sem. hrs.*
- HST 547. DIPLOMATIC HISTORY OF THE FAR EAST SINCE 1840: Survey of the diplomatic relations of China, Korea, and Japan among themselves and with other powers. Emphasis on major diplomatic events. *3 sem. hrs.*
- HST 548. JAPAN SINCE PERRY: The economic, social, and political developments of modern Japan, from the end of the "Seclusion" to the present. *3 sem. hrs.*
- HST 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 1850s, the range of historical, cultural, social, and political trends traditionally associated with the Presidencies of Jefferson and Jackson. *3 sem. hrs.*
- HST 555. THE AMERICAN SOUTH: Studies the role of the South in American History. *3 sem. hrs.*

- HST 556. CIVIL WAR AND RECONSTRUCTION: Remote and immediate causes of the Civil War, especially from 1850 to 1861; problems of North and South during the war; consequences of the war; efforts to create a new Union, 1865-1877; problems resulting from those efforts. *3 sem. hrs.*
- HST 572. SOUTHERN APPALACIA: A study and appraisal of the internal and external historical forces that have shaped the Southern Appalachian region. *3 sem. hrs.*
- HST 575. THE PROGRESSIVE PERIOD, 1900-1920: The major historical trends in these years which saw the universal acceptance of America's claim to world power. Due attention to cultural as well as political developments. *3 sem. hrs.*
- HST 576. BETWEEN THE WARS: Intensive study of United States history from 1919 to 1941, emphasizing Normalcy, the Depression, the evolving New Deal, and the approach to World War II. *3 sem. hrs.*
- HST 577. CONTEMPORARY AMERICAN HISTORY: Diplomatic and domestic history of the United States since the beginning of World War II, including the War, wartime conference diplomacy, Russia and the Cold War, cultural trends of mid-century, social equality, and the politics of protest. *3 sem. hrs.*
- HST 578. INTERPRETATIONS IN AMERICAN HISTORY: Specific topics for investigation and interpretation as determined by the instructor. The objective is to study new interpretations of historical events. Prerequisite: a general knowledge of American history. *3 sem. hrs.*
- HST 579. AMERICAN ARCHITECTURAL HISTORY AND PRESERVATION: A career-oriented course offering a theoretical background in historical preservation and techniques used in identification, research, and recording of historic landmarks worthy of preservation as part of the community heritage. *3 sem. hrs.*
- HST 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 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, Chairperson of the Department

The Department of Mathematics offers graduate studies in order to give students 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 degree with emphasis in various applications or pure mathematics. The curriculum could serve as a firm basis for technical employment and / or additional studies at the doctoral level. A particular goal of the program is to develop the knowledge of mathematical principles and methods so that the student is better equipped to handle the diverse technical problems encountered at various stages of a professional career. A student may also elect to obtain a Master of Science in Teaching (MST) degree with a concentration in mathematics offered in conjunction with the School of Education.

ADMISSION REQUIREMENTS

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

MTH 302 Linear Algebra and Matrices (or equivalent)

MTH 361 Introduction to Abstract Algebra (or equivalent)

MTH 430 Analysis I (or equivalent)

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

PROGRAM REQUIREMENTS

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

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

COURSES OF INSTRUCTION

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

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

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

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

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

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

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

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

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

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

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

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

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

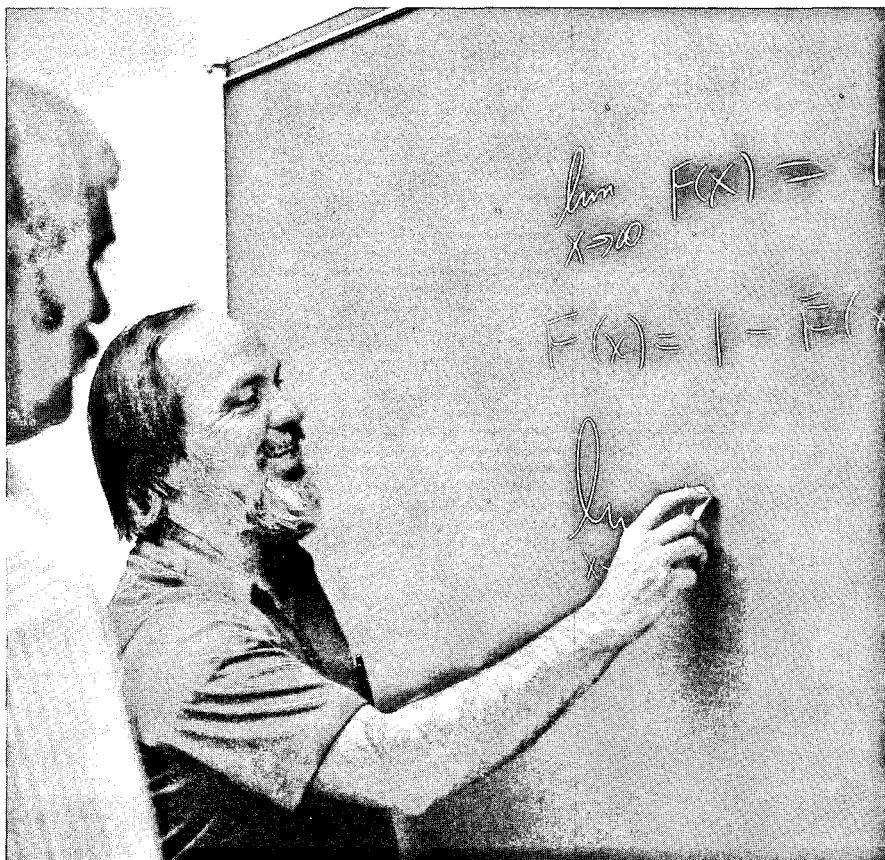
MTH 572. TOPOLOGY II: Compactification theory, paracompactness and metrization theorems, uniform spaces, function spaces, and other advanced topics of current interest. Prerequisite: MTH 571 or equivalent. *3 sem. hrs.*

MTH 573. TOPOLOGICAL VECTOR SPACES: The study of topologies on linear spaces with emphasis on Banach and Hilbert spaces. The Hahn-Banach theorem and its consequences. Selected advanced topics. Prerequisites: MTH, 522, 565, and 571, or equivalents. *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, Chairperson 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 and develop abilities for critical philosophical reflection.

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 a program in consultation with the chairperson of the Philosophy Department and thereafter in consultation with an assigned academic advisor. A program of study developed in accordance with student objectives normally calls for exposure to areas beyond those of immediate interest to the student.

REQUIREMENTS

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

Admission

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

Course Work

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

Readings Examination

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

OPTIONS

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

Thesis

While the thesis is optional, students may engage in a research thesis in view of their personal and professional objectives. Consult the chairperson and the manual for writing thesis and dissertations issued by the Office for Graduate Studies.

Language Examination

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

DISTINCTIVE PROGRAM OPPORTUNITIES

Financial Aid

Graduate teaching assistantships are available for the first and second years of study. Current stipends are \$2,900 for the first year and \$3,100 for the second year. Tuition and fee remissions amount to about \$1,200 per year. Residence fellowships for qualified students are also available which includes stipends as well as tuition and fee remission. The Research Council of the University offers competitive summer research grant opportunities for research by graduate students with stipends of \$900 for the summer. The Library assists graduate students in the purchase of inter-library loan materials and in photocopying expenses for thesis research.

Teaching Apprenticeship

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

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

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

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

COURSES OF INSTRUCTION

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

- Continuity of Western Philosophic Problems**
- Diversity of Worldwide Philosophic Styles and Methods**
- Persons and Knowledge**
- Persons and Values**

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

CONTINUITY OF WESTERN PHILOSOPHIC PROBLEMS

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

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

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

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

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

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

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

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

DIVERSITY OF WORLD-WIDE PHILOSOPHIC STYLES AND METHODS

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

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

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

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

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

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

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

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

PERSONS AND KNOWLEDGE

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

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

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

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

PERSONS AND VALUES

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

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

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

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

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

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

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

SPECIAL COURSES

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

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

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

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

PHYSICS (PHY)

James R. Schneider, Chairperson of the Department

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

ADMISSION REQUIREMENTS

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

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

- PHY 303 Intermediate Mechanics
- PHY 408 Intermediate Electricity and Magnetism
- PHY 301 Thermodynamics
- PHY 390 Introduction to Quantum Mechanics

2. Mathematics through differential equations and preferably advanced calculus.

3. Additional upper-level undergraduate physics courses relating to the area of the student's interest, such as electronics, optics, solid state, or atomic and nuclear physics.

PROGRAM REQUIREMENTS

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

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

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

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

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

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

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

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

COURSES OF INSTRUCTION

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

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

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

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

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

- PHY 519. THEORETICAL PHYSICS II: Topics can include orthogonal functions, Dirac delta function, Laplace's equation, Poisson's equation, D'Alembert's equation, transformation theorems, Green's function, group theory. Prerequisite: PHY 525 or consent of instructor.
3 sem. hrs.
- PHY 520. ADVANCED SOLID STATE PHYSICS: Crystal structure, thermal properties of solids; insulators; band theory of solids; semi-conductors; luminescence. Prerequisite: PHY 525 or consent of instructor.
3 sem. hrs.
- PHY 521. ADVANCED NUCLEAR PHYSICS: Basic properties of the nucleus; the deuteron; nuclear binding energies; scattering; nuclear forces; high energy particles. Prerequisite: PHY 525 or consent of instructor.
3 sem. hrs.
- PHY 523. ADVANCED ELECTRICITY AND MAGNETISM I: The boundary value problems of electrostatics and magnetostatics in material media; conservation laws; existence and nature of electromagnetic radiation derived from Maxwell's equations.
3 sem. hrs.
- PHY 524. ADVANCED ELECTRICITY AND MAGNETISM II: Radiating systems, interference and diffraction; wave guides and resonant cavities; Cherenkov radiation, bremsstrahlung, and multipole fields; special applications of electromagnetic theory. Prerequisite: PHY 523.
3 sem. hrs.
- PHY 525. QUANTUM MECHANICS I: The physical basis of quantum mechanics, wave packets, free particle motion: Schrodinger's equation applied to potential problems; harmonic oscillator and the hydrogen atom; three-dimensional extrapolation and scattering.
3 sem. hrs.
- PHY 526. QUANTUM MECHANICS II: Linear vector spaces and spin; time dependent and time independent perturbation theory; development of the formal theory of scattering; discussion of the importance of symmetries and rotations. Prerequisite: PHY 525.
3 sem. hrs.
- PHY 531. ADVANCED GRADUATE LABORATORY: Advanced experiments in classical mechanics, electricity, magnetism, and atomic, nuclear, and solid state physics. Prerequisite: Approval of graduate advisor.
3 sem. hrs.
- PHY 540. INTRODUCTION TO POLYMER SCIENCE: An introduction to polymers. A largely nonmathematical survey of the field. Prerequisites: college chemistry and calculus.
3 sem. hrs.
- PHY 541. PHYSICAL PROPERTIES OF POLYMERS: An intensive discussion of the interrelations between molecular and gross physical properties of polymers. Prerequisites: PHY 540 or equivalent, background in differential equations.
3 sem. hrs.
- PHY 590. GRADUATE THESIS: A research problem in a selected topic of physics resulting in a written thesis.
0-6 sem. hrs.
- PHY 595. GRADUATE SEMINAR: Weekly seminars presented by graduate students, faculty, and guest lecturers on current topics.
No credit.
- PHY 599. SPECIAL PROBLEMS IN (NAMED AREA): Lecture, seminar, laboratory, or library work in designated areas of topical interest in physics. May be taken more than once.
1-3 sem. hrs.

POLITICAL SCIENCE (POL)

Gerald E. Kerns, Chairperson of the Department

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

The Department of Political Science offers 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 a few 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.

MASTER OF ARTS POLITICAL SCIENCE PROGRAM

ADMISSION REQUIREMENTS

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

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

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

DEGREE REQUIREMENTS

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

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

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

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

Electives (12 semester hours)

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

2. Oral defense of the research paper before students and faculty of the department at the completion of 30 semester hours of course work.
3. Students must achieve a minimum B (3.0) cumulative average in all courses. Their progress will be evaluated at the completion of 12 semester hours of credit. They must have a minimum of B average to obtain the degree.

Curriculum*General Courses*

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

American Political Processes

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

Comparative Politics

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

Political Theory and Public Law

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

MASTER OF PUBLIC ADMINISTRATION

ADMISSION REQUIREMENTS

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

DEGREE REQUIREMENTS

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

b. The student under certain conditions may take 30 hours of academic course work and 6 hours of POL 596, Public Service Project. This option is available only to students employed in administrative positions in public or quasi-public agencies other than internship positions. Students are encouraged to enroll in POL 596 only after completing 18 hours of other courses, and successfully passing the Certifying Examination.

c. The student may take his/her full 36 semester hours in regular academic courses. Students selecting this option are encouraged to complete at least three hours of POL 578, Independent Study in Public Administration.

3. Upon the completion of 18 semester hours of course work, including credit hours transferred from other schools or programs, each student must apply to the Director of the M.P.A. Program for a written certifying examination.

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

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

a. Knowledge of factual matter important for a career in public administration.

b. Skills in interpersonal relationships, problem analysis, and oral and written communication.

c. Ability to deal with key concepts and to interrelate subject matters.

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

a. Certify the student for further course work without restriction.

b. Certify the student for further course work with restrictions.

c. Require that the student be re-examined. No more than one re-examination per student may be given. Failure to pass the re-examination will result in removal from the program.

Curriculum

Administration and Management

POL 510 Public Administration

POL 535 Fiscal Administration

POL 576 Public Personnel Administration

POL 595 Government Internship

POL 596 Public Service Project

MBA 501 Managerial Accounting

POL 544 Managing for Smaller

Analytic Tools and Policy Analysis

POL 511 Quantitative Methods in Public Administration I

POL 512 Quantitative Methods in Public Administration II

ENM 551 Policy Analysis and Planning in Public Systems I

POL 579 Selected Topics in Public Policy

POL 584 Introduction to Public Policy

POL 552 Government Planning

Internal/Group/and Organizational Dynamics of Public Administration

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

Environment of Public Administration

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

Other Courses

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

COURSES OF INSTRUCTION

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

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

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

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

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

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

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

- POL 511. QUANTITATIVE METHODS IN PUBLIC ADMINISTRATION I: Introduction to research techniques involving quantitative methods and analyses applicable to the formulation and implementation of public programs. Emphasis on basic statistics and research methodology. Aimed at an understanding of appropriate application and interpretation of quantitative methods, rather than competence in practical or scholarly use. *3 sem. hrs.*
- POL 512. QUANTITATIVE METHODS IN PUBLIC ADMINISTRATION II: Continuation of POL 511 with emphasis on application of analytic techniques to specific public management problems. Cost-benefit analysis and public sector applications of operations research will be emphasized. *3 sem. hrs.*
- POL 514. DEVELOPMENT OF POLITICAL THEORY: Study of the Western political heritage as fashioned by the great Western political thinkers from Plato through Marx and Lenin. *3 sem. hrs.*
- POL 521. INTERGOVERNMENTAL RELATIONS: Study of the interaction process of various levels of government in the United States, including problems of federalism, inter-state cooperation, and federal-urban relations. *3 sem. hrs.*
- POL 522. SEMINAR IN ASIAN POLITICS: Systematic analysis of the political structures and processes of two or more countries in the Far East and two or more in Southeast Asia, with emphasis on their capabilities to maintain political stability. May be repeated once when focus changes. *3 sem. hrs.*
- POL 529. SEMINAR IN EUROPEAN POLITICS: Systematic analysis of the political structures and processes of two or more countries in Western Europe and two or more in the Soviet Union and Eastern Europe, with emphasis on selected contemporary political, economic, and social problems. May be repeated once when focus changes. *3 sem. hrs.*
- POL 535. FISCAL ADMINISTRATION: Study of governmental expenditures and revenues, budgetary and financial reporting, fiscal policy, and other areas of fiscal management, with emphasis on current practices and problems. *3 sem. hrs.*
- POL 540. SEMINAR IN PUBLIC ADMINISTRATION: Seminar on selected problems in public administration. May be repeated once when topic changes. *3 sem. hrs.*
- POL 544. MANAGING FOR SMALLER: An examination of the concept of public management under conditions of declining resources. Analysis of the root causes of urban decline and the problems associated with it. Exploration of non-traditional approaches to local governance in declining areas. *3 sem. hrs.*
- POL 545. URBAN POLITICS AND POLICY: A study of the political processes and governmental structures in urban areas with emphasis on the relations among governmental units, community power structure, and the formulation and execution of public policy. *3 sem. hrs.*
- POL 546. SEMINAR: PUBLIC OPINION AND POLITICAL BEHAVIOR: Study of conventional and unconventional modes of political behavior; attitudes, opinions, and beliefs which are useful in explaining political behavior. Emphasis on the political socialization of children and post-adolescents and on political information processing. *3 sem. hrs.*
- POL 552. GOVERNMENT PLANNING: Consideration of the planning function in the administrative process and the role of planning agencies in decision making and problem solving. Evaluation of trends and changing characteristics of planning in the United States. *3 sem. hrs.*
- POL 554. DEVELOPMENT ADMINISTRATION: Analysis of the development functions of public administration in selected countries. Focus will be on the administration of development programs as well as on the development of administrative capabilities in the Third World Countries. *3 sem. hrs.*

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

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

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

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

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

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

POL 576. PUBLIC PERSONNEL ADMINISTRATION: Survey of the development of personnel administration in the federal government and some state and municipal governments, focusing on such questions as selection, training, and labor relations. *1-3 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. SELECTED TOPICS IN PUBLIC POLICY: Policy process, policy outcomes, and policy impact in an area or areas of public policy varying among such topics as transportation, education, welfare, national defense, science, civil rights, and urban and community development. May be repeated once when topic changes. *3 sem. hrs.*

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

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

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

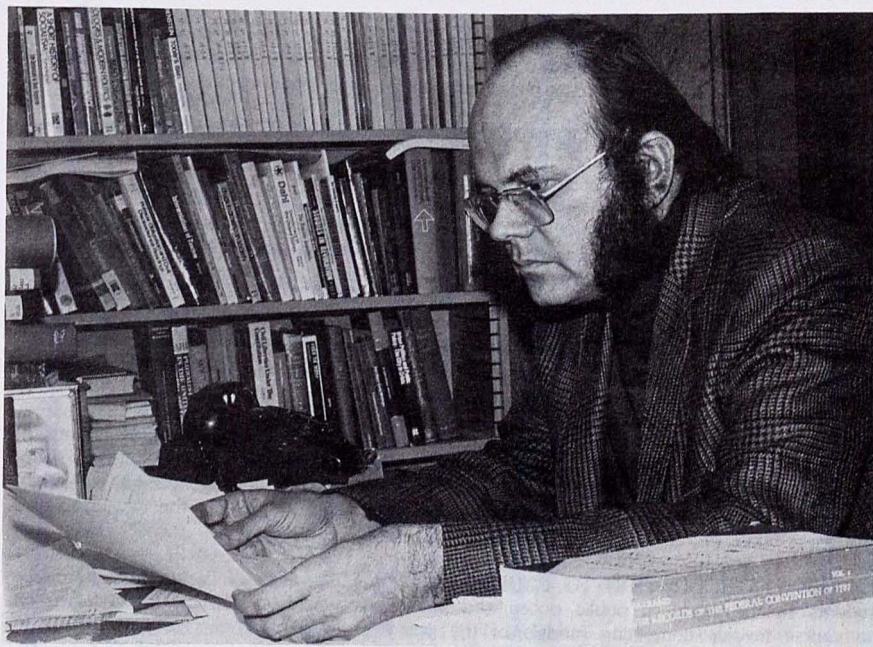
POL 585. ETHICS AND PUBLIC POLICY: An in-depth appraisal of moral principles, e.g. the principle of utility, double effect and Kant's principle of humanity; and their applicability to the policy arena and their application to select public policy issues, e.g., welfare, future generations, human rights,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

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

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

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

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



PSYCHOLOGY (PSY)

Kenneth J. Kuntz, Chairperson of the Department

The Department of Psychology offers five Master of Arts programs:

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

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

ADMISSION REQUIREMENTS AND PROCEDURE

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

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

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

Applications

Application forms may be obtained from the Office for Graduate Studies at the University of Dayton to which all correspondence concerning the completion of the application should be directed. For the Fall term the application deadline is March 15th. Applications after this deadline will be accepted but

will not be reviewed in the original screening of applicants. For information about application for the Spring and Summer terms contact the chairperson of the Department of Psychology.

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

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

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

Student Status

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

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

MASTER PROGRAM REQUIREMENTS

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

1. The number of semester hours and required courses are specified by the individual programs described below.
2. Demonstration of continuing progress toward the degree which requires that students maintain a minimum average of B (3.0) in course work with no more than two grades of C permitted. Students who fail to meet these requirements are either placed on academic probation or dismissed from the program.
3. No more than six semester hours of 400 level courses may apply toward the Master's degree, and normally no more than six semester hours of graduate work approved by the chairman may be transferred from other institutions.

4. Attendance at regularly scheduled extra-course seminars on selected issues in psychology and at occasional specialized programs.
5. Thesis dealing with an approved research problem, incorporating an appropriate review of theory and literature, and demonstrating originality and competence in the application of research methodology.
6. It is the student's responsibility to know and to meet the requirements of his / her program.

Breadth Requirement

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

Clinical Psychology:

- PSY 553 Theories and Research in Psychopathology
- PSY 555 Theories of Personality and Psychotherapy

Therapy and assessment courses by permission of the instructor.

Developmental Psychology:

- PSY 571 Experimental Child Psychology
- PSY 572 Perceptual and Attentional Development
- PSY 573 Developmental Psychology
- PSY 574 Cognitive Development in Children

Experimental-Cognitive Psychology:

- PSY 522 Advanced Cognitive Psychology
- PSY 524 Human Information Processing
- PSY 525 Basic Processes in Learning and Memory
- PSY 528 Psychophysiology
- PSY 529 Perception

Social Psychology:

- PSY 585 Experimental Social Psychology
- PSY 587 Social Influence and Group Dynamics
- PSY 588 Interpersonal Processes
- PSY 589 Attitudes

Clinical Psychology

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

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

	<i>Semester Hours</i>
Core Requirements	9
PSY 501 Experimental Design and Statistics I	3
PSY 502 Experimental Design and Statistics II	3
PSY 599 Thesis	3
 Clinical Requirements	 17
PSY 550 Interviewing	1
PSY 551 Assessment of Intelligence	3
PSY 553 Theories and Research in Psychopathology	3
PSY 555 Theories of Personality and Psychotherapy	3
PSY 556 Assessment of Personality	3
PSY 569 Clinical Practicum	Total of 4
Clinical Electives	6
 Select six credit hours from among the following courses*:	
PSY 558 Group Psychotherapy	3
PSY 560 Childhood Psychopathology and Psychotherapy	3
PSY 562 Behavior Therapy — Theory and Practice	3
PSY 564 Individual Psychotherapy	3
PSY 566 Family and Marriage Therapy	3
Free Electives	3

Breadth Requirement:

Three credit hours from each of the following areas. Courses which fulfill this requirement are listed above.

Development Psychology	3
Experimental-Cognitive Psychology	3
Social Psychology	3

Total Credit Hours 44

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

Developmental Psychology

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

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

	<i>Semester Hours</i>
Core Requirements	9
PSY 501 Experimental Design and Statistics I	3
PSY 502 Experimental Design and Statistics II	3
PSY 599 Thesis	3
Developmental Requirements	12
PSY 571 Experimental Child Psychology	3
PSY 572 Perceptual and Attentional Development	3
PSY 573 Developmental Psychology	3
PSY 574 Cognitive Development in Children	3
Free Electives*	6
(PSY 596 Experimental Research is strongly recommended as an elective.)	
Breadth Requirement:	
Three credit hours from each of the following areas. Courses which fulfill this requirement are listed above.	
Clinical Psychology	3
Experimental-Cognitive Psychology	3
Social Psychology	3
Total Credit Hours 36	

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

Experimental-Cognitive Psychology

The Master 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 perceptorial 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>
Core requirements	9
PSY 501 Experimental Design and Statistics I	3
PSY 502 Experimental Design and Statistics II.	3
PSY 599 Thesis	3
Experimental-Cognitive Requirements	9
PSY 524 Human Information Processing.	3
PSY 525 Basic Processes in Learning and Memory	3
PSY 529 Perception	3
Experimental-Cognitive Electives	3
Select one of the following courses in consultation with advisor:	
PSY 522 Advanced Cognitive Processes	
PSY 504 Seminar in Experimental Design and Statistics	
PSY 526 History and Systems	
PSY 528 Psychophysiology	
PSY 596 Experimental Research	
Free Electives	6
Breadth Requirement:	
Three credit hours from each of the following areas. Courses which fulfill this requirement are listed above.	
Clinical Psychology	3
Developmental Psychology	3
Social Psychology	3

Total Credit Hours 36

Social Psychology

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

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

	<i>Semester Hours</i>
Core Requirement	9
PSY 501 Experimental Design and Statistics I	3
PSY 502 Experimental Design and Statistics II	3
PSY 599 Thesis	3
Social Requirements:	
PSY 585 Experimental Social Psychology	3
Social Electives	9
Select nine credit hours from among the following courses*:	
PSY 586 Social Psychology Applied to Community Problems	3
PSY 587 Social Influence and Group Dynamics	3
PSY 588 Interpersonal Processes	3
PSY 589 Attitudes	3
Free Electives	6
Breadth Requirement:	
Three credit hours from each of the following areas. Courses which fulfill this requirement are listed above.	
Clinical Psychology	3
Developmental Psychology	3
Experimental-Cognitive Psychology	3

Total Credit Hours 36

*PSY 443 Psychology of Women, may also serve as a social elective with permission of the instructor.

General Psychology

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

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

Core Requirements: *Semester Hours*

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

General Program Electives 15

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

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

Breadth Requirement:

Three credit hours from each of the following areas. Courses which fulfill this requirement are listed above.

Clinical Psychology	3
Developmental Psychology	3
Experimental-Cognitive Psychology	3
Social Psychology	3

Total Credit Hours 36

COURSES OF INSTRUCTION

Quantitative Methods

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

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

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

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

Experimental Psychology

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

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

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

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

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

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

Clinical Psychology

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

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

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

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

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

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

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

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

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

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

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

Developmental Psychology

PSY 467. TELEVISION AND ITS EFFECTS ON CHILDREN: Psychological research on the effects of television on children will be read. The research will be addressed to television's role as a socialization medium, rather than as an entertainment medium. Major emphasis will be placed on analyzing and evaluating the research. Available for graduate credit with permission of instructor. *3 sem. hrs.*

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

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

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

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

Social Psychology

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

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

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

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

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

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

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

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

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

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

RELIGIOUS STUDIES (REL)

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

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

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

The master's program in Pastoral Ministries offers the student an opportunity to prepare for a variety of service careers emerging in the contemporary church. It is intended to prepare the students for pastoral positions as teachers of catechetics and religious education, directors of religious education, parish ministers, campus ministers, etc. 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) with several area seminaries (cf. p. 11). This membership makes possible dialog with students of other institutions, interchange of facilities, sharing of library resources, and cooperative innovative programming. Through cross-registration, it makes available to the students the courses at the member institutions and thus provides the opportunity for even more flexible construction of their degree programs.

ADMISSION REQUIREMENTS

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

PROGRAM REGULATIONS

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

Course Work

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

Language Proficiency

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

Theological Competency

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

Thesis

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

COURSES OF INSTRUCTION

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

Biblical Languages

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

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

Biblical Studies

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

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

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

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

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

REL 518. NEW TESTAMENT EXEGESIS: Critical exegetical study of selected writings of the New Testament. May be taken more than once. (1) Matthew, (2) Mark, (3) Luke / Acts, (4) John, (5) Pauline Corpus, (6) Pastoral Epistles, (7) Book of Revelation. *3 sem. hrs. each*

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

Historical Theology

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

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

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

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

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

Systematic Theology

REL 530. 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. GOD AND HUMAN EXISTENCE: A survey of Christian theologies of God, traditional and modern, and the viewpoints they represent on the nature and purpose of human existence. *3 sem. hrs. each.*

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

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

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

Christian Ethics

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

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

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

Religion and Culture

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

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

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

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

Pastoral Ministries

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

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

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

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

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

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

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

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

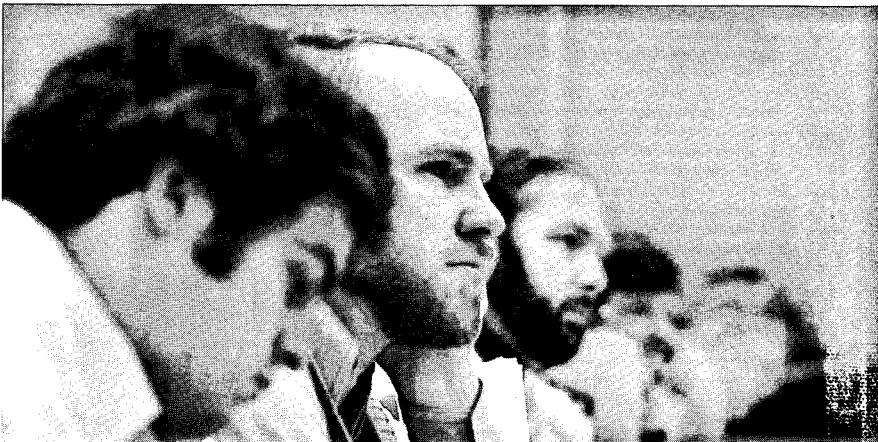
General Courses of Instruction

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

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

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

REL 599. THESIS *6 sem. hrs.*



VIII School of Business Administration

William J. Hoben, Dean
Henry H. Stick, Assistant Dean and Director, MBA Program

THE MBA PROGRAM

The objective of the MBA program is: To develop creative and effective managers by providing the student with administrative, behavioral, and technical knowledge and skills.

The student is expected to attain:

- a. Leadership and managerial ability
- b. Decision making capability
- c. Technical mastery of functional disciplines
- d. An understanding of organization and human relationships
- e. An understanding of the external business environment, government and society.

The Master of Business Administration program is based on the premise that management is a professional activity which requires a combination of conceptual, behavioral, and technical skills. These skills are developed through satisfactory completion of courses in the functional disciplines and through courses designed to achieve an integration and synthesis of acquired knowledge. Most importantly, emphasis throughout the program is on the development of leadership, managerial, and decision making abilities.

Initial core courses provide a basis for an understanding of accounting, quantitative techniques, finance, economics, marketing, organization, and human behavior. Later courses are designed to facilitate the integration and synthesis of functional knowledge. In addition to the prescribed twenty-four hours (eight courses) for all students, specialization can be achieved through the nine hours of elective credits. These are selected at the option of the student and provide an opportunity to obtain depth in a particular area or to broaden the scope of his program by choosing a range of electives. An additional option available to the student is the opportunity to pursue up to six hours of independent research. There is no thesis requirement or comprehensive examination at the end of the program.

ADMISSION

The applicant for admission must hold a bachelor's degree from an accredited college or university. The degree may be in business administration or any other field. Those whose degrees are in fields other than business administration normally find it necessary to take graduate survey courses. Students with a Bachelor's degree in business normally will have satisfied survey course requirements. In either case, any such requirements are determined on the basis of the adequacy of course work in six particular areas of the undergraduate program.

Applicants must demonstrate a readiness for graduate study, personal integrity, and aptitude for successful managerial performance. The following indicators of high promise for success in graduate study are used in evaluating the applicant for admission:

1. Undergraduate and other collegiate records as indicated by official transcripts from all universities and colleges attended.
2. Results of the Graduate Management Admission Test (GMAT).

All applicants are required to take the Graduate Management Admission Test (GMAT). While it is desired that a program applicant take the test prior to entering the program, an applicant not having taken the GMAT is permitted to enroll for one semester in the status "Unclassified" (OGS Form 502). It is then required that the GMAT be taken during that semester of enrollment. A decision concerning the acceptance of the application is provided to the student on receipt of GMAT results and prior to the following semester. Scheduled test dates and application forms for the test are available from the MBA office. Forms are to be completed and forwarded to the Educational Testing Service, Princeton, New Jersey, thirty days before the examination date.

TRANSFER OF CREDITS

A maximum of six semester hours of appropriate graduate courses earned at another approved graduate school of business may be applied toward the MBA at the University of Dayton. No graduate credit earned at either the University of Dayton or another school may be applied to the MBA if such course work was completed more than five years prior to the anticipated date of graduation.

PROGRAM OF STUDIES

Course Work

MBA courses are grouped under three categories: Group I — prerequisite survey courses; Group II — core courses; Group III — elective courses. Before taking core and elective courses, the student should have acquired a basic knowledge in six business areas: accounting, economics, finance, marketing, management, and statistics. Students with an undergraduate degree in business administration normally have met all the prerequisites and may proceed immediately with Group II and III — core and elective courses.

Thirty-three semester hours of core and elective courses are required for the MBA degree. Where prerequisite survey courses are required because of an undergraduate deficiency in one or more of the six areas specified above, the total number of hours required will be accordingly greater. All MBA courses are three-semester-hour courses, with the exception of one elective, MBA 595 — Individual Research, which may vary from one to six semester hours. All courses, exclusive of prerequisite surveys must be completed within five calendar years of enrollment in the first course.

Group I. Prerequisite Survey Courses: Any student having an undergraduate course deficiency (i.e. lacking course work in any one or more of the six areas — economics, accounting, marketing, management, statistics, finance) is required to make up that deficiency. This is generally done by taking the appropriate course(s) from the following graduate survey courses:

- MBA 500-A Graduate Survey in Economics
- MBA 500-B Graduate Survey in Accounting
- MBA 500-C Graduate Survey in Marketing
- MBA 500-D Graduate Survey in Management
- MBA 500-E Graduate Survey in Statistics
- MBA 500-F Graduate Survey in Finance

In some cases the deficiency can be eliminated by passing a proficiency test in appropriate area(s) to waive the requirement. This is normally undertaken when the student has had some course work in areas related to the prerequisite course but not sufficient work to warrant its acceptance as fulfilling the Group I requirement.

Whenever prerequisite survey courses are required, they must be completed before proceeding to core courses. However, a student may take core courses during the term in which the last required prerequisite survey is being completed. For example, if the student has only the graduate survey in accounting to take, and wishes to carry a six-semester-hour load, one of the core courses (except the accounting core course, MBA 501) may be taken simultaneously with the last remaining survey course.

Group II. Core Courses: The Core portion of the program includes 24 semester hours of courses.

A. The following *seven* are required:

- MBA 501 Managerial Accounting
- MBA 510 Quantitative Methods for Business Decisions
- OR
- MBA 511 Application of Management Science in Business
- MBA 520 Managerial Finance
- MBA 530 Marketing Management
- MBA 540 Managerial Economics
- MBA 587 Organizational Behavior
- MBA 590 Administrative Management

Either MBA 510 or MBA 511 may be selected for the core course in the quantitative area. MBA 510 should be selected by those whose quantitative background includes only statistics. MBA 511 should be selected by those whose quantitative background includes, in addition to statistics, differential and integral calculus. Also, students with a strong academic background in other core courses, normally a major or very strong minor in the undergraduate program, may be permitted, upon request to the MBA office, to use an MBA elective course in lieu of the core course. Students with undergraduate accounting majors or a CPA, for example, should request that an additional elective be substituted for Managerial Accounting.

B. One of the following *two* courses:

MBA 550 Government and Business

MBA 570 Business and Society

Group III. Elective Courses: Three elective courses are required. The student may choose from among the other MBA courses. The student is required to take either MBA 550 or MBA 570. If both are taken, one may be counted as an elective. In addition to the MBA courses described in this chapter, the School of Business Administration offers 400-level undergraduate courses that can be used for graduate credit. These add to the range of electives in management, marketing, finance, accounting, economics, and quantitative analysis. With permission, students may elect courses from the college and other schools of the University when these are appropriate to their education plans.

For example, the student can specialize in Corporate Public Affairs by scheduling appropriate electives from course offerings within the Department of Political Science. Or, the student may wish to develop a more thorough understanding of computers by using electives from the Department of Computer Science.

Sequence of Courses: The student should note carefully the requirements regarding course sequence: Prerequisite survey courses must be completed before proceeding to core and elective courses, with the exception of combining core courses with a last remaining prerequisite survey course as explained above. Also note the following:

MBA 501 is a prerequisite to MBA 520, Managerial Finance.

MBA 520 and either MBA 510 or MBA 511 are required prerequisites to MBA 521, Problems of Finance.

MBA 501 or MBA 520 or permission of the instructor are prerequisites to MBA 525, Investments and Financial Markets.

MBA 530 is a prerequisite to MBA 533 or MBA 534.

MBA 586 or MBA 587 are prerequisites to MBA 588, Seminar in Current Organizational Behavior Topics.

MBA 590, Business Policies and Administrative Management, may be taken only after the completion of 21 semester hours of core and elective courses. The 21 semester hours should include at least 12 semester hours of the courses under Group II-A.

ACADEMIC STANDING

The student is expected to maintain a “B” or 3.0 GPA throughout the MBA course work, to include the survey courses. More than two “C” grades which are not off-set by “A” grades provide a basis for academic evaluation and possible program termination. To qualify for graduation, the student must have a 3.0 average (B) in all work undertaken toward the degree.

Individual Research

The MBA program does not require a thesis. Students who have an interest in doing the kind of intensive research and investigation involved in a thesis should note MBA 595, Individual Research. This course may be taken for one to six semester hours. It may be repeated if taking the maximum six semester hours. For example, the student may do one project for three semester hours credit and a second project on another topic for another three semester hours credit. Normally, however, more than three hours of such research is not scheduled. In all cases, the student considering taking MBA 595 must have the project approved by a faculty advisor and the MBA Program Director. Approval is obtained by completing a project proposal form available in the MBA office and arranging for a meeting with the MBA Program Director to discuss the proposed project. A faculty advisor will subsequently be assigned, OR, a student may work with a faculty member and then obtain MBA office approval. Approval for the MBA 595 project must be obtained before registering for the course. It is advisable for the student to obtain approval during the term preceeding that in which he or she plans to register. Individual research may be undertaken only after completion of fifteen hours of the core course requirements.

JOINT DEGREE PROGRAM

In cooperation with the School of Law, the School of Business Administration offers a joint program leading to the simultaneous conferment of the Juris Doctor and the Masters of Business Administration. By coordinating the scheduling of courses required for the joint degree, the student is able to complete all work one term sooner than would be necessary if the two degrees were pursued independently. The resulting combination of skills provides a strong background of increasing utility in today's complex environment. See Chapter VI; see also Chapter XI, and consult the directors of both programs.

COURSES OF INSTRUCTION

MBA 500A. GRADUATE SURVEY IN ECONOMICS: Basic economics principles and their application. Consumer behavior, production theory, and the interaction of buyers and sellers in various kinds of markets; national income, monetary policy, fiscal policy, and the economic role of the government in the United States. *3 sem. hrs.*

MBA 500B. GRADUATE SURVEY IN ACCOUNTING: The basic principles and concepts of accounting and of financial statements, with emphasis on understanding accounting terminology and the reasons for accounting conventions and practices; introduction to management uses of accounting data and reports. *3 sem. hrs.*

MBA 500C. GRADUATE SURVEY IN MARKETING: Development of a framework within which the marketing process can be critically examined, including analysis of the societal and legal constraints on the marketing process. Introduction to a variety of concepts associated with the macro character of marketing including consumption systems, distribution systems, promotional activities, product development, and pricing. *3 sem. hrs.*

MBA 500D. GRADUATE SURVEY IN MANAGEMENT: Interrelationship of various management functions; planning, organizing, directing, staffing, and controlling; principles of general and production management and management of international operations. Introduction to the various schools of management (scientific, classical, and behavioral), classical and modern organizational theories, and the elements of decision making. *3 sem. hrs.*

MBA 500E. GRADUATE SURVEY IN STATISTICS: Applied statistics. Measures of central tendency and dispersion, frequency distributions, probability, sampling, hypothesis testing, and simple correlation; introduction to regression analysis. *3 sem. hrs.*

MBA 500F. GRADUATE SURVEY IN FINANCE: An overview of finance to include the Math of finance, working capital management, capital budgeting, the cost of capital, a description of capital markets, the principles of investment, and the role of financial institutions. *3 sem. hrs.*

MBA 501. MANAGERIAL ACCOUNTING: Basic coverage of managerial accounting practices and techniques and of the concepts, principles, and practices for external reporting of financial data from the user's point of view. Prerequisite: 500B or equivalent. *3 sem. hrs.*

MBA 504. TAX FACTORS IN BUSINESS DECISION: An organized review of the provisions of the Federal Income Tax Code and tax laws on business decisions, including selection of the legal form of the business entity, corporate reorganization, acquisitions, mergers, employee compensation and benefits, alternative methods of capital gains and ordinary income, and interactions of income, estate, and gift taxes. Prerequisite: MBA 501. *3 sem. hrs.*

MBA 505. CONTEMPORARY ACCOUNTING ISSUES: Seminar covering important or controversial issues for the student who has a strong accounting background. The business and financial situations which underlie accounting problems and controversies; alternative accounting techniques which are accepted or proposed; the consequences of various accounting practices. Prerequisite: MBA 501 or equivalent. *3 sem. hrs.*

MBA 510. QUANTITATIVE METHODS OF BUSINESS DECISIONS: Development and application of quantitative models such as linear programming, Markov, queuing, inventory in the field of management, marketing and production, and finance. Prerequisite: MBA 500E or equivalent. *3 sem. hrs.*

MBA 511. APPLICATION OF MANAGEMENT SCIENCE IN BUSINESS: Integrated application of quantitative and qualitative concepts and models of management science such as decision theory, linear programming, Pert, and queuing theory to business decision making in capital budgeting, quality control, systems and subsystems, and related areas. Prerequisite: MBA 510 or permission of instructor. *3 sem. hrs.*

MBA 520. MANAGERIAL FINANCE: Study of the theories, practices, instruments and markets relevant to financial management of business organizations. Emphasis is on analysis and decision-making with regard to the acquisition, employment and financing of business assets consistent with organizational objectives. Prerequisite: MBA 501. *3 sem. hrs.*

MBA 521. PROBLEMS IN MANAGERIAL FINANCE: In-depth application of financial principles to selected areas. Topics vary. Emphasis may be on working capital management; capital budgeting; cost of capital; the capital asset pricing model; international finance; ratio analysis; or others. Prerequisites: MBA 520 and 510 or 511. *3 sem. hrs.*

- MBA 525. INVESTMENTS AND FINANCIAL MARKETS:** A study of investment principles and techniques used by both individual and institutional investors. Topics include bond and stock markets, security valuation methods, portfolio theory and management, and investment institutions. Prerequisite: MBA 501 or MBA 520 or instructor's permission. 3 sem. hrs.
- MBA 530. MARKETING MANAGEMENT:** Examination of concepts, theories, facts, and analytical procedures associated with marketing management. Market analysis: consumer behavior, competitor analysis, marketing information systems, marketing research, and demand forecasting; marketing strategy: product, distribution, promotion, and pricing decisions. Prerequisite: 500C or equivalent. 3 sem. hrs.
- MBA 533. SEMINAR IN MARKET ANALYSIS:** For the decision maker who wants to be aware of available market analysis procedures and forecasting techniques. Topics include how to perform a market analysis; how to obtain the information necessary for the market analysis; the major forecasting techniques and their applications to typical management decisions. Prerequisite: MBA 530. 3 sem. hrs.
- MBA 534. SEMINAR IN MARKETING STRATEGY:** Formulating and implementing marketing strategy. The problem of deciding what kind of business to be in and of translating the decision into marketing plans and program for action. An analytic approach to strategic marketing decisions applied to practical examples of problems that firms now face and will face given current trends. prerequisite: MBA 530. 3 sem. hrs.
- MBA 540. MANAGERIAL ECONOMICS:** Examination of the scope and method of managerial methods in demand analysis, forecasting demand, short-run cost analysis; long-run costs and production functions; pricing, selected topics in pricing; risk and uncertainty. Analysis of macroeconomic trends and their impact on the firm. Prerequisites: MBA 500 A or equivalent. 3 sem. hrs.
- MBA 541. LABOR RELATIONS AND LABOR ECONOMICS:** Collective bargaining, wage determination, structure and operation of labor markets, direction of the labor movement, theories of industrial peace and conflict; current problems and trends in labor relations. Prerequisite: 500A or equivalent. 3 sem. hrs.
- MBA 545. NATIONAL ECONOMIC POLICY AND FORECASTING:** A study of economic aggregates including employment, prices, and income. Contemporary policy issues such as stagflation, wage and price controls, structural unemployment. Methods of forecasting economic aggregates. Prerequisite: MBA 500A or equivalent. 3 sem. hrs.
- MBA 550. GOVERNMENT AND BUSINESS:** Analysis of government regulations and their impact on business. An examination of how business organizations, when producing goods and services, operate within the financial, legal, and social constraints resulting from governmental activity. Prerequisite: 500D or equivalent. 3 sem. hrs.
- MBA 560. OPERATIONS MANAGEMENT:** An analysis of the management task of allocating the resources of plant, equipment, time, and personnel skills in directing and controlling an operation. Topics include plant location, layout, inventory management, scheduling, production standards, and related areas. The subject is approached by viewing an operation that combines these factors and elements into a system. Prerequisite: 500D or equivalent. 3 sem. hrs.
- MBA 563. MANAGEMENT INFORMATION AND CONTROL SYSTEMS (MICS):** Developing an understanding of the principles and techniques for designing and using MICS systems. The collection, analysis, and use of computer-based management information systems is integral to the course. Computer and data base use is covered. Prerequisite: MBA 500E. 3 sem. hrs.

MBA 570. BUSINESS AND SOCIETY: A study of the relationship between business and the social system of which it is a part, with particular attention to critical social issues and their potential impact on the individual firm and the development of corporate policy. Prerequisite: 500D or equivalent. *3 sem. hrs.*

MBA 575. SEMINAR IN PERSONNEL AND INDUSTRIAL RELATIONS: A study of the Personnel and Industrial Relations function. An examination of employment planning and practices to include the legal framework and regulatory guidelines. Readings, exploratory research, experimental exercises, films, and seminar discussions are the primary teaching methods. Prerequisite: 500D or equivalent. *3 sem. hrs.*

MBA 580. ORGANIZATION THEORY: Analysis of the parts of an organization and the processes which connect and integrate them into a functioning entity in pursuit of maximum growth, stability, and ultimately survival. Emphasis is on modern organization theory. Extensive reading, exploratory research, and seminar discussions are integral aspects of the course. Prerequisite: 500D or equivalent. *3 sem. hrs.*

MBA 583. ADVANCED MANAGEMENT SEMINAR: An analysis in depth of important areas of management in which theory, research, and the practice have progressed significantly. Topics vary. Examples include organizational development, systems management, executive decision-making, control techniques, and human resource management. Prerequisite: 500D or equivalent. *3 sem. hrs.*

MBA 584. MULTI-NATIONAL BUSINESS POLICY: Changes in the structure, organization, and policies of multi-national business firms and international trade in general. Their implications relative to the composition of exports, international marketing processes, terms of trade, and determinants of payments and exchange-rate movements. Prerequisite: 500D or equivalent. *3 sem. hrs.*

MBA 585. ORGANIZATIONAL SYSTEMS: Focuses on the fundamentals of the dynamic processes that characterize systems. Emphasis is on the structure, processes, and behavior of business, governmental, educational, military, and other kinds of organization. Case studies are used and group reports presented. Prerequisite: 500D or equivalent. *3 sem. hrs.*

MBA 586. INTERPERSONAL DYNAMICS IN ORGANIZATIONS: The nature, types, formation, and characteristics of groups that interact within an organization. Communication networks and organizational factors that influence interpersonal relationships and conflicts are discussed in depth. Lectures, outside reading, research, cases, and group exercises. Prerequisite: 500D or equivalent. *3 sem. hrs.*

MBA 587. ORGANIZATIONAL BEHAVIOR: Individual behavior and interrelationships in an organization and management practices to promote organizational effectiveness. Basic psychological concepts such as motivation, leadership, and the application of techniques for individual and organization growth. Lectures, reading, cases, and problem-solving through group exercises. Prerequisite: 500D or equivalent. *3 sem. hrs.*

MBA 588. SEMINAR IN CURRENT ORGANIZATIONAL BEHAVIOR TOPICS: Analysis and interpretation of behavioral research studies as applied to management. Coverage of problem areas such as interpersonal conflict resolution, resistance to change, managerial development, organizational growth, effects of technology, emergence of new control systems. Role playing, small group exercises and applications. Prerequisite: 586 or 587. *3 sem. hrs.*

MBA 589. SEMINAR IN STRATEGIC PLANNING: The design of formal systems for comprehensive long-range planning in large organizations both profit and nonprofit. Focus is on the decision-making process and the design of a formal planning system for improving that process, and not on the substance of the management decision. Prerequisite: 21 semester hours. *3 sem. hrs.*

MBA 590. BUSINESS POLICIES AND ADMINISTRATIVE MANGEMENT: The integration of theory and practice in the development of business policies. Emphasis is on the problems of executive management, decision-making, and administrative action. Prerequisite: 21 semester hours. *3 sem. hrs.*

MBA 591. BUSINESS SIMULATION: An integrative learning experience based on knowledge of the functional business areas and of the business environment. The course uses a computer simulation to examine the effect of students' management decisions over time. Lectures and small groups for decision-making reporting. Prerequisite: 21 semester hours. *3 sem. hrs.*

MBA 595. INDIVIDUAL RESEARCH: Individual research in subjects encompassed by the MBA curriculum under the guidance and direction of a faculty member. Research may be undertaken on completion of 15 hours of core courses. *1-6 sem. hrs.*



IX School of Education

Ellis A. Joseph, Dean

The general objectives of the School of Education coincide with the purposes of the University. Accepting the Christian world-view as its distinctive orientation and seeking to foster principles and values consonant with a caring attitude, the School assists in carrying out the four essential tasks of the University: teaching, research, serving as a critic of society, and rendering public service. The particular objective of the School of Education is to develop those special capabilities of students which enable them to become effective practitioners in the field of professional education.

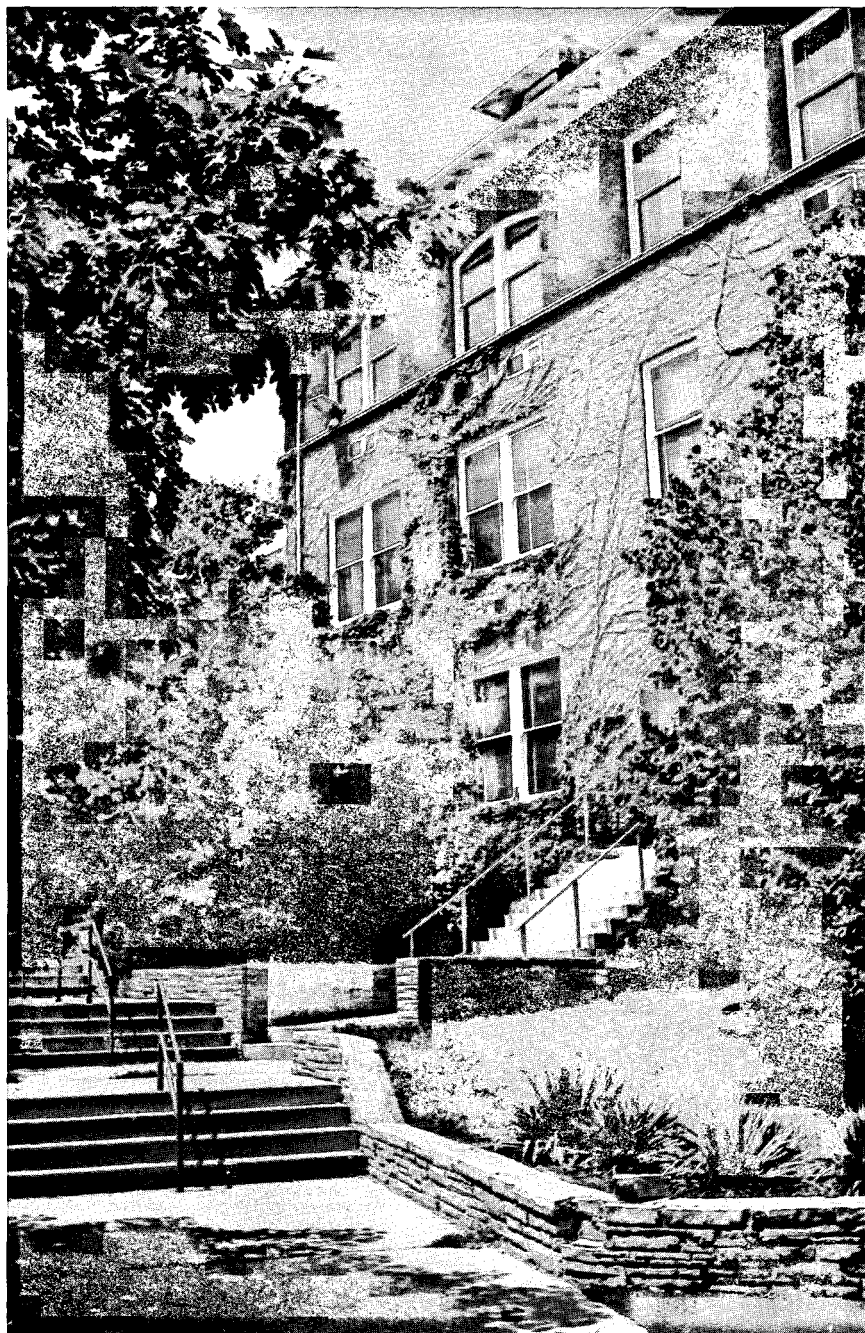
The Education programs leading to the master's degree are designed primarily to meet the following purposes:

1. To develop advanced proficiency in elementary and secondary school teachers who have completed recognized baccalaureate teacher education programs.
2. To enable teachers with at least three years' successful teaching experience to qualify for certification as principals, supervisors, executive heads, or local superintendents.
3. To prepare qualified school counselors, school psychologists, and counselors for social agencies.
4. To develop personnel for student services in higher education.
5. To prepare educational research specialists.
6. To enable students with nonprofessional baccalaureate degrees and above-average academic records to gain teacher certification on the secondary level.

The Master of Science in Education is the degree to which most of the graduate programs lead. The Master of Science in Teaching is also offered. The awarding of these degrees means that the candidates have completed programs of graduate work designed to give them the following characteristics:

1. Broader knowledge of an advanced nature of the tested psychological and philosophical theories of education.
2. Essential understandings and skills necessary for intelligent consumption of educational research.
3. More extensive knowledge and skill involved in teaching, or in school counseling, or in school administration.
4. Ability to contribute toward the improvement of school conditions and / or professional practice through consumer research.

The University of Dayton has traditionally given special consideration to those training for the education professions. In the spirit of this tradition, the Graduate School of Education changed from the semester-hour to the quarter-hour credit unit effective June 17, 1974. The quarter-hour credit system, within a trimester



calendar, permits professionally employed graduate students to begin and to finish courses and other program work at times and dates congruent with those of their other responsibilities. Students are encouraged to consult program directors and course schedules each term for details.

AUTHORIZATION

The University of Dayton's offerings in graduate work leading to the Master of Science in Education have the official approval of the State of Ohio Department of Education, of the North Central Association of Colleges and Secondary Schools, and of the National Council for the Accreditation of Teacher Education.

The programs in School Counseling, in School Psychology, in School Administration, and in Educational Research lead to Provisional Certification by the State of Ohio.

The Master Teacher programs may lead to Eight-Year Professional Certification or to Permanent Certification depending on the years of successful teaching performed under the previous provisional certificate held.

ADMISSION

General Requirements

The School of Education accepts into its graduate programs applicants who can present undergraduate records showing them capable of meeting the standards of graduate work. An applicant (1) must hold a teacher's certificate on a bachelor's degree from an accredited institution (at least state accreditation), unless specific exceptions are granted by the dean of the School of Education; and (2) must have attained an undergraduate quality-point average of at least 2.5 of a possible 4.0. An exception to the latter requirement may be made if the department in which the applicant seeks enrollment recommends it and if the recommendation is endorsed by the School's graduate review board. If the exception is granted, the applicant will be placed on conditional status, pending the successful completion of approximately 15 to 18 quarter hours. All applicants must submit references from qualified professionals in appropriate fields.

An applicant who is not a graduate of the University of Dayton must submit complete official transcripts of all previous college studies. These transcripts should be sent directly to the Dean, School of Education, from the degree-granting institution.

Admission to graduate study on regular, special, or conditional status does not imply admission to candidacy for a degree.

Special Requirements: School Psychologist

Besides meeting the above requirements, an applicant for the School Psychologist Program must receive a favorable recommendation from the Department of Counselor Education and Human Services. In deciding whether or not to make such a recommendation to the admissions committee, the staff will take into account the applicant's physical and mental health, personality adjustment as determined by appropriate tests, and general character as determined by reference appraisals solicited from former professors and employers.

Special Requirements: Master of Science in Teaching

Option three of this program leading to the Master of Science in Teaching is restricted to the student who (1) holds a nonprofessional bachelor's degree; (2) has earned the degree within a period of ten years prior to application to the program; (3) has an undergraduate cumulative point average of 2.5 or higher (on a 4.0 scale); (4) desires certification to teach in secondary school; (5) has a major teaching field which can be serviced by graduate courses offered at the University of Dayton. (Students who desire high school certification but cannot meet these requirements may take Program E-9 on the undergraduate level. See the Undergraduate Issue of this Bulletin.)

MASTER'S DEGREE PROGRAMS

Advisement

The graduate student has access to three sources for official advisement:

1. The Office of the Dean of the School of Education serves as an initial advisory source for students regardless of the program they are following.
2. The chairmen of the departments or the coordinators of the programs act as special advisors to students enrolled in programs under their jurisdiction. They counsel them with regard to their professional objectives, their selection of courses, and the options that are available in their programs. In the case of specialized programs within the department they may delegate these functions to the program directors. The student is urged to confer with his chairman and / or director in the first term of enrollment.
3. The project or internship advisor, chosen by mutual agreement of the student, the department chairman, and the prospective advisor, guides the student to the successful completion of the research project or the approved internship.

Candidacy

A student becomes a candidate for the master's degree in Education if his cumulative point average for graduate work, the preliminary plan for his research project or the approved plan for his internship experiences, and his reference appraisals are judged to be acceptable by the graduate committee of the School of Education.

The most important consideration in the admission of a student to candidacy is the graduate work to date. He must give evidence of being able to meet all the graduation requirements. Applicants who are deemed unqualified at this point will be advised to discontinue their programs.

Students should apply for admission to candidacy after the completion of approximately 20 quarters of graduate work, including at least two courses in the area of concentration and EDF 503, Research Methodology and Statistics, or EDA 513, Evaluation of Educational and Organizational Systems. Application is made by filing the official candidacy form with the dean. The applicant should be sure that all the required credentials are in order and that the preliminary plan for the research project or the approved plan for the internship experiences is ready for evaluation.

The applicant with a concentration in Administration must ordinarily present

evidence of at least three years of successful teaching and recommendations to the program from administrators in positions to judge his potential for educational leadership.

A student following Plan C in the School Counseling program should apply for candidacy upon completion of approximately 30 quarter hours. Approval of the plan for the research paper is required.

Academic Standing

In order to qualify for graduation, a student must achieve an average of at least 3.0 (B) in all work undertaken toward the degree.

Research Project or Internship Report

At least ten days before graduation, the student must submit, according to the requirements of the specific program, three acceptable copies of the research project and two copies of an abstract of the project; OR one acceptable copy of a formal report on the internship experiences; OR, in the case of Plan C in the School Counseling program, one copy of the research paper.

Departmental Conference

During the final term preceding graduation, the student must participate in a formal "Departmental Conference" as arranged by the appropriate departmental chairman.

Employed Graduate Students

The maximum course load permitted for any graduate student who is fully employed is eight quarter hours for the first and second terms and for the first half of the third term. Program directors may counsel fully employed students to take less than eight hours. Adjustments to this policy are made on an individual basis in the cases of those not employed or partly employed.

JOINT PROGRAMS

The Schools of Education and Law offer mature students the opportunity to earn the Master of Science in Education and the Juris Doctor in three to three and one half calendar years. Prospective students must satisfy admission requirements for graduate work in the School of Education and for acceptance in the School of Law. See also Chapters VI and XI.

COUNSELOR EDUCATION AND HUMAN SERVICES (EDC)

Eugene K. Moulin, Chairperson of the Department

The goals of the Department of Counselor Education and Human Services are: 1. to prepare elementary school counselors, secondary school counselors, student service personnel in higher education, school psychologists, visiting teachers, directors of pupil personnel services, guidance supervisors for state, county and local systems, and counselors for community and other agency settings; 2. to provide teachers and other helping professionals with specific inservice course credit offerings designed to build skills and develop understandings relative to identified professional functions. These two missions are conducted at The University of Dayton campus, Steubenville, Lima, Springfield, Piqua, Sidney, Carlisle, Kettering, Jefferson Township, Beavercreek, Washington Court House, Bellefontaine, Valley View, and other sites by invitation of local authorities.

Courses in counseling, personality, and vocational theories; principles and techniques of pupil services; individual and group counseling; psychometrics; individual personality evaluation; educational, occupational and social information; community resources; test administration and interpretation; organization, administration and program development of pupil and student services; evaluation of educational and organizational systems; and research methodology and statistics are applicable to departmental emphases. In addition, selected courses in behavioral and social science and other related disciplines lead to provisional certification as a school counselor, visiting teacher, and school psychologist by the various state departments of education.

The ultimate goal of the graduate program is to develop fully functioning human service specialists capable of implementing a role consistent with the philosophy reflected in their training. Essentially, this role is to assist children, youth, and adults from varying socio-economic backgrounds in reaching their full academic and personal development in various educational and organizational settings. This ultimate goal is met by attending to three sets of activities: (1) those which build skills and develop understandings relative to the role of the various human service specialists in assisting children, youth, and adults from varying socio-economic backgrounds; (2) those which develop a method for conceptualizing the settings in which these skills are to be implemented; and (3) those which allow the graduate student to test and develop capacities for implementing these skills in practicum and internship experiences within new kinds of co-operating school and community agencies.

1. Toward the first end the students are assisted in developing skills in counseling. They learn to conduct group process sessions with clients of various ages and learn when and how to utilize consultative services within educational and organizational settings as well as those social services available to children, youth, and their parents living in an urban setting. They are assisted in developing competencies related to their specializations.

Graduate students are assisted in integrating essential understandings out of which these skills and techniques can continue to develop beyond their formal training. These understandings include those associated with the impact of family, poverty, and institutions on child and adolescent development, the nature of the learning process, the impact of the specific learning setting upon learning efficiency and upon the total development of students from varying backgrounds, and thus the potential impact of the human service specialist on students, parents, teachers, administrators, and other professionals. Toward this end, the department provides opportunity for activities to clarify the values, increase the self awareness, and improve the interpersonal skills of the graduate students.

2. A second set of activities is directed toward assisting graduate students to develop skills in examining school, community, government, and other institutional settings and in building models of those settings with particular emphasis upon factors significantly affecting children, youth, teachers, administrators, and other professionals. In brief, they formulate perceptions of the complex institutional structures within which they will function as human service specialists.

3. Toward the third end, graduate students are provided the opportunity to test and further refine in institutional settings their styles of implementing skills gained in the course of didactics and specifically planned practica and internships. The unique perceptions and applications of techniques of graduate students are the concern of this process. Their own styles of implementation will be the focus of these activities, and through individualized supervision their own systems of performing many diverse professional duties will be tested and developed. The result of this phase will be to provide graduate students realistic experiences in developing their abilities to implement skills in situations they will most like encounter during their professional careers.

INSTRUCTIONAL AND LABORATORY FACILITIES

Excellent facilities serve the instructional, conference, practicum, and internship needs of the graduate program in human services. The space assigned includes classrooms with adjacent group conference rooms, audio-visual rooms, an administration and clerical area, faculty offices, and graduate student facilities. The facilities of the department are continually available to serve observation and supervision practicum needs in counseling and testing. Eight observation rooms are equipped with one-way vision mirrors and sound recording instruments with a central console, making possible any desirable listening or recording combination. Audio-visual equipment is utilized in imaginative approaches in courses, practica and internships. A guidance materials center, adjacent to the counseling suite, contains educational and occupational information and a specimen set of standardized tests. All of the student service facilities of the University of Dayton, Sinclair Community College, Montgomery County Joint Vocational School, Dayton City Schools, Jefferson Township Schools, Tipp City Schools, and numerous other elementary and secondary schools and community and social agencies are available resources.

PROGRAM REQUIREMENTS

There are three plans for fulfilling the requirements of the Master of Science in Education in the Department of Counselor Education and Human Services:

Plan A: 45 quarter hours; Research Project

Plan B: 45 quarter hours; Internship course

Plan C: 45 quarter hours; Paper, Educational Research Methodology course

SCHOOL COUNSELOR		<i>Quarter Hours</i>
<i>Core Courses</i>		
EDF 502	Philosophical Studies in Education	4
EDF 503	Educational Research Methodology	
	OR (Required Plans A and C)	4
EDA 513	Evaluation of Educational and Organizational Systems	4
<i>Concentration Courses</i>		
One or more courses from each of the following seven areas (minimum of 37 quarter hours):		
1. Guidance		
EDC 522	Principles and Techniques of Guidance	3
EDC 539	Administration of Pupil Personnel Services	3
EDC 580	Guidance in the Elementary School	3
2. Human Development		
EDC 530	Psychology of Individual Differences	4
EDC 531	Dynamics of Personality	4
EDC 532	Learning Disabilities (Required)	4
EDF 501	Learning Theory and Education	4
EDF 504	Human Development and Education	4
3. Individual and Group Appraisal		
EDC 533	Psychometrics	3
EDC 534	Individual Psychological Evaluation of Exceptional Children	3
EDC 535	Test Interpretations and Case Studies	3
4. Counseling		
EDC 543	Counseling Theories	4
EDC 581	Counseling in the Elementary School	4
5. Group Methods		
EDC 583	Group Process	4
6. Guidance Information		
EDC 524	Educational and Occupational Information	3
EDC 525	Community Resources	3
EDC 528	Career Education	3
7. Practicum		
EDC 545	Practicum: Counseling Techniques	5
<i>Other Work</i>		
EDI 591	Research Project (Plan A)	4
EDC 599	Internship in Personnel Services (Plan B)	4
EDC 574	Independent Studies in Personnel Services (Elective)	1-6
EDC 602	Counseling Seminars (Elective)	1-6
EDC 635	Family Counseling (Elective)	4

VISITING TEACHER

<i>Core Courses</i>	<i>Quarter Hours</i>
EDF 502 Philosophical Studies in Education	4
EDF 503 Educational Research Methodology	
OR (Required Plans A and C)	4
EDA 513 Evaluation of Educational and Organizational Systems	4

Concentration Courses

One or more courses from each of the following seven areas (minimum of 37 quarter hours):

1. Human Growth and Development
 - EDC 531 Dynamics of Personality 4
 - EDF 504 Human Development and Education 4
2. Psychology of Exceptional Children
 - EDC 530 Psychology of Individual Differences 4
 - EDC 532 Learning Disabilities (Required) 4
3. Educational Psychology
 - EDF 501 Learning Theory and Education 4
4. Testing and Measurement
 - EDC 533 Psychometrics 3
 - EDC 534 Individual Psychological Evaluation of Exceptional Children 3
 - EDC 535 Test Interpretations and Case Studies 3
5. Pupil Personnel Services
 - EDC 522 Principles and Techniques of Guidance 3
 - EDC 539 Organization and Administration of Pupil Personnel Services 3
6. Counseling Principles
 - EDC 543 Counseling Theories 4
 - EDC 581 Counseling in the Elementary School 4
7. Ohio School Law, Family Counseling, Community Organizations, or Juvenile Delinquency
 - EDA 515 School Law 4
 - EDF 518 School and Society 4
 - EDC 525 Community Resources 3
 - EDC 635 Family Counseling 4

Other Work

EDC 545 Practicum: Counseling Techniques (Required Plans A, B, & C)	5
EDC 599 Internship in Personnel Services (Plan B)	4
OR	
EDC 653 Internship: Visiting Teacher (Plan B)	8
EDC 574 Independent Studies in Personnel Services (Elective)	1-6
EDC 602 Counseling Seminars (Elective)	1-6

COLLEGE SERVICE PERSONNEL

General Requirements: 49 quarter hours; research study during internship.

<i>Core Courses</i>		<i>Hours</i>
EDF 502	Philosophical Studies in Education	4
EDA 513	Evaluation of Educational and Organizational Systems	4
OR		
EDF 503	Educational Research Methodology	4
EDF 504	Human Development and Education	4
OR		
EDC 531	Dynamics of Personality	4
<i>Concentration Courses</i>		
EDC 543	Counseling Theories	4
EDC 545	Practicum: Counseling Techniques	5
EDC 551	Student Personnel Services in Higher Education	3
EDC 552	Seminar: College Personnel Service Problems	2
EDC 553	Internship in College Personnel Service	9
EDC 583	Group Process	4
EDF 550	History of Higher Education in the United States	4
<i>Electives</i>		
EDC 524	Educational and Occupational Information	3
EDC 525	Human Resources	3
EDC 533	Psychometrics	3
EDC 530	Psychology of Individual Differences	4
EDC 602	Counseling Seminars	1-6
CPS 502	Computing — General Survey (sem. hrs.)	3
CPS 504	Business Application of Computers (sem. hrs.)	3

Internships in three college student personnel services are required and must be taken during the regular office hours of the services. Some courses may be taken during summer, but this is not a summer program.

SOCIAL AGENCIES COUNSELOR

General Requirements: 45 quarter hours; report, internship course.

<i>Core Courses</i>		<i>Quarter Hours</i>
EDF 502	Philosophical Studies in Education	4
EDF 503	Educational Research Methodology	4
OR		
EDA 513	Evaluation of Educational and Organizational Systems	4
<i>Concentration Courses</i>		
EDC 524	Educational and Occupational Information	3
OR		
EDC 525	Community Resources	3
EDC 543	Counseling Theories	4
EDC 545	Practicum: Counseling Techniques	5
EDC 583	Group Process	4
EDC 599	Internship in Personnel Services	4

Electives

EDC 530	Psychology of Individual Differences	4
EDC 531	Dynamics of Personality	4
EDC 532	Learning Disabilities	4
EDC 533	Psychometrics	3
EDC 534	Individual Psychological Evaluation of Exceptional Children	3
EDC 535	Test Interpretation and Case Studies	3
EDC 574	Independent Studies in Personnel Services	1-6
EDC 602	Counseling Seminars	1-6
EDC 635	Family Counseling	4
EDF 501	Learning Theory and Education	4
EDF 504	Human Development and Education	4
EDA 515	School Law	4
EDF 518	School and Society	4

SCHOOL PSYCHOLOGIST

Core Courses

Quarter Hours

EDF 502	Philosophical Studies in Education	4
EDF 504	Human Development and Education	4
EDF 593	Educational Statistics	4
EDF 503	Educational Research Methodology	4
OR		
EDA 513	Evaluation of Educational and Organizational Systems	4

Concentration Courses

EDC 531	Dynamics of Personality	4
EDC 532	Learning Disabilities	4
EDC 533	Psychometrics	3
EDC 534	Individual Psychological Evaluation of Exceptional Children	3
EDC 543	Counseling Theories	4
EDC 583	Group Process	4
EDC 545	Practicum: Counseling Techniques	5
EDC 572	The School Psychologist: Role and Function	3
EDC 576	Child and Adolescent Personality Evaluation I	5
EDC 577	Child and Adolescent Personality Evaluation II	5
EDF 501	Learning Theory and Education	4
EDI 591	Research Project	4-6

Upon successful completion of the above program the student will be awarded the master's degree.

EDC 594-595	Internship (for those wanting certification in Ohio)	12
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Students from outside Ohio are responsible for initiating and completing the internships and certification requirements of their respective states.

Students taking EDC 576 and EDC 577 are expected to spend a half-day in pre-internship.

A student must be a certified teacher or hold a degree in psychology to enter this program. The student who does not hold an Ohio teacher's certificate must also complete 18 quarter hours well distributed over the following areas: 1. curriculum of the schools, 2. purpose and organization of the schools, 3. directed observation of and participation in the normal school processes under supervision within a school setting, 4. educational administration and 5. remedial instruction and educational disability.

COURSES OF INSTRUCTION

EDC 522. PRINCIPLES AND TECHNIQUES OF GUIDANCE: Introduction to the scope, aims, and techniques of guidance; introductory treatment of the basic guidance services and how the counselor and the teacher can make efficient use of them. *3 qtr. hrs.*

EDC 524. EDUCATIONAL AND OCCUPATIONAL INFORMATION: Selection, utilization, and evaluation of educational and occupational information materials; familiarization with standard labor market data, current requirements for admission into college curricula, and available sources of placement; printed and personal reference sources in these fields. *3 qtr. hrs.*

EDC 525. COMMUNITY RESOURCES: Familiarization with availability of services in appraisal, guidance; local information and placement (methods of procedure and cooperation with medical, pastoral, social welfare, mental, educational, industrial, labor, commercial, governmental, and recreational agencies). *3 qtr. hrs.*

EDC 528. CAREER EDUCATION: Assistance for teachers, counselors, administrators and social agency personnel in improving their career education functions through a coordinated and concentrated effort of occupational guidance integrated within the total elementary and secondary school curriculum; and in increasing their educational vocational self awareness and value clarity as they are related to career development. *3 qtr. hrs.*

EDC 530. PSYCHOLOGY OF INDIVIDUAL DIFFERENCES: Nature, extent, and significance of variability; hereditary and cultural influences; theories of intelligence; trait organization; group differences. *4 qtr. hrs.*

EDC 531. DYNAMICS OF PERSONALITY: Personality theory and abnormal psychology are discussed with emphasis on dynamics of personal behavior. *4 qtr. hrs.*

EDC 532. LEARNING DISABILITIES: Etiological, diagnostic, theoretical, and remedial factors and practical application to learning disabilities; procedures for the implementation of Public Law 94-142 and House Bill 455. *4 qtr. hrs.*

EDC 533. PSYCHOMETRICS: Lectures and demonstrations in the principles and application of psychological measurement, with emphasis on standardized group tests of intelligence and scholastic achievement, interest tests, personality tests, etc. Practicum in test selection, use, and interpretation. *3 qtr. hrs.*

EDC 534. INDIVIDUAL PSYCHOLOGICAL EVALUATION OF EXCEPTIONAL CHILDREN: The implications of individual developmental and psychological evaluation of exceptional children for classroom management, instructional materials, and teaching methodology. Laboratory experience in administering the Illinois Test of Psycholinguistic Abilities and the Gesell Developmental Scale. Direct application to teaching children experiencing developmental immaturity or learning disabilities. Principally for counselors, school psychologists, and teachers. *3 qtr. hrs.*

EDC 535. TEST INTERPRETATIONS AND CASE STUDIES: Supervised experiences in typical school guidance policies and practices, to include vocational guidance, educational guidance and curriculum structures, cumulative folder, test and profile interpretations. *3 qtr. hrs.*

EDC 536. CLASSROOM EDUCATION OF PROBLEM CHILDREN: To assist teachers, counselors, and administrators to understand more fully and to improve their function as educators of "children in conflict." Consulting specialists work with participants to explore techniques, approaches, and school and community programs which respond to the academic and personal needs of children with problems. *3 qtr. hrs.*

EDC 539. ADMINISTRATION OF PUPIL PERSONNEL SERVICES: The effective planning, developing, and administering of a totally balanced and co-ordinated program of pupil personnel services. *3 qtr. hrs.*

EDC 543. COUNSELING THEORIES: Development of skills in counseling through an analysis of five models (relationship, behavioral, social-psychological, reality model, and rational-cognitive) for the behavior change process. An integrated approach for modifying the behavior of children and adults through individual and system change. *4 qtr. hrs.*

EDC 545. PRACTICUM: COUNSELING TECHNIQUES: Supervised experience in counseling. Both group and individualized instruction and supervision. Last course for master's degree. *5 qtr. hrs.*

EDC 551. PERSONNEL SERVICES IN HIGHER EDUCATION: A study of personnel services in higher education; theory and practice of administration, trends and research. *3 qtr. hrs.*

EDC 552. SEMINAR: COLLEGE PERSONNEL SERVICE PROBLEMS: Problems encountered during the internship and present-day problems of campus life. *2 qtr. hrs.*

EDC 553. INTERNSHIP IN COLLEGE PERSONNEL SERVICES: A three-trimester experience in three college personnel services under the instruction and supervision of staff members of the same services working closely with the coordinator of College Personnel Work. Given in blocks of 3 quarter hours each over three terms. *9 qtr. hrs.*

EDC 572. THE SCHOOL PSYCHOLOGIST: ROLE AND FUNCTION: Topics of current significance in the profession of school psychology, with emphasis on ethics, inter-personal relationships in the school and community, research methodology, and current practices in the field; special reference to Public Law 94-142 and House Bill 455. *3 qtr. hrs.*

EDC 573. OBSERVATION AND PARTICIPATION IN THE SCHOOL PROCESS: Directed observation of and participation in the usual school process under supervision within the school. Required of all school psychologist candidates who do not have teaching certificates. *6 qtr. hrs.*

EDC 574. INDEPENDENT STUDIES IN PERSONNEL SERVICES: Independent study undertaken with permission of the chairman. *1-6 qtr. hrs.*

EDC 576. CHILD AND ADOLESCENT PERSONALITY EVALUATION I: Evaluation and interpretation of intelligence tests. Intensive experience in administering the Wechsler tests, Stanford-Binet test, individual achievement tests, and other appropriate tests used in multifactor assessment according to Public Law 94-142 and House Bill 455. (Course limited to those students in Psychology programs.) *5 qtr. hrs.*

EDC 577. CHILD AND ADOLESCENT PERSONALITY EVALUATION II: Evaluation and interpretation of projective tests. Instruction in the administration and use of the Rorschach, Bender Gestalt, TAT, and such other tests commonly used by the psychologist, and which may be included in the multifactor analysis required by Public Law 94-142 and House Bill 455. Laboratory experience. (Course limited to those students in Psychology programs.) *3 qtr. hrs.*

EDC 580. GUIDANCE IN THE ELEMENTARY SCHOOL: A study of the most important concepts and techniques of guidance, with emphasis on the functions and responsibilities of the elementary teacher and counselor. *3 qtr. hrs.*

EDC 581. COUNSELING IN THE ELEMENTARY SCHOOL: An introduction to the principles and techniques of counseling elementary school children. 4 qtr. hrs.

EDC 583. GROUP PROCESS: This course has two purposes: to enable the counselor to work effectively with groups; and to achieve deeper counselor self-understanding, through participation in the group process. (One fourth of class time is devoted to lectures and three fourths to participation.) 4 qtr. hrs.

EDC 594-595. INTERNSHIP FOR SCHOOL PSYCHOLOGISTS: A job-related program for nine months under the immediate supervision of a trained school psychologist. The internist will receive a stipend, made available from the State of Ohio Foundation funds. 12 qtr. hrs.

EDC 599. INTERNSHIP EXPERIENCES IN PERSONNEL SERVICES: Extensive directed experience in professional functions within new kinds of cooperating schools and community organizations. May be repeated three times. Prerequisite: permission, Chairman of Department of Counselor Education and Human Services. 4 qtr. hrs.

EDI 591. RESEARCH PROJECT: Action research initiated after consultation with advisor. Systematic study of a specific problem. Prerequisite: EDF 503, Educational Research Methodology and approval of Preliminary Plan. 4 qtr. hrs.

EDC 602. COUNSELING SEMINAR: The goal of the Counseling Seminar is to assist graduate students to gain depth in knowledge and increased skills within the Nine Dimensions identified in *Guidance Services for Ohio Schools*. 1-6 qtr. hrs.

EDC 620. REALITY OF A SUCCESS ORIENTED CLASSROOM: The problems encountered in providing a meaningful and realistic educational experience for students, particularly for those who deviate from a normal profile pattern, will require that counselors obtain a new set of skills in working with administrators, teachers, and parents. 3-5 qtr. hrs.

EDC 635. FAMILY COUNSELING: Skills and understandings relative to the role of counselor and teacher in assisting families to develop new methodologies designed to solve problems within the structure. Special focus on family sculpturing and skill development through the utilization of simulations and role-playing demonstrations. 4 qtr. hrs.

EDC 653. INTERNSHIP: VISITING TEACHER: Extensive directed experience in professional functions within new kinds of cooperating schools. Prerequisite: permission of Chairman of Department of Counselor Education and Human Services. 8 qtr. hrs.

EDC 655. CAREER GUIDANCE INSTITUTE: Designed to assist counselors, teachers, and administrators in implementing an effective Career Guidance Program within their respective schools. 3 qtr. hrs.

EDC 801: INTERPERSONAL DYNAMICS: INDIVIDUAL AND ORGANIZATIONAL: Accurate communication by a leader is essential for effective organizational functioning. The purpose of this course is to improve a student's ability to communicate effectively in complex social systems. In addition, students will be given the opportunity to become more aware of the fact that an effective educational organization is a system composed of human beings working together in the accomplishment of its goals and objectives. The interaction patterns among group members and the leader produce the group process. Each member is a producer and receiver of stimuli. The more each member and leader are aware of the process, the more effectively each can influence the process. Prerequisite: Master's Degree. 3 qtr. hrs.

EDUCATIONAL ADMINISTRATION (EDA)

John R. O'Donnell, Chairman of the Department

The Department of Educational Administration offers programs which lead to the Master of Science in Education and / or certification as principal, supervisor, executive head, local superintendent, and superintendent. Programs are geared to meet the requirements of the State of Ohio and the needs of individual graduate students.

All students must complete 45 quarter hours for the master's degree and participate in the Departmental Conference. Requirements for the degree include the following offerings.

<i>Core Courses</i> (12 quarter hours)		<i>Quarter Hours</i>
EDF 502	Advanced Philosophy of Education	4
EDA 676	Social Aspects of Educational and Organizational Leadership.	4
EDF 501	Advanced Psychology of Learning	4
OR		
EDF 504	Advanced Child and Adolescent Psychology	4
OR		
EDF 530	Psychology of Individual Differences	4
EDF 503	Research Methodology and Statistics	4
OR		
EDF 513	Evaluation of Educational and Organizational Systems	4
<i>Area Concentration</i> (23 quarter hours):		
EDA 506	School Administration	4
EDA 507	Planned Field Experience	4
EDA 509	School Supervision	4
EDA 511	Elementary School Curriculum	4
EDA 512	Secondary School Curriculum	4
EDC 522	Principles and Techniques of Guidance	3
OR		
EDC 543	Group Process	4
OR		
EDC 583	Counseling Theories	4
<i>Electives</i> (10 quarter hours):		
EDA 514	Individual Study in Administration	1-3
EDA 515	School Law	4
EDA 516	School Plant	4
EDA 517	School Finance	4
EDA 521	School Public Relations	4
EDA 526	Educational Staff Personnel Administration	4
EDC 532	Learning Disabilities	4
EDA 585	Organizational Systems	4
EDI 591	Research Project	4

Other electives may be taken in the Departments of Counselor Education and Human Services, Foundations of Education, Elementary Education, Secondary Education, and Physical Education or other departments of the University with the chairman's permission.

COURSES OF INSTRUCTION

EDA 506. **SCHOOL ADMINISTRATION:** General principles governing the administrative functions of planning, organizing, and controlling. Applications in the administration of both elementary and secondary schools. *4 qtr. hrs.*

EDA 507. **PLANNED FIELD EXPERIENCE:** Internship to give educational administration majors opportunities to associate with people in various administrative positions in both public and parochial school systems for the purpose of becoming aware of on-the-job problems, duties, responsibilities, and challenges. The student develops a planned series of experiences with the assistance of an advisor and submits written evaluations for each experience. Prerequisite: advisor's approval. *4 qtr. hrs.*

EDA 509. **SCHOOL SUPERVISION:** Planning, organizing and administering instructional supervision in public and private (parochial) school systems. Field observation required. *4 qtr. hrs.*

EDA 511. **ELEMENTARY SCHOOL CURRICULUM:** A fundamental course in curriculum development to prepare the student for effective participation in cooperative efforts to improve the curriculum. Attention to curriculum issues and to desirable instructional practices in the major areas of curriculum. *4 qtr. hrs.*

EDA 512. **SECONDARY SCHOOL CURRICULUM:** A fundamental course in curriculum development to prepare the student for effective participation in cooperative efforts to improve the curriculum. Attention to curriculum issues and to desirable instructional practices in the major curriculum areas. *4 qtr. hrs.*

EDA 513. **EVALUATION OF EDUCATIONAL AND ORGANIZATIONAL SYSTEMS:** Criteria for selecting and assessing sources of educational information. Supervised experience in finding, interpreting, and evaluating information needed to make appropriate decisions. Specific attention to evaluation of programs, preparation of proposals, and techniques for using evaluation to promote change. *4 qtr. hrs.*

EDA 514. **INDIVIDUAL STUDY IN ADMINISTRATION:** Opportunity to study a problem which has relevance to one's own specific educational position. Extent of the study and requirements in the course will be related to the credit requested by the student. *1-3 qtr. hrs.*

EDA 515. **SCHOOL LAW:** Problems in school administration which may give rise to court action. *4 qtr. hrs.*

EDA 516. **SCHOOL PLANT:** Types of school facilities, considerations in working with architects, remodeling and new construction, site selection, government financing, space utilization, and other aspects of the educational plant. *4 qtr. hrs.*

EDA 517. **SCHOOL FINANCE:** Principles of school finance, technical problems of budgeting, source of income, purchasing, accounting, and debt service. For school administrators. *4 qtr. hrs.*

EDA 521. **SCHOOL PUBLIC RELATIONS:** Philosophy and techniques of school-community relations for educational leaders. Parent contacts, citizens' participation, press, radio, television, printed material, etc. *4 qtr. hrs.*

EDA 526. **EDUCATIONAL STAFF PERSONNEL ADMINISTRATION:** The various aspects of selection, evaluation, and utilization of staff personnel in relation to the overall educational program. *4 qtr. hrs.*

EDA 585. ORGANIZATIONAL SYSTEMS: The application of systems theory to the operation of government, business, and educational organizations. Conventional theories related to the systems approach to an understanding of organizations. *4 qtr. hrs.*

EDI 591. RESEARCH PROJECT: Action research initiated after consultation with advisor. Systematic study of a specific problem. Prerequisite: completion of EDF 503, Research Methodology and Statistics, and approval of Preliminary Plan. *4 qtr. hrs.*

EDA 676. SOCIAL ASPECTS OF EDUCATIONAL AND ORGANIZATIONAL LEADERSHIP: A course which deals with the basic premises of social leadership, the social role of organizational leadership and the influence of social systems on organization leadership. The course also discusses some social strategies useful to administrators, staff and clients. *4 qtr. hrs.*



ELEMENTARY EDUCATION (EDE)

Simon J. Chavez, Chairperson of the Department

For the Master of Science in Education, the Department of Elementary Education offers a career-oriented program that stresses development and refinement of a repertoire of teaching competencies.

The department makes a very special attempt to serve as a facilitating agency for each student's professional development. Each applicant is asked to meet with the chairman for initial advisement. All students receive individual attention in planning their programs. They are encouraged to select courses and course activities that will evolve cumulatively into programs best suiting their own perceived needs and interests by providing opportunities for the correlation of educational theory with their own school situations.

A minimum of 45 quarter hours is required to fulfill degree requirements.

CORE REQUIREMENTS

All students are required to take four core courses as follows:

	<i>Quarter Hours</i>
1. EDF 502 Advanced Philosophy of Education	4
2. EDE 591 Research Project	5
3. EDE 561 Evaluation of Teaching Strategies	4
OR	
EDE 501 Advanced Psychology of Learning	4
4. EDF 556 Research Seminar	4
OR	
EDE 503 Research Methodology and Statistics	4

AREAS OF CERTIFICATION

The student may wish to incorporate into the master's program those courses required for certification in a specific area. These courses would be in addition to core courses listed above. The following courses meet the requirements for the certificates as indicated.

READING SUPERVISOR (BOTH ELEMENTARY AND SECONDARY)

<i>Courses required for certification</i>	<i>Quarter Hours</i>
EDE 567 Survey of Research in Reading Instruction	4
EDE 568 Diagnosis of Reading and Other Academic Skills (Concurrent with 571)	4
EDE 569 Advanced Developmental Reading I	4
EDE 669 Advanced Developmental Reading II (For Secondary Teachers)	4
EDE 570 Supervision and Curriculum Reading	4
EDE 571 Practicum in Diagnosis of Reading and Other Academic Skills (Concurrent with 568)	4
EDC 531 Dynamics of Personality	4
EDC 557 Library Materials for Children and Adolescents	4

Recommended Courses

EDE 566	Innovations and Trends in Language Arts	4
EDE 573	Preparing Materials for Personalized Instruction	4
EDS 611	Secondary School Reading Improvement — Content Areas.....	4
EDE 656	Psycholinguistics and Reading (Workshop)	3
EDE 657	Applying Psycholinguistics in Classroom Reading (Workshop).....	3

READING TEACHER (K-12)

Quarter Hours

EDE 567	Survey of Research in Reading Instruction	4
EDE 568	Diagnosis of Reading with Other Academic Skills (Concurrent with 571)	4
EDE 569	Advanced Developmental Reading I.....	4
EDE 571	Practicum in Diagnosis of Reading and Other Academic Skills (Concurrent with 568)	4
EDC 531	Dynamics of Personality	4

ELEMENTARY SCHOOL SUPERVISOR

Courses required for certification

Quarter Hours

EDA 511	Elementary School Curriculum	4
EDA 507	Planned Field Experience.....	4
EDA 512	Secondary School Curriculum	4
EDA 509	School Supervision	4

Recommended Courses

EDE 559	Research and Materials in Mathematics Instruction	4
EDE 586	Research in Social Studies Instruction	4
EDE 564	Advanced Science in Elementary School	4
EDE 569	Advanced Developmental Reading I.....	4

SPECIAL EDUCATION (EMR—K-12)

Quarter Hours

EDE 580	Psychology and Education of the Retarded	4
EDE 590	Learning and Behavior Disorders	4
EDE 587	Career Development — Special Education	4
EDE 611	Student Teaching — MR	4
EDE 592	Curriculum Materials and Instructional Procedures for Teaching the Mentally Retarded	6

Recommended Courses

EDE 569	Advanced Developmental Reading I.....	4
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SPECIAL EDUCATION (LD — K-12)

<i>Courses required</i>		<i>Quarter Hours</i>
EDE 588	Educating Parents of Exceptional Children	3
EDE 589	Education of the Multi-Handicapped	4
EDE 590	Learning and Behavior Disorders	4
EDE 594	Field Experiences — LD	4
EDE 595	Diagnostic Teaching in Learning Disabilities	4
EDE 596	Behavior Management — LD	4

Recommended Courses

EDE 569	Advanced Developmental Reading I	4
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EARLY CHILDHOOD (KINDERGARTEN-PRIMARY, K-3)

		<i>Quarter Hours</i>
EDE 500	Introduction to Pre-Kindergarten Education	4
EDE 578	Practicum in Pre-Kindergarten	4
EDE 579	Kindergarten-Primary Curriculum and Instruction	4
EDE 590	Learning and Behavior Disorders	4
EDE 622	Materials for Kindergarten-Primary Instruction	4

AREAS OF CURRICULUM INSTRUCTION**MATHEMATICS-SCIENCE CONCENTRATION**

<i>Recommended courses (no certificate)</i>		<i>Quarter Hours</i>
EDE 500	Mathematics in the Elementary School	4
EDE 559	Research and Materials in Mathematics Instruction	4
EDE 560	Advanced Science in the Elementary School	4
EDE 564	Research and Materials in Elementary Science Instruction	4
EDE 565	Practicum in Science Instruction	4
EDE 562	Educational Media	4

GENERAL

<i>Recommended courses (no certificate)</i>		<i>Quarter Hours</i>
EDE 569	Advanced Developmental Reading I	4
EDE 560	Research in Social Studies Instruction	4
EDE 562	Educational Media	4
EDE 500	Mathematics in the Elementary School	4
EDE 564	Research and Materials in Elementary Science Instruction	4
EDE 565	Practicum in Science Instruction	4
EDE 566	Innovations and Trends in Language Arts	4

OTHER COMBINATIONS

The student may select a combination of courses other than those listed above.

Other electives may be taken in the Departments of Counselor Education and Human Services, Foundations of Education, Secondary Education, and Physical Education or other departments of the University with permission of chairperson of Elementary Education.

COURSES OF INSTRUCTION

EDE 500. MATHEMATICS IN THE ELEMENTARY SCHOOL: Course or workshop for teachers and school supervisors of the Modern Math Program. Demonstration of how the logical patterns of mathematical thought can be readily acquired by pupils. *4 qtr. hrs.*

EDE 550. INTRODUCTION TO PRE-KINDERGARTEN EDUCATION: A beginning course in early childhood education. Characteristics of young children are discussed, and research in the area of early childhood education is examined. *4 qtr. hrs.*

EDE 556. RESERACH SEMINAR: Introductory course in research, retrieval of information, and statistics. This course is designed to help the professional educator acquire the skills needed to work more efficiently and effectively in the area of educational research. *4 qtr. hrs.*

EDE 557. LIBRARY MATERIALS FOR CHILDREN AND ADOLESCENTS: The study and evaluation of literature and other library materials for children and adolescents. Emphasis on familiarization and evaluative criteria. *4 qtr. hrs.*

EDE 558. INDEPENDENT STUDY: Independent study in a specific area. Consult Chairman. *1-4 qtr. hrs.*

EDE 559. RESEARCH AND MATERIALS IN MATHEMATICS INSTRUCTIONS: Study of research and trends in contemporary mathematics. Particular attention to new materials and to action research. *4 qtr. hrs.*

EDE 560. ADVANCED SCIENCE IN THE ELEMENTARY SCHOOL: Understanding the challenge of the newer developments of science for the elementary school program. Study of the objectives of elementary science and of the selection and grade placement of subject matter. *4 qtr. hrs.*

EDE 561. EVALUATION OF TEACHING STRATEGIES: Analyze and experiment with various models of teaching that can be useful in studying classroom interaction and for evaluating teaching-learning performance. *4 qtr. hrs.*

EDE 562. EDUCATIONAL MEDIA: A study of materials, equipment, and technology in education. Actual use and evaluation in the classroom. *4 qtr. hrs.*

EDE 563. SUPERVISION OF STUDENT TEACHING: Demonstration of procedures and use of instruments to determine and guide the student teacher's progress. *4 qtr. hrs.*

EDE 564. RESEARCH AND MATERIALS IN ELEMENTARY SCIENCE INSTRUCTION: Training to integrate science with all phases of curriculum — by research projects in astronomy, biology, chemistry, geology, physics, and air-age education. Evaluation of visual aids in science. *4 qtr. hrs.*

- EDE 565. PRACTICUM IN SCIENCE INSTRUCTION: Application of inquiry and discovery approach to the study of biotic communities, geologic formations, and balance of nature. *4 qtr. hrs.*
- EDE 566. INNOVATIONS AND TRENDS IN LANGUAGE ARTS: Survey or research and trends in language arts instruction, particularly in communication skills, both oral and written. *4 qtr. hrs.*
- EDE 567. SURVEY OF RESEARCH IN READING INSTRUCTION: A basic course for experienced teachers concerned with the psychology of learning reading and with current problems and trends in reading and children's literature. *4 qtr. hrs.*
- EDE 568. DIAGNOSIS OF READING: Study and use of informal and formal diagnostic tools for determining reading levels for remedial or advanced reading skills. Prerequisites: 569, 567. Corequisite: EDE 571. *4 qtr. hrs.*
- EDE 569. ADVANCED DEVELOPMENTAL READING: The psychological and sociological basis in reading. Attention to linguistics, materials, skills, literature, and evaluation. The first course in a program designed to prepare specialists in reading. *4 qtr. hrs.*
- EDE 570. SUPERVISION AND CURRICULUM IN READING: Study of selected curricula and the processes of planning a sound curriculum in reading at various levels. Outline of the role of the reading supervisor, providing guidelines for effective implementation of programs. Prerequisite: EDE 568, 571. *4 qtr. hrs.*
- EDE 571. PRACTICUM IN DIAGNOSIS OF READING AND OTHER ACADEMIC SKILLS: Laboratory portion of EDE 568. Corequisite: EDE 568. *3 qtr. hrs.*
- EDE 573. PREPARING MATERIALS FOR PERSONALIZED INSTRUCTION: A practical course in preparing classroom materials for individual and small group activities. *4 qtr. hrs.*
- EDE 578. PRACTICUM IN PRE-KINDERGARTEN: Observation in campus childhood center and in other centers. Prerequisite: EDE 550. *4 qtr. hrs.*
- EDE 579. KINDERGARTEN-PRIMARY CURRICULUM AND INSTRUCTION: Considerations to designing and teaching the various areas of the curriculum to interrelate meaningful learning experiences for young children. *4 qtr. hrs.*
- EDE 580. PSYCHOLOGY AND EDUCATION OF THE RETARDED: A survey course giving a broad overview of mental retardation. Includes curriculum planning and practicum. Prerequisite: EDE 590. *4 qtr. hrs.*
- EDE 584. MUSIC IN ELEMENTARY EDUCATION — INTERMEDIATE: A course intended to increase one's understanding of the concepts of music and to enable one to project those musical concepts to the intermediate grades. *3 qtr. hrs.*
- EDE 586. RESEARCH IN SOCIAL STUDIES INSTRUCTION: Study of significant research in social studies instruction at the elementary level. Emphasis on cognitive processes, social and study skills, and evaluation. *4 qtr. hrs.*
- EDE 587. CAREER DEVELOPMENT—SPECIAL EDUCATION: Techniques of job classification, selection, placement, activities related to work experience from pre-school to adult. Prerequisite: EDE 592, 580. *4 qtr. hrs.*

- EDE 588. EDUCATING PARENTS OF EXCEPTIONAL CHILDREN: Techniques and methods for helping the parents accept and plan for the handicapped child. Interpretation of handicaps to parents, school-home relations. *3 qtr. hrs.*
- EDE 589. EDUCATION OF THE MULTI-HANDICAPPED: Problems, program development, and educational needs of the multi-handicapped. Pre-school to adulthood. Prerequisites: EDE 580, 596. *4 qtr. hrs.*
- EDE 590. LEARNING AND BEHAVIOR DISORDERS: In-depth study of the nature and characteristics of handicapping conditions in children. *4 qtr. hrs.*
- EDE 591. RESEARCH PROJECT: The writing of an action research report under consultation with an adviser. A systematic study of a specific situation in the teacher's classroom. Prerequisite: EDE 556. *5 qtr. hrs.*
- EDE 592. CURRICULUM MATERIALS AND INSTRUCTIONAL PROCEDURES FOR TEACHING THE MENTALLY RETARDED: Preparation, selection and adaptation of instructional materials; multi-factored assessment and evaluation techniques relative to placement and individual programming. Practicum and clinical experiences. *4 qtr. hrs.*
- EDE 594. FIELD EXPERIENCES IN LD: Student teaching of the specific learning disabled; supervised field or clinical experiences. Prerequisites: EDE 590, 596. *4 qtr. hrs.*
- EDE 595. DIAGNOSTIC TEACHING IN LEARNING DISABILITIES: A course to provide functional knowledge about sensori-motor, perceptual-motor development, memory, language and basic cognitive skills based on theoretical implication. Prerequisite: EDE 590, 596. Concurrent with EDE 594. *4 qtr. hrs.*
- EDE 596. CLASSROOM STRUCTURE AND BEHAVIOR MANAGEMENT: Application of methods of observing, recording, and measuring human behavior with emphasis on behavior management techniques for the developmentally disabled and for children with learning disabilities and behavior disorders. *4 qtr. hrs.*
- EDE 598. THE USE OF MEDIA — THE NEWSPAPER IN THE CLASSROOM: Course or workshop to show pre-service and in-service teachers how a newspaper can be used to teach "media literacy" and academic skills to elementary, junior high, and senior high school students. Co-sponsored by the Dayton Journal Herald. *3 qtr. hrs.*
- EDE 622. MATERIALS FOR KINDERGARTEN-PRIMARY INSTRUCTION: Course or workshop devoted to the study and development of curriculum materials used in kindergarten-primary instruction. *4 qtr. hrs.*
- EDE 656. PSYCHOLINGUISTICS AND READING — DIAGNOSIS AND READING STRATEGIES: Course or workshop devoted to developing knowledge of the reading process, diagnosing reading and planning strategy lessons. *3 qtr. hrs.*
- EDE 657. APPLYING PSYCHOLINGUISTICS IN READING IN THE CLASSROOM: Course or workshop devoted to planning reading strategy lessons, comprehension-centered approaches and organization of the classroom reading program. *3 qtr. hrs.*
- EDE 669. ADVANCED DEVELOPMENTAL READING II: Taken in lieu of EDE 569. The first course for secondary teachers desiring certification as Reading Supervisors. Limited to English and Modern Language majors and those seeking certification as reading supervisor. *4 qtr. hrs.*
- EDE 696. TEACHING IN THE ELEMENTARY SCHOOL: Study of the role of the teacher in the classroom including human relations, assessment, instruction, and evaluation of teaching. *4 qtr. hrs.*

EDUCATIONAL FOUNDATIONS AND RESEARCH (EDF)

John O. Geiger, Chairperson of Department

EDUCATIONAL RESEARCH (EDR)

The purposes of this program leading to the Master of Science in Educational Research are to develop:

1. knowledge in a specialized educational field in which the student intends to do research or evaluation, as for example, curriculum, administration, teaching methodology, counseling or other areas selected by the student;
2. basic competence in educational research methodology and evaluation, educational statistics, conducting a research project and in participating in actual school-related research or evaluation activities.

The program provides an excellent preparation for doctoral work in education as well as for research and evaluation positions with school systems, state departments of education, and other agencies. It provides a basis for the teacher, administrator and counselor to develop the competency necessary to generate funded and non-funded projects in their school systems.

The course requirements are:

	<i>Quarter Hours</i>
EDF 502 Philosophical Studies in Education	4
EDF 503 Educational Research Methodology	4
EDF 593 Educational Statistics	4
EDF 596 Internship in Educational Research	4-8
EDF 590 Educational Research Design	2
EDF 591 Research Project	4-6
____ ____ Elective courses in Educational Field and/or additional research courses	23-17

Interested students should contact Dr. Herman Torge, program director.

INTERDISPLINARY STUDIES IN EDUCATION (EDI)

Graduate students who want to pursue a specialized program in education which is not offered in other departments can do so and secure the Master of Science in Education in Interdisciplinary studies. The program requires a minimum of 45 quarter hours.

	<i>Quarter Hours</i>
<i>Normally, the courses should include:</i>	
EDF 501 Learning Theory and Education	4
EDF 502 Philosophical Studies of Education.....	4
EDF 503 Educational Research Methodology	4
EDF 504 Human Development and Education	4
EDF 591 Research Project	4
____ ____ Concentration Courses in Area of Interest	25

Typical interdisciplinary programs have centered around the following: adult education; multi-culture education; values education; psychology and education; educational policy studies; studies in higher education. Interested students should contact Dr. John Geiger, department chairperson.

COURSES OF INSTRUCTION

EDF 501. LEARNING THEORY AND EDUCATION: Study of contemporary learning theories such as Behaviorism, Gestalt and Cognitive-field psychologies. Interpretations are made for teaching methodology, curriculum design, counseling and psychological services.

4 qtr. hrs.

EDF 502. PHILOSOPHICAL STUDIES IN EDUCATION: Study of writings of major philosophers as they relate to education (including those in the Marianist tradition). Interpretations are made for the development of a critical, personal theory of teaching, counseling and educational administration.

4 qtr. hrs.

EDF 503. EDUCATIONAL RESEARCH METHODOLOGY: Study of Educational research design, proposal writing, ERIC and other bibliographic sources, and techniques for conducting research in teaching, administration and counseling.

4 qtr. hrs.

EDF 504. HUMAN DEVELOPMENT AND EDUCATION: Study of contemporary developmental theories such as those of Piaget, Kohlberg, Erikson, and Lewin with interpretations made for teaching methodology, curriculum design, counseling and psychological services.

4 qtr. hrs.

EDF 505. TEST CONSTRUCTION AND MEASUREMENT: Study of the basic elements of constructing and analyzing tests, using simple statistical procedures for evaluating students, preparing and evaluating test items and interpreting standardized test scores.

2 qtr. hrs.

EDF 518. SCHOOL AND SOCIETY: Study of the impact of culture, community and socio-economic status on achievement and attitudes toward schooling. Interpretations are made for teaching methodology, educational administration, curriculum design, counseling and psychological services.

4 qtr. hrs.

EDF 550. HISTORY OF HIGHER EDUCATION IN THE UNITED STATES: Study of the development of post-secondary education in the United States from Colonial period to the present with special emphasis on topics such as liberal arts, vocational preparation, and community colleges.

4 qtr. hrs.

EDF 554. HISTORY OF EDUCATION IN THE UNITED STATES: Study of the development of education from the colonial period to the present with the examination of such issues as pluralism, complexity and comprehensiveness.

4 qtr. hrs.

EDF 578. POLITICS OF EDUCATION: Study of educational policy-making at the local, state and federal levels. Specific attention is given to the interdependence of these levels as related to contemporary issues.

4 qtr. hrs.

EDF 579. COMPARATIVE EDUCATION: Comparative study of educational systems from around the world. Special attention is given to contrasting other educational systems with those in the United States. When possible, this course will be conducted abroad.

4 qtr. hrs.

EDF 590. EDUCATIONAL RESEARCH DESIGN: Study of the techniques for organizing and managing an educational research project. Designed to assist students in setting up their research project.

2 qtr. hrs.

- EDF 591. **RESEARCH PROJECT:** Study conducted through research of a specific problem under the individual guidance of a faculty member. *4-6 qtr. hrs.*
- EDF 593: **EDUCATIONAL STATISTICS:** Study of basic statistics used to describe groups, of inferential statistics for determining parameters in observed samples, and of formulating valid inferences and interpretations. *4 qtr. hrs.*
- EDF 596. **INTERNSHIP IN EDUCATIONAL RESEARCH AND EVALUATION:** Participation in actual school-related research or evaluation activities in the Office of Educational Services, in elementary or secondary schools, or in higher education. Emphasis is on all the activities of research and evaluation from conceptualization to final reporting. *4-8 qtr. hrs.*
- EDF 603. **STUDY IN EDUCATIONAL FOUNDATIONS:** An opportunity for students (individually or in small groups) to investigate a specific area normally not contained in existing courses. *1-6 qtr. hrs.*
- EDF 638. **VALUES CLARIFICATION AND MORAL EDUCATION:** Study of the theories and techniques of clarifying values and educating for morality. Such theorists as Simon, Kohlberg, Hall and others are studied. Students participate in a variety of values clarification and moral education exercises. *4 qtr. hrs.*
- EDF 641. **SOCIAL JUSTICE EDUCATION:** Study of selected issues of justice such as equality, rights, duties, freedom and democracy. Interpretations of these social principles are made for teaching methodology, curriculum design and educational administration. *4 qtr. hrs.*
- EDF 642. **EDUCATIONAL WRITINGS OF THE CATHOLIC CHURCH:** A study of the educational writings of the Popes and other significant Catholic writers (e.g. Pius XI, John XXIII, deChardin, Maritain). Interpretations are made for educational policies and practices. *4 qtr. hrs.*
- EDF 643. **RELIGION STUDIES IN PUBLIC SCHOOLS:** Study of the approaches to the study and teaching of religion and the legislation and litigation regarding religious studies in public schools. Specific interpretations are made for teaching methodology and curriculum design. *4 qtr. hrs.*
- EDF 670W. **CURRENT CONTROVERSIES IN EDUCATION:** Study of selected controversies in education as they relate to policy and practice. *2 qtr. hrs.*

PHYSICAL AND HEALTH EDUCATION (EDP)

James B. LaVanche, Chairperson of the Department
Doris A. Drees, Coordinator of Graduate Studies

The Department of Physical and Health Education offers a program leading to the Master of Science in Education. It is a flexible, personalized program providing the student advanced training in physical education to develop special capabilities that will enable him to become a competent practitioner and leader in the field of physical education.

ADMISSION REQUIREMENTS

The applicant for graduate study must meet the following requirements:

1. The applicant must be a graduate of an accredited four-year college or university.
2. The applicant must hold a teacher's certificate in physical education.
3. The applicant must have a grade point average of 2.5 or better out of a possible 4.0 in his undergraduate program. Exceptions to this requirement will be based on recommendations and the endorsement by the School of Education's graduate review board. If the exception is granted, the applicant will be placed on conditional status, pending the successful completion of approximately 15 to 18 quarter hours of graduate credit.

ADVISEMENT

The coordinator of the graduate program within the department will act as the student's academic advisor. A personalized program will be planned with the student during his first term of enrollment in an effort to meet his professional and personal goals and needs. The coordinator will also counsel the student on the purpose and requirements of graduate work, selection of courses, and the options available within the department.

UNDERGRADUATE COURSES

The following undergraduate courses may be taken for graduate credit:

- EDP 405 Tests and Measurements
- EDH 407 Current Issues in Health Education
- EDP 408 Physiology of Exercise
- EDP 409 Kinesiology
- EDP 410 Adapted Physical Education

The maximum number of undergraduate credits that can be taken for graduate credit is six hours. The students may not repeat any courses for which they already have undergraduate credit. Any exceptions to the above must be approved by the departmental graduate committee, the Dean of the School of Education, and the Dean for Graduate Studies and Research.

DEGREE REQUIREMENTS

A minimum of 45 quarter hours is required. Students must achieve an average of at least B (3.0) in all work undertaken in order to qualify for graduation.

Candidacy

A student becomes a candidate for the master's degree if his cumulative point average for graduate work, the preliminary plan for his research project (if Option A), and his reference appraisals are judged to be acceptable by the graduate committee of the Department of Physical Education.

The most important consideration in the admission of a student to candidacy is the quality of his graduate work to date. He must give evidence of being able to meet all the graduation requirements. Applicants who are deemed unqualified at this point will be advised to discontinue the program.

Students should apply for admission to candidacy after completion of 25 quarter hours of graduate work, including at least two courses in physical education and EDF 503, Research Methodology. Application is made by filing the official candidacy form with the coordinator of the departmental graduate program.

Comprehensive Examination

Successful completion of a written comprehensive examination is required for graduation. The comprehensive examination, three hours in length, will basically cover the student's area of concentration (physical education courses). The examination may be taken during the student's last term of course work or after he has completed the course work in the area of concentration. It is given once during each of the three regular terms. It is the student's responsibility to make formal application one month in advance for the examination. Examination dates will be posted at the beginning of each term.

If the student fails the examination the first time, he will be given a second opportunity. Failure the second time incurs failure and dismissal from the program.

Program Requirements

	<i>Quarter Hours</i>
<i>Core Courses (12 quarter hours)</i>	
EDF 502 Philosophical Studies of Education	4
EDF 503 Educational Research Methodology	4
EDF 501 Learning Theory and Education	4
OR	
EDF 504 Human Development and Education	4
<i>Area of Concentration (18 quarter hours chosen from the following)</i>	
EDP 508 Physical Education Workshops (maximum of two courses)	1-4
EDP 510 History of Physical Education	3
EDP 519 Sport and Society	3
EDP 523 Curriculum Development of Physical Education	3

EDP 529 Innovative Practices in Physical Education 3
 EDP 530 Athletic Training 3
 EDP 537 Biomechanics 4
 EDP 538 The Nature and Basis of Motor Skill Acquisition 3
 EDP 540 Women in Sport 3
 EDP 546 Scientific Principles of Athletic Conditioning..... 4
 EDP 547 Administration of Interscholastic and Intramural Athletics 3
 EDP 548 Human Movement Theories in Physical Education 3
 EDP 550 Physiological Responses to Exercise 3
 EDP 555 Survey of Research in Physical Education 3
 EDP 556 Issues in Physical Education (Seminar) 3
 EDP 575 Individual Studies in Physical Education 1-4
 EDP 582 Internship in Physical Education..... 1-4

Electives (9 quarter hours)

Courses selected from general, professional, physical, or health education.

Options: (6 quarter hours)

EDI 591 Research Project 6
 OR
 EDP ____ Additional course work in physical education 6

COMBINED PROGRAMS

There is an opportunity to obtain an elementary or secondary principal's certificate with this degree. An opportunity is also available to obtain a supervisor's certificate with additional course work.

COURSES OF INSTRUCTION

EDP 508. PHYSICAL EDUCATION WORKSHOPS: Workshops designed for study of special topics of current interest in physical education. May focus attention on substantive material or operational problems. May be repeated up to a maximum of 2 courses.
 1-4 qtr. hrs.

EDP 510. HISTORY OF PHYSICAL EDUCATION: Study of the development of sport and physical education from early cultures to the present time. Emphasis on the United States.
 3 qtr. hrs.

EDP 519. SPORT AND SOCIETY: A study of the cultural patterns, socializing process, and other psychosocial parameters of American sport.
 3 qtr. hrs.

EDP 523. CURRICULUM DEVELOPMENT OF PHYSICAL EDUCATION: Principles and procedures for curriculum construction and revision; criteria for selecting activities and judging outcomes; the place of physical education within the total curriculum.
 3 qtr. hrs.

EDP 529. INNOVATIVE PRACTICES IN PHYSICAL EDUCATION: Practical and theoretical study of innovative methods of teaching physical activities.
 3 qtr. hrs.

EDP 530. ATHLETIC TRAINING: Application of principles involved in prevention, care and treatment of athletic injuries.
 3 qtr. hrs.

- EDP 537. BIOMECHANICS: Investigations of physical principles operative in the performance of physical education activities with attempts to analyze for methods of greater effectiveness and improved performance. *4 qtr. hrs.*
- EDP 538. THE NATURE AND BASIS OF MOTOR SKILL ACQUISITION: A study of psychological factors which affect the acquisition of motor skills. Perceptual-motor development theories. Motor behavior. *3 qtr. hrs.*
- EDP 540. WOMEN IN SPORT: A study of the historical, psychological, sociological and biophysical aspects of the American woman in sport. *3 qtr. hrs.*
- EDP 546. SCIENTIFIC PRINCIPLES OF ATHLETIC CONDITIONING: Study of the factors which affect maximum human performance in athletic competition. Application of scientific principles in preparing the athlete for maximum performance. Methods and theories of training, conditioning, and reconditioning. *4 qtr. hrs.*
- EDP 547. ADMINISTRATION OF INTERSCHOLASTIC AND INTRAMURAL ATHLETICS: Organization of high school athletic and intramural programs, staff, program, budget, health and safety, and other phases of administration. *3 qtr. hrs.*
- EDP 548. HUMAN MOVEMENT THEORIES IN PHYSICAL EDUCATION: Individual and group study of problems and theories related to the scientific variables of human movement. *3 qtr. hrs.*
- EDP 550. PHYSIOLOGICAL RESPONSES TO EXERCISE: A study of the physiological changes that occur during exercise and training. *3 qtr. hrs.*
- EDP 555. SURVEY OF RESEARCH IN PHYSICAL EDUCATION: Survey and critical analysis of research and other pertinent materials in the field. *3 qtr. hrs.*
- EDP 556. ISSUES IN PHYSICAL EDUCATION (SEMINAR): A seminar to investigate and report on a specific issue in physical education. *3 qtr. hrs.*
- EDP 575. INDIVIDUAL STUDIES IN PHYSICAL EDUCATION: Individual investigations of a problem in physical education or health. (With approval of advisor.) *1-4 qtr. hrs.*
- EDP 579. SEMINAR IN HEALTH EDUCATION: A problems course for experienced teachers. *3 qtr. hrs.*
- EDP 582. INTERNSHIP IN PHYSICAL EDUCATION: A job-related experience under the immediate supervision of personnel from a local school or community organization. *1-4 qtr. hrs.*
- EDI 591. RESEARCH PROJECT: Action research initiated after consultation with advisor. A systematic study of a specific problem. Prerequisite for registration: Completion of EDF 503, Research Methodology and Statistics, and approval of Preliminary Plan. *6 qtr. hrs.*

SECONDARY EDUCATION (EDS)

Robert E. Kriegbaum, Chairperson of the Department

TEACHING IN SECONDARY SCHOOLS

The program for the Master of Science in Teaching (MST) in Secondary Education gives teachers of secondary school subjects an opportunity to gain greater depth in their teaching fields and to gain in application of pedagogical skills in practical settings.

Three options are available to those who wish to pursue the Master of Science in Teaching in Secondary Education. The essence of the three options is EDS 589, Seminar and Practicum in the Study of Learning Environments. Emphasis is on developing teaching competencies in practical settings. Students are asked to become proficient in assessing the verbal climate in an educational setting, to be able to elicit certain behaviors from students, and to be able to engage in a kind of self examination which results in personal growth.

Option One

Option One is designed for experienced, certificated teachers who desire improvement in their teaching fields and who desire to keep up to date in strategies of instruction. Requirements are as follows:

Quarter Hours

EDS 589	Seminar and Practicum in the Study of Learning Environments	9
— —	Subjects selected from one or from related teaching fields	36

Option Two

Option Two is designed for experienced, certificated teachers who desire greater depth in both teaching fields and the application of instructional strategies. Teachers choosing Option Two can prepare themselves for positions of instructional leadership as department heads, facilitators, etc. Requirements are as follows:

Quarter Hours

EDF 501	Learning Theory and Education	4
EDF 502	Philosophical Studies in Education	4
EDF 503	Educational Research Methodology	4
EDF 504	Advanced Child and Adolescent Psychology	4
EDS 588	Personal Knowledge	4
EDS 589	Seminar and Practicum in the Study of Learning Environments	9
— —	Subjects selected from teaching fields or education	16

Option Three

Option Three is designed for students who have earned the bachelor's degree and who desire to become certificated teachers while pursuing post-baccalaureate studies. Requirements are as follows:

		<i>Quarter Hours</i>
EDF 501	Learning Theory and Education	4
EDF 502	Philosophical Studies in Education	4
EDS 625	Secondary School, Self, and Society	4
EDS 611	Advanced Secondary School Reading Improvement	3
EDS 613	Human Relations in Education	3
_____	Special Methods in Principal Teaching Field	4
EDS 589	Seminar and Practicum in the Study of Learning Environments	9
EDS 598	Practicum and Internship Teaching	10-14
_____	Electives	0-4

If the student needs additional work in the teaching field for certification, courses in the teaching field will be suggested. Graduate level courses in teaching fields are available in the following areas: biology, business, chemistry, communication arts, English, history, mathematics, physics, political science, social psychology, and theological studies.

A cumulative point average of 2.5 in principal teaching field is required for certification; students with a lower average accepted into the program must agree to take additional courses to raise it to criterion level.

Once a student has been approved and placed for internship, he may not withdraw from the program except with the approval of the Department Chairperson. A student who withdraws without this approval forfeits future placement in internship.

TEACHING IN JUNIOR HIGH AND MIDDLE SCHOOLS

The purpose of the Master of Science in Teaching (MST) in Junior High and Middle School Education program is to give teachers, both elementary and secondary certificated, the special skills and knowledge necessary to understand and work with young adolescents. Emphasis is on developing competencies in practical settings.

Quarter Hours

Required Courses (27 quarter hours)

EDF 502	Philosophical Studies in Education	4
EDS 614	Junior High and Middle Schools — Theory and Implications	4
EDS 615	Interdisciplinary Teaching and Evaluation of Curriculum Materials	4
EDS 611	Advanced Secondary School Reading Improvement	4
EDS 589	Seminar and Practicum in the Study of Learning Environments	9
EDF 505	Test Construction and Measurement	2

Electives (18 quarter hours):

On the basis of experience, needs, and interests, electives may be taken in content areas or appropriate professional education courses offered by the Departments of Counselor Education and Human Services, Educational Administration, Elementary Education, Foundations of Education, Physical and Health Education, and Secondary Education.

COURSES OF INSTRUCTION

EDS 588. PERSONAL KNOWLEDGE: The understanding and development of subjectivities through personal encounter and reading. Students are encouraged to explore personal meanings which are not discursive, not nomothetic, and not repeatable. *4 qtr. hrs.*

EDS 589. SEMINAR AND PRACTICUM IN THE STUDY OF LEARNING ENVIRONMENTS: Study and participation in writing behavioral objectives and appropriate evaluation items, classifying objectives and questions according to cognitive level, analyzing classroom verbal communication, using teaching strategies, and microteaching. *4-9 qtr. hrs.*

EDS 598. PRACTICUM AND INTERNSHIP TEACHING: A full semester of practicum and directed teaching experiences under the supervision of a faculty advisor and of master teachers in local schools. Weekly seminars on campus. *10-14 qtr. hrs.*

EDS 600. SUPERVISING THE STUDENT TEACHER IN THE URBAN SCHOOL: To equip the cooperating teacher with skills for gaining insight into the student teacher's problems in urban schools and to improve expertise of cooperating teachers as supervisors of student teachers. *2-3 qtr. hrs.*

EDS 604. COLLEGE TEACHING SEMINAR: To assist graduate teaching assistants and beginning college teachers in acquiring information, understandings, and skills which are seen as important components of effective teaching; to provide experienced college faculty with a means of professional development. *1-4 qtr. hrs.*

EDS 606. INDEPENDENT STUDY: Individual (or group) pursuit of special interests in the field of education through self-directed learning. *1-5 qtr. hrs.*

EDS 607. THE TEACHER IN THE INDIVIDUALIZED CLASSROOM: The teacher's role and functions where the goal is individualized instruction; behavioral objectives, learning styles, and assessment procedures; implementing these concepts in the classroom. *5 qtr. hrs.*

EDS 609. PREPARATION OF COMPUTER-AIDED INSTRUCTION: Study of computer-aided instruction used in the schools: problem solving, CAI-written courses, and CAI student authorized courses. Material now being used in CAI; the formation of educational objectives for CAI. *4 qtr. hrs.*

EDS 611. ADVANCED SECONDARY SCHOOL READING IMPROVEMENT: To provide middle, junior high, and senior high school teachers with knowledge and selected skills for improving reading and other language-arts skills of their students in the content areas. Causes and diagnosis of reading problems, Practicum included. For students seeking initial certification. *3-4 qtr. hrs.*

EDS 613. HUMAN RELATIONS IN EDUCATION: Ways of working with people regardless of race, political affiliation, age, sex, socioeconomic status, or level of academic achievement (not requiring specialized educational environment). *3 qtr. hrs.*

EDS 614. JUNIOR HIGH AND MIDDLE SCHOOLS — THEORY AND IMPLICATIONS: The development and rationale of schools designed for the emerging adolescent; procedures by which these theories can be implemented in the classroom. *4 qtr. hrs.*

EDS 615. INTERDISCIPLINARY TEACHING AND EVALUATION OF CURRICULUM MATERIALS: Study of the basic principles, problems, and alternatives in team teaching and interdisciplinary education; exploration and evaluation of curriculum materials. *4 qtr. hrs.*

EDS 623. CURRENT STRATEGIES IN TEACHING SOCIAL STUDIES: A seminar to explore current strategies in the teaching of secondary school social studies. Participants may share in shaping the course content so their special needs and interests are met. *4 qtr. hrs.*

EDS 624. CURRENT STRATEGIES IN TEACHING ENGLISH: A seminar to explore current strategies in the teaching of secondary school English. Participants may share in shaping the course content so their needs and interests are met. *4 qtr. hrs.*

EDS 625. SECONDARY SCHOOL, SELF, AND SOCIETY: Examination of the interrelationships between school, self, and society, utilizing group procedures when possible. Students devote one half day each week to practicum. Prerequisite: EDF 501. *4 qtr. hrs.*

EDS 626. BUSINESS EDUCATION IN THE SECONDARY SCHOOL: Principles and techniques of business education, including social, business, and secretarial subjects. Students devote one half day each week to practicum. Prerequisite: EDF 501. First term, each year. *4 qtr. hrs.*

EDS 627. LATIN IN THE SECONDARY SCHOOL: The functions and values of the study of Latin, courses of study, organization of materials, conventional and progressive methods. Students devote one half day each week to practicum. Prerequisite: EDF 501. *4 qtr. hrs.*

EDS 628. ENGLISH AND SPEECH IN THE SECONDARY SCHOOL: Ways and means whereby the teacher can make his teaching more functional in the lives of students. Students devote one half day each week to practicum. Prerequisite: EDF 501. First and second term each year. *4 qtr. hrs.*

EDS 629. SOCIAL STUDIES IN SECONDARY SCHOOL: Aims and values of social studies in high school. General method and special techniques. Students devote one half day each week to practicum. Prerequisite: EDF 501. First and second term, each year. *4 qtr. hrs.*

EDS 630. MODERN LANGUAGE IN THE SECONDARY SCHOOL: The functions and values of language study, courses of study, organization of materials, conventional and progressive methods. Students devote one half day each week to practicum. Prerequisite: EDF 501. *4 qtr. hrs.*

EDS 631. MATHEMATICS IN THE SECONDARY SCHOOL: The goals of junior and senior high school mathematics; methods and materials; individualizing instruction. Students devote one half day each week to practicum. Prerequisite: EDF 501. First term, each year.

EDS 633. SCIENCE IN THE SECONDARY SCHOOL: Instructional methods and materials with emphasis on inquiry; individualizing instruction. Students devote one half day each week to practicum. Prerequisite: EDF 501. First and second term, each year. *4 qtr. hrs.*

EDS 639. I.O.E. CONTENT AND METHODOLOGY: A qualifying course for Intensive Office Education Teachers. Includes historical background, curriculum, state criteria, and student and teacher considerations. *3-4 qtr. hrs.*

EDS 652. SPECIAL TOPICS IN POST-SECONDARY EDUCATION: Provides (1) knowledge and skills and (2) a basis for formation of attitudes and values to groups and organizations in response to expressed needs in specialized areas of post-secondary education. *1-4 qtr. hrs.*

EDS 662. ADVISING SCHOOL PUBLICATIONS: Fundamentals in teaching journalism, newspaper and yearbook production, school press law and financing of school publications. *4 qtr. hrs.*

EDS 663. ECONOMIC ISSUES FOR TEACHERS: A course designed to acquaint education students with basic economic concepts and analytical approaches through the discussion of current economic issues. In addition, particular emphasis will be placed on teaching techniques and materials which can be used in the secondary school. The course will emphasize the logic of economic concepts while minimizing the use of economic jargon and analytical techniques. *4 qtr. hrs.*

EDS 665. DISCIPLINE SKILLS AND DECISION MAKING IN THE SECONDARY CLASSROOM: A course designed to enable participants to gain knowledge of various techniques used successfully by teachers in improving the performance of troubled students in their classrooms. *3 qtr. hrs.*

EDS 678. STUDIES IN INTERNATIONAL EDUCATION: A course designed to focus on integrating global education with existing social studies courses. *1-6 qtr. hrs.*



EDUCATIONAL SPECIALIST DEGREE IN EDUCATIONAL LEADERSHIP (EDL)

Offered by
The Colleges of Education and The Graduate Schools of
The University of Dayton and Wright State University

This Educational Specialist Degree, Ed.S., program is designed to enhance individual capabilities for educational leadership in the following roles: superintendent, assistant superintendent, director, supervisor and principal.

A planned program of study will cover two years, with a required minimum of 54 quarter hours of graduate work beyond the Master's Degree. In this combined degree program one half of the course work (27 qtr. hours) will be completed at each university. Previous post master's course work may be transferred into the program if it supports the objectives of the over all program.

A candidate for the Educational Specialist Degree must fulfill the residency requirements by completing two consecutive summer sessions with full-time status.

The program will begin in the fall term of each school year and course work will be offered in a sequential order so that all of the requirements can be completed in a two year period.

ADMISSION REQUIREMENTS

1. A Master's Degree
2. Three years of professional experience: Administration and / or Supervision
3. Submission of letters of recommendation
4. Earned cumulative grade point average of 3.5 on the graduate level
5. Acceptance by faculty interviewing team
6. Commitment to complete the Ed.S. within a 24 month time limit.

Program Requirements

Common Curriculum (12 quarter hours)

This component will include course work in areas such as interpersonal dynamics, organizational systems and research.

Concentration Courses (21 quarter hours)

Course work in this area will include such things as school law, finance, facilities, program evaluation and negotiations.

Cognate Course (6 quarter hours)

This component will include course work in areas such as sociology, communications, economics and management.

Electives (6 quarter hours)

Course work taken as electives will depend on the career focus of the individual.

Field-Based Experience (9 quarter hours)

This course work will give the individual an opportunity to apply knowledge and information in a practical learning situation.

One half of this course work will be completed at the University of Dayton and the other half will be completed at Wright State University.

COURSES OF INSTRUCTION

The following specialist degree courses are to be completed at The University of Dayton:

EDC 801. **INTERPERSONAL DYNAMICS:** Accurate communication by a leader is essential for effective organizational functioning. The purpose of this course is to improve a student's ability to communicate effectively in complex social systems. In addition, students will be given the opportunity to become aware of the fact that effective educational organization is a system composed of human beings working together toward the accomplishment of its goals and objectives. *3 qtr. hrs.*

EDA 802. **FIELD-BASED EXPERIENCE IN EDUCATIONAL LEADERSHIP II:** A continuation of the purpose and function of the initial field-based experience. Focus of this course is upon an added depth of demonstration of the concepts and skills of educational leaders. Further, this course will emphasize and utilize the knowledge and skills acquired in the concentration area. *3 qtr. hrs.*

EDF 803. **RESEARCH:** The student will consider practical applications and issues in research as they relate to educational leadership. It is assumed that all students have demonstrated competency in basic descriptive and inferential statistics. *3 qtr. hrs.*

EDA 804. **PROFESSIONAL NEGOTIATIONS FOR EDUCATORS:** A practical course in the act and skills of negotiations. Exploration of legal cases and concepts which have emerged as a result of conflict resolution and adjudication in the courts and an analysis of negotiated agreements and case studies in the field of education will be utilized. *3 qtr. hrs.*

EDA 805. **ADVANCED SEMINAR IN EDUCATIONAL LEADERSHIP:** A capstone course which synthesizes the concepts, skills, and information of the total specialist's program. An integration of the basic purposes of the program with the common curriculum, electives, cognates, and areas of concentration is provided through this course. *3 qtr. hrs.*

EDA 815. **SCHOOL LAW:** Knowledge of statutes and judicial decisions related to legal authority; responsibilities of boards of education, teachers and administrators. Emphasis will be placed on understanding the legal framework necessary for education to carry out its mandated responsibility — the education of all children of all people. *3 qtr. hrs.*

EDA 817. **SCHOOL FINANCE:** To present guiding principles for developing adequate financial programs; the detailed study of sources of revenues, local, state, and federal; and the procedures in managing school funds with reference to budgeting, accounting, and auditing. *3 qtr. hrs.*

EDA 821. THE ADMINISTRATOR'S PUBLIC RELATIONS: This course is designed to assist school administrators in identifying their responsibility for public communication planning and the leadership role which is a basic element of communication. Provisions are made for the development of guidelines, techniques, and practices which can be utilized to facilitate wholesome relationships between school and community. *3 qtr. hrs.*

In addition to the above mentioned courses, one elective course and one cognate course will be completed at the University of Dayton.

The following specialist degree courses are to be completed at Wright State University:

(WSU) ORGANIZATIONS AS SOCIAL SYSTEMS: The focus on this course is upon the analysis of organizations. A variety of organizational structures which reflect a continuum of beliefs are explored and organizational theory is analyzed in an attempt to specify the relationship between the needs of an organization. Also covered is the individual's role and function within an organization. Emphasis is placed on the following concepts: Behavioral science theory, management and leadership styles, theories and models of leadership, and the skills necessary for effective leadership. *3 qtr. hrs.*

(WSU) ORGANIZATIONAL CHANGE AND SYSTEMS ANALYSIS: This course advances the student's knowledge of effecting change with individuals and groups within a social system. It also provides students with a working familiarity with systematic models useful for effecting change and assists them in identifying and developing skills useful to a leader functioning as a change agent. *3 qtr. hrs.*

(WSU) SCHOOL BUILDINGS AND EQUIPMENT: This course provides knowledge of types of buildings, architectural structures and designs, efficient use of buildings and equipment, and the relationship of physical facilities to the program offered to students. The planning of new structures, remodeling of existing structures and the major concepts of energy conservation are stressed. *3 qtr. hrs.*

(WSU) STAFF PERSONNEL IN THE PUBLIC SCHOOL: The course presents hypotheses, principles, and practices for dealing with school personnel problems which are the primary concern of this course. Emphasis is placed on the areas of recruitment, selection, induction, appraisal, development, compensation and motivation of personnel. Students are also helped to assess career goals and guide them in their interests in school personnel roles. *3 qtr. hrs.*

(WSU) PROGRAM DEVELOPMENT AND EVALUATION: This course is for prospective or practicing educational leaders and has a K-12 orientation. The focus is upon the identification of problems faced by the participants and the use of a systems approach to the analysis and evaluation of problems. Students will be given the opportunity to design a format for translating research into practice and to develop and apply criteria for the evaluation of a curricular innovation or an instructional practice. *3 qtr. hrs.*

(WSU) FIELD-BASED EXPERIENCE IN EDUCATIONAL LEADERSHIP I: The intention of this course is to provide students with the opportunity to relate coursework with practical field-based experience in the area of educational leadership. The focus of this experience is broad based in terms of leadership and will help the student plan the specific concentration activities of the second field-based experience. Students are given the opportunity to identify and refine their human relations skills necessary in achieving organizational goals. *3 qtr. hrs.*

X School of Engineering

Russell A. Primrose, Dean

Gary A. Thiele, Associate Dean for Graduate Studies and Research

The School of Engineering offers programs leading to master's and doctor's degrees in various areas of engineering. These graduate programs permit both departmental and interdisciplinary study to meet the specialized and continuing educational needs of the engineer. Sufficient flexibility allows the student to specialize or to pursue a broad field of study. Current graduate programs in the School of engineering lead to the following degrees:

- Master of Science in Aerospace Engineering
- Master of Science in Chemical Engineering
- Master of Science in Civil Engineering
- Master of Science in Electrical Engineering
- Master of Science in Engineering
- Master of Science in Engineering Management
- Master of Science in Materials Engineering
- Master of Science in Mechanical Engineering

Doctor of Engineering

- Major in Aerospace Engineering
- Major in Electrical Engineering
- Major in Materials Engineering
- Major in Mechanical Engineering

Doctor of Philosophy in Engineering

- Major in Aerospace Engineering
- Major in Electrical Engineering
- Major in Materials Engineering
- Major in Mechanical Engineering

Programs and the courses appropriate to each of these degrees are described later in this chapter under subject designations, which are alphabetical.

FINANCIAL AID

Assistantships and industrial fellowships are available at the University of Dayton for the encouragement of graduate work and the promotion of research. These are administered by the academic departments. Detailed information relative to application may be secured from the director of graduate engineering.

MASTER'S DEGREE REGULATIONS

Admission

To be considered for admission to graduate study in the School of Engineering, a student must have received an undergraduate degree with emphasis in engineering, physics, chemistry, or applied mathematics. The normal qualification for admission is graduation from an accredited engineering curriculum with 2.7 or better cumulative grade point average based on a 4.0 grading system. Those with lower grade point averages will be considered for acceptance on a probationary status, in which case particular attention will be given to the last 60 semester hours of their undergraduate programs, to recommendations, and to engineering experience. They may also be required to take a limited amount of undergraduate work. Students who have degrees in physics, chemistry, applied mathematics, or related sciences are encouraged to apply, but they too may be required to take a limited amount of undergraduate work to complete their preparation for graduate study in the School of Engineering. Students are expected to have some competence in computer programming and the engineering sciences, and to be familiar with the engineering design process. In addition, there may be special departmental requirements. The minimum mathematics requirement for admission is three semester hours in differential equations. Undergraduate courses are available through the Bachelor of Engineering program.

Unclassified Status

Students may also be accepted in unclassified graduate status. They will be considered as students of the School of Engineering who have not been admitted in a graduate degree program. A student can transfer a maximum of only two courses taken in this status to a program of study for a degree without pre-enrollment approval from the director of graduate engineering. An unclassified student planning to seek a degree should complete an application for graduate studies to assure that the courses he takes are acceptable and compatible with degree requirements.

Advisor

Each candidate for the master's degree shall be assigned to an advisor by the departmental chairman or the program director. The advisor shall be agreed upon by the student and approved by the director of graduate engineering. The duties of the advisor are to assist the student in the preparation of his plan of study and to advise him during his period of graduate work. An advisor should be appointed prior to initial registration for graduate studies but no later than the end of the first semester. A change of advisor at a later date is permissible upon the request of the student and approval of the departmental chairperson or program director and the director of graduate engineering.

Plan of Study

The individual plan of study for the degree shall include the specific courses the student is expected to complete and reflect all other requirements of the particular master's degree he is seeking. The plan of study must be filed with the director of graduate engineering prior to the pre-enrollment date for the 16th graduate semester hour. All copies must be approved by the advisor, the program director, and the director of graduate engineering.

Thesis

Each student whose plan of study requires a thesis must prepare the thesis in accordance with the general format outlines in the Guide for Preparation of Thesis, copies of which are available in the departmental offices. Students who have completed registration in all course work but who have not completed the thesis or project must continue thesis or project registration each term until graduation. In general, the thesis will be based on work accomplished in research in the primary area of study. Joint authorship is not permitted. A regular grade will be assigned upon satisfactory completion of the thesis and will be included in the final cumulative grade point average.

Oral and Written Examinations

A final examination is required at the completion of the thesis. The examination may be oral or written or both. It must be given by a committee of no fewer than three. A student who fails to pass it cannot be given another examination in the same semester. No student shall be allowed to take the examination more than three times.

FIVE-YEAR MASTER'S PROGRAM

Undergraduate students who have shown above average scholastic performance during their first three years of undergraduate work are eligible to pursue the five-year master's program. This program allows the senior engineering student the opportunity of taking selected graduate courses, making it possible to complete the requirements for a master's degree with only two semesters of additional work beyond the bachelor's degree. Undergraduate students who are interested in this program should contact their department chairperson during the last semester of their junior year.

DOCTORAL DEGREE REGULATIONS

The School of Engineering offers programs leading to two degrees at the doctoral level, the Doctor of Philosophy in Engineering and the Doctor of Engineering. The programs are restricted to those who have demonstrated superior abilities in scholarship and research. The Doctor of Philosophy in Engineering (PhD) is granted in recognition of high achievement in scholarship and independent research. Graduate programs leading to it currently encompass major fields of study in Aerospace, Electrical, Materials, and Mechanical Engineering. The Doctor of Engineering (DE), granted in recognition of high achievement in scholarship and superior ability to apply the fundamentals of engineering to the solution of technical problems, is comparable in rigor to the PhD. It requires a broad program of course work, a year of internship in engineering, and a practice-oriented dissertation. (These last two can be accomplished at the same time.) The areas of concentration for the DE are Aerospace, Electrical, Materials,

and Mechanical Engineering with major support from Chemical Engineering, Civil Engineering, and Engineering Management. Interdisciplinary study and applied research activities are required.

For either degree, the student must satisfactorily complete a specified number of semester hours of course work with a 3.0 or better cumulative grade point average (based on a 4.0 grading system). The student must also (1) pass the candidacy examination, (2) meet the period of concentrated study requirements, (3) complete an acceptable dissertation, (4) complete the tools of research requirement, (5) demonstrate the ability to accomplish independent study, (6) pass a final examination, and (7) complete other requirements as specified by his advisory committee and the Graduate School of Engineering.

Semester-Hour Requirements

The minimum time required for the PhD or DE degree is six semesters of full-time graduate study (a minimum of 90 semester hours) beyond the bachelor's degree, or four semesters of full-time graduate study (a minimum of 60 semester hours) beyond the master's degree. This includes the credit for the doctoral dissertation *with either degree* (a minimum of 30 semester hours). Registration for the dissertation hours is the same as for other courses; however, only those students who have passed the candidacy examination are eligible. A minimum of 48 semester hours must be taken at this University. Also, a minimum of 12 semester hours in graduate mathematics beyond the bachelor's degree is required for both doctoral degrees.

For the PhD, a student must complete a minimum of 30 semester hours, excluding his dissertation credit, in his major area of study beyond his bachelor's degree.

For the DE, a student is required to have a major and minor area of study. The minor must be in an area outside the major field. A minimum of 21 semester hours in the major and 12 semester hours in the minor is required beyond the bachelor's degree.

Admission

Admission means only that the student will be permitted to enroll for graduate courses. It does not necessarily imply that he will be admitted to a program leading to a doctor's degree or that he will be able to achieve the PhD or the DE.

Normally, a student must earn a master's degree in engineering or science before being granted permission to continue graduate study work for the doctorate. Outstanding students, however, may be permitted to work for either doctoral degree directly without the master's degree.

Notice of Intention

Before taking additional courses after completing the requirements for a master's degree or equivalent graduate hours, a student who expects to work for the PhD or DE is required to file a "Notice of Intention" in the Graduate School of Engineering. Unless this is accomplished, the courses taken beyond the

master's degree requirement may not be accepted toward a doctoral degree. The Notice of Intention must be filed prior to mid-term of the first semester of enrollment. The proper form may be obtained in the Graduate School of Engineering.

Temporary Advisor

After receipt of the notice of intention of a student to become a candidate for either the PhD or the DE, and upon recommendation of the program director, the director of graduate engineering will designate a member of the graduate faculty to serve as temporary advisor to the student and assist in the initial selection of courses for the first semester of enrollment.

Qualifying Examination

After the completion of the master's degree or 30 semester hours of graduate study, the student will take a qualifying examination (which may be waived for the exceptional student). The purpose of the examination is to determine the student's qualifications to continue graduate study and to assist the advisory committee in planning the program of study. The examination shall be written and oral and shall cover the subject matter of graduate courses taken and the student's ability to conduct research, to reason, and to integrate and express knowledge. The student is required to provide evidence of personal research accomplishments (e.g., thesis, research projects, science and engineering technical reports) as part of the examination. The temporary advisor will be responsible for administering the qualifying examination.

Advisory Committee

Before the end of the first semester, the student should consult with the program director and select a major professor to serve as the chairperson of the advisory committee and to direct the research. The chairperson will be a member of the School of Engineering graduate faculty. An advisory committee of at least three graduate faculty members from the School of Engineering will then be recommended for approval to the director of graduate engineering. The composition of the committee will generally reflect the student's area of course study and research interest. At least one person having graduate faculty status will be appointed by the director of graduate engineering. The duties of the advisory committee shall consist of (1) advising the student, (2) assisting the student in preparing the complete program of study, (3) preparing and administering the candidacy examination, (4) assisting in the planning and conducting of the research, (5) approving the dissertation, and (6) conducting and reporting the results of the final examination. Appointment of additional members of the committee from outside the School of Engineering (i.e., other University faculty, adjunct professors, prominent researchers in industry or government) is encouraged. The majority of the committee, however, must be members of the School of Engineering graduate faculty. A dissertation advisor other than the chairperson may be appointed by the Advisory Committee.

Plan of Study

The plan of study shall include all the graduate work the student is expected to complete as determined by his advisory committee. The plan of study is to be submitted to the School of Engineering before the end of the first semester or prior to the pre-enrollment date for the 16th graduate hour beyond the master's degree or its equivalent. The plan shall include the specific courses and all other requirements (seminars, tools of research, research, etc.) which the student is expected to complete, indicating the time and manner in which these requirements are to be met.

Tools of Research

The needs of the student may differ with the educational objectives chosen. Therefore, the tools of research requirement will be determined by the advisory committee and approved by the department chairman or the program director. One from the following will be selected:

1. Command of one approved language, as evidenced by a satisfactory score on the Graduate Foreign Language Tests (GSFLT) in French, German or Russian.
2. Completion of 6 semester hours of selected and approved 400-level or higher courses in computer science and / or instrumentation measuring techniques with at least a B average.
3. Completion of 6 semester hours of graduate courses in a defined area of humanities and / or social sciences, related to his program of study objectives, with the grade of B or higher.

Courses taken in completing the tools of research requirement will not carry credit toward the degree. The method selected in satisfying this requirement is to be listed in the plan of study. This requirement must be satisfied prior to the candidacy examinations.

Period of Concentrated Study

After a student has filed a notice of intention, he must complete a period of concentrated study in order to be considered for the candidacy examination. This requirement can be met in either of two ways:

1. During three consecutive semesters, the student completes a minimum of 21 semester hours of graduate course work.
2. In any two of three consecutive semesters, the student completes a minimum of 18 semester hours of graduate course work.

Internship for DE

The DE internship is a minimum of one year of high level practicing engineering experience, and is normally conducted after the student has passed his candidacy examination. The internship phase of the program must be fully described in the proposal submitted as part of the candidacy examination. The candidate's internship advisor (generally his supervisor at his interning organization) will be added as a member of his advisory committee. The internship, as

part of the DE program of study, must be approved by the candidate's advisory committee, program director, and the director of graduate engineering. From 15 to 21 semester hours can be credited for the internship as part of the dissertation requirement for the Doctor of Engineering.

Candidacy Examination

The candidacy examination for either the PhD or the DE is generally to be taken when most of the course work, as outlined on the approved plan of study, has been completed. Its purpose is to determine the student's eligibility to become a candidate for the doctoral degree. The examination is comprehensive, covering the entire area of the student's graduate study. It will be both written and oral. The oral portion must follow the written portion by a minimum of two weeks. At least three members of the School of Engineering graduate faculty must participate in the preparation and the administering of the examination under the direction of the advisory committee. The director of graduate engineering has the right to appoint additional members to the examining committee. He must be informed of the date and place of the examinations and the membership of the committee at least two weeks before the examinations are given.

As part of the examination, the student must have completed a proposal outlining in detail the proposed area of dissertation study and research (for the PhD) or of the applied research dissertation project (for the DE). The proposal should clearly show the review of the literature in the area, the need for and the uniqueness of the research and / or investigation, the general approach to accomplishing the effort, results expected, detailed costs, the laboratories and / or other facilities needed, and a schedule of completion. In addition, the proposal by the candidate for the DE will explain the interdisciplinary role of the investigation. The student in either degree program must make a copy of this proposal available to each committee member prior to the written examination. (Note: the University of Dayton is not obligated to provide financial support for the research or investigation).

The student must pass all parts of the examination (proposal, written examination, and oral examination) to be admitted to candidacy. He is considered to have passed only when the decision of the examining committee is unanimous. All members must sign the examination report form with an indication of their decision noted prior to its being submitted to the director of graduate engineering. If the student fails any part of the examination, he will be notified in writing of the conditions for another examination. No student will be permitted to take any part of the examination more than twice. A second examination may not be given earlier than four months after failure. Examinations will be retained by the chairperson of the advisory committee.

A student must be admitted to candidacy at least six months prior to receiving his doctor's degree.

Dissertation

A dissertation is required of each doctoral candidate (student who has passed the candidacy examination). The dissertation topic will be determined by the student in consultation with the advisor and approved by the advisory committee, the program director, and the director of graduate engineering. *The PhD dissertation* presents the results of the student's research investigation. It is expected to make an original contribution to technical knowledge, of sufficient importance to merit publication, and a manuscript suitable for submission to an appropriate journal will be prepared. *The DE dissertation* presents the results of an original investigation as applied to engineering practice. Normally, this will be related directly to the candidate's internship or problems relating to his engineering experience or work. It must be a significant contribution of independent engineering work to merit a doctoral level publication, and a manuscript in suitable form for submission to an appropriate journal will be prepared.

The dissertation will be prepared in accordance with instructions outlined in the Guide for Preparation of Dissertation, copies of which are available in the Graduate Engineering Office.

The first draft of the dissertation should be in the hands of the advisor a minimum of six weeks before the end of the semester the degree is sought. Four copies of the dissertation in final form, the manuscript, and an abstract not to exceed 600 words must be submitted to the Graduate School of Engineering at least three weeks before the end of the semester in which the degree is sought. These copies must bear the written approval of the advisor. The original copy of the dissertation and two copies of the abstract shall be filed in the Library one week prior to the end of the semester.

All doctoral dissertations are microfilmed by the University Microfilm, Inc., Ann Arbor, Michigan. The candidate must sign an agreement with the University Microfilms, Inc., which authorizes this firm to sell copies of his dissertation. Microfilmed dissertations may be copyrighted by the candidate. Fees will be assessed for the cost of microfilming and / or copyrights.

The student must obtain approval from his advisory committee to undertake all or part of his dissertation in absentia. A report requesting this permission must be submitted to the director of graduate engineering outlining in detail the relationship between the advisor and the candidate and the name and background of the person who will directly advise the candidate during the accomplishment of this independent research. This person will be added to his advisory committee.

Candidates must be registered for a minimum of two semester hours every semester during their candidacy including the semester the final examination is taken.

Final Examination

After the dissertation has been accepted by the Graduate Engineering Office but no earlier than six months after the successful candidacy examination, the candidate shall take a final oral examination to demonstrate to the examining

committee that he has all the capabilities for which the doctor's degree is awarded. This is primarily the defense of the dissertation, though it need not be confined exclusively to it. The examination is open to all members of the University of Dayton Faculty and student body. At least ten days prior to the date of the examination, the candidate must have provided the committee with copies of the dissertation in final form and must have disseminated an announcement of the final examination to interested organizations.

The final examining committee normally includes the members of the candidate's advisory committee, with his advisor acting as chairman. The final examining committee shall consist of at least four members of the graduate faculty, at least one of whom is not directly involved in the program concerned and is appointed by the director of graduate engineering. The director of graduate engineering reserves the right to appoint additional committee members and must be informed of the place and time of the final examination at least ten days in advance.

After the examination, the committee will report its decision to the director of graduate engineering. In order to be satisfactory, the report of the examining committee must be unanimous and must be signed by all members. If the candidate fails by only one vote, the case will be referred to the Graduate Study Committee for appropriate action.

Time Limit

Students are expected to complete the requirements for the doctor's degree within five years after the candidacy examination has been passed. Failure to complete the requirements means that admission to candidacy will be cancelled.



AEROSPACE ENGINEERING (AEE)

David L. Quam, Acting Director of the Program

Aerospace Engineering is a major concentration for both the Doctor of Engineering and the Doctor of Philosophy in Engineering. See Doctoral Degree Regulations in the introductory section of this chapter and consult with the director of the program.

The program of study leading to the Master of Science in Aerospace Engineering must include a minimum of 30 semester hours of credit consisting of the following:

1. Twelve semester hours in the major area. Major areas of study include Flight Mechanics, Stability and Control, Fluid Mechanics, Design and Performance, Simulation, Materials and Structures, Energy Conversion, Heat and Mass Transfer.
2. Twelve semester hours of electives. Electives will be selected from current course offerings which best satisfy the student's requirements and meet with the advisor's approval. At least one mathematics course is strongly recommended.
3. Six semester hours of research on an approved project. Research projects may be replaced by 6 semester hours of additional course work with the approval of the advisor and the program director.

See also Master's Degree Regulations in the introductory section of this chapter and consult with the director of the program.

COURSES OF INSTRUCTION

AEE 501 ADVANCED AERODYNAMICS I: Fundamentals of aerodynamics including viscosity and compressibility phenomena for subsonic, supersonic, and transonic flow. Emphasis on force and moment determination for bodies, including theory of lift. *3 sem. hrs.*

AEE 502. ADVANCED AERODYNAMICS II: Advanced analytical development of viscous and compressible fluid theory as applied to vehicle performance in steady flight, accelerated flight, analysis of vehicle flight paths and trajectories. *3 sem. hrs.*

AEE 503. INTRODUCTION TO CONTINUUM MECHANICS: Unified treatment of topics common to solid and fluid continua. Tensors, calculus of variations. Lagrangian and Eulerian descriptions of motion. General equations of continuum mechanics, constitutive equations of mechanics, thermodynamics of continua. Reduction of general equations to specialized forms used in follow-on courses in solid and fluid mechanics. Classical and numerical methods for solving continuum mechanics equations. *3 sem. hrs.*

AEE 511. AIRCRAFT DESIGN: Preliminary design of aircraft, including layout, weight and size estimates, wing section and planform selection, determination of configuration aerodynamics, engine and inlet sizing, corrections to propulsion data, refined fuel estimates, weight and balance, stability and control, and performance determination. *3 sem. hrs.*

AEE 513. PROPULSION: Principles of propulsive devices, aerothermodynamics, diffuser and nozzle flow, energy transfer in turbo-machinery, turbojet, turbo-fan, prop-fan engines, turbo-prop and turboshaft engines. RAM and SCRAM jet analysis and a brief introduction to related materials and air frame-propulsion interaction. Prerequisite: MEE 418. *3 sem. hrs.*

AEE 515. CONDUCTION HEAT TRANSFER: Steady state and transient state conduction. Evaluation of temperature fields by formal mathematics, numerical analysis, and analogic experiments. *3 sem. hrs.*

AEE 516. CONVECTION HEAT AND MASS TRANSFER: Development of governing differential equations for convection. Methods of solution including similarity methods, integral methods, superposition of solutions, eigen-value problems. Turbulent flow convection; integral methods, eddy diffusivities for heat and momentum. Extensions to mass transfer. Prerequisite: MEE 410. *3 sem. hrs.*

AEE 517. RADIATION HEAT TRANSFER: Fundamental relationships of radiation heat transfer. Radiation characteristics of surfaces. Geometric considerations in radiation exchange between surfaces. Emissivity and absorptivity of gases. Introduction to radiative exchange in gases. Prerequisite: MTH 403. *3 sem. hrs.*

AEE 521. VEHICLE DYNAMICS: Dynamics of flight vehicles that emphasize the fundamental theory of flight and its application to aerospace systems. Static and dynamic stability including the characteristic longitudinal and lateral perturbation motions about the equilibrium state. *3 sem. hrs.*

AEE 523. AUTOMATIC CONTROL: Basic feedback control theory, transfer functions, stability analysis, Bode plots, Nyquist, root-loci, Routh's criteria. State space methods. Nonlinear systems, phase plane analysis, describing functions, Lyapunov stability analysis. Autopilots, stability augmentation, and flight control system. *3 sem. hrs.*

AEE 525. SIMULATION THEORY AND PREDICTION: Simulation of modern flight vehicles using hybrid computers; prediction and evaluation of flying qualities; vehicle equations of motion and manual control theory. Flight regimes include low-speed-high angle-of-attack, STOL, transonic and others. Flying qualities. Prediction methods. Mathematical model of human pilot. Experimental prediction using hybrid computer. *3 sem. hrs.*

AEE 527. AUTOMATIC CONTROL THEORY: Analysis and synthesis of feedback control systems; including hydraulic, pneumatic, mechanical and electrical systems. Frequency response; linear state space techniques; stability analysis; nonlinear system analysis and Liapunov stability. Prerequisite: ELE 432 or MEE 435 or equivalent. *3 sem. hrs.*

AEE 529. FLIGHT TEST ENGINEERING: Introduction to aircraft flight testing. Test management, documentation, and reporting. Civil and military airworthiness requirements. Basic test and data techniques for calibration, climb, stability and control, takeoff, and landing tests. *3 sem. hrs.*

AEE 529L. FLIGHT TEST ENGINEERING LABORATORY: Basic test techniques laboratory. Inflight measurement of static position error, stability, and aircraft performance. Special test techniques. Corequisite: AEE 529. *1-3 sem. hrs.*

AEE 532. NOISE CONTROL: Physics of sound propagation. Physiological and legal aspects of sound. Measurement and analysis of sound and vibrations. Vibration and sound control techniques, source modifications, path modifications, receiver modifications. Acoustic considerations in machine design. Prerequisite: MTH 219. *3 sem. hrs.*

AEE 535. MECHANICAL VIBRATIONS: Multi-degree of freedom systems. Lagrange's equations, transient vibrations, vibrations of continuous systems. Matrix and numerical methods. Introduction to finite element method; to nonlinear vibrations. Prerequisite: MEE 319. Co-requisite: AEE 503. *3 sem. hrs.*

AEE 538. INTRODUCTION TO AEROELASTICITY: Static method of stability prediction for elastic systems subjected to conservative forces. Dynamic methods when forces are non-conservative. Follower forces. Stability of flexible shafts, rotors, centrifuges. Aeroelasticity and wing flutter. Panel and membrane flutter in supersonic flow. Galerkin's method. Co-requisite: AEE 503. *3 sem. hrs.*

AEE 543. FUNDAMENTALS OF ADVANCED STRUCTURAL MATERIALS: Introduction of anisotropic material and its complex behavior, comparison with isotropic material. Tools for analysis and design of aerospace structures with laminated composites. Classical laminated plate theory as a special case of the more general and complex anisotropic plate theory for practical application. *3 sem. hrs.*

AEE 544. DESIGN OF ADVANCED STRUCTURES: Structural design of aerospace subsystems and components. Analysis of composites and other advanced structures for static and dynamic loads. Methods of optimization for performance and cost. Design criteria prediction for stresses, displacements, instabilities, fatigue fracture. *3 sem. hrs.*

AEE 551. VISCOUS FLOW: Fundamentals of viscous flow. Navier-Stokes and boundary layer equations. Exact and approximate solutions of these equations using modern computational procedures for both laminar and turbulent flows: Prerequisite: AEE 503. *3 sem. hrs.*

AEE 553. COMPRESSIBLE FLOW: Fundamental equations of compressible flow. Introduction to flow in two and three dimensions. Two-dimensional supersonic flow, small perturbation theory, method of characteristics, oblique shock theory. Introduction to unsteady one-dimensional motion and shock tube theory. Method of surface singularities. Prerequisite: MEE 418. *3 sem. hrs.*

AEE 554. TRANSONIC AERODYNAMICS: Inviscid theory related to planar flows, axisymmetric flow and shock free solutions. Viscous consideration for compressible boundary layers and flow separation and reattachment. Numerical methods of relaxation, time dependent, gradient dependent and integral solutions. Consideration, limitation and correlation of wind tunnel and flight testing. Design of supercritical wings. Prerequisite: AEE 503. *3 sem. hrs.*

AEE 555. TURBULENCE: Random variable theory, Fourier transforms, power spectral density methods. Description of atmospheric turbulence, discrete gusts, homogeneous isotropic turbulence; gusts in several dimensions; power spectrum of atmospheric turbulence; turbulence due to trailing vortices. Air vehicle response to turbulence, output power spectrum, gust alleviations. Clear air turbulence. Unsteady aerodynamics. *3 sem. hrs.*

AEE 556. HYPersonic AERODYNAMICS: Hypersonic prediction techniques, similarity rules, Newtonian impact theory, high temperature equilibrium properties of gases; wake characteristics; heat transfer, chemical kinetics and reacting gas flows, simulation and testing techniques. Prerequisite: AEE 503. *3 sem. hrs.*

AEE 561. AIRCRAFT ENVIRONMENTAL CONTROL: Performance analysis of aircraft environmental control systems. Development of steady state and transient equations for system components such as heat exchangers. Psychometrics as it applies to aircraft air conditioning; turbo-machinery used in reverse Brayton refrigeration cycle; application of heat pipes; overall systems and mission analysis; controls and numerical modeling. *3 sem. hrs.*

AEE 563. SYSTEM SAFETY ENGINEERING: Risk management applied to engineering problems. Qualitative analysis: preliminary hazard analysis, failure modes and effects analysis, fault tree analysis, criticality analysis, sneak circuit analysis. Human factors considerations. Application to design. *3 sem. hrs.*

AEE 565. FUNDAMENTALS OF COMBUSTION: Heat of combustion and flame temperature calculations; rate of chemical reaction and Arrhenius relationship; theory of thermal explosions and concept of ignition delay and critical mass; phenomena associated with hydrocarbon-air combustion; specific applications of combustion. *3 sem. hrs.*

AEE 566. COMBUSTION THEORY OF DETONATION (Rankine-Hugoniot relationships) and flame propagation rate in pre-mixed gas systems; turbulent flames and the well-stirred reactor; theory of diffusion flames; fuel droplet combustion; steady burning of solid materials; ignition and flame spreading across solid materials. *3 sem. hrs.*

AEE 580. AEROSPACE ENGINEERING PROJECT: Student participation in an aerospace research, design or development project under the direction of a project advisor. The student must show satisfactory progress as determined by the project advisor and must present a written report at the conclusion of the project. *3-6 sem. hrs.*

AEE 590. SELECTED READINGS IN AEROSPACE ENGINEERING: Directed readings in the designated area to be arranged and approved by the student's advisor and the program director. May be repeated. *1-3 sem. hrs.*

AEE 595. SPECIAL PROBLEMS IN AEROSPACE ENGINEERING: Special assignments in aerospace engineering subject matter to be arranged and approved by the student's faculty advisor and the program director. *1-6 sem. hrs.*

AEE 612. ADVANCED APPLIED AERODYNAMICS: Optimization of performance and controls, design trade studies, advanced methods for performance predictions, wind tunnel testing, flight testing, computer system design and simulation; analysis and validation of models and results, including design to cost consideration. *3 sem. hrs.*

AEE 622. ADVANCED VEHICLE DYNAMICS: Advanced topics in vehicle dynamics including the coupling of the elastic degrees of freedom with the rigid body motions. Response to controls, flight in a turbulent atmosphere, human pilots and handling qualities as well as inverse problems. *3 sem. hrs.*

AEE 624. OPTIMAL CONTROL: Feedback control, frequency and time domain, stability, controllability, and observability; Bode plots, root-loci, Nyquist methods; variational calculus optimization; dynamic programming; Pontryagin's principles; numerical methods for optimal paths; optimal control in presence of noise; aerospace application. *3 sem. hrs.*

AEE 628. AIRCRAFT FLIGHT CONTROL: Autopilots, stability augmentation and flight control system analysis and design. Digital control theory and techniques. Prerequisites: AEE 521 and 527. *3 sem. hrs.*

AEE 690. SELECTED READINGS IN AEROSPACE ENGINEERING: Directed readings in aerospace engineering to be arranged and approved by the student's advisory committee and the program director. May be repeated. *1-3 sem. hrs.*

AEE 695. SPECIAL PROBLEMS IN AEROSPACE ENGINEERING: Special assignments in aerospace engineering. Subject matter to be arranged and approved by the student's advisory committee and the program director. May be repeated. *1-3 sem. hrs.*

AEE 698. DE DISSERTATION: An original investigation as applied to aerospace engineering practice. Results must be of sufficient importance to merit publication. *1-15 sem. hrs.*

AEE 699. PhD DISSERTATION: Research in aerospace engineering. Results must be of sufficient importance to merit publication. *1-15 sem. hrs.*

CHEMICAL ENGINEERING (CME)

The program of study leading to the Master of Science in Chemical Engineering must include a minimum of 30 semester hours of credit consisting of the following:

1. Six semester hours in the basic sciences or mathematics.
2. Twelve semester hours of Chemical Engineering courses. All of these must be graduate-level courses. They must include CME 507, 521, and 581 or 582.
3. Six semester hours of electives as approved by the advisor and the chairman of the department.
4. Six semester hours on an approved thesis project. Upon the request of the student and with the approval of the advisor and the chairman of the department, the thesis may be replaced by nine semester hours of additional course work.

A final examination is required at the completion of the thesis or course work.

See also Master's Degree Regulations in the introductory section of this chapter and consult with the advisor.

COURSES OF INSTRUCTION

CME 505. THERMODYNAMICS OF SOLIDS: Thermodynamic properties of solutions and intermediate phases. Equilibrium behavior of phase mixtures. Representation of multicomponent phase diagram. Experimental determination and prediction of phase diagrams. Prerequisite: MAT 502 or consent of instructor. *3 sem. hrs.*

CME 507. ADVANCED THERMODYNAMICS: Applications of the laws of thermodynamics-phase equilibria in ideal and nonideal systems-chemical equilibrium. *3 sem. hrs.*

CME 508. ADVANCED TOPICS IN CHEMICAL ENGINEERING: Study and discussion of current problems in chemical engineering research. Prerequisites: CME 521, 581, or consent of instructor. *3 sem. hrs.*

CME 509. INTRODUCTION TO POLYMER SCIENCE: Introduction to polymers. A largely nonmathematical survey of the field. Prerequisites: college chemistry and calculus. *3 sem. hrs.*

CME 510. PHYSICAL PROPERTIES OF POLYMERS: Intensive discussion of the interrelations between molecular and gross physical properties of polymers. Prerequisites: CME 509 or equivalent, background in differential equations. *3 sem. hrs.*

CME 511. PRINCIPLES OF CORROSION: Application of electrochemical principles, corrosion reactions, passivation, cathodic and anodic protection, stress corrosion, and high temperature oxidation. *3 sem. hrs.*

CME 515. STATISTICAL THERMODYNAMICS: Microscopic thermodynamics; kinetic theory; virial theorem of Clausius; transport phenomena; Gibbs, Boltzman, Bose-Einstein, Fermi-Dirac statistics. Connection between statistical and thermodynamic quantities. Applications to perfect and real gases, liquids, crystalline solids, and thermal radiation. Information theory, irreversible thermodynamics. Prerequisites: CME 305, MTH 219. *3 sem. hrs.*

CME 521. **ADVANCED TRANSPORT PHENOMENA:** Applications of the principles of momentum and heat transfer to steady state and transient problems. Potential flow, boundary layer theory. Prerequisite: CME 581 or equivalent. *3 sem. hrs.*

CME 522. **SEPARATION PROCESSES:** A study of mass transfer in binary and multi-component systems. Absorption. Distillation. Extraction. *3 sem. hrs.*

CME 541. **PROCESS DYNAMICS:** Mathematical modeling and computer simulation of process dynamics and control for chemical engineering processes. *3 sem. hrs.*

CME 542. **CHEMICAL ENGINEERING KINETICS:** Ideal and non-ideal reactor behavior. Fluid mixing. Fluid-particle reactions. Fluid-fluid reactions. Catalysis. *3 sem. hrs.*

CME 581. **ADVANCED CHEMICAL ENGINEERING CALCULATIONS I:** Applications of ordinary and partial differential equations to engineering problems. Classical methods of solution. *3 sem. hrs.*

CME 582. **ADVANCED CHEMICAL ENGINEERING CALCULATIONS II:** Analysis and design of processes and the solutions of the resulting differential equations by computer techniques. *3 sem. hrs.*

CME 595. **SPECIAL PROBLEMS IN CHEMICAL ENGINEERING:** Particular assignments to be arranged and approved by the chairman of the department. *1-6 sem. hrs.*

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



CIVIL ENGINEERING (CIE)

Seymour J. Ryckman, Chairperson of the Department

The program of study for the Master of Science in Engineering must include a minimum of 30 semester hours consisting of the following:

1. Three to six semester hours in basic sciences.
2. Eighteen to 21 semester hours in Civil Engineering, Engineering Mechanics, and / or thesis-related courses approved by the student's advisor.
3. Six semester hours on an approved thesis project. Students engaged in thesis research enroll in CIE 599.

A final examination is required at the completion of the thesis.

See also Master's Degree Regulations in the introductory section of this chapter and consult with the advisor.

COURSES OF INSTRUCTION

CIE 500. ADVANCED STRUCTURAL ANALYSIS: Frames of variable cross section, arches; flat and folded plates; elastic stability of columns, frames, and plates; cylindrical, spherical, and barrel shells; structures dynamics of beam and frames. Prerequisites: CIE 405, EGM 304. 3 sem. hrs.

CIE 501. STRUCTURAL ANALYSIS BY COMPUTER: Review of force and displacement methods. Introduction to direct element and substructure methods. Students write and execute, using computer terminals, their own programs to analyze plane and space trusses, grids, and plane and space frames. Prerequisite: CIE 406. 3 sem. hrs.

CIE 502. PRESTRESSED CONCRETE: Discussion of the properties of concrete and prestressing steel. Theory and design of prestressed concrete beams, slabs, columns, frames, ties, and circular tanks. Prerequisite: CIE 407. 3 sem. hrs.

CIE 503. PLASTIC DESIGN IN STEEL: Analysis and design procedures based on ultimate load capacity applied to steel beams, frames, and their connections. Concept of plastic hinge, necessary conditions for the existence of plastic moment, instability, deformations, repeated and reversed loading, and minimum weight design. Prerequisite: CIE 415. 3 sem. hrs.

CIE 520. ADVANCED SOIL MECHANICS: Treatment of the theories of conventional soil mechanics. Detailed study and analysis of the static and dynamic properties of soils, with applications to foundation behavior. Prerequisite: CIE 312. 3 sem. hrs.

CIE 524. FOUNDATION DESIGN: Analysis of earth pressure, stability of natural slopes, and bearing capacity of soil; design of spread foundations, pile foundations, beams on elastic foundations, anchored bulkheads, caissons, and cofferdams. Prerequisite: CIE 312. 3 sem. hrs.

CIE 535. SANITARY CHEMISTRY: Principles, techniques, and interpretations of physical, chemical and biological tests related to water, sewage, and industrial wastes. Prerequisite: CHM 124. 3 sem. hrs.

CIE 540. HIGHWAY GEOMETRIC DESIGN: Design controls and criteria, vehicle capacity, sight distance, intersection and interchange design. Prerequisite: CIE 405. 3 sem. hrs.

CIE 544. **TRAFFIC ENGINEERING:** Characteristics of traffic, including the road user, the vehicle, origin, and destination surveys; traffic regulation, control devices and aids, design, administration, and planning. Prerequisite: CIE 405. *3 sem. hrs.*

CIE 558. **TRAFFIC ENGINEERING RESEARCH:** Problems in control or capacity restraints based on studies of local situations. *3 sem. hrs.*

CIE 560. **ADVANCED SANITARY ENGINEERING:** Stream pollution control and design of water and waste treatment plants and sewers. Prerequisites: CIE 333, 434. *3 sem. hrs.*

CIE 562. **INDUSTRIAL WASTE TREATMENT:** Nature and quality of specific industrial wastes and water supplies, treatment and disposal of industrial wastes. Prerequisites: CIE 333, 434. *3 sem. hrs.*

CIE 580. **HYDROLOGY AND SEEPAGE:** The deposition, movement, and infiltration of water as related to the hydrologic cycle and groundwater hydraulics; a study of the theory of flow in porous media with application to dams, excavations, and other foundation problems. Prerequisites: CIE 313, 312. *3 sem. hrs.*

CIE 582. **ADVANCED HYDRAULICS:** Problems and study involving open channel flow, draw down curves, hydraulics of dams, spillway, models, and water distribution systems. Prerequisite: CIE 313. *3 sem. hrs.*

CIE 595. **SPECIAL PROBLEMS IN CIVIL ENGINEERING:** Special assignments in civil engineering subject matter to be arranged and approved by the student's advisor and the department chairman. *2-6 sem. hrs.*

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

ENGINEERING MECHANICS (EGM)

SUPPORTING COURSES OF INSTRUCTION

EGM 501. **EXPERIMENTAL STRESS ANALYSIS:** A study of the experimental analysis of stress as an aid to design for strength and economy with emphasis on electrical strain gauges. Also photoelasticity, brittle coatings, photoelastic coatings, analogies, structural similitude. Two hours lecture and one three-hour laboratory period per week. Prerequisite: EGM 304. *3 sem. hrs.*

EGM 519. **ANALYTIC DYNAMICS:** Kinematics, relative motion, constraints and generalized coordinates, Hamilton's principle, Lagrange's equations, variational principles. Applications to particle dynamics and rigid body motion. Prerequisites: EGM 301, MTH 219 or equivalent. *3 sem. hrs.*

EGM 530. **APPLIED ELASTICITY:** Equations of equilibrium and continuity; solution of two-dimensional problems in rectangular and curvilinear coordinates by means of stress functions; St. Venant's principle; energy methods; stress concentrations; introduction to three-dimensional and thermal stress problems; application of finite difference equations. Prerequisite: EGM 304. *3 sem. hrs.*

EGM 531. **THEORY OF LINEAR VISCOELASTICITY:** The principles of viscoelasticity; Kelvin and Maxwell models of viscoelastic materials; creep and relaxation phenomena; application of hereditary integral and complex compliance; the correspondence principle with applications to beams and columns, wave propagation and vibrational response. Prerequisite: MTH 219 and EGM 304. *3 sem. hrs.*

EGM 539. **THEORY OF PLASTICITY:** Fundamentals of elasticity and plasticity, yield criteria, plastic stress-strain relations, theories of work hardening. Extremum principles. Application to problems of bending, torsion, plane stress, and plane strain. Slip line and limit analysis. Prerequisite: MEE 533. *3 sem. hrs.*

EGM 595. **SPECIAL PROBLEMS IN ENGINEERING MECHANICS:** Particular assignments to be arranged and approved by the chairman of the Department of Civil or Mechanical Engineering. *2-6 sem. hrs.*

ELECTRICAL ENGINEERING (ELE)

Bernhard M. Schmidt, Chairperson of the Department

Electrical Engineering is a major concentration for both the Doctor of Engineering and the Doctor of Philosophy in Engineering. See Doctoral Degree Regulations in the introductory section of this chapter and consult with the department chairman and the director of the programs.

The program of study leading to the Master of Science in Electrical Engineering must include a minimum of 30 semester hours of credit consisting of the following:

1. Six semester hours in basic and engineering sciences. It is possible to combine six semester hours from separate areas. Selected courses must meet with the approval of the advisor.
2. Twelve semester hours in Electrical Engineering at the graduate level.
3. Six semester hours in thesis-supporting courses approved by the advisor.
4. Six semester hours on an approved thesis project. Students engaged in thesis research enroll in ELE 599.

A final examination is required at the completion of the thesis.

See also Master's Degree Regulations in the introductory section of this chapter, and consult with the advisor.

COURSES OF INSTRUCTION

ELE 502. NETWORK SYNTHESIS: Synthesis of linear passive networks using classical pole-zero techniques; conditions for physical realizability approximating network functions and design to meet specific requirements; analysis and synthesis of linear active networks. Prerequisites: ELE 332, 413. 3 sem. hrs.

ELE 505. QUANTUM ELECTRONICS — PRINCIPLES: Principles of quantum theory; classical and quantum statistics; many-particle systems; electromagnetic interactions with materials. Applications to lasers and Q.M. communication theory. Prerequisite: ELE 440 or equivalent. 3 sem. hrs.

ELE 506. SOLID STATE DEVICES: Introduction to the theory of solid state electron devices. Bulk devices, junction devices, devices involving electric, magnetic, optical, and acoustical interactions. 3 sem. hrs.

ELE 507. ELECTROMAGNETIC FIELDS I: Fundamental concepts; introduction to waves; theorems of electromagnetics; plane wave function; cylindrical wave functions. Applications to extremely low frequency through optical frequency systems. Prerequisite: ELE 334. 3 sem. hrs.

ELE 508. ELECTROMAGNETIC FIELDS II: Spherical wave functions; perturbational and variational techniques; radiative systems; microwave networks. Prerequisite: ELE 334. 3 sem. hrs.

ELE 509. ANALYSIS OF LINEAR SYSTEMS: A study of Fourier series, finite trigonometric series, Fourier transforms, and their applications in the analysis of linear systems. 3 sem. hrs.

ELE 511. ANTENNAS AND RADIATION THEORY: Fundamental principles of antennas; analysis and synthesis of arrays; resonant antennas; frequency independent antennas; aperture and reflector antennas; applications to radar and communication systems. Prerequisite: ELE 334. 3 sem. hrs.

ELE 513. COMMUNICATION THEORY: The application of Fourier series and integrals to the analysis of communication problems; theory of random signals, autocorrelation, power density spectra, and optimum filters. Prerequisite: ELE 413. 3 sem. hrs.

ELE 514. ANALYSIS OF NONLINEAR SYSTEMS: An advanced study of methods of analysis of nonlinear systems with applications in the fields of electric circuit theory and control systems. Prerequisite: ELE 509. *3 sem. hrs.*

ELE 515. AUTOMATIC CONTROL THEORY: Analysis and synthesis of feedback control systems; graphical frequency-response techniques; establishing performance criteria; state-space techniques. Prerequisite: ELE 432. *3 sem. hrs.*

ELE 517. RANDOM PROCESSES IN SYSTEM THEORY I: A coherent, semiformal introduction to the theory of probability and random processes as applied to system theory. The axioms of probability; the concept of random variable, distributions, density; function of random variables; stochastic processes; stationary processes; linear mean square estimation; Markov processes. Prerequisite: ELE 331 or consent of instructor. *3 sem. hrs.*

ELE 518. ESTIMATION THEORY AND ITS APPLICATIONS: A unified approach to the theory of estimation as applied to engineering problems of communication and control. Review of probability and linear dynamical systems, analysis of discrete and continuous linear stochastic systems; frequency and time domain solution of the linear estimation problem; applications to current engineering problems of communication and control. Prerequisite: ELE 517. *3 sem. hrs.*

ELE 521. CONDUCTORS AND DIELECTRICS: Ionic and metallic conduction; thermo-electric phenomena; conductors for various engineering application; physics of "nonconductors"; ferro-electricity; electrets; piezoelectricity; optical properties; specialty materials. Prerequisite: ELE 505. *3 sem. hrs.*

ELE 522. MAGNETIC MEASUREMENTS AND INSTRUMENTS: Magnetic material properties; quantities and units. Field generation; measurement of field strength, magnetic moment and induction. A.C. permeability, iron losses, waveforms. Permanent magnet properties. Static and dynamic hysteresis loops. Magnetic domain observation. Thermomagnetic analysis. Two weekly lecture hours and five laboratory sessions of 4 hours each. Prerequisite: ELE 524 or consent of instructor. *3 sem. hrs.*

ELE 523. PERMANENT MAGNETS: Basic properties and description. Magnetic circuit design. Magnet materials types and properties. Physics and metallurgy of permanent magnets. Property measurement. Engineering applications. Present research activities. Three weekly lecture hours and five laboratory sessions of 4 hours each. Field trip to magnet manufacturer. Prerequisite: ELE 524 or consent of instructor. *4 sem. hrs.*

ELE 524. MAGNETIC MATERIALS — PHYSICAL PRINCIPLES: Description of magnetic material properties. The magnetic circuit. Atomic magnetism. Types of magnetic order and spin structures. Intrinsic magnetization. Molecular field concept. Anisotropy. Magnetostriction. Magnetic resonances. Prerequisite: ELE 333 or consent of instructor. *3 sem. hrs.*

ELE 525. MAGNETIC MATERIALS FOR ENGINEERING APPLICATIONS: Magnetic domains. Technical magnetization and domain structure. A.C. properties, losses, eddy currents. Causes of coercivity. Metallic and ceramic materials for transformers, electrical machinery, permanent magnets, HF devices, data recording, computer memories, etc. Metallurgy and crystallography of magnetic materials. Prerequisite: ELE 524, or consent of instructor. NOTE: Simultaneous attendance at ELE 525S is recommended. *3 sem. hrs.*

ELE 525S. MAGNETIC MATERIALS PROSEMINAR: Student seminar to complement ELE 525. Corequisite ELE 525. *1 sem. hr.*

- ELE 526. APPLIED SUPERCONDUCTIVITY: Basic phenomena. Theoretical concepts. Superconducting materials-types, properties, physics, metallurgy. Superconducting magnets. Other current and future engineering applications. (Consent of Instructor) *2 sem. hrs.*
- ELE 527. RANDOM PROCESSES IN SYSTEM THEORY II: A continuation of ELE 517, Random Processes in System Theory I, with emphasis on Markov Processes and Random Dynamical Systems. Prerequisite: ELE 517. *3 sem. hrs.*
- ELE 531. DIGITAL SYSTEMS THEORY I: Switching circuit theory: number systems, truth functions, Boolean algebra, switching devices, codes, relay circuits, and an introduction to sequential circuits. Prerequisite: ELE 313 or consent of instructor. *3 sem. hrs.*
- ELE 532. DIGITAL SYSTEMS THEORY II: Sequential circuit theory; clocked sequential circuits, incompletely specified sequential circuits, pulse-mode circuits, fundamental mode circuits. Prerequisite: ELE 531. *3 sem. hrs.*
- ELE 533. DIGITAL SYSTEMS THEORY III: Digital computer design: digital arithmetic, switching matrices, digital computer elements, arithmetic and control units, the logic design of a simple digital computer. Prerequisite: ELE 532. *3 sem. hrs.*
- ELE 534. DIGITAL SYSTEMS THEORY IV: Advanced sequential machine theory; finite state machines, regular expressions, lossless machines, bilateral analysis and synthesis procedures, sequential iterative systems. Prerequisite: ELE 532. *3 sem. hrs.*
- ELE 535. CODING THEORY: The theory of error-correcting, error-detecting codes as applied to the design of reliable digital data systems. Prerequisite: ELE 532. *3 sem. hrs.*
- ELE 536. MICROCOMPUTERS I: Basic computer architecture, arithmetic logic units, calculator chips, micro-processors, timing and instruction cycles, system architecture, programming, cross assembly. Prerequisite: ELE 533 or digital design experience. *3 sem. hrs.*
- ELE 537. MICROCOMPUTERS II: Advanced microcomputer design, teletype I/O, asynchronous receiver-transmitters, interface design, control topics, cross assembly, high order languages, system considerations. Prerequisite: ELE 536 or equivalent design experience. *3 sem. hrs.*
- ELE 541. POWER ELECTRONICS: Applications of power semiconductors to power control amplification, and regulation, in the light of an integrated, quantitative treatment of mechanical, thermal, and electrical characteristics and ratings; modeling for linear, nonlinear and switching modes; and thermal and electric circuit interactions. Prerequisite: ELE 313 or equivalent. *3 sem. hrs.*
- ELE 551. ELECTRICAL POWER SYSTEM DYNAMICS: Basic structure of the electrical power transmission system; criteria for system stability; symmetrical components; synchronous machine equations of motion, transients and dynamics; transmission line surges, short circuit calculations. Prerequisites: ELE 334, 431. *3 sem. hrs.*
- ELE 555. SYSTEM DYNAMICS I: The methodology for modeling the dynamics of complex social-economic systems. Use of these models to study organizational policies and design for higher order multiple-loop, nonlinear feedback structures. *3 sem. hrs.*
- ELE 595. SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING: Particular assignments to be arranged and approved by the chairman of the department. *2-6 sem. hrs.*
- ELE 599. THESIS *3-6 sem. hrs.*

ELE 602. MAGNETIC EXCHANGE INTERACTION THEORIES: Molecular field theory of ferro-, ferri-, and antiferromagnets. Direct, indirect, and super-exchange interactions. Localized-ion vs. band-model theories. Complex magnetic spin structures. Emphasis on physical concepts rather than detailed mathematical development. Prerequisite: ELE 524 or consent of instructor. *2 sem. hrs.*

ELE 603. MAGNETIC ANISOTROPY AND MAGNETOSTRICTION: Mathematical description of magnetic anisotropy and magneto-elastic phenomena. Physical causes of magneto-crystalline anisotropy and magnetostriction. Relationship to theory of magnetic exchange. Prerequisite: ELE 524 or consent of instructor. *2 sem. hrs.*

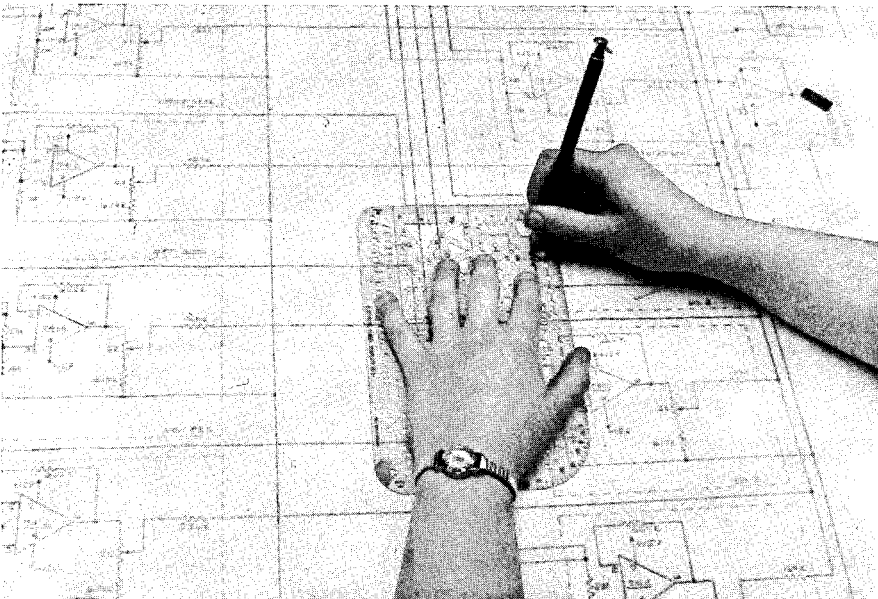
ELE 626. SYSTEM DYNAMICS II: The continuation of System Dynamics I with special emphasis on the study of large scale corporate, urban, educational, and ecological systems. Prerequisite: ELE 555. *3 sem. hrs.*

ELE 690. SELECTED READINGS IN ELECTRICAL ENGINEERING: Directed readings in electrical engineering areas to be arranged and approved by the chairman of the student's advisory committee and the department chairman. May be taken more than once. *1-3 sem. hrs.*

ELE 695. SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING: Special electrical engineering topics not covered in regular courses. Course sections arranged and approved by chairman of the student's advisory committee and the department chairman. May be taken more than once. *1-3 sem. hrs.*

ELE 698. DE DISSERTATION: An original investigation as applied to engineering practice. Results must be of sufficient importance to merit publication. *1-15 hrs.*

ELE 699. PhD DISSERTATION: An original research effort in electrical engineering which makes a definite contribution to technical knowledge. Results must be of sufficient importance to merit publication. *1-15 sem. hrs.*



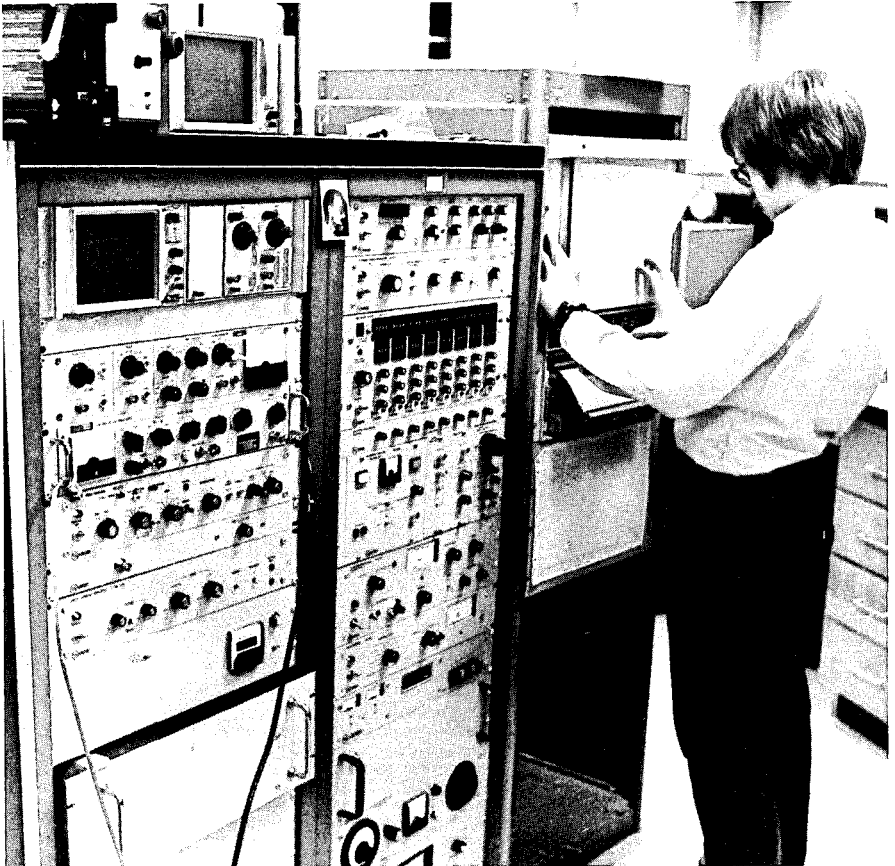
ENGINEERING (EGR)

Gary A. Thiele, Director of the Program

The Master of Science in Engineering allows flexibility for general or specialized program construction according to the needs of the individual student in conformance with the requirements of the School of Engineering and the University of Dayton. The program of study leading to the Master of Science in Engineering must include a minimum of 30 semester hours of the following:

1. Twelve semester hours in a major area.
2. Twelve semester hours of electives.
3. Six semester hours of research on an approved project.

See also Master's Degree Regulations in the introductory section of this chapter, and consult with the director of the Master of Engineering program.



ENGINEERING MANAGEMENT (ENM)

John R. Fraker, Director of the Program

The program of study leading to the Master of Science in Engineering Management is designed to prepare the practicing engineer for the management of engineering activities in any environment — industry, government, business, the military. It must include a minimum of 36 semester hours consisting of the following:

1. Eighteen to 21 semester hours of core courses in Engineering Management. These are ENM 505, 530, 535, 585, 590, and MBA 587. (ENM 590 is a variable credit course requiring an engineering report of a project in engineering management.)
2. Nine semester hours of engineering electives. This requirement will normally be satisfied by nine semester hours of courses in the student's own field of engineering.
3. Six to nine hours of electives as approved by the advisor and the program director.

See also Master's Degree Regulations in the introductory section of this chapter, and consult with the advisor.

COURSES OF INSTRUCTION

ENM 505. MANAGEMENT OF ENGINEERING SYSTEMS: Introduction to the functions and tools of engineering management, the specific roles and relationships of engineering activities in the total enterprise; the techniques of systems analysis, engineering system design, and system optimization. *3 sem. hrs.*

ENM 506. ENGINEERING MANAGEMENT AND SOCIETY: Important governmental and societal dimensions affecting engineering systems. *3 sem. hrs.*

ENM 530. COST AND ECONOMIC ANALYSIS FOR ENGINEERS: Principles and methods of economic analysis of engineering activities. The time value of money, short-and-long-term investments, comparison of alternatives, replacement analysis, and minimum cost models. *3 sem. hrs.*

ENM 535. ENGINEERING DECISION-MAKING: Introduction to rational decision-making with applications in the analysis and design of engineering systems. Decision-making under uncertainty and risk as well as under certainty. Corequisite: MTH 368 or equivalent. *3 sem. hrs.*

ENM 541. PRODUCTION ENGINEERING: The design of systems of men and machines for the production process: forecasting, scheduling, production and inventory control, staffing, plant layout, and equipment replacement. Prerequisite: MTH 368 or equivalent. *3 sem. hrs.*

ENM 551. POLICY ANALYSIS AND PLANNING IN PUBLIC SYSTEMS I: General introduction to qualitative and quantitative methodologies of policy analysis and planning in the public sector with special emphasis on project and program planning. *3 sem. hrs.*

ENM 552. POLICY ANALYSIS AND PLANNING IN PUBLIC SYSTEMS II: Continuation of ENM 551 with emphasis on complete analysis of large scale public systems. Prerequisite: ENM 551 or equivalent. *3 sem. hrs.*

- ENM 553. PUBLIC SYSTEMS ENGINEERING: Guided study of the application of policy analysis and planning techniques for public systems. Emphasis on urban-regional improvement and world systems of energy and food. Prerequisite: ENM 551 or equivalent. *2-6 sem. hrs.*
- ENM 555. SYSTEM DYNAMICS I: The methodology for modeling the dynamics of complex social-economic systems. The use of these models to study organizational policies and design for higher order, multiple-loop, nonlinear feedback structures. *3 sem. hrs.*
- ENM 556. SYSTEM DYNAMICS II: Continuation of ENM 555 with emphasis on the study of large scale corporate, urban, educational, and ecological systems. Prerequisite: ENM 555 or equivalent. *3 sem. hrs.*
- ENM 560. ENGINEERING APPLICATIONS OF STATISTICS: Application of statistical principles of analysis and control to production processes, studies of process capabilities, quality control, work sampling, and engineering experimentation. Prerequisite: MTH 368 or equivalent. *3 sem. hrs.*
- ENM 561. DESIGN AND ANALYSIS OF ENGINEERING EXPERIMENTS: Advanced topics in experimental design and analysis, including experimental design, response surface analysis, evolutionary operations, multiple and partial regression and correlation. Prerequisite: MTH 368 or equivalent. *3 sem. hrs.*
- ENM 565. RELIABILITY ENGINEERING I: Introduction to the concepts and methodology of reliability engineering. The reliability of components and multi-component systems, analysis and design of systems, and design and evaluation of processes for assuring the reliability, maintainability, and availability of systems. Prerequisite: MTH 368 or equivalent. *3 sem. hrs.*
- ENM 566. RELIABILITY ENGINEERING II: Continuation of ENM 565. Advanced topics in reliability engineering, with emphasis on the design of systems to meet specified reliability, availability, and maintainability requirements. Prerequisite: ENM 565 or equivalent. *3 sem. hrs.*
- ENM 570. ENGINEERING OPTIMIZATION I: Introduction to the methodology of optimization with emphasis on application to engineering systems. Classical optimization, constrained optima, search techniques, steepest ascent techniques. The use of the digital computer is emphasized. *3 sem. hrs.*
- ENM 571. ENGINEERING OPTIMIZATION II: Introduction to the methodology of optimization with emphasis on application to engineering systems. Mathematical programming techniques, including linear, nonlinear, separable, quadratic, and dynamic programming. The use of the digital computer is emphasized. Note: ENM 570 is not a prerequisite. *3 sem. hrs.*
- ENM 575. PROBABILISTIC PROCESSES: Introduction to the analysis and design of probabilistic systems. Queueing theory, Markov processes, simulation. Prerequisite: MTH 368 or equivalent. *3 sem. hrs.*
- ENM 582. ORGANIZATIONAL DEVELOPMENT IN AN ENGINEERING ENVIRONMENT: The inter-personal and group skills needed by the engineering manager. Emphasis on establishing work environments which allow for communication, trust, high morale, satisfaction, and productive group activity. *3 sem. hrs.*
- ENM 585. ORGANIZATIONAL SYSTEMS: Systems theory is used to integrate behavioral science knowledge of organizations. Special emphasis on research, engineering, and development activities. *3 sem. hrs.*

ENM 586. DESIGN OF ORGANIZATIONAL SYSTEMS: Guided study of the design of organizations. Emphasis on the implementation of actual design studies. Prerequisite: ENM 585. *3 sem. hrs.*

ENM 590. CASE STUDIES IN ENGINEERING MANAGEMENT: Student participation in an engineering management project or study under the direction of a project advisor. A satisfactory written engineering report, as determined by the project advisor, is required at the completion of the project. Prerequisite: permission of the advisor. *3-6 sem. hrs.*

ENM 595. SPECIAL PROBLEMS IN ENGINEERING MANAGEMENT: Special assignments in engineering management to be arranged and approved by the advisor and the program director. *2-6 sem. hrs.*



MATERIALS ENGINEERING (MAT)

James A. Snide, Acting Director of the Program

Materials Engineering is a major concentration for both the Doctor of Engineering and the Doctor of Philosophy in Engineering. See Doctoral Degree Regulations in the introductory section of this chapter and consult with the director of the programs.

The program of study leading to the Master of Science in Materials Engineering must include a minimum of 30 semester hours consisting of the following:

1. Twelve semester hours in the major field.
2. Twelve semester hours of approved electives from current course offerings which best suit the student's requirements.
3. Six semester hours of research on a Materials Engineering project or thesis. Upon the request of the student and with the approval of the advisor and the program director, this may be replaced by six semester hours of additional course work.

See also Master's Degree Regulations in the introductory section of this chapter, and consult with the advisor.

COURSES OF INSTRUCTION

MAT 501. PRINCIPLES OF MATERIALS I: The electronic, atomic, submicroscopic, microscopic, and macroscopic structures of crystalline solids, including bonding, electron theory of metals, crystals, dislocations, phase diagrams, phase transformations, and diffusion. *3 sem. hrs.*
Prerequisite: MTH 219.

MAT 502. PRINCIPLES OF MATERIALS II: A general introduction to the mechanical and electronic properties of materials. Elasticity; plasticity creep; fracture; electrical and thermal processes; magnetic, dielectric and optical properties. Prerequisite: MAT 501. *3 sem. hrs.*

MAT 503. X-RAY CRYSTALLOGRAPHY: Introduction to the fundamentals of crystallography and x-ray diffraction techniques with application to the study of materials. Two hours lecture and one three-hour laboratory per week. Prerequisite: MAT 501 or consent of instructor. *3 sem. hrs.*

MAT 504. TECHNIQUES IN MATERIALS ANALYSIS: Fundamentals and applications of the traditional analytical methods such as metallography, x-ray analysis, electron microprobe, transmission and scanning electron microscopy. Recent techniques: NMR, EPR, atomic absorption, Raman and Mossbauer spectroscopy, holography, ESCA and Anger spectroscopy. Emphasis on applicability. Prerequisite: MAT 501 or consent of instructor. *3 sem. hrs.*

MAT 505. THERMODYNAMICS OF SOLIDS: Thermodynamic properties of solutions and intermediate phases. Equilibrium behavior of phase mixtures. Representation of multi-component phase diagram. Experimental determination and prediction of phase diagrams. Prerequisite: MAT 502 or consent of instructor. *3 sem. hrs.*

MAT 506. MECHANICAL BEHAVIOR OF MATERIALS: Description of the state of stress and strain in materials, plastic deformation, fatigue, fracture, creep, and rupture. Prerequisite: MAT 502 or consent of instructor. *3 sem. hrs.*

MAT 507. INTRODUCTION TO CERAMIC MATERIALS: Ceramic raw materials, manufacturing processes, and unique properties of ceramic products: glasses, porcelain enamels, ceramic-metal seals, electrical and magnetic ceramics, refractories, and ceramics for special applications. Prerequisite: MAT 501. *3 sem. hrs.*

MAT 508. PRINCIPLES OF MATERIALS SELECTION: Basic scientific and practical consideration involved in the intelligent selection of materials for specific applications. Impact of new developments in materials technology and analytical techniques. Prerequisite: MAT 501 or consent of instructor. *3 sem. hrs.*

MAT 509. INTRODUCTION TO POLYMER SCIENCE: Introduction to polymers. A largely nonmathematical survey of the field. Prerequisites: college chemistry and calculus. *3 sem. hrs.*

MAT 510. PHYSICAL PROPERTIES OF POLYMERS: Intensive discussion of the interrelations between molecular and gross physical properties of polymers. Prerequisites: MAT 509 or equivalent, background in differential equations. *3 sem. hrs.*

MAT 511. PRINCIPLES OF CORROSION: Application of electrochemical principles, corrosion reactions, passivation, cathodic and anodic protection, stress corrosion, and high temperature oxidation. *3 sem. hrs.*

MAT 512. MAGNETIC MATERIALS — PHYSICAL PRINCIPLES: Description of magnetic material properties. The magnetic circuit. Atomic magnetism. Types of magnetic order and spin structure. Intrinsic magnetization. Molecular field concept. Anisotropy. Magnetostriction. Magnetic resonances. Prerequisite: ELE 333 or consent of instructor. *3 sem. hrs.*

MAT 513. MAGNETIC MATERIALS FOR ENGINEERING APPLICATIONS: Magnetic domains. Technical magnetization and domain structure. A.C. properties, losses, eddy currents. Causes of coercivity. Metallic and ceramic materials for transformers, electrical machinery, permanent magnets, HF devices, data recording, computer memories. Metallurgy and crystallography of magnetic materials. Prerequisite: MAT 512 or consent of instructor. Note: Simultaneous attendance in MAT 513S is recommended. *3 sem. hrs.*

MAT 513S. MAGNETIC MATERIALS PROSEMINAR *1 sem. hr.*

MAT 514. APPLIED SUPERCONDUCTIVITY — AN INTRODUCTION: Basic phenomena. Theoretical concepts. Superconductive materials — types, properties, physics, metallurgy. Superconducting magnets. Other present and future engineering applications. Prerequisite: consent of instructor. *2 sem. hrs.*

MAT 515. STATISTICAL THERMODYNAMICS: Microscopic thermodynamics; kinetic theory; virial theorem of Clausius; transport phenomena; Gibbs, Boltzman, Bose-Einstein, Fermi-Dirac statistics. Connection between statistical and thermodynamic qualities. Applications to perfect and real gases, liquids, crystalline solids, and thermal radiation. Information theory, irreversible thermodynamics. Prerequisites: MEE 301, MTH 219. *3 sem. hrs.*

MAT 550. MATERIALS ENGINEERING PROJECT: Student participation in a materials engineering project under the direction of a project advisor. The student prepares a satisfactory written report, as determined by the project advisor, and presents an open seminar on the subject of the project. *1-6 sem. hrs.*

MAT 590. SELECTED READINGS IN MATERIALS ENGINEERING: Directed readings in selected area of materials engineering arranged and approved by the student's advisor and the program director. *1-3 sem. hrs.*

MAT 595. SPECIAL PROBLEMS IN MATERIALS ENGINEERING: Special assignments arranged by the materials engineering faculty. *1-3 sem. hrs.*

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

MAT 601. SURFACE CHEMISTRY OF SOLIDS: The nature of solid surfaces and their importance to chemical and physical reactions at solid-gas, solid-liquid, and solid-solid interfaces. Prerequisites: MAT 501 and 502 or consent of instructor. *3 sem. hrs.*

MAT 602. MAGNETIC EXCHANGE INTERACTION THEORIES: Molecular field theory of ferro-, ferri-, and antiferromagnets. Direct, indirect, and super-exchange interactions. Localized-ion vs. band-model theories. Complex magnetic spin structures. Emphasis on physical concepts rather than detailed mathematical developments. Prerequisite: MAT 513 (ELE 524) or consent of instructor. *2 sem. hrs.*

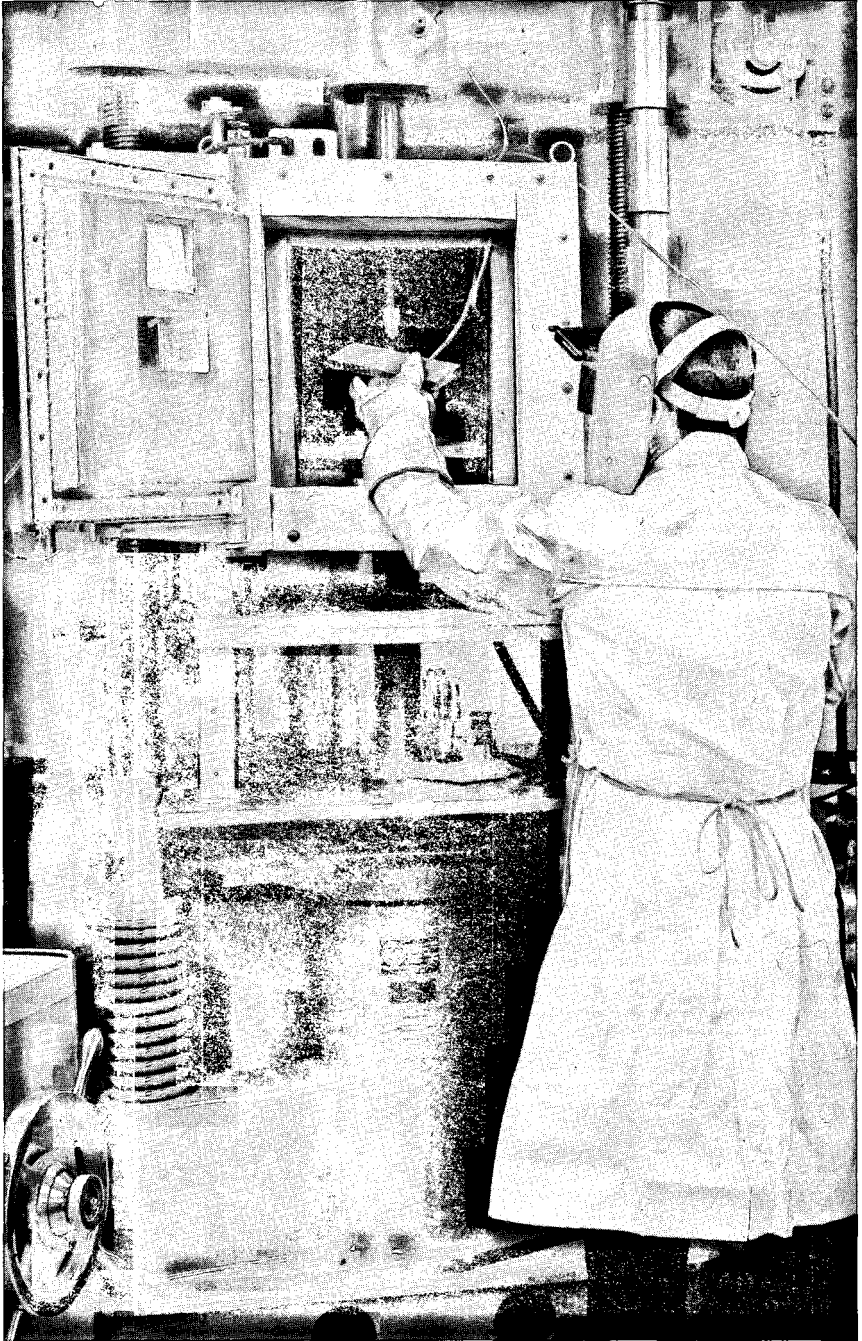
MAT 603. MAGNETIC ANISOTROPY AND MAGNETOSTRICTION: Mathematical description of magnetic anisotropy and magneto-elastic phenomena. Physical causes of magneto-crystalline anisotropy and magnetostriction. Relationship to theory of magnetic exchange. Prerequisite: MAT 513 (ELE 524) or consent of instructor. *2 sem. hrs.*

MAT 690. SELECTED READINGS IN MATERIALS ENGINEERING: Directed readings in materials engineering area arranged and approved by the chairman of the student's advisory committee and the program director. May be repeated. *1-3 sem. hrs.*

MAT 695. SPECIAL PROBLEMS IN MATERIALS ENGINEERING: Special assignments in materials engineering subject matter arranged and approved by the student's doctoral advisory committee and the program director. May be repeated. *1-3 sem. hrs.*

MAT 698. DE DISSERTATION: An original investigation as applied to materials engineering practice. Results must be of sufficient importance to merit publication. *1-15 sem. hrs.*

MAT 699. PhD DISSERTATION: An original research effort which makes a definite contribution to technical knowledge. Results must be of sufficient importance to merit publication. *1-15 sem. hrs.*



MECHANICAL ENGINEERING (MEE)

Howard E. Smith, Chairperson of the Department

Mechanical Engineering is a major concentration for both the Doctor of Engineering and the Doctor of Philosophy in Engineering. See Doctoral Degree Regulations in the introductory section of this chapter and consult with the departmental chairman and the director of the programs.

For the Master of Science in Mechanical Engineering, major areas of concentration are Materials Engineering, Thermal Engineering, Energy Conversion, Fluid Mechanics, Solid Mechanics, and Mechanical Design. Each program of study leading to this master's degree must include a minimum of 30 semester hours consisting of the following:

1. Twelve to 15 semester hours in Mechanical Engineering courses to be selected from the following:

Materials Engineering — MEE 501, 502, 505, 506, 508, 525, 590A.

Thermal Engineering — MEE 500, 511, 512, 513, 514, 515, 516, 517, 565, 566, 567, 590B, 595.

Energy Conversion — MEE 500, 511, 513, 514, 565, 567, 590B, 595.

Fluid Mechanics — MEE 500, 503, 516, 551, 553, 590C, 595.

Solid Mechanics — MEE 500, 503, 533, 534, 535, 538, 539, 543, 544, 545, 546, 547, 548, 549, 590D, 595.

Mechanical Design — MEE 500, 503, 527, 532, 533, 534, 535, 538, 539, 540, 543, 544, 545, 546, 547, 548, 549, 590E, 595.

2. Six semester hours of research on a Mechanical Engineering project or thesis. Upon the request of the student and with the approval of the faculty advisor and the department chairman, this requirement may be replaced by six semester hours of additional course work.

3. Nine to 12 semester hours of electives, to be chosen from current course offerings which best suit the student's requirements. For the major area of Energy Conversion, 15 semester hours must be selected from paragraphs 1 and 2 above, and one of the following two courses must be selected: MEE 568, MEE 569.

See also Master's Degree Regulations in the introductory section of this chapter and consult with the advisor.

COURSES OF INSTRUCTION

Students who have completed work equivalent to the stated prerequisite courses may be enrolled in these courses with the consent of the instructor.

MEE 500. ADVANCED ENGINEERING ANALYSIS: Utilization of fundamental principles from mechanics and thermodynamics along with auxiliary laws from the various engineering disciplines for the analysis of practical problems from industry. Emphasis on the professional engineering approach which includes formulation of problem, assumptions, plan or method of attack, solving the problem, checking, and generalizing the results. 3 sem. hrs.

MEE 501. PRINCIPLES OF MATERIAL I: The electronic, atomic, submicroscopic, microscopic, and macroscopic structures of crystalline solids. Bonding, electron theory of metals, crystals, dislocations, phase diagrams, phase transformations, and diffusion. Prerequisite: MTH 219. 3 sem. hrs.

MEE 502. PRINCIPLES OF MATERIALS II: General introduction to the mechanical and electronic properties of materials. Elasticity; plasticity; creep; fracture; electrical and thermal processes; magnetic, dielectric, and optical properties. Prerequisite: MEE 501. 3 sem. hrs.

MEE 503. INTRODUCTION TO CONTINUUM MECHANICS: Unified treatment of topics common to solid and fluid continua. Tensors, calculus of variations. Lagrangian and Eulerian descriptions of motion. General equations of continuum mechanics, constitutive equations of mechanics, thermodynamics of continua. Reduction of general equations to specialized forms used in follow-on courses in solid and fluid mechanics. Classical and numerical methods for solving continuum mechanics equations. 3 sem. hrs.

MEE 505. THERMODYNAMICS OF SOLIDS: Thermodynamic properties of solutions and intermediate phases. Equilibrium behavior of phase mixtures. Representation of multi-component phase diagrams. Experimental determination and prediction of phase diagrams. Prerequisites: MEE 302, 502, or consent of instructor. 3 sem. hrs.

MEE 506. MECHANICAL BEHAVIOR OF MATERIALS: Description of the state of stress and strain in materials, plastic deformation, fatigue, fracture, creep, and rupture. Prerequisite: MEE 502 or consent of instructor. 3 sem. hrs.

MEE 508. PRINCIPLES OF MATERIALS SELECTION: Basic scientific and practical consideration involved in the intelligent selection of materials for specific applications. Impact of new developments in materials technology and analytical techniques. Prerequisite: MEE 501 or consent of instructor. 3 sem. hrs.

MEE 511. CLASSICAL THERMODYNAMICS: Equilibrium, first law, second law, state principle, and zeroth law; development of entropy and temperature from availability concepts; chemical potential, chemical equilibrium, and phase equilibrium. Thermodynamics of irreversible processes; Onsager reciprocal relations; application of these concepts to diffusion, electronic phenomena in solids, direct energy conversion, and biological problems. 3 sem. hrs.

MEE 512. MICROSCOPIC THERMODYNAMICS: Microscopic thermodynamics; kinetic theory; virial theorem of Clausius; transport phenomena; Gibbs, Boltzmann, Bose-Einstein, Fermi-Dirac statistics. Connection between statistical and thermodynamic quantities. Applications to perfect and real gases, liquids, crystalline solids, and thermal radiation. Information theory, irreversible thermodynamics. Prerequisites: MEE 301, MTH 219. 3 sem. hrs.

MEE 513. PROPULSION: Principles of propulsive devices, aerothermodynamics, diffuser and nozzle flow, energy transfer in turbo-machinery, turbojet, turbo-fan, prop-fan engines, turbo-prop and turboshaft engines, RAM and SCRAM jet analysis and a brief introduction to related materials and air frame-propulsion interaction. Prerequisite: MEE 418. 3 sem. hrs.

MEE 514. DIRECT ENERGY CONVERSION: Introduction to the principles of direct energy conversion. Irreversible thermodynamics; semiconductors; thermoelectric and photo-voltaic devices; magnetohydrodynamics; electrofluid-dynamic energy conversion; fuel cells. Prerequisites: MEE 302, 310. 3 sem. hrs.

MEE 515. CONDUCTION HEAT TRANSFER: Steady state and transient state conduction. Evaluation of temperature fields by formal mathematics, numerical analysis, and analogic experiments. 3 sem. hrs.

MEE 516. CONVECTION HEAT AND MASS TRANSFER: Development of governing differential equations for convection. Methods of solution including similarity methods, integral methods, superposition of solutions, eigenvalue problems. Turbulent flow convection; integral methods, eddy diffusivities for heat and momentum. Extensions to mass transfer. Prerequisite: MEE 410. 3 sem. hrs.

MEE 517. RADIATION HEAT TRANSFER: Fundamental relationships of radiation heat transfer. Radiation characteristics of surfaces. Geometric considerations in radiation exchange between surfaces. Emissivity and absorptivity of gases. Introduction to radiative exchange in gases. *3 sem. hrs.*

MEE 525. PRINCIPLES OF CORROSION: Application of electrochemical principles, corrosion reactions, passivation, cathodic and anodic protection, stress corrosion, and high temperature oxidation. *3 sem. hrs.*

MEE 527. AUTOMATIC CONTROL THEORY: Analysis and synthesis of feedback control systems; including hydraulic, pneumatic, mechanical and electrical systems. Frequency response; linear state space techniques; stability analysis; nonlinear system analysis and Liapunov stability. Prerequisite: ELE 432 or MEE 435 or equivalent. *3 sem. hrs.*

MEE 532. NOISE CONTROL: Physics of sound propagation. Physiological and legal aspects of sound. Measurement and analysis of sound and vibrations. Vibration and sound control techniques, source modifications, path modifications, receiver modifications. Acoustic considerations in machine design. *3 sem. hrs.*

MEE 533. THEORY OF ELASTICITY: Analysis of three-dimensional stress and strain at a point; equations of elasticity in orthogonal curvilinear coordinates and cartesian coordinates, including strain-displacement relations, force balance equations, stress-strain relations, and mechanical and imposed displacement boundary conditions; methods of formulation of equations for solution; plane stress and plane strain; torsion; energy formulations of elasticity problems; numerical solution procedures. Prerequisites: EGM 303, MTH 219. Corequisite: MEE 503. *3 sem. hrs.*

MEE 534. THEORY OF PLATES AND SHELLS: Theory of plates: small displacement-no shear deformation; small displacements-shear deformation; large displacement-small strains; buckling; sandwich plate theory. Thin shell theory: topics from the theory of surfaces; thin shell equations in orthogonal curvilinear coordinates; bending, membrane, and shallow shell theories; cylindrical, toroidal, and general shells of revolution; numerical integration applied to stress and vibration problems of shells of revolution. Prerequisite: MEE 533. *3 sem. hrs.*

MEE 535. MECHANICAL VIBRATIONS: Topics from dynamic theory; undamped free vibration of discrete and continuous systems; approximation of continuous eigenvalue problems with discrete eigenvalue problems; modal analysis of damped and undamped, discrete and continuous systems; structural response to shock loading. Prerequisite: MEE 319. Corequisite: MEE 503. *3 sem. hrs.*

MEE 538. STABILITY OF ELASTIC SYSTEMS: Static methods of stability prediction for elastic systems subjected to conservative forces. Dynamic methods when forces are nonconservative. Follower forces. Stability of flexible shafts, rotors, centrifuges. Aeroelasticity and wing flutter. Panel and membrane flutter in supersonic flow. Corequisite: MEE 503. *3 sem. hrs.*

MEE 539. THEORY OF PLASTICITY: Fundamentals of elasticity and plasticity, yield criteria, plastic stress-strain relations, theories of work hardening. Extremum principles. Application to problems of bending, torsion, plane stress, and plane strain. Slip line and limit analysis. Prerequisite: MEE 533. *3 sem. hrs.*

MEE 540. BEARINGS AND BEARING LUBRICATION: Theoretical aspects of lubrication; determination of pressure distribution in bearings from viscous flow theory; application of hydrodynamic and hydrostatic bearing theories to the design of bearings; high-speed bearing design problems; properties of lubricants; methods of testing. *3 sem. hrs.*

MEE 543. FUNDAMENTALS OF ADVANCED STRUCTURAL MATERIALS: Introduction of anisotropic material and its complex behavior, comparison with isotropic material. Tools for analysis and design of aerospace structures with laminated composites. Classical laminated plate theory as a special case of the more general and complex anisotropic plate theory for practical application. *3 sem. hrs.*

MEE 544. DESIGN OF ADVANCED STRUCTURES: Structural design of aerospace sub-systems and components. Analysis of composites and other advanced structures for static and dynamic loads. Methods of optimization for performance and cost. Design criteria prediction for stresses, displacements, instabilities, fatigue fracture. *3 sem. hrs.*

MEE 545. COMPUTER AIDED DESIGN: Modeling of mechanical systems and structures, analysis by analytical and numerical methods, development of mechanical design criteria and principles of optimum design, selected topics in mechanical design and analysis, utilization of the digital computer as an aid in the design of mechanical elements. *3 sem. hrs.*

MEE 546. FINITE ELEMENT ANALYSIS I: The Ritz method; the generalized Ritz (Finite Element) method; fundamentals of the Finite Element Method; interpolation functions; derivation of finite elements for bars, beams, plates, shells; isoparametric solid finite elements; isoparametric shell finite elements; natural vibration; elastic stability. Prerequisite: MEE 533. *3 sem. hrs.*

MEE 547. FINITE ELEMENT ANALYSIS II: Advanced topics in Finite Element Analysis such as: familiarization with large general purpose computer codes such as NASTRAN, SAPIV, and MARC-CDC; elastic-plastic analysis; large deflection; time-dependent dynamics; heat conduction; coding large finite element programs. Prerequisite: MEE 546. *3 sem. hrs.*

MEE 548. ENERGY METHODS IN SOLID MECHANICS: Development of fundamental energy principles; virtual displacements, strain energy, Castigliano's theorems, minimum potential energy principles. Applications to engineering problems; redundant structures, buckling, static and dynamic analysis. *3 sem. hrs.*

MEE 549. THEORY OF ELASTIC STABILITY: Introduction to stability theory; buckling of plates and shells; influence of initial imperfections; nonlinear analysis; numerical solutions methods. Prerequisite: MEE 534. *3 sem. hrs.*

MEE 550. MECHANICAL ENGINEERING PROJECT: Student participation in a departmental research, design, or development project under the direction of a project advisor. The student must show satisfactory progress as determined by the project advisor and present a written report at the conclusion of the project. *1-6 sem. hrs.*

MEE 551. VISCOUS FLOW: Fundamentals of viscous flow. Navier-Stokes and boundary layer equations. Exact and approximate solutions of these equations using modern computational procedures for both laminar and turbulent flows. Prerequisite: MEE 503. *3 sem. hrs.*

MEE 553. COMPRESSIBLE FLOW: Fundamental equations of compressible flow, introduction to flow in two and three dimensions. Two-dimensional supersonic flow, small perturbation theory, method of characteristics, oblique shock theory. Introduction to unsteady one-dimensional motion and shock tube theory. Method of surface singularities. Prerequisite: MEE 418. *3 sem. hrs.*

MEE 565. FUNDAMENTALS OF COMBUSTION: Heat of combustion and flame temperature calculations; rate of chemical reaction and Arrhenius relationship; theory of thermal explosions and the concept of ignition delay and critical mass; phenomena associated with hydrocarbon-air combustion; specific applications of combustion. *3 sem. hrs.*

MEE 566. COMBUSTION THEORY: Theory of detonation (Rankine-Hugoniot relationships) and flame propagation rates in pre-mixed gas systems; turbulent flames and the well-stirred reactor; theory of diffusion flames; fuel droplet combustion; steady burning of solid materials; ignition and flame spreading across solid materials. *3 sem. hrs.*

MEE 567. SOLAR HEATING ANALYSIS: Topics dealing with energy usage patterns; thermal insulation studies and energy conversion schemes; building heating load calculations; characteristics and measurement of solar radiation; analysis and testing of solar collectors; solar heating systems; economic trends of solar heating; heat pumps. Prerequisite: MEE 302. *3 sem. hrs.*

MEE 568. INTERNAL COMBUSTION ENGINES: A study of combustion and energy release processes. Applications to spark and compression ignition, thermal jet, rocket, and gas turbine engines. Special emphasis given to understanding of air pollution problems caused by internal combustion engines. Idealized and actual cycles are studied in preparation for laboratory testing of internal combustion engines. Prerequisite: MEE 301. *3 sem. hrs.*

MEE 569. HEATING AND AIR CONDITIONING: Topics dealing with thermal environments and methods of control. Included are psychometrics, solar radiation, heat transmission through solid boundaries, industrial and residential environments, air conditioning load calculations, systems design, refrigeration principles. Prerequisite: MEE 301. *3 sem. hrs.*

MEE 590. SELECTED READINGS: Directed readings in a designated area arranged and approved by the student's faculty advisor and the departmental chairman. May be repeated. (A) Materials Engineering, (B) Thermal Engineering, (C) Fluid Mechanics, (D) Solid Mechanics, (E) Mechanical Design. *1-3 sem. hrs. each*

MEE 595. SPECIAL PROBLEMS IN MECHANICAL ENGINEERING: Special assignments in mechanical engineering subject matter arranged and approved by the student's faculty advisor and the departmental chairman. *1-6 sem. hrs.*

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

MEE 690. SELECTED READINGS: Directed readings in a designated area arranged and approved by the student's doctoral advisory committee and the departmental chairman. May be repeated. (A) Materials Engineering, (B) Thermal Engineering, (C) Fluid Mechanics, (D) Solid Mechanics, (E) Mechanical Design. *1-3 sem. hrs. each*

MEE 695. SPECIAL PROBLEMS IN MECHANICAL ENGINEERING: Special assignments in mechanical engineering subject matter arranged and approved by the student's doctoral advisory committee and the department chairman. May be repeated. *1-6 sem. hrs.*

MEE 698. DE DISSERTATION: An original investigation as applied to mechanical engineering practice. Results must be of sufficient importance to merit publication. *1-15 sem. hrs.*

MEE 699. PhD DISSERTATION: An original research effort which makes a definite contribution to technical knowledge. Results must be of sufficient importance to merit publication. *1-15 sem. hrs.*

XI School of Law

Richard L. Baum, Dean
Keith J. Hey, Deputy Dean

NOTE: The information which follows, concerning the University of Dayton School of Law, is not as exhaustive as that which will be found in a separate Bulletin, published annually by the School. Moreover, certain topics, treated here, are not treated in the same depth as in that publication, and may be subject to periodic changes. Consequently, persons interested in the study of law should obtain a copy of the School of Law's Bulletin, in order to have the most recent and accurate information concerning its program. The information which follows was accurate for the most recent academic year, but is "representative" of the law program in general.



PROGRAMS AND COURSES OF STUDY

FULL-TIME PROGRAM

Juris Doctor Degree

In order to be eligible for the first degree in law, the Juris Doctor, a student must meet the following requirements:

1. Satisfactory completion of all required courses and sufficient elective courses for a minimum of 84 credit hours of law school work, or approved equivalent;
2. A minimum cumulative grade-point-average of 2.0 for all courses taken under the A to F grading system;
3. Six semesters, or their equivalent, in residence as a full-time law student, as prescribed by the American Bar Association and this School's policy;
4. Evidence of sound moral character.

The Juris Doctor degree program is structured in such a way that the entire first year and certain of the second and third year courses are required. The second and third years of legal study at Dayton provide considerable latitude in selection of elective courses. The structure of the program is designed to insure that the student has confronted all subject areas which are essential to the effective practice of law. Simultaneously, flexibility is provided for the selection of courses in particular areas of interest to each student.

Joint Degree Programs

1. The Juris Doctor / Master of Business Administration

The Juris Doctor / Master of Business Administration Joint Degree Program is an integrated program of study which results in the student receiving both degrees at graduation. This joint degree program was created in response to a growing need for professionals trained in both fields. While specific program structure is set for each student following individual consultation, its basic design is applicable to all students. The first year of the program is pursued in the School of Law. It entails the same course of study prescribed for all first year law students. Course work in the second and third years is distributed between law and business courses, and sequenced in such a way as to achieve integrated progression in the two fields. The fourth year of study consists chiefly of law courses required to complete the JD degree. The designation of selected courses in both the law and business programs as common electives results in the completion of the joint degree program in one term less than would be required if each degree were pursued independently.

The total number of hours required for the MBA degree will depend upon each student's need for prerequisite courses. Those students who obtained undergraduate degrees in fields other than business administration will normally require additional hours. Upon completion of the full program, both degrees are conferred.

Students applying for admission into this, and other joint degree programs, must meet the admission requirements of both departments of the University. Application for admission should be submitted to each school separately, along with other materials, as required.

Graduation from a joint degree program may be accelerated by attending summer terms. Both schools offer summer courses. The residency requirements of both schools' programs must be met however. An applicant interested in this program should indicate this fact in his or her application form, and should contact the Dean of each school, once admitted, in order to plan his or her joint program.

2. The Juris Doctor / Master of Science in Educational Administration

The School of Law in cooperation with the School of Education offers a joint degree program leading to both the Juris Doctor and the Master of Science in Educational Administration. The design of each such program is tailored to meet each student registrant's needs, and provides sufficient flexibility to accommodate individual objectives. The format and requirements of this joint degree program are roughly similar to those described above for the JD / MBA program. Applicants interested in this joint program should consult both the School of Law and the School of Education.

3. The Juris Doctor / Master of Arts

A joint degree program leading to the degrees of Juris Doctor and Master of Arts in Philosophy is offered in conjunction with the College of Arts and Sciences. As with other joint degree programs, students interested in this combined degree program must make a separate application for admission to each school. The design of this joint program is tailored to the individual student's needs, consistent with the requirements of both degree programs. For more information, the interested applicant should contact the School of Law and the College separately.

PART-TIME PROGRAM

From its earliest planning, it has been the University's intention to offer a Part-time program of study leading to the Juris Doctor degree for those students lacking time and / or resources to pursue that degree on a full-time basis. It is the intention of the School of Law to initiate a part-time course of study as soon as practicable.

COURSES COMPLETED IN OTHER GRADUATE DEPARTMENTS FOR CREDIT TOWARD JURIS DOCTOR DEGREE REQUIREMENTS

The School of Law allows its students to apply a maximum of six credit hours of coursework, taken in other of the University's graduate departments, toward the fulfillment of the requirements for the Juris Doctor degree. Pursuant to such allowance, the courses selected must be approved by the Dean of the School of Law, in writing and in advance. The School of Law encourages such interdisciplinary study in areas related to the student's long-range career objectives.

Credit hours received under this provision are recorded on the law student's transcript as K, and do not enter into the student's grade-point average.

**UNIVERSITY OF DAYTON, SCHOOL OF LAW
1979-1980 ACADEMIC CALENDAR**

Fall Term 1979

Aug. 20-21	Monday-Tuesday	First year students' orientation
Aug. 21	Tuesday	Last day to complete registration
Aug. 22	Wednesday	Classes begin
Sept. 1	Saturday	Classes meet as scheduled
Sept. 3	Monday	Labor Day — no classes
Nov. 22-25	Thursday-Sunday	Thanksgiving recess — no classes
Nov. 26	Monday	Classes resume
Nov. 30	Friday	Classes end
Dec. 1-5	Saturday-Wednesday	Reading period
Dec. 6-19	Thursday-Wednesday	Examination period
Dec. 20-Jan. 9	Thursday-Wednesday	Christmas Recess — no classes

Spring Term 1980

Jan. 8	Tuesday	Last day to complete registration
Jan. 9	Wednesday	Classes begin
Feb. 15	Friday	Faculty workshop — no classes
Feb. 16	Saturday	Classes meet as scheduled
Feb. 18	Monday	Lincoln/Washington Birthday — no classes
Mar. 7-11	Friday-Tuesday	Spring break
Mar. 12	Wednesday	Classes resume
Apr. 4-6	Friday-Sunday	Easter recess — no classes
Apr. 7	Monday	Classes resume
Apr. 25	Friday	Classes end
Apr. 26-30	Saturday-Wednesday	Reading Period
May 1-13	Thursday-Tuesday	Examination period
May 18	Sunday	School of Law Commencement

Summer Term 1980

June 3	Tuesday	Last day to complete registration
June 4	Wednesday	Classes begin
July 4	Friday	Fourth of July — no classes
July 25	Friday	Classes end
July 26-29	Saturday-Tuesday	Examination period

Note: No other holidays will be observed.

SCHEDULE OF COURSES / THREE-YEAR PROGRAM

First Year (All Courses Required)

<i>First Term</i>	<i>Credits</i>	<i>Second Term</i>	<i>Credits</i>
Civil Procedure LAW 630	3	Civil Procedure LAW 631	2
Contracts LAW 610	3	Contracts LAW 611	2
Torts LAW 625	3	Constitutional Law LAW 635	3
Legal Research & Writing LAW 619	2	Torts LAW 626	2
Criminal Law LAW 603		Moot Court LAW 633	2
Professional Responsibility LAW 605	1	Property LAW 22	4
	15		15

Second Year

<i>First Term</i>	<i>Credits</i>	<i>Second Term</i>	<i>Credits</i>
Criminal Law LAW 614	3	Evidence LAW 655	4
Constitutional Law LAW 636 (Required)	4	(Required)	
Elective totaling	5-9	Electives totaling	8-12
	12-16		12-16

Third Year

<i>First Term</i>	<i>Credits</i>	<i>Second Term</i>	<i>Credits</i>
Professional Responsibility LAW 800 (Required)	2	(No required courses)	
Elective totaling	10-14	Electives totaling	12-16
	12-16		12-16

Total Semester hours of credit required for graduation: 84

Full time students must register for and complete at least 12 credit hours in the Fall and Spring Terms of the Second and Third years.

A full time student may register for as many as 17 credit hours; however, a course load of not more than 16 credit hours is generally recommended.

Further information on course selection and programming is included in each semester's registration materials.

NOTE: The School of Law reserves the right to change course requirements and schedules. In the event of a change, students will be notified as soon as feasible by the most appropriate means.

COURSE DESCRIPTIONS, CODES, AND REQUIRED COURSES

All courses listed are not necessarily offered in every year.

LAW 603. CRIMINAL LAW: An analysis of the general principles of criminal law with the purpose of developing insight and understanding concerning the potentialities and limitations of law as an instrument of social control. This general goal will be accomplished by focusing on such principles as *actus reus*, *mens rea*, attempt, causation, complicity, insanity, and diminished capacity. *3 sem. hrs.*

LAW 605. PROFESSIONAL RESPONSIBILITY: An introduction to the role of the attorney and the legal profession in our society, with particular emphasis on some of the more sensitive ethical problems faced by attorneys. *1 sem. hr.*

LAW 607. INDEPENDENT STUDY: Similar to Directed Research — same requirements — but less faculty supervision. Grading — credit / no credit. *1-3 sem. hrs.*

LAW 608. DIRECTED RESEARCH: Each project undertaken must be submitted and approved, in writing, by the Faculty member involved and the Dean. The course may be taken for a maximum of three credit hours unless an exception is made by the Curriculum Committee. Prerequisites: Second or third year law student; cumulative grade point average of 2.5 or higher. Exceptions to the 2.5 cumulative grade point average requirement can be made only by the Curriculum Committee. *1-3 sem. hrs.*

LAW 609. ACCOUNTING FOR LAWYERS: Provides an understanding of accounting principles relevant to attorneys and their practice. No previous accounting background is required. *3 sem. hrs.*

LAW 610, 611. CONTRACTS, I, II: A study of doctrines used to determine which obligations society will enforce. Areas of concentration include: offer and acceptance, capacity to contract, Statute of Frauds, consideration, assignment, performance, remedies, and other related topics. Impact of the Uniform Commercial Code is analyzed. (2 term course) *5 sem. hrs.*

LAW 614. CRIMINAL LAW: Concepts of criminal law, crimes and parties to crimes; requirements for criminal liability, including intent and mental responsibility; defenses; justification and excuse. Note: This course is intended for those students who were not able to take Criminal Law in their first year. *3 sem. hrs.*

LAW 619. LEGAL RESEARCH & WRITING: An introduction to the legal resources designed to aid in legal research and writing. The student is exposed to the fundamentals of the legal memorandum. *2 sem. hrs.*

LAW 622. PROPERTY: The basic course in real and personal property law for first-year students concerning possession, gifts, estates in land, concurrent ownership and future interests, as well as conveyancing, recording, covenants, and easements. More advanced courses in land use, landlord-tenant and real estate financing are offered in the upper-class years. *3 sem. hrs.*

LAW 625, 626. TORTS, I, II: Examination of the area of personal wrongs, including: intended or unintended interference with the person or property of another and respective defenses thereto. The concepts focused on are negligence, contributory negligence, misrepresentation, defamation, liability without fault, and the right to privacy. (2 term course) *5 sem. hrs.*

LAW 630, 631. CIVIL PROCEDURE, I, II: An examination of the jurisdiction of courts, venue, parties, joinder of parties and claims, pleading, pre-trial devices, trial by jury, and appeal. Emphasis is on the Federal Rules of Civil Procedure. (2 term course) *5 sem. hrs.*

LAW 633. MOOT COURT: Implementation of the skills gained in Legal Research and Writing. Preparation of an appeal brief and oral argument. Emphasis is placed on the art of appellate advocacy. *2 sem. hrs.*

LAW 635. CONSTITUTIONAL LAW I: An analysis of substantive and procedural constitutional law and the judicial function in constitutional cases. Concepts treated include the division and separation of power, and the organization of the Federal Government. *3 sem. hrs.*

LAW 636. CONSTITUTIONAL LAW II: Primary emphasis is upon the amendments to the United States Constitution, the Bill of Rights, and the protection of individual rights and liberties. *4 sem. hrs.*

LAW 640. AGENCY — PARTNERSHIP: An examination of the master-servant relationship, vicarious liability, independent contractor, and the scope of employment. Related topics include: authority, ratification, undisclosed principle, and judiciary duties. Examination of partnership principles is also covered. *2 sem. hrs.*

LAW 650. FAMILY LAW: Consideration of the laws dealing with the family relationship. Concepts covered include marriage, divorce and alimony, the parent-child relationship, and other family legal issues and problems. *3 sem. hrs.*

LAW 655. EVIDENCE: Rules and principles governing selection, admission, and exclusion of various forms of evidence. Major areas focused upon include: direct and cross examination, competency and privileges of witnesses, judicial notice, burden of proof, presumptions, province of court and jury, confessions, the hearsay rule and its exceptions, and the best evidence rule. *4 sem. hrs.*

LAW 660. LABOR LAW: Consideration of recent legislation concerning labor relations. Employer-employee bargaining is considered. Fair Labor Standards Act and the problems of union organization are also covered. *3 sem. hrs.*

LAW 665. CORPORATIONS: Basic course in the law concerning the modern business corporation, including: formation, financing and state and federal regulation of the issuance of securities. Also examined are the powers, duties, and liabilities of directors and officers; shareholders' rights, as well as dissolution and reorganization. *4 sem. hrs.*

LAW 670. UNIFORM COMMERCIAL CODE I — SALES: Study of traditional and contemporary problems involved in the sale and distribution of goods, Article 2 of the Uniform Commercial Code, and cases arising thereunder, are the primary sources of material. *3 sem. hrs.*

LAW 671. UNIFORM COMMERCIAL CODE II — SECURED TRANSACTIONS: Analysis of problems involved in the creation, perfection, and enforcement of security interests, and the role of such interests in commercial transactions. The differences between secured, unsecured, and lien creditors are also examined. Article 9 of the Uniform Commercial Code is covered in depth. *3 sem. hrs.*

LAW 672. UNIFORM COMMERCIAL CODE III — COMMERCIAL PAPER: Analyzes problems involved in the creation and transfer of negotiable instruments, as well as the role played by these instruments in commercial and consumer transactions. Articles 3 and 4 of the Uniform Commercial Code, and cases arising thereunder, are the primary source of materials. *2 sem. hrs.*

LAW 675. LAND USE PLANNING: Study of public and private regulatory devices affecting land use and development; subdivision controls, zoning, official maps, planned unit development, open space, and eminent domain. *3 sem. hrs.*

- LAW 680. CRIMINAL PROCEDURE: A treatment of the criminal process, including arrest, interrogation, right to counsel, bail, jury and grand jury proceedings, pleas, fair trials / free press, sentencing, and the rights of prisoners. 3 sem. hrs.
- LAW 681. SOCIOLOGY AND THE LAW: Survey of legal thought and its interaction with social problems, as well as the impact of such problems on the law. Attention is given to the role of law in economic, social, and political life. 2 sem. hrs.
- LAW 685. ANTITRUST LAW: A study of the federal antitrust laws, including the Sherman, Clayton, and Robinson Patman Acts, and their amendments. 3 sem. hrs.
- LAW 695. LAW AND THE CONSUMER: A study of consumer credit and sales practices, focusing on truth-in-lending, fair credit reporting, and related federal and state regulations. Deceptive and unfair practices are analyzed. 3 sem. hrs.
- LAW 700. ADMINISTRATIVE LAW: An analysis of the separation of judicial, executive, and legislative powers in the administrative process. Administrative procedure, rule-making procedure and the scope of judicial review are the focus of attention. 3 sem. hrs.
- LAW 701. ADVANCED CONSTITUTIONAL LAW SEMINAR: The seminar will explore: the definition and nature of law; the nature and dynamics of the judicial decision; the role, nature, and scope of the Constitution as a source of law, and concepts of political and moral philosophy as they relate to the role of the federal judiciary in the formulation and discovery of constitutional law. 3 sem. hrs.
- LAW 708. LEGAL DRAFTING: A course on the writing, composition content of motions, pleading (complaints and answers), discovery techniques, etc. 2 sem. hrs.
- LAW 710. ESTATE AND GIFT TAXATION: Consideration of the Federal Estate and Gift Tax Law as it is applied to donative transfers of property during life and at death. Attention is given to Federal Income Tax Law as applied to trusts and estates, and to beneficiaries thereof. Prerequisite: Individual Income Taxation. 3 sem. hrs.
- LAW 711. COMPUTERS, SOCIETY, AND LAW: This course provides the law student with the knowledge essential to the understanding of the computer's implications for his law practice, substantive law, and for society. No prior knowledge of computer technology is required. 3 sem. hrs.
- LAW 712. LOCAL GOVERNMENT: The types and organization of local governmental units are analyzed. Intergovernmental relations, personnel, law-making, community planning, local taxation; and finance are some of the areas covered. Also explored are local governmental contracts and the legal liability imposed. 3 sem. hrs.
- LAW 715. LAW REVIEW: Intense research into diverse legal subjects; preparation and editing of articles for publication in the University of Dayton Law Review. Provides students with the opportunity to enhance their legal research and writing skills. Prerequisite: Selection by the Law Review Board of Editors.
- LAW 719. MOOT COURT REGIONAL COMPETITION: Students represent the Law School in Regional Court Competition. Provides students with the opportunity to develop advocacy skills. 2 sem. hrs.
- LAW 720. NATIONAL MOOT COURT: Selected students represent the Law School in the intercollegiate National Moot Court Competition. Students match their brief-writing and advocacy skills with students from across the nation. 3 sem. hrs.

LAW 722. JURISPRUDENCE: Consideration of basic jurisprudential concepts; nature of the law, the development of legal institutions, the judicial process, as well as legislative, executive, and administrative decision-making. Related subjects include: the impact of politics, economics, and scientific advancements on legal systems, and trends in jurisprudential thought. *2 sem. hrs.*

LAW 723. CLIENT COUNSELING: Students explore the initial interview with a client, establishing the attorney-client relationship, setting the fee and advising the client of the privilege on communications. Particular detail is given to advising clients who have problems which are not conducive to a solution by litigation or by an attorney. Counseling clients who are guilty as charged and consoling clients who have cases in which trial is desirable are considered. Practical experience in mock office settings are used, as well as lectures by other counselors who are not attorneys. *2 sem. hrs.*

LAW 724. CIVIL RIGHTS & CIVIL LIBERTIES SEMINAR: Concentrates on problems associated with the protection of individual rights and liberties at both the state and federal level. Emphasizes recent trends and developments in the law which bear upon the definition of and protection of individual rights in the United States. Prerequisite: Constitutional Law (two terms.). *2 sem. hrs.*

LAW 725. ENVIRONMENTAL LAW: Explores governmental control and management of the environment: solid waste management, water and air pollution legislation and control, control of the electric power industry, and analysis of common law remedies. Also focuses on the urban environment, and related transportation problems. *3 sem. hrs.*

LAW 730. MOOT COURT COMPETITION: Selected students represent the Law School in intercollegiate, interschool moot court and client counseling competitions. Provides students with the opportunity to develop advocacy and client counseling skills. *2 sem. hrs.*

LAW 731. EDUCATION LAW: Examines the involvement of state and federal courts in various areas of school and university administration: student and faculty affairs, due process, codes and regulations, tenure, misconduct, civil rights, discrimination, desegregation, the "establishment" and "free exercise" clauses, equal education opportunity, fiscal neutrality, and equal protection. *3 sem. hrs.*

LAW 732. WOMEN AND THE LAW: An examination of the treatment of women in all areas of the law. Emphasis is given to constitutional employment, and family problems. *2 sem. hrs.*

LAW 734. GOVERNMENT CONTRACTS: Survey of the law concerning government procurement: the power and limitations of the Federal Government in making contracts and the administrative and legislative policies governing them. Also examined are the forms of contracts, and clauses and procedures frequently used. *2 sem. hrs.*

LAW 735. CLINIC — CRIMINAL PRACTICE INTERN: Criminal Interns handle the prosecution or defense of adult and juvenile criminal misdemeanors. Working through the Law School's Clinic, the Public Defender's Office, or a local Prosecutor's Office and under the general supervision of qualified attorneys, students represent clients from interview through final trial court resolution. Prerequisites: Criminal Procedure, Criminal Law, Evidence, Intern License. *3 sem. hrs.*

LAW 740. CLINIC — CIVIL PRACTICE INTERN: Civil Interns handle a large variety of civil and administrative cases, often from initial interview through final resolution. Interns work either at the Legal Aid Society of Dayton or at the Law School's Clinic Office, under the general supervision of qualified attorneys. Prerequisites: Civil Procedure, Evidence, Intern License. *3 sem. hrs.*

LAW 744. EMPLOYMENT DISCRIMINATION LAW: Examines recent state and federal legislation dealing with discrimination in employment, on the basis of sex, race, religion, physical limitation, national origin, or age. Primary emphasis on the manner in which administrative agencies responsible for the enforcement of various statutes interpret their provisions, the procedures employed; and judicial review of agency rulings. This course also may be offered as a seminar.
3 sem. hrs.

LAW 745. CLINIC — EXTERN: Second and Third-Year Law students who serve as Externs are placed in one of a great variety of governmental service agencies located throughout the Miami Valley. Externs perform a variety of legally-oriented work, but do not actually represent clients, or appear in court. Prerequisites: second year status with a 2.0 or better G.P.A.
3 sem. hrs.

LAW 746. CLINIC — PRACTICUM: Supervised, practical application of previously, or concurrently, studied material. The enterprise may be undertaken either as an Intern or Extern. Supervision is the responsibility of the consenting faculty member, with whom the student collaborates, but the practical exercise which the student undertakes must not be in the nature of pure research or scholarship, or be a clinical enterprise within the capacity of the School of Law clinical program.
1-3 sem. hrs.

LAW 747, 748. MOOT COURT CASE COUNSEL: Case counsel draft the problems which are the subject of memoranda written by First-Year students in their course in Legal Research and Writing. These problems are also the subject of written briefs and oral arguments in the first-year course in Moot Court. Case Counsel provide guidance to First-Year students in both courses through each step of their research, writing, and oral argument. The upper-class students serving as Case Counsel are selected by the Professor in charge of the courses in Legal Research and Writing and Moot Court. Case Counsel are given 2 credits per semester for their work in both courses.
2 sem. hrs. each term

LAW 750. REMEDIES: Analyzes legal and equitable remedies in a variety of substantive settings, including: damages, specific performance, injunctions, restitution and rescission. The concept of unjust enrichment is examined from the perspective of both substance and remedy.
3 sem. hrs.

LAW 751. LAW OF BANKING: Concentrates on the instrumentalities of finance and the banking system. Basic problems of regulating the industry's impact on economic systems is examined.
3 sem. hrs.

LAW 754. COMMERCIAL FINANCIAL TRANSACTIONS: Advanced course analyzing select problems in the financing of commercial and industrial enterprises. Deals in greater depth with the concepts of security interests introduced in the Uniform Commercial Code, Article 9. Prerequisites: Uniform Commercial Code — I, (Secured Transactions).
3 sem. hrs.

LAW 755. CREDITORS' RIGHTS: A survey of the rights and duties of debtors and creditors under common law and statutes, including: Judgments, executions, attachment and garnishment, fraudulent conveyances, receiverships, assignments for the benefit of creditors, and the Bankruptcy Act, Chapters VII, X, XI, and XIII (Wage Earner Plans).
3 sem. hrs.

LAW 756. LANDLORD / TENANT LAW: The relationship between the tenant and landlord is examined in detail. Emphasis is on residential leases with some coverage of commercial leasing. Also includes an overview of zoning and eminent domain. Covers those topics not developed in the property course, and is not intended to be a substitute for other upper-level electives.
2 sem. hrs.

LAW 757. INDIVIDUAL INCOME TAXATION: The basic course in federal income taxation of individuals. Examples of concepts treated include: gross income, deductions, exemptions, capital gains and losses, and the classification of taxable income. *4 sem. hrs.*

LAW 760. CONFLICT OF LAWS: Study of the problems involved in the conflicting laws of different jurisdictions; enforceability of foreign judgments; full faith and credit problems, and choice of law in various types of legal actions. Prerequisites: Constitutional Law I, Civil Procedures. *3 sem. hrs.*

LAW 761. RELIGION AND THE LAW: A study of establishment and disestablishment in history; Religion in the U.S. Supreme Court's decisions; Church membership and the role of the court; Religion as corporation; Ecclesiastical adjudication in civil cases; Police powers and free exercise; Religious education and law; Family religion and the State; Tax exemptions; Unionization of Church employees; Conscientious objection; and Religion and prisoner's rights. *3 sem. hrs.*

LAW 762. JUDEO-CHRISTIAN ETHICS AND THE LAW: Examines Judeo-Christian ethics and its relationship to social and nonsocial justice, cumulative and distributive justice, human rights, legal rights, concept of a person and a legal person, privacy, obligations, duties, models of society, values, justice, and morality. *3 sem. hrs.*

LAW 764. ADMIRALTY: Historical development of admiralty and maritime jurisdiction, procedure and the problems of federalism. Principles of substantive law governing carriage of goods by sea, general average, maritime industrial accidents, collision, salvage, maritime liens, and limitation of liability. *3 sem. hrs.*

LAW 767. INTRODUCTION TO TRIAL PRACTICE: The course will explore the elements of trial practice from initial client interview to closing argument in trial. Areas surveyed will include fact investigation, discovery, preparation of trial briefs, pre-trial conferences, jury selection, opening argument, witness examination, trial motions, and closing argument. The course will also require preparation and delivery of opening and / or closing statements by student registrants. *2 sem. hrs.*

LAW 769. APPELLATE PRACTICE AND PROCEDURE: Course includes the role and function of appellate courts; appealability; preserving issues for appeal; the rules of appellate procedure both Federal and Ohio; effective brief writing and oral argument; problems of appellate courts, including limitations on oral argument and writing and publication of opinions; techniques of limiting appeals such as settlement conferences; and when to appeal. The major emphasis will be on the rules of appellate procedure and how to prosecute an appeal under them. *2 sem. hrs.*

LAW 771. COMPARATIVE LAW: Introduction to the structure and methodology of legal systems other than the common law system. Emphasis on contemporary European, Soviet, and Eastern systems. Comparison with common law systems, especially American. *3 sem. hrs.*

LAW 775. LEGISLATION AND LEGISLATIVE DRAFTING: Explores the role of the lawyer in legislative process: legislative analysis, legislative drafting, and the formation of legislative policy. Each student undertakes the study of a contemporary social problem and drafts proposed legislation to solve it. *3 sem. hrs.*

LAW 780. FEDERAL JURISDICTION: Jurisdiction of Federal Courts under the Constitution and the United States Code, including: original, removal, and appellate jurisdiction. Prerequisite: Constitutional Law (two terms). *3 sem. hrs.*

LAW

LAW 781. LAW AND MENTALLY DISABLED: Problem-oriented analysis of the interaction between law and science. Emphasis on civil commitment and the rights of institutionalized individuals; rights to community services (including education, residential employment) and guardianship. *2 sem. hrs.*

LAW 784. HISTORY OF THE COMMON LAW: Examines the nature, origin and development of the common law. The origin and development of Anglo-American law and its comparison with contemporary English and American Law. *3 sem. hrs.*

LAW 785. INSURANCE LAW: Elements of the insurance contract, nature and form, insurable interests, insurance agents and brokers, consideration, representations and warranties, rights and obligations of the parties, waiver and estoppel, subrogation and remedies. Special emphasis is placed on life, fire and casualty insurance. *3 sem. hrs.*

LAW 788. JUVENILES AND THE LAW: This course considers the special substantive and procedural law applicable to children. Study begins with an examination of the legal concepts, policies and procedures which form the basis for the law's approach to problems involving children. The course then examines selected legal topics involving juveniles in both the civil and criminal contexts: criminal and status offenses; civil actions for and against minors; dependent, neglected, and abused children; civil rights of youth. Course credit is based on the preparation of a written research project on a topic in juvenile law. *2 sem. hrs.*

LAW 790. INTELLECTUAL PROPERTY: Introduction to patents, trademarks, copyrights, and related subjects: examines the definition of and basic concepts involved in these various forms of intellectual property; their relationship to one another, to other areas of the law, and their utilization by the business community. *3 sem. hrs.*

LAW 791. PROVERTY LAW SEMINAR: Consideration of the law, legal institutions, and policy issues particularly relevant to selected problems of the poor. *2 sem. hrs.*

LAW 794. FUTURE INTERESTS: Concentrated treatment of property interests in future estates, and the complexities of the rule against perpetuities. *2 sem. hrs.*

LAW 795. INTERNATIONAL LAW: An introduction to international law as applied between independent nations and in American courts. Selected problems regarding the sources, development, authority, and application of international law; making, interpretation, enforcement; and termination of treaties. Examination of the United Nations and other international organizations are also covered. *3 sem. hrs.*

LAW 796. LAW AND MEDICINE FROM THE LAWYER'S PERSPECTIVE: This introductory course is designed to acquaint the student with the important issues of law and medicine in today's society. Students will examine and discuss such topics as medical malpractice; informed consent; human experimentation; child abuse; right to receive treatment; right to refuse treatment; and mental health treatment and commitment laws. The format of the course is the case method. Grading will largely depend on each student preparing a documented research paper. *2 sem. hrs.*

LAW 800. PROFESSIONAL RESPONSIBILITY: An examination of the duties and privileges of the legal profession, as well as an attorney's responsibilities to his client, the community, and the profession. Prerequisite: Third-Year law students only. Applies to students who did not take Professional Responsibility in their first year. *3 sem. hrs.*

LAW 804. ADVANCED CRIMINAL PROCEDURE: Concentrates on selected areas of criminal procedure, including, but not limited to: decision to arrest, prosecutive discretion, the right to a speedy trial, discovery, plea bargaining, the role of the media in the criminal process, and post-conviction procedures. Prerequisite: Criminal Procedure. Enrollment limited. *2 sem. hrs.*

LAW 805. BUSINESS PLANNING: Integration and application of corporate law; tax law, securities law, and non-legal business concepts in the organization, operation, and reorganization of various types of business entities. Includes an introduction to legal concepts in real estate development. Prerequisites: Corporation, Corporate Taxation. *3 sem. hrs.*

LAW 808. CORPORATIONS, SOCIETY AND THE LAWYER: An analysis of the evolving concepts of the modern corporation in a changing environment and their implications for the lawyer in corporate practice. Issues in corporate governance, business regulation, and professional responsibility are examined and related to practice aspects of the business lawyer. A prime objective of the course is to develop an appropriate conceptualization of the role and function of the lawyer in corporate practice in both the corporate law department and the law firm. A related objective is to enable the student to develop insights into the organizational behavior and business decision legal consequences aspects of corporate practice. *2 sem. hrs.*

LAW 810. CORPORATE TAXATION: Consideration of the provisions of the Federal Income Tax Code as they are applied to incorporated businesses. Prerequisites: Corporations, Individual Income Taxation. *3 sem. hrs.*

LAW 815. ESTATE PLANNING: Consideration of and planning for the tax and non-tax aspects of the donative disposition of wealth during life and at death. Prerequisites: Wills and Trusts, Estate and Gift Taxation. *3 sem. hrs.*

LAW 820. SECURITIES REGULATION: A survey of federal and state regulation of the distribution and trading of securities. Focuses upon the Securities Act of 1933, the Securities and Exchange Act of 1934, as well as selected state statutes. Analysis of recent developments and their effects upon various participants and transactions involved in security trading. Prerequisite: Corporations. *3 sem. hrs.*

LAW 825. TRIAL PRACTICE — CIVIL: Each aspect of a civil trial will be examined. Litigated techniques in trial situations will be developed through actual student participation in simulated civil trials. Prerequisites: Civil Procedure, Evidence. *3 sem. hrs.*

LAW 830. TRIAL PRACTICE — CRIMINAL: Examination and development of litigative techniques useful in criminal trials through participation in simulated trial situations. Each aspect of the criminal trial will be examined. Prerequisites: Criminal Procedure, Evidence. *3 sem. hrs.*

LAW 835. WILLS AND TRUSTS: Consideration of testate and intestate succession; powers of appointment; private and charitable trusts, their creation, duration, and termination; the duties of trustees in the administration of trusts. Also considered are resulting and constructive trusts. *4 sem. hrs.*

LAW 840. COMPARATIVE CONSTITUTIONAL LAW SEMINAR: Comparison and analysis of the constitutions of various countries throughout the world. Exposes students to differing legal and political philosophies. *3 sem. hrs.*

LAW 845. INTERNATIONAL BUSINESS TRANSACTIONS: Examines transnational legal problems involved in doing business abroad. The international economic and financial environment is explored. Also considered: jurisdictional and dispute-settlement issues, trade, international economic organizations, foreign distribution and licensing, foreign investment, expropriation and nationalization, and taxation. *3 sem. hrs.*

LAW 855. TAX PROBLEMS: Examines various tax problems of interest and importance. The exact problems will vary but might include: tax procedure, tax accounting and tax reform. Prerequisites: Federal Income Tax, Corporate Taxation. *3 sem. hrs.*

LAW 860. INTERNATIONAL TAX PROBLEMS: Examines tax problems in the transnational context which arise from doing business abroad. Prerequisites: Federal Income Tax, Corporate Taxation. *3 sem. hrs.*

LAW 863. INTERNATIONAL PROTECTION OF HUMAN RIGHTS: A study of the expanding processes of international protection of human rights, including the rights of minorities and of aliens, in both national and supranational organs of government. Instances of humanitarian intervention and intercession and comparisons between international and United States Constitutional protections of human rights will also be discussed. *2 sem. hrs.*

LAW 865. COMPLEX LITIGATION SEMINAR: Emphasizes litigation of the multi-million dollar type (the so-called "big case"); organization of voluminous materials; pleadings; measurement of damages; settlement; use of discovery; use of pleading and briefs; trial approach and techniques. Prerequisites: Civil Procedure I & II, Corporations, Evidence. Suggested Preparation: Administrative Law, Antitrust Law, Individual Income Taxation, Labor Law, Securities Regulation. *3 sem. hrs.*

LAW 875. REGULATED INDUSTRIES: A study of the legal problems confronting the gas, electric, telephone, rail, trucking, and airline industries. Examines the regulatory functions involved in the ascertainment of revenue needs, establishment of rates and service standards, environmental protection, conservation of resources, entry of new competition and the application of antitrust standards. *3 sem. hrs.*

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- O'HARE, J. Michael (1966), *Physics*, Professor — B.S., Loras College, 1960; M.S., Purdue University, 1962; Ph.D., State University of New York at Buffalo, 1966.
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- PATYK, Jozef (1963), *Political Science*, Professor Emeritus — Certificate, School of Public Administration, Poland, 1935; LL.M. Jagiellonski University, Poland, 1945; Ph.D., University of Colorado, 1965.
- PAYNE, Elmer H. (1961), *Civil Engineering*, Associate Professor — B.S.C.E., Washington University, 1958; M.S., Washington University, 1961; Reg. Prof. Engr.
- PETIT, Sister Loretta M., O.P. (1968), *Foundations of Education*, Associate Professor — B.A., Sienna Heights College, 1942; M.A., Catholic University of America, 1949; D.Ed., Western
- POLZELLA, Donald J. (1972), *Psychology*, Associate Professor — B.A., University of Rochester, 1967; M.A., Bucknell University, 1969; Ph.D., University of Michigan, 1974.
- PRIMROSE, Russell A. (1978), *Chemical Engineering*, Professor — B.S., Virginia Polytechnic Institute, 1956; M.S., Virginia Polytechnic Institute, 1959; Ph.D., Virginia Polytechnic Institute, 1965; Reg. Prof. Engr.
- QUAM, David L. (1975), *Aerospace Engineering*, Associate Professor — B.A.E., University of Minnesota, 1965; M.S.A.A., University of Washington, 1970; Ph.D., University of Washington, 1975.
- RAMSEY, James M. (1964), *Biology*, Associate Professor — B.S., Wilmington College, 1948; M.S., Miami University, 1951.
- RAPP, John E. (1972), *Economics and Finance*, Professor — B.A., University of Missouri, 1959; M.A., University of Missouri, 1960; Ph.D., University of Missouri, 1964.
- RAY, Alden E. (1961), *Mechanical Engineering*, Professor of Materials Engineering — B.A., Southern Illinois University, 1953; Ph.D., Iowa State University, 1959.

Faculty

- RHEE, Tong-Chin (1967), *History*, Professor — B.A., Seoul National University, 1959; M.P.A., School of Public Administration, Seoul National University, 1961; M.A., Lehigh University, 1962; Ph.D., Clark University, 1967.
- RICHARDS, William M. (1970), *Philosophy*, Assistant Professor — B.A., LeMoyné College, 1966; Ph.D., Georgetown University, 1970.
- ROWE, John J. (1977), *Biology*, Assistant Professor — B.S., Colorado State University, 1967; M.S., Arizona State University, 1971; Ph.D., University of Kansas Medical Center, 1975.
- RUFF, Lawrence A. (1960), *English*, Associate Professor — B.S., University of Dayton, 1958; M.A., Catholic University of America, 1959; Ph.D., Ohio State University, 1968.
- RYCKMAN, Seymour J. (1959), *Civil Engineering*, Professor — B.S., Michigan State University, 1939; M.S., University of Missouri, 1942; Reg. Prof. Engr.
- SANDY, Charles W. (1975), *Chemical Engineering*, Assistant Professor — B.S., Pennsylvania State University, 1964; M.S., Pennsylvania State University, 1968; Ph.D., Pennsylvania State University, 1974.
- SANFORD, Robert G. (1970), *Accounting*, Associate Professor — Ph.B., University of Notre Dame, 1940; C.P.A., Wisconsin, 1948; Illinois, 1962; M.B.A., DePaul University, 1968.
- SCHAUER, John J. (1948), *Mechanical Engineering*, Professor — B.M.E., University of Dayton, 1958, M.S., Carnegie Institute of Technology, 1959; Ph.D., Stanford University, 1964.
- SCHEIDLER, Charles H. (1953), *Business Management*, Professor — A.B., Washington University, 1949; Ph.D., Washington University, 1953.
- SCHLEPPI, John R. (1963), *Physical and Health Education*, Associate Professor — B.S., Ohio State University, 1961; M.B.A., Ohio State University, 1963; Ph.D., Ohio State University, 1972.
- SCHMID, Merle D. (1960), *Technical Studies and Services*, Professor — B.S., University of Washington, 1935; M.S., University of Arizona, 1936; Ph.D., Illinois Institute of Technology, 1959.
- SCHMIDT, Bernard M. (1949), *Electrical Engineering*, Professor — B.E.E., University of Dayton, 1942; M.Sc., Ohio State University, 1957; Ph.D., Ohio State University, 1963; Reg. Prof. Engr.
- SCHNEIDER, James R. (1964), *Physics*, Professor — A.B., Villa Madonna College, 1956; M.S., University of Cincinnati, 1959; Ph.D., University of Cincinnati, 1965.
- SCHRAUT, Kenneth C. (1940), *Mathematics*, Distinguished Service Professor — A.B., University of Illinois, 1936; M.A., University of Cincinnati, 1938; Ph.D., University of Cincinnati, 1940.
- SCHWELITZ, Fay D. (1971), *Biology*, Associate Professor — B.A., Alverno College, 1953; M.S., Purdue University, 1967; Ph.D., Purdue University, 1971.
- SEKELY, William S. (1976), *Marketing*, Associate Professor — B.S., Allegheny College, 1966; M.B.A., Case Western Reserve, 1970; D.B.A., Kent State University, 1975.
- SERVAIS, Ronald A. (1974), *Chemical Engineering*, Professor — B.S. in A.E., Parks College of St. Louis University, 1963; M.S., St. Louis University, 1966; D.Sc., Washington University, 1969.
- SINGER, Sanford S. (1972), *Chemistry*, Assistant Professor — B.S., Brooklyn College, 1962; M.S., University of Michigan, 1964; Ph.D., University of Michigan, 1967.
- SMITH, Howard E. (1957), *Mechanical Engineering*, Professor — B.M.E., University of Dayton, 1951; M.S., University of Cincinnati, 1961; Ph.D., University of Cincinnati, 1969; Reg. Prof. Engr.
- SOFFER, Gad (196), *History*, Associate Professor — B.S., Georgetown University, 1963; M.A., American University, 1964; Ph.D., American University, 1968.
- STEINER, Wilfred J. (1946), *History*, Professor — A.B., Loras College, 1936; M.A., Harvard University, 1938; Ph.D., Ohio State University, 1957.
- STEINLAGE, Ralph C. (1966), *Mathematics*, Professor — B.S., University of Dayton, 1962; M.S., Ohio State University, 1963; Ph.D., Ohio State University, 1966.
- STEPHENSON, Hugh M. (1971), *Business Management* — B.A., Columbia University, 1950; M.B.A., Xavier University, 1963.
- STICK, Henry H. (1975), *Economics and Finance*, Associate Professor — B.S., U.S. Military Academy, 1945; M.B.A., University of Pennsylvania, 1951, Ph.D., Ohio State University, 1957.

- STOUGH, Stanley J. (1969), *Business Management*, Associate Professor — B.S.B.A., Findlay College, 1964; M.B.A., Ohio University, 1966; Ph.D., University of Arkansas, 1975.
- STRNAT, Karl J. (1968), *Electrical Engineering*, Tait Professor — Ing. f. Maschinenbau, Technolog. Gewerbemuseum, Vienna, 1948; Dipl. Ing., Techn. Hochschule Wien, Vienna, 1953; Dr. Techn., Techn. Hochschule Wien, Vienna, 1956.
- SWEENEY, Patrick J. (1978), *Engineering Management*, Associate Professor — B.S., Notre Dame University, 1957; M.S., University of Missouri, 1967; Ph.D., University of Dayton, 1977; Reg. Prof. Engr.
- TEWARI, Harish C. (1975), *Management*, Associate Professor — B.B.A., Delhi University, 1963; M.B.A., Central Michigan University, 1969; M.A., University of Cincinnati, 1974; Ph.D., University of Cincinnati, 1977.
- THIELE, Gary A. (1979), *Electrical Engineering*, Professor — B.S., Purdue University, 1960; M.S., Ohio State University, 1964; Ph.D., Ohio State University, 1968; Reg. Prof. Engr.
- THOMSON, Robert A. (1952), *Civil Engineering*, Professor — B.S. in Ed., University of Dayton, 1950; B.M.E., University of Dayton, 1954; Ph.D., Illinois Institute of Technology, 1958; Reg. Prof. Engr.
- TIBBETTS, Paul E. Jr. (1969), *Philosophy*, Associate Professor — A.E., Worcester Junior College, 1959; B.A., Clark University, 1964; M.A., Boston University, 1965; Ph.D., Purdue University, 1973.
- TORGE, Herman (1976), *Educational Services*, Associate Professor — B.S., Miami University, 1946; M.M., Cincinnati Conservatory of Music, 1951; M.A., Miami University, 1968; Ph.D., Miami University, 1970.
- TRENT, Judith S. (1971), *Communication Arts*, Associate Professor — B.A., Western Michigan University, 1962; M.A., University of Michigan, 1968; Ph.D., University of Michigan, 1970.
- TURGEON, E. G. Robert (1977), *Biology*, Assistant Professor — B.S., University of New Brunswick, 1969; Ph.D., Carleton University, 1973.
- ULRICH, Lawrence P. (1964), *Philosophy*, Associate Professor — A.B., Catholic University of America, 1961; M.A., Catholic University of America, 1962; M.Ed., Xavier University, 1964; Ph.D., University of Toronto, 1972.
- VINES, Alice G. (1969), *History*, Assistant Professor — B.A., B.S., in Ed., University of Cincinnati, 1960; M.A., University of Cincinnati, 1961; Ph.D., University of Cincinnati, 1975.
- VLACHOS, George E. (1978), *Management*, Associate Professor — B.S., University of Illinois-Urbana, 1964; M.S., Southern Illinois University, 1967; Ph.D., University of Northern Colorado, 1974.
- WASHING, Harry A. (1975), *Management*, Assistant Professor — B.S., Miami University, 1965; M.S., Xavier University, 1966; Ph.D., North Texas State University, 1977.
- WASHING, Harry A. (1975), *Management*, Associate Professor — B.S., Miami University, 1965; M.S., Xavier University, 1966; Ph.D., North Texas State University, 1977.
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- WATRAS, Joseph (1979), *Foundations of Education*, Assistant Professor — B.A., Boston University, 1965; M.Ed., University of Hawaii, 1969; Ph.D., Ohio State University, 1972.
- WEATHERLY, Michael (1968), *Communication Arts*, Assistant Professor — B.A., Stephen F. Austin State College, 1958; M.A., Bowling Green State University, 1961; Ph.D., Ohio State University, 1972.
- WEAVER, Roberta B. (1978), *Elementary Education*, Assistant Professor — B.Sc. in Ed., The Ohio State University, 1960; M.A. in Ed., University of Cincinnati, 1966.
- WEILER, John E. (1967), *Economics and Finance*, Associate Professor — B.A., University of Cincinnati, 1960; M.A., University of Cincinnati, 1961; Ph.D., University of Cincinnati, 1973.
- WINGER, Bernard J. (1966), *Economics and Finance*, Associate Professor — B.S., Xavier University, 1959; M.A., University of Cincinnati, 1960; C.P.A., Ohio, 1965.
- WOLFF, Florence I. (1969), *Communication Arts*, Associate Professor — B.S., Temple University, 1941; M.Ed., Duquesne University, 1967; Ph.D., University of Pittsburgh, 1969.
- WRIGHT, Thomas V. (1979), *Economics and Finance*, Associate Professor — B.G.S., University of Nebraska, 1969; M.B.A., Washington University, 1971; Ph.D., Washington University, 1976.

Faculty

- WURST, John C. (1971), *Mechanical Engineering*, Associate Professor — B.M.E., University of Dayton, 1957; M.S.E., University of Dayton, 1968; Ph.D., University of Illinois, 1971; Reg. Prof. Engr.
- YANEY, Perry P. (1965), *Physics*, Professor — B.S.E.E., University of Cincinnati, 1954; M.S., University of Cincinnati, 1957; Ph.D., University of Cincinnati, 1963.
- ZEMBATY, Jane S. (1975), *Philosophy*, Assistant Professor — B.A., State University of New York at Buffalo, 1971; M.A. Georgetown University, 1974; Ph.D., Georgetown University, 1976.

SCHOOL OF LAW FACULTY

- BRAUN, Richard L. (1974), Dean and Professor — B.A., Stanford University, 1941; J.D., Georgetown University, 1951; LL.M., Georgetown University, 1953.
- COOPER-HILL, James D. (1976), Associate Professor — B.A., University of Nevada, 1957; J.D., University of Denver, 1964.
- COUTIN, José D. (1976), Director of the Law Library and Associate Professor — B.A., Institute of Secondary Teaching-Havana, 1940; Dr. of Law, University of Havana-Cuba, 1944; M.L.S., Kansas State Teachers College, 1967.
- DICKINSON, Kelvin H., Assistant Professor of Law — B.A., Western Michigan University, 1965; LL.B., Harvard Law School, 1968.
- DUSHMAN, Bernard J., Assistant Professor of Law — A.B., Boston University, 1969; J.D., Boston University, 1973.
- FROELICH, Jeffrey E. (1976), Director of Clinical Studies and Assistant Professor — B.A., Miami University, 1968; J.D., University of Michigan, 1972.
- GEORGE, Norman (1962), Professor — B.A., Ohio State University, 1950; M.B.A., University of Pittsburgh, 1954; Ph.D., Ohio State University, 1962; J.D., Salmon P. Chase College of Law, 1967.
- GERLA, Harry S., Assistant Professor of Law — B.A., Queens College, 1970; M.A., University of Florida, 1972; J.D., Ohio State University, 1975.
- HERBERT, Paul B., Assistant Professor of Law — A.B., University of California at Berkeley, 1973; J.D., University of California at Berkeley, 1976.
- HEY, Keith J. (1975), Professor — B.S.C., Creighton University, 1955; J.D., Creighton University, 1963; LL.M., Georgetown University, 1969.
- HOGAN, Jerry E., Assistant Director of Clinical Studies — B.A., Ohio State University, 1965; J.D. Salmon P. Chase College of Law, 1976.
- HOPPERTON, Robert J. (1976), Assistant Professor — B.A., Baldwin-Wallace College, 1963; M.A., University of Toledo, 1969; J.D., Ohio State University, 1972.
- HOWARTH, Cooley R. (1976), Instructor — B.A., Michigan State University, 1971; J.D., University of Denver, 1976.
- MARTINEAU, Robert J., Professor of Law — B.S. College of Holy Cross, 1956; J.D., University of Chicago, 1959.
- SAPHIRE, Richard B. (1976), Associate Professor — B.A., Ohio State University, 1967; J.D., Salmon P. Chase College of Law, 1971; LL.M., Harvard Law School, 1975.
- SEARCY, E. Dale (1976), Professor — B.S., General Motors Institute, 1959; J.D., Indiana University, 1963; LL.M., New York University, 1966.
- SULTAN, Allen, Professor of Law — A.B., Syracuse University, 1952; J.D., Columbia University, 1958; A.M., University of Chicago, 1961; LL.M., New York University, 1965.
- TURNER, Dennis, J. (1974), Assistant Professor — B.A., Georgetown University, 1967; J.D., Georgetown University, 1970.
- VASEY, Vincent R., S.M. (1977), Professor — B.S., University of Dayton, 1936; M.A., Western Reserve University, 1941; J.C.B., Catholic University of America, 1949; J.D.L. Lateran University, 1950; J.C.D., Lateran University, 1951; S.T.L., Institutim Patristicum Augustinianum, 1973; S.T.D., Institutim Patristicum Augustinianum, 1974; J.D., Notre Dame University, 1977.
- WOLFF, Ralph A. (1977), Assistant Professor — B.A., Tufts University, 1968; J.D., National Law Center, George Washington University, 1971.

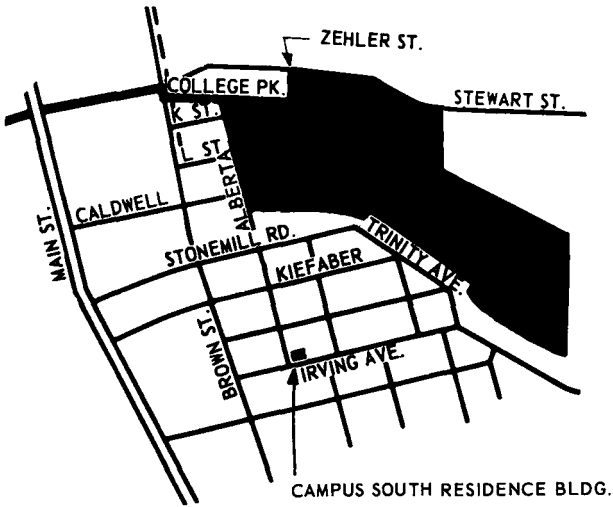
ZIEGLER, Edward H., Visiting Associate Professor of Law — A.B., Notre Dame University, 1970; J.D., University of Kentucky, 1973; LL.M., National Law Center, George Washington University, 1975.

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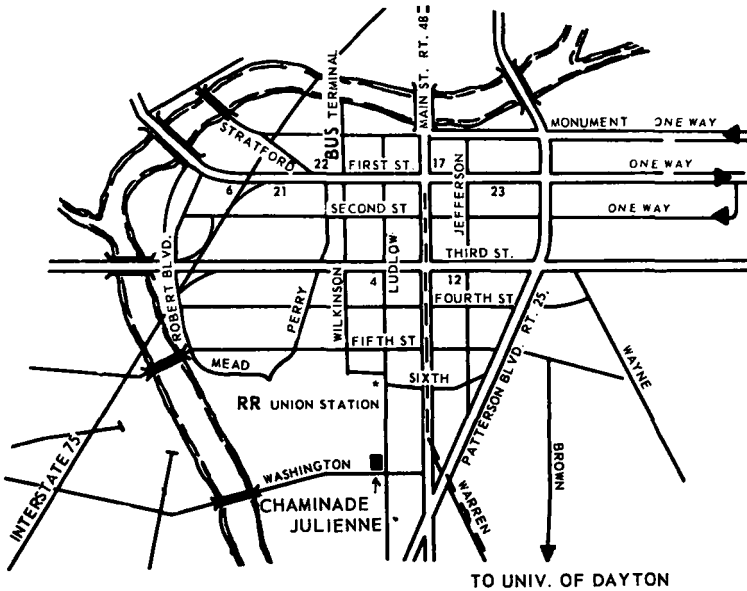
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CAMPUS SOUTH RESIDENCE BLDG.

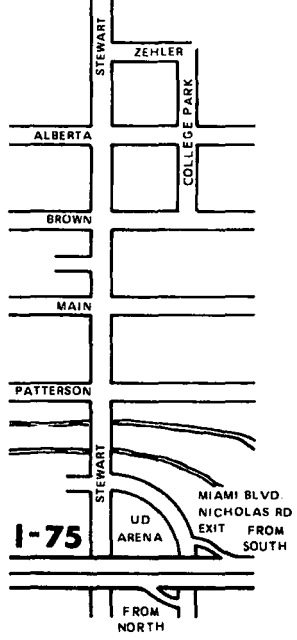
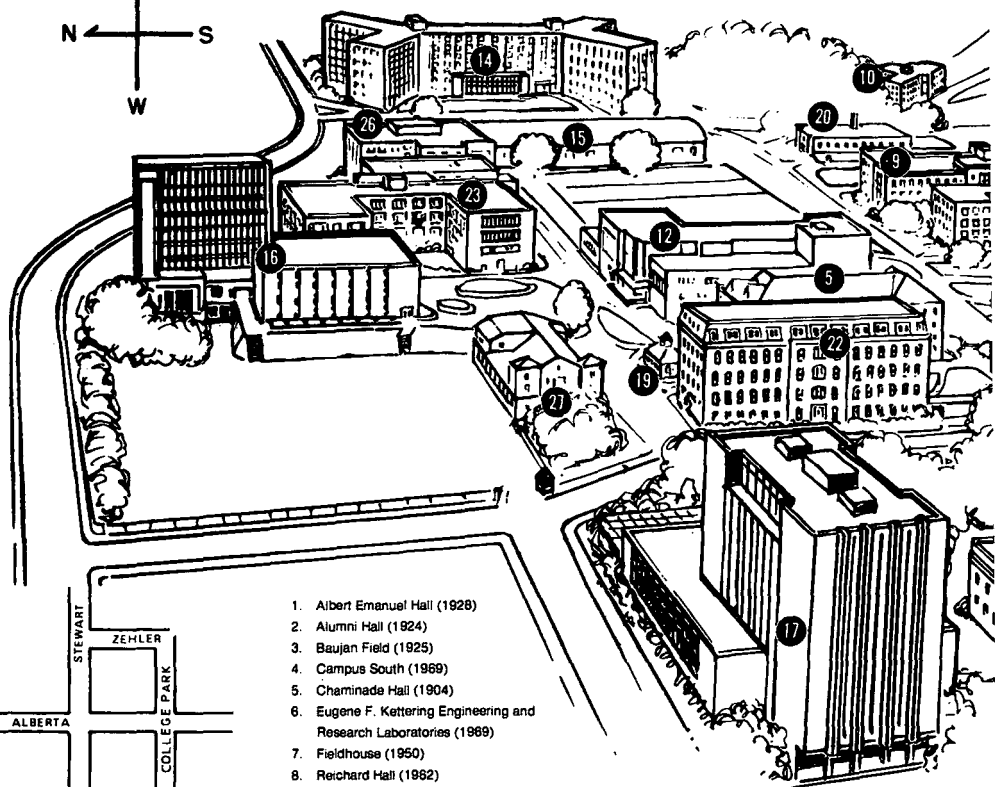
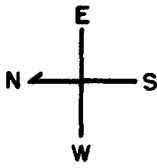
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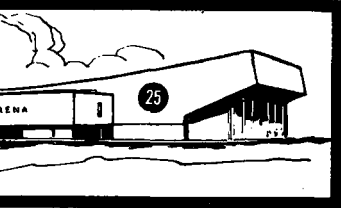
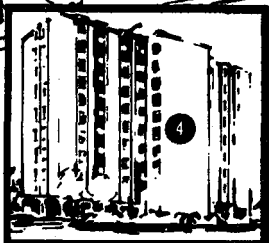
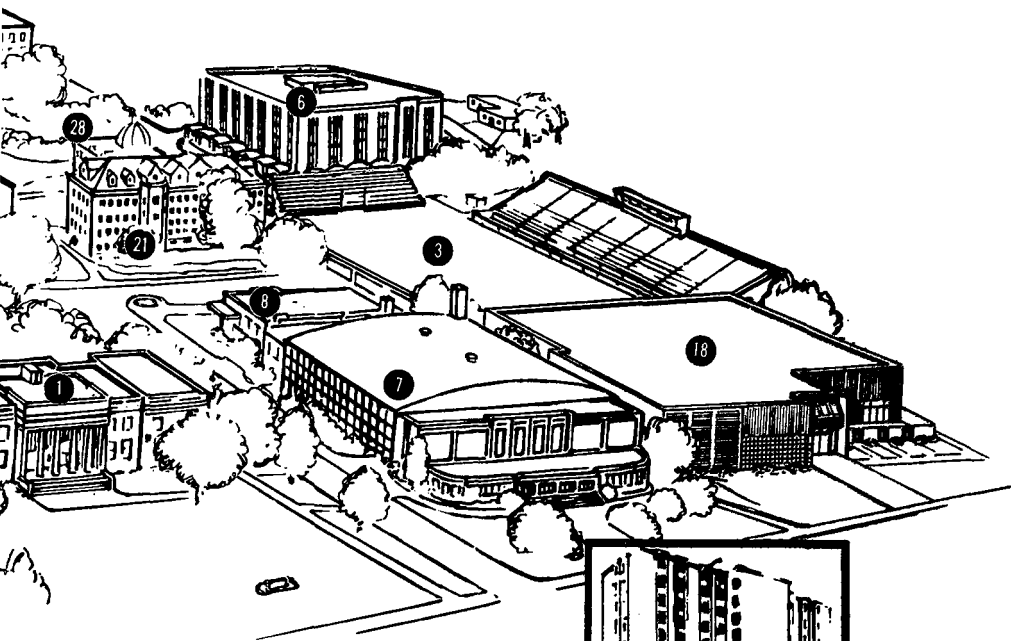
TO UNIV. OF DAYTON

CITY OF DAYTON BUSINESS DISTRICT

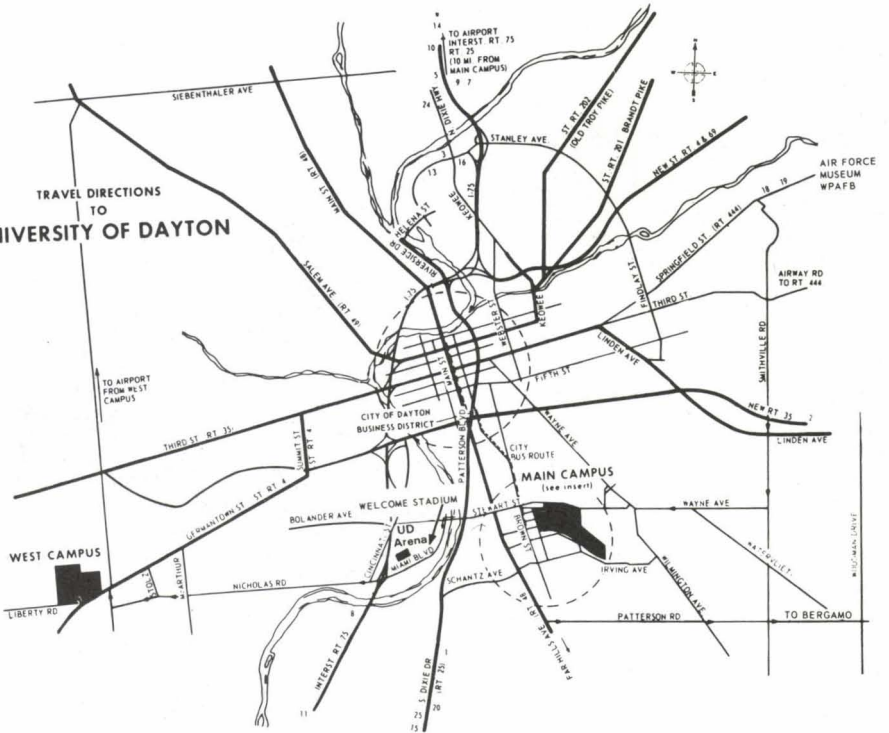


1. Albert Emanuel Hall (1928)
2. Alumni Hall (1924)
3. Baujan Field (1925)
4. Campus South (1969)
5. Chaminade Hall (1904)
6. Eugene F. Kettering Engineering and Research Laboratories (1969)
7. Fieldhouse (1950)
8. Reichard Hall (1962)
9. Founders Hall (1954)
10. Gosiger Health Center (1967)
11. Immaculate Conception Chapel (1866)
12. John F. Kennedy Memorial Union (1964)
13. Liberty Hall (1866)
14. Marycrest Hall (1962-64)
15. Mechanical Engineering Bldg. (1948)
16. Miriam Hall (1966)
17. New Library (1970)
18. Physical Activities Center (1975)
19. Post Office (1903)
20. O'Reilly Hall (1952)
21. St. Joseph's Hall (1884)
22. St. Mary's Hall (1870)
23. Sherman Hall of Science (1980)
24. Stuart Hall (1963-64)
25. U.D. Arena (1969)
26. Wohleben Hall (1958)
27. Women's Gymnasium-Music Bldg. (1874)
28. Zehler Hall (1885)





**TRAVEL DIRECTIONS
TO
UNIVERSITY OF DAYTON**



NOTES

UNIVERSITY OF DAYTON
GRADUATE AND UNDERGRADUATE ACADEMIC CODES

AAS	Afro-American Studies	ICI	Industrial-Chemical Technology
ACC	Accounting	ISE	Technical Studies and Services
ADM	Administrative Science	ITA	Italian
AEE	Aerospace Engineering	ITI	Industrial Engineering Technology
AMS	American Studies		
ANT	Anthropology		
ART	Fine Arts	JRN	Journalism
ASI	Interdisciplinary — Arts and Sciences	JUD	Judaic Studies
BAI	Interdisciplinary — Business Administration	LAT	Latin
BEI	Bio-Engineering Technology	LAW	Law
BEN	Engineering Late Entry	LNG	Languages
BIO	Biology		
BUS	Business Management		
CHM	Chemistry	MAT	Materials Engineering
CIE	Civil Engineering	MBA	Business Administration
CLA	Classics (Languages)	MED	Premedical
CLT	Clinical Laboratory Technology	MEE	Mechanical Engineering
CME	Chemical Engineering	MET	Medical Technology
COM	Communication Arts	MIL	Military Service
COP	Cooperative Education	MKT	Marketing
CPS	Computer Science	MLJ	Metallurgical Technology
CRJ	Criminal Justice	MPA	Public Administration
CTI	Chemical Technology	MSC	Management Science
		MTH	Mathematics
DAP	Data Processing	MTI	Mechanical Engineering Technology
DEN	Pre dental	MUS	Music
ECI	Electronic-Chemical Technology	PHL	Philosophy
ECO	Economics	PHO	Photography-Cinematography
EDA	Educational Administration	PHY	Physics
EDC	Counselor Education and Human Services	POL	Political Science
EDD	Physical and Health Education	PSC	Physical Sciences
EDE	Elementary Education	PSY	Psychology
EDF	Foundations of Education	PTI	Plastics Technology
EDH	Health Education	PVA	Performing and Visual Arts
EDI	Interdisciplinary — Education		
EDL	Educational Leadership		
EDP	Physical Education	REL	Religious Studies
EDS	Secondary Education	RUS	Russian
EEL	Environmental Engineering Technology		
EGM	Engineering Mechanics	SCP	Packaging Management
EGR	Engineering	SDL	Self-Directed Learning
ELE	Electrical Engineering	SEC	Executive Secretarial Studies
ENG	English	SOC	Sociology
ENI	Interdisciplinary — Engineering	SPE	Speech
ENM	Engineering Management	SPN	Spanish
ETI	Electronic Engineering Technology	STI	Engineering Technology Service Courses
		SWK	Social Work
FIN	Finance	SYS	Systems Science
FRN	French		
GCI	Geo-Chemical Technology	THL	Theology
GEN	General Studies	THR	Theatre
GEO	Geology	TII	Interdisciplinary — Engineering Technology
GER	German		
GRK	Greek		
HEC	Home Economics	UCD	Urban Community Development
HMS	Humanities Studies	UDI	Interdisciplinary — University-wide
HST	History	ULP	Urban Life Program