

VI College of Arts and Sciences

Francis M. Lazarus, Dean

Richard E. Peterson, Assistant Dean

Ellen M. Murphy, O.P., Assistant Dean

Terrence D. Wong, S.M., Assistant to the Dean

The College of Arts and Sciences has as its primary responsibility the implementation of the fundamental commitment of the University of Dayton to the discovery, integration, dissemination, and application of truth. The College contributes to the fulfillment of this commitment through curricular programs in the liberal arts and sciences, which are central to the intellectual life of the University. The College provides students instruction in communication skills, critical thinking, social and cultural criticism, computation, scientific reasoning, historical analysis, and religious and moral awareness. These qualities are fundamental and essential to each student's full and integral development as a broadly educated person. The College serves not only its own students but also the students of the professional schools and insures that basic, as well as applied, fields of study are available to all students.

The faculty of the College of Arts and Sciences seek to live, as well as profess, the liberal arts and to pursue teaching and research, community service, and constructive social criticism within the framework of freedom of thought and expression. Within the tradition of liberal education, the faculty are committed to the full and integral development of students, cognizant of the priceless and timeless value of this tradition, and aware of the need to relate the liberal arts to the realities of time, place, and legitimate career aspirations.

The faculty of the College of Arts and Sciences, therefore, remind the students of all the resources within their reach: faculty guidance, especially in selecting courses and planning programs; the campus ministry; the social and professional clubs and societies; the campus publications; the many musical, dramatic, and art programs; and especially the opportunity for membership on departmental and campus-wide committees where students gain experience in working with others on projects of significance to the department or to the College.

The College of Arts and Sciences chooses from its own traditions and convictions, as well as from its role as the principal service unit of the University, a values-oriented approach to education. In all of its programs and throughout its curriculum, the College and its faculty seek to complement excellent substantive instruction with a sense of respect for the role of each person in society and an appreciation of the aesthetic and the spiritual life. These values emerge not only from the College's mission as the chief proponent of the liberal tradition at the University of Dayton, but also from its commitment to Christian educational principles and to the Marianist spirit in education, which is its heritage.

MAJORS AND MINORS

The major is defined as a block of courses totalling at least 24 semester hours of upper-level work in a single discipline; it is sometimes supported by a minor, which is a block of courses totalling at least 12 semester hours of upper-level work. Some minors are defined specifically in the departmental listings.

The Bachelor of Arts is offered in the following areas:

American Studies	History	Photography
Chemistry	International Studies	Political Science
Communication Arts	Interior Design	Psychology
Economics	Languages	Religious Studies
English	Mathematics	Sociology
Fine Arts	Music	Theatre
Geology	Philosophy	

The Bachelor of Science is offered in the following areas:

Biology	Home Economics	Physics
Chemistry	Mathematics	Pre dentistry
Computer Science	Medical Technology	Premedicine
Computer Science-Physics	Nuclear Medicine	Psychology
Criminal Justice	Technology	Social Work
Cytotechnology	Physical Science	Systems Analysis
Geology		

Other programs leading to the bachelor's degree:

Commercial Design (B.F.A.)	Music (B.Mus.)
Fine Arts (B.F.A.)	Music Therapy (B.Mus.)
General Studies (B.G.S.)	Photography (B.F.A.)

Established Interdisciplinary Majors

American Studies, International Studies, Premedicine, and Pre dentistry are present examples of established interdisciplinary concentrations. Such programs are established by interdisciplinary committees and administered by the chairpersons of the committees.

Individually Designed Interdisciplinary Majors

Students demonstrating extraordinary interest, special skills or needs, and sound academic status may initiate individually designed majors. Such majors are negotiated between the students and the chairpersons of the appropriate departments. Long-range plans for the individually designed majors are submitted to the dean for final approval. Plans may be altered with appropriate supporting rationale and the approval of chairpersons and dean.

DEGREE REQUIREMENTS

For the bachelor's degree, it is necessary to complete all the requirements listed in one of the programs in this chapter. The final 30 semester hours must be earned in residence at the University of Dayton.

GENERAL REQUIREMENTS FOR ALL
BACHELOR OF ARTS PROGRAMS

A minimum of 120 semester hours of approved coursework must be presented for the B.A. degree. At least 54 semester hours must be completed at the 300-400 level. For limitations on credit and restrictions on courses, consult the chairperson and the dean. For specific departmental or program requirements, consult program schedules A1 through A21 or the department chairperson or the program director.

Semester Hours

<i>Major concentration</i> (with at least 24 semester hours at 300-400 level) ..	30-45
<i>Breadth requirement</i> (See Distribution Table below)	49-70
<i>Program and general electives:</i> These courses must be external to the major discipline. Electives should be approved by the chairperson or dean since some restrictions exist.	5-41
	<hr/> 120

Distribution Table for Breadth Requirement

Courses taken to fulfill the breadth requirement should be external to the major field. Students electing courses in any department should be aware that some introductory or background knowledge may be expected of them even when no specific prerequisite course is listed.

Natural Science and Mathematics: Biology, Chemistry, Geology, Physics, Mathematics, and Computer Science. Four semester hours must be in an approved natural science course (Biology, Chemistry, Geology, Physics) with an accompanying laboratory. An additional 3 semester hours must be in Mathematics or an approved natural science course. . . 7-12

Social and Behavioral Science: Anthropology, Economics, Finance, Political Science, Psychology, Sociology, and, with approval of the chairperson of the major department or the director of the program, appropriate courses in Criminal Justice, Education, Home Economics, Management, Marketing, Military Science, Social Work, or ASI. At least 3 semester hours must be in Anthropology, Economics, Political Science, Psychology, or Sociology. At least one unit of 6 semester hours with at least 3 at the 300-400 level is required in a single discipline. 12

Humanities: American Studies, Communication Arts, English, History, Humanities Studies, Languages, Performing and Visual Arts, Philosophy, Religious Studies, and, with approval of the chairperson of the major department or the director of the program, courses in ASI. At least one unit of 9 semester hours in a humanities area with at least 3 semester hours from 300-400 level courses (except Languages and Performing and Visual Arts, in which a unit may be 9 semester hours at any level). The remaining 9 semester hours of electives are to be chosen from one or more other departments. (The basic Philosophy, Religious Studies, and communication skills courses do not fulfill this requirement.) 18

Philosophy and/or Religious Studies 12-18

Communication Skills (ENG 111, 112, SPE 101): Each student in the College of Arts and Sciences must demonstrate competence in written and oral communication before the completion of the freshman year. These competencies may be demonstrated through the completion of course work, proficiency examinations, or advanced standing. Information on this matter should be sought in the office of the dean 0-10

GENERAL REQUIREMENTS FOR ALL BACHELOR OF SCIENCE PROGRAMS

For specific requirements consult program schedules S1 through S14 or the department chairperson or the program director.

	<i>Semester Hours</i>
<i>Major field or disciplinary concentration</i>	24
Must be 300-400 level courses with a standard grade point average of at least 2.0.	
<i>Minor field</i>	12
Not required in all programs. Consult departmental listings.	
<i>Science</i> (Biology, Chemistry, Geology, Physics)—one full year	varies
At least two courses total.	
<i>Philosophy and/or Religious Studies</i>	12
<i>Communication skills</i> (ENG 111, 112, SPE 101)	0-10
Each student in the College of Arts and Sciences must demonstrate competence in written and oral communication before the completion of the freshman year. These competencies may be demonstrated through the completion of course work, proficiency examinations, or advanced standing. Information on this matter should be sought in the office of the dean.	
<i>Program and general electives to total</i>	at least 120
The choice of electives should be approved by the chairperson or dean, since some restrictions exist.	

GRADUATION REQUIREMENTS

1. It is the responsibility of the student to file his or her Candidate for Graduation card in the office of the Dean of the College of Arts and Sciences.

2. For graduation, it is necessary that the student successfully complete an approved program of studies in the College; that the standard grade point average be at least 2.0 in the major field, in the minor field, and in the total program. In the Bachelor of Fine Arts and Bachelor of Music Programs, a 2.0 cumulative grade point average is required in the nonprofessional courses as well as in the professional courses.

INTERNSHIP PROGRAM

The Internship Program is an educational work experience with an outside agency, in which a full-time student registers for on-the-job work performed without direct supervision by academic personnel. Such work can be performed in a variety of areas; however, the general purpose of all internships is to serve as transition between the world of study and the world of work.

Normally a departmental internship director or another designated faculty member will make all contacts with prospective agencies for placing students as interns. While students themselves may initiate contacts at possible sites, all sites must be ruled acceptable by the director before an internship may begin.

In order to accomplish the general purpose of an internship, the student must adhere to the following requirements:

College of Arts and Sciences

- To be eligible for an internship, a student must be in good standing at the University of Dayton and have successfully completed course work in areas appropriate to the internship sought.

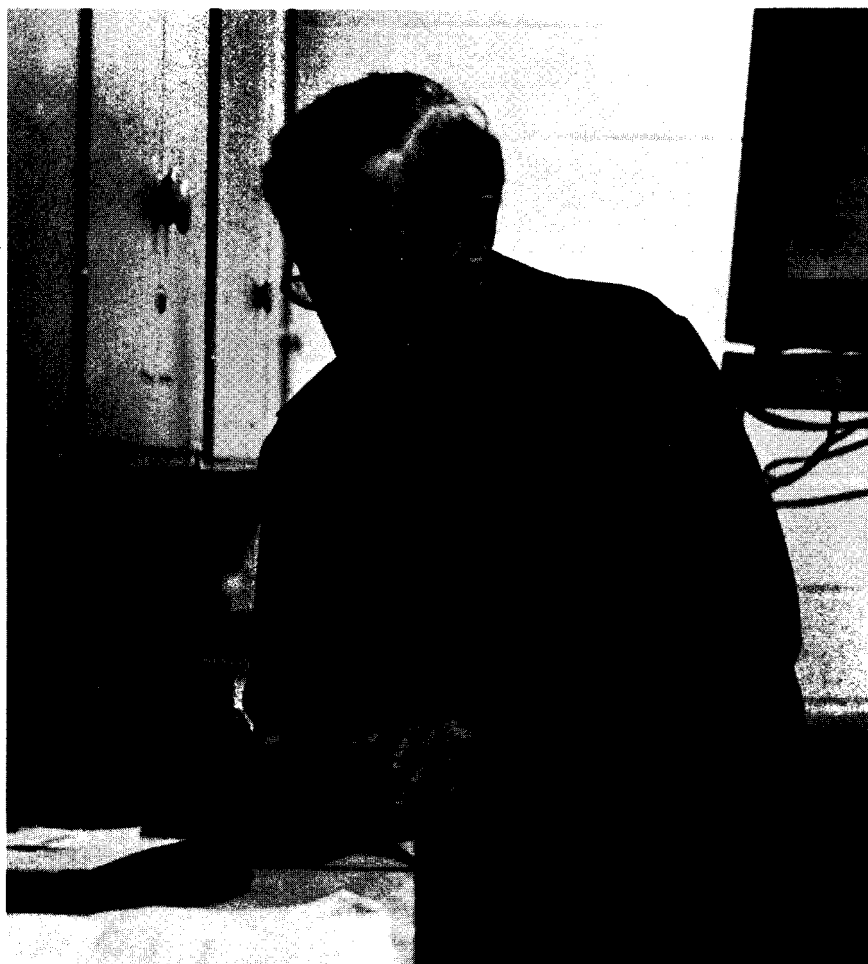
- An intern may receive no more than six semester hours of credit in any semester for internship.

- No more than twelve semester hours of work experience credit in any kind of internship or work experience program can be accepted toward a baccalaureate degree.

- The student intern will submit a daily log and a written report to the internship director at the conclusion of the internship.

Other procedures and requirements in addition to those mandated by the College may be imposed by departments for individual programs to meet the specific nature of a given internship.

Interested students should see the internship directors in their respective departments for further details.



AMERICAN STUDIES (AMS)

The course requirement for American Studies majors is 48 semester hours, distributed as follows:

1. American Studies 300, 301, and 400; and
2. Courses in each of the three areas identified below as Groups A, B, and C, as follows:
 - a. An area of concentration consisting of 24 semester hours. (Fifteen must be chosen from the recommended American courses as listed in Group A, B, or C below. The other 9 must be non-American courses in the same group.)
 - b. A second area, consisting of 9 semester hours, to be chosen from one of the two remaining groups listed below.
 - c. A third area, consisting of 6 semester hours, to be chosen from the remaining group.

Group A

ENG 305, 317¹, 319¹, 320¹, 325, 327, 329¹, 331¹, 335, 337, 339, 380¹, 451, 453, 455, 468, 490¹.

ART 376, 472, 490¹.

MUS 304, 305, 306, 344.

Group B

HST 349, 351, 355, 360, 364, 365, 380, 385¹, 390, 398, 399, 450, 454, 455, 456, 460, 461, 472, 475, 476, 477, 478, 479, 499¹.

PHL 304, 310, 311, 314, 317, 318, 320, 323, 330, 331, 340¹, 361.

REL 301, 326, 327, 364¹, 367, 372, 373, 408¹, 428¹, 448, 478.

Group C

ECO 346, 347, 430, 442, 445, 471, 480, 485, 490².

POL 301, 303, 305, 310, 311, 312, 313, 360, 408, 411, 412, 413, 422, 450, 475, 479.

PSY 325, 334, 341, 351, 361, 363, 443, 461, 462, 471.

SOC 303, 328, 333, 343, 351, 439.

ANT 310, 315, 406, 449.

SWK 337.

AMS 405 may be counted as a course under A, B, or C, by consultation with the director.

No minor is required of American Studies majors.

The American Studies curriculum is shaped with the advice of a committee composed of professors Alexander, Arons, Bregenzer, Henninger, Kimble, and Kunkel.

¹Courses which are to be considered "listed" only when their content is entirely or mostly "American."

²Each of the economics courses has one or two 200-level prerequisites; consult the director.

PROGRAM—A1: BACHELOR OF ARTS WITH AN INTERDISCIPLINARY MAJOR IN AMERICAN STUDIES (AMS)¹

	<i>Semester Hours</i>
AMS 300, 301, 400	9
First area electives from Group A, B, or C, as listed above	24
Second area electives from one of the two remaining groups	9
Third area electives from the remaining group	6
Natural science and mathematics	7
Social and behavioral science	12
Humanities	18
Philosophy and/or religious studies	12
Communication skills	0-10
General academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs.

FACULTY

Francis J. Henninger, *Director*

Associate Professors: Alexander, Henninger, Palermo

Lecturer: Perkins

COURSES OF INSTRUCTION

AMS 300. AMERICAN CULTURES: A study of American artifacts to discern how they indicate the periods in the life of our civilization and how like artifacts can be used to determine the stages of development of various peoples. 3 sem. hrs.

AMS 301. INTERPRETATIONS OF AMERICAN CULTURE: Critical study of various interpretations of American culture through more than a hundred years. 3 sem. hrs.

AMS 400. INTERDISCIPLINARY RESEARCH: Study of the principles of interdisciplinary scholarship; what can and probably cannot be accomplished by it; successful interdisciplinary accomplishments. Students will complete interdisciplinary projects. 3 sem. hrs.

AMS 405. TOPICS IN AMERICAN CULTURE: Study of American topics of wide interest whose most effective approach is interdisciplinary. Open to students in all disciplines. 1-3 sem. hrs.

AMS 410. FIELD STUDIES IN AMERICAN CULTURE: Course which brings the methods of interdisciplinary inquiry directly to bear upon characteristic American activities. Prerequisites: Interdisciplinary course work, instructor's permission. 3-9 sem. hrs.

ANTHROPOLOGY (ANT)

Anthropology is the study of people at all times and places. It emphasizes understanding total cultural systems. The Department of Sociology and Anthropology offers a minor in anthropology. Students intending to minor in anthropology should consult with the department chairperson to plan their selection of courses, which must include ANT 150 and four courses at the 300-400 level. See also SOC.

COURSES OF INSTRUCTION

ANT 150. CULTURAL ANTHROPOLOGY: Basic principles of cultural anthropology. Survey of human adaptation to and adjustment of the environment by means of culture; comparison of ways of life among peoples of the world for inferences toward understanding human behavior. Required for anthropology minors. 3 sem. hrs.

ANT 300. EVOLUTION OF PEOPLE AND CULTURE: Survey of human biological and cultural evolution from prehuman ancestors to settled city-states. Consideration of contemporary peoples at various levels of social complexity. 3 sem. hrs.

ANT 310. CULTURE AND PERSONALITY: Survey of studies investigating the relationship between cultural environment and the individual. Material drawn from both literate and nonliterate societies. 3 sem. hrs.

ANT 315. LANGUAGE AND CULTURE: Introduction to the scientific study of language and its relationship to other aspects of human behavior. 3 sem. hrs.

ANT 335. URBAN ANTHROPOLOGY: Survey of the emergence of civilization in a number of regions including China, India, Mesopotamia, Egypt, Mexico, and Peru. 3 sem. hrs.

ANT 351. CULTURES OF THE CARIBBEAN: Variety of African- and Old World-derived cultures in the Caribbean and on its borders. Social-scientific topics such as effects of mother-centered families on personality, importance of verbal behavior in these cultures, problems of I.Q. testing in cultures other than where the tests originate, economic adaptations, political movements, religious practices. 3 sem. hrs.

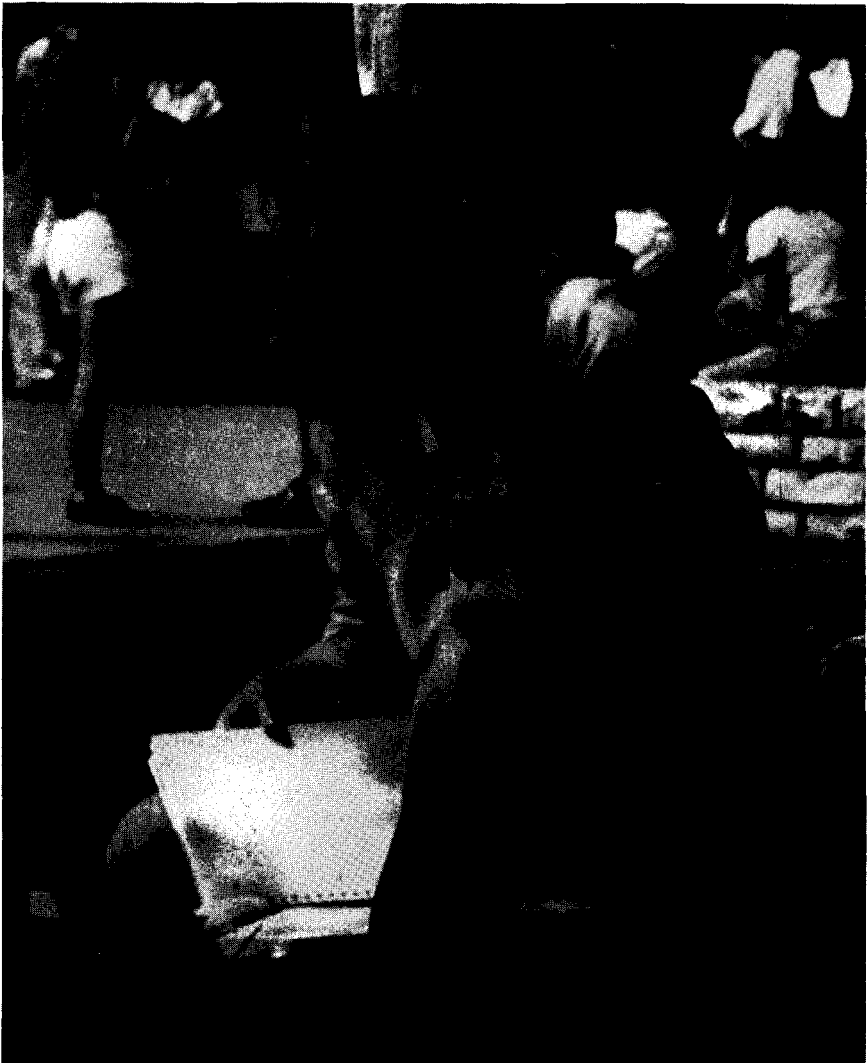
ANT 352. CULTURES OF LATIN AMERICA: Origin and development of ancient civilizations including the Aztec, the Maya, and the Inca. Survey of contemporary cultures, with special emphasis on peasant life. 3 sem. hrs.

ANT 353. NATIVE CULTURES OF NORTH AMERICA: Consideration of the origins and diversity of American Indian cultures north of the Rio Grande, with attention to language, cultural adaptation to environment, and acculturation without assimilation. The present situation of the Indian in relation to the surrounding culture. 3 sem. hrs.

ANT 406. CULTURAL CHANGE: The process of social changes in the modern world; culture lag and conflict of norms; individual and social problems arising from conflicting systems of values and norms. Prerequisite: ANT 150 or permission of instructor. *3 sem. hrs.*

ANT 449. ANTHROPOLOGICAL FIELD WORK: Formulation and carrying out of a research design in archaeology, physical anthropology, linguistics, or cultural anthropology. Prerequisite: Consent of instructor. *6 sem. hrs.*

ANT 498. INDEPENDENT STUDY: Research problems or readings of special interest investigated under the guidance of an anthropology staff member. Permission of the chairperson. *1-6 sem. hrs.*



BIOLOGY (BIO)

CURRICULUM DESCRIPTION FOR BACHELOR OF SCIENCE WITH A MAJOR IN BIOLOGY

Semester Hours

Biology core courses	21
Biology electives (may include other sciences)	19
Supporting sciences	30 (31)
College requirements (ENG, SPE, PHL/REL)	21 (22)
Humanities electives	12
Social-behavioral science electives	12
General electives	10
	<hr/> 125 (127)

Biology core courses required of all majors: the general biology sequence (BIO 151, 152, 152L, 201L), Genetics (BIO 412), Sophomore and Senior Seminars (BIO 299, 420), one organism/environment course with laboratory (Group A), one physiology/molecular biology course with laboratory (Group B).

Biology electives (six courses) are chosen from any of the areas of biology (Groups A, B, C below). At least one laboratory course must accompany these electives. Interested students may carry out independent study and research projects for academic credit (Biological Problems, BIO 421-422, 1 to 2 sem. hrs.).

Group A

BIO 314, 314L Plant Biology
BIO 430, 430L Ecology
BIO 452, 452L Aquatic Biology
BIO 461, 461L Invertebrate Zoology

Group B

BIO 403, 403L Physiology
BIO 411, 411L Microbiology
BIO 440, 440L Cell Biology
BIO 442, 442L Developmental Biology

Group C

All other biology courses
(See Courses of Instruction.)

Because of differing career plans, majors may take some middle or upper-level elective courses in other science or engineering departments as long as the courses have direct relevance to the major in biology. However, biology majors must have a minimum of 24 semester hours of 300-400 level *biology* courses.

Supporting sciences. A Bachelor of Science in Biology assumes supporting courses in other science and/or technical areas. Biology majors are required to complete a year of calculus (or if so indicated by mathematics placement, pre-calculus and calculus I), two years of chemistry (with laboratories) including organic chemistry, and a year of introductory physics (with laboratories).

College requirements. Two English courses (ENG 111, 112). Students with initial placement in ENG 112 or 114 must take an additional English elective. SPE 101 is required and should be taken in the freshman year. Twelve semester hours of philosophy and/or religious studies.

Humanities electives are meant to strengthen the student's appreciation of the aesthetic and spiritual life. A minimum of 12 semester hours should be selected from art, American studies, communication arts, English, history, languages, literature, music, performing and visual arts, philosophy, theater, religious studies, etc. A full year of a modern foreign language is strongly recommended. (The College requirements of English, speech, philosophy and/or religious studies do not fulfill this requirement.)

Social-behavioral science electives help students to understand modern social problems. A minimum of 12 semester hours should be selected from anthropology, criminal justice, economics, political science, psychology, social work, sociology.

General electives are courses in any academic area taken simply for their general educational value. Ten semester hours are required. With permission from the chairperson and the Office of the Dean of the College of Arts and Sciences, some electives can be taken in the professional schools within the University.

PROGRAM—S1: BACHELOR OF SCIENCE WITH A MAJOR IN
BIOLOGY (BIO)¹

Dept.	No.	Course	1st Term ²	2nd Term
Freshman Year				
BIO	100	Freshman Seminar	1-0-0	
BIO	151-152	Concepts of Biology ³	3-0-3 ²	3-3-4
CHM	123-124	General Chemistry	3-3-4	3-3-4
MTH	112-113	Introductory Calculus ⁴	3-0-3	3-0-3
ENG	111-112	College Composition I and II ⁵	4-0-4	3-0-3
—	—	College requirement ⁶	3-0-3	3-0-3
			17	17
Sophomore Year				
BIO	201L	Biology Laboratory Investigations	0-3-1	
BIO	299	Sophomore Seminar		1-0-1
BIO	—	Biology core elective ⁷		3-3-4
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
PHY	201-202	Physics ⁸	3-2-4	3-2-4
—	—	College requirement ⁶	3-0-3	
—	—	Humanities/social-behavioral science ⁹	3-0-3	3-0-3
			15	16
Junior Year				
BIO	412	General Genetics	3-0-3	
BIO	—	Biology core elective ⁷	3-3-4	
BIO	—	Biology electives ¹⁰		6-3-7
—	—	College requirement ⁶	3-0-3	
—	—	Humanities/social-behavioral science ⁹	3-0-3	3-0-3
—	—	General electives ¹¹	2-0-2	5-0-5
			15	15

		Senior Year		
BIO	420	Senior Seminar ¹²	1-0-1	
BIO	—	Biology electives ¹⁰	6-0-6	6-0-6
—	—	College requirement ⁶	3-0-3	
—	—	Humanities/social-behavioral sciences ⁹	6-0-6	6-0-6
—	—	General electives ¹¹		3-0-3
			16	15

¹Consult *General Requirements* for All Bachelor of Science Programs.

²For example, 3-0-3 means 3 hrs. class, 0 hrs. lab., 3 sem. hrs. credit.

³Qualified students may be invited to take part in 2nd term Honors Lab sections of BIO 152.

⁴Placement test may necessitate initial course in precalculus (MTH 101). Depending on background and interests, two calculus sequences are available, MTH 112-113, MTH 118-119. (See Mathematics Courses of Instruction.)

⁵See information under Biology Curriculum Description: *College requirements*. English elective if 1st-term placement was ENG 112, 114, or 198.

⁶See information under Biology Curriculum Description: *College requirements*. SPE 101; 12 sem. hrs. of PHL and/or REL.

⁷See information under Biology Curriculum Description: *Biology core courses*. One lab course each from Group A and Group B.

⁸Depending on mathematics background and interests, two physics sequences are available: PHY 201-202; PHY 206-207-208. Students opting for 206-207-208 lecture sequence must take the 201-202 labs.

⁹See information under Biology Curriculum Description: *Humanities and social-behavioral science electives*. 12 sem. hrs. in each group.

¹⁰See information under Biology Curriculum Description: *Biology electives*.

¹¹See information under Biology Curriculum Description: *General electives*.

¹²Can be taken 1st or 2nd term.

CURRICULUM DESCRIPTION FOR COMBINED BACHELOR AND MASTER OF SCIENCE WITH A MAJOR 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 continuation toward the Ph.D. degree.

An early commitment to the program and utilization of third-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 first term of the fourth year. Qualifying examinations for master's candidacy take place during the first term of the fifth year. The M.S. component of the combined program requires a research thesis. If the thesis work is under way 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.

Specialization in a biological subfield is accomplished by selection of undergraduate and graduate elective courses, choice of thesis topic, and participation in appropriate seminars. Subfield specialization, botanical or zoological, is available in physiology, ecology and field biology, cell and development biology, and genetics and microbiology. Depending upon subfield specialization, special problems courses may be conducted at clinical and/or industrial laboratories in the local community.

Indication of intent to enter the combined B.S./M.S. program should be made during the second year. Formal entry into the program occurs during the fourth year; applications are submitted during the first term, and acceptance and matriculation are begun during the second term. Students accepted into the program will be supported as follows:

Second and third terms, fourth year, partial stipend plus complete remission of tuition and fees

First, second, and third terms, fifth year, full stipend and complete remission of tuition and fees

Service as a laboratory teaching assistant may be required during the fourth and fifth years.

Admissions criteria include the following:

1. Completion of all first-, second-, and third-year courses as specifically listed in the Bulletin description of the Combined B.S./M.S. Program in Biology. Course equivalents will be determined by the departmental committee on graduate admissions.
2. Total cumulative and science grade-point averages of 3.3 or higher.
3. Reference letters from three biology faculty members (one of whom will be the applicant's graduate advisor and research director).

It is essential that potential applicants to the B.S./M.S. Program in Biology declare their intentions to the department chairperson as soon as possible.

Curriculum Summary

Semester Hours

	<i>B.S.</i>	<i>M.S.</i>
Biology core courses	24	9
Biology seminars, problems and topic courses	4	4
Biology electives	11	11
Biology thesis		6
Supporting sciences	33	
College requirements (ENG, SPE, PHL/REL)	21 (22)	
Humanities electives	15	
Social-behavioral science electives	12	
	<hr/> 120 (121)	<hr/> 30 = 151 (152)

PROGRAM—S/M1: ACCELERATED BACHELOR AND MASTER OF
SCIENCE WITH A MAJOR IN BIOLOGY (BIO)

Dept.	No.	Course	1st Term ¹	2nd Term	3rd Term
First Year					
BIO	100	Seminar	1-0-0		
BIO	151-152	Concepts of Biology	3-0-3	3-3-4	
CHM	123-124	General Chemistry	3-3-4	3-3-4	
MTH	112-113	Introductory Calculus ²	3-0-3	3-0-3	
ENG	111-112	College Composition I and II ³	4-0-4	3-0-3	
—	—	College requirements ⁴	3-0-3	3-0-3	
			17	17	
Second Year					
BIO	201L	Biology Laboratory Investigations		0-3-1	
BIO	299	Seminar		1-0-1	
BIO	—	Biology elective	3-0-3		
BIO	430	Ecology		3-3-4	
CHM	313-314	Organic Chemistry	3-3-4	3-3-4	
PHY	201-202	Physics	3-2-4	3-2-4	
—	—	College requirement ⁴	3-0-3		
—	—	Humanities/social-behavioral science ⁵	3-0-3	3-0-3	
			17	17	
Third Year					
BIO	412	General Genetics	3-3-4		
BIO	421-422	Biological Problems			2-0-2
BIO	440	Cell Biology		3-3-4	
BIO	442	Developmental Biology		3-3-4	
BIO	—	Biology elective	3-3-4		3-3-4
CHM	420	Biochemistry		3-0-3	
—	—	College requirement ⁴	3-0-3	3-0-3	
—	—	Humanities/social-behavioral science ⁵	6-0-6	3-0-3	6-0-6
			17	17	12
Fourth Year ⁶					
BIO	420	Seminar	1-0-1		
BIO	501	Graduate Seminar	1-0-0	1-0-0	
BIO	550	Biometrics			3-0-3
BIO	552-553	Biological Instrumentation	2-6-4	1-2-2	
BIO	599	Thesis			3-0-3
BIO	601	Special Topics		1-0-1	1-0-1
BIO	—	Biology elective ⁷	3-3-4	3-3-4	
—	—	Humanities/social-behavioral science ⁵	6-0-6		
			15	7	7
Fifth Year ⁸					
BIO	501	Graduate Seminar	1-0-0	1-0-0	
BIO	—	Biology elective ⁷	3-0-3		
BIO	599	Thesis			3-0-3
BIO	601	Special Topics	1-0-1	1-0-1	
			4	1	3

¹For example, 3-0-3 means 3 hrs. class, 0 hrs. lab, 3 sem. hrs. credit.

²Students with strong math background should take MTH 118-119.

³Two English courses required. Students with initial placement in ENG 112, 114, or 198 must take an English elective.

⁴SPE 101 is required and should be taken during the freshman year. Twelve sem. hrs. of philosophy and/or religious studies are required.

⁵Humanities and social-behavioral science electives, 15 sem. hrs. in the former, 12 sem. hrs. in the latter.

⁶Tuition remission and partial stipend for 2nd and 3rd terms. B.S. awarded at December commencement.

⁷Choose from 400-500 level BIO courses or 500 level CHM courses.

⁸Tuition remission and full stipend for 1st, 2nd, and 3rd terms. M.S. qualifying examinations (written and oral) will be taken during the 1st term of the fifth year.

FACULTY

Charles J. Chantell, *Chairperson*

Professors: Bajpai, Geiger, Jaffee, McDougall, Noland, Ramsey

Associate Professors: Burky, Chantell, Laufersweiler, Rowe, Shay, Schwelitz, Williams

Adjunct Associate Professor: Fleischman

Clinical Associate Professors: Moss, Stull, Taylor

Assistant Professors: Ventullo, Vesper

COURSES OF INSTRUCTION

BIO 101. GENERAL BIOLOGY I: A study of the more important biological processes and principles through analysis and synthesis, dealing primarily with the organizational aspects of living things. This course (and BIO 102) is designed for students not following the biology core curriculum. 3 sem. hrs.

BIO 101L. GENERAL BIOLOGY LABORATORY I: Course to accompany BIO 101. One 2-hour laboratory per week stressing the investigational and experimental approach. 1 sem. hr.

BIO 102. GENERAL BIOLOGY II: A continuation of BIO 101, stressing primarily the operational aspects of living matter. Prerequisite: BIO 101. 3 sem. hrs.

BIO 102L. GENERAL BIOLOGY LABORATORY II: Course to accompany BIO 102. One 2-hour laboratory per week. 1 sem. hr.

BIO 104. INTRODUCTORY BIOLOGY FIELD COURSE: An introduction to the ecology, behavior, morphology, taxonomy, and life history of plants and animals. One week on campus; three weeks in the Rocky Mountains near Denver, Colorado; one week of travel to and from the field site. For non-biological science majors only. Corequisites: GEO 104; BIO 104L or GEO 104L. 3 sem. hrs.

BIO 104L. INTRODUCTORY BIOLOGY FIELD LABORATORY: Field trip laboratory in the biological sciences to accompany BIO 104. GEO 104L can be substituted for this course. 1 sem. hr.

BIO 114. BIOLOGICAL SCIENCE: Introduction to the various biological sciences for nonscience majors, stressing principles that apply to all forms of life, taking examples from plant, animal, and microbial life. 3 sem. hrs.

BIO 114L. BIOLOGICAL SCIENCE LABORATORY: Course to demonstrate and emphasize principles discussed in BIO 114. One 2-hour laboratory per week. 1 sem. hr.

BIO 151. CONCEPTS OF BIOLOGY I: Study of the physico-chemical organization, the regulatory mechanisms, and the energy relations of living things. Core biology course (for majors in biology, medical technology, premedicine, etc.). 3 sem. hrs.

BIO 152. CONCEPTS OF BIOLOGY II: Continuation of BIO 151. Homeostatic mechanism. Reproduction in organisms and its relationship with genes, growth and development, population concepts, environment, and evolution. Core biology course. 3 sem. hrs.

BIO 152L. BIOLOGY LABORATORY INVESTIGATIONS I: An introduction to biological laboratory procedures and instrumentation through a series of experimental exercises employing a wide variety of organisms. Core biology course. 1 sem. hr.

BIO 201L. BIOLOGY LABORATORY INVESTIGATIONS II: Specialized laboratory investigations at the organization levels of cells, systems, and organisms. Emphasis on both plant and animal studies. Sophomore-level biology core course with special section for medical technology majors. 1 sem. hr.

BIO 299. BIOLOGY SEMINAR: Introduction to biological journals and abstracting materials. Practice in the reviewing, abstracting, and presentation of biological information. Primarily for sophomores; not open to seniors. 1 sem. hr.

BIO 301. EVOLUTION: Survey of manifestations and examination of mechanisms of the theory of organic evolution with primary emphasis on vertebrate animals. Minimum prerequisite: BIO 101-102/114. 3 sem. hrs.

BIO 309. COMPARATIVE ANATOMY OF THE VERTEBRATES: Study of changes that have occurred in the chordate body with the passage of time, and analysis of their significance. Prerequisite: Minimum of one year of introductory biology. 3 sem. hrs.

BIO 309L. COMPARATIVE ANATOMY LABORATORY: Course to accompany BIO 309 lecture. Dissection and study of representative vertebrate animals. Two 3-hour periods per week. 2 sem. hrs.

BIO 310. HISTOLOGY AND MICROTECHNIQUE: Fundamentals of cell morphology, microscopic structure of tissues and organs, and discussion of techniques in their study. Prerequisite: BIO 101-102 or 151-152. 3 sem. hrs.

BIO 310L. HISTOLOGY AND MICROTECHNIQUE LABORATORY: Fundamentals of fixing and processing various tissues in the preparation of slides; aims at recognition of microstructure of normal tissues. 1 sem. hr.

BIO 314. PLANT BIOLOGY: Consideration of structure, function, reproduction, and inheritance as applicable in the plant patterns of life. Emphasis on the vascular plants. Minimum prerequisite: A course in biology. 3 sem. hrs.

BIO 314L. PLANT BIOLOGY LABORATORY: Laboratory exercises to accompany BIO 314. Emphasis on generalized structure and function of plants. One 3-hour laboratory per week. 1 sem. hr.

BIO 320. MARINE BIOLOGY: Introduction to the diversity of marine life including the physical-chemical environment. Third term only. 2 sem. hrs.

BIO 320L. MARINE BIOLOGY LABORATORY: Examination of marine organisms and processes. Laboratory work conducted on UD campus and at off-campus field sites in the South. Third term only. 2 sem. hrs.

BIO 350. APPLIED MICROBIOLOGY: Fundamentals of applied and environmental microbiology for environmental scientists and engineers. Introduction to microorganisms and their role in bioenvironmental engineering and industrial processes. For non-biological-science majors only. Prerequisites: Introductory biology; general and organic chemistry. *3 sem. hrs.*

BIO 350L. APPLIED MICROBIOLOGY LABORATORY: An introductory laboratory to acquaint students with basic microbiology laboratory techniques as applied to environmental pollution and industrial fermentations. *1 sem. hr.*

BIO 380. MEDICAL TECHNOLOGY SEMINAR: Discussion to relate academic courses and clinical laboratory sciences. Prerequisite: Junior standing. *1 sem. hr.*

BIO 390. PHYSIOLOGY OF SEX AND FERTILITY REGULATION: Introduction to the role of hormones, glands, organs, and devices in the regulation of sexual functions and fertility. Recommended for students in the Family Studies Curriculum (no science credit for biological science majors). Prerequisite: Introductory biology. *3 sem. hrs.*

BIO 398. HEREDITY AND SOCIETY: Survey of the fundamental principles of inheritance and the application of genetics to contemporary problems of society. Topics such as genetic engineering, the green revolution, environmental mutagenesis. Not open to biological science majors. *3 sem hrs.*

BIO 402. VERTEBRATE ZOOLOGY: The morphology, physiology, ecology, and distribution of representative vertebrate groups. Prerequisite: Junior-senior standing. *3 sem. hrs.*

BIO 402L. VERTEBRATE ZOOLOGY LABORATORY: *1 sem. hr.*

BIO 403. PHYSIOLOGY: A physico-chemical examination of the physiological events occurring in a living system with emphasis on mammalian systems. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*

BIO 403L. PHYSIOLOGY LABORATORY: Course to accompany BIO 403. Systematic approach to the acquisition and interpretation of information about the physiology of living systems. *1 sem. hr.*

BIO 407. EMBRYOLOGY: Analysis of vertebrate development with emphasis on morphogenesis, especially organogenesis. Topics include congenital defects. Prerequisites: BIO 101-102 or 151-152; 309 recommended. *3 sem. hrs.*

BIO 407L. EMBRYOLOGY LABORATORY: Course to accompany BIO 407. *2 sem.hrs.*

BIO 410. RADIATION BIOLOGY: Principles concerning the nature of ionizing radiation, its use in studying biological systems, and its effects on organisms. Two hours lecture and two 2-hour laboratory periods per week. Prerequisites: Junior-senior standing. *4 sem. hrs.*

BIO 411. GENERAL MICROBIOLOGY: Rigorous introductory course stressing the physiology, cultivation, and classification of microbial organisms; their role in medicine, agriculture, and industry. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*

BIO 411L. GENERAL MICROBIOLOGY LABORATORY: Course to accompany BIO 411. Two 2-hour periods per week. *2 sem. hrs.*

BIO 412. GENERAL GENETICS: Study of the principles of variation and heredity covering both Mendelian and molecular genetics. Core biology course. *3 sem. hrs.*

BIO 412L. GENETICS LABORATORY: Laboratory exercises to accompany BIO 412. May be taken concurrent with or following the lecture course. *1 sem. hr.*

BIO 417. ENDOCRINOLOGY: Discussion of hormonal regulation of metabolism, growth, and reproduction in the higher vertebrates. Prerequisite: BIO 403. 3 sem. hrs.

BIO 417L. ENDOCRINOLOGY LABORATORY: Laboratory dealing with the functional analysis of mechanisms and the activity of the endocrine system. 1 sem. hr.

BIO 420. SEMINAR: Practice in development, presentation, and discussion of papers dealing with biological research problems. Prerequisite: Junior or senior standing. 1 sem. hr.

BIO 421. BIOLOGICAL PROBLEMS: Laboratory research problems. Topics arranged with faculty advisors. Prerequisite: Chairperson's permission. 1-2 sem. hrs.

BIO 422. BIOLOGICAL PROBLEMS: Library research problems. Topics arranged with faculty advisors. Prerequisite: Chairperson's permission. 1-2 sem. hrs.

BIO 423. ADVANCED MICROBIOLOGY: Lectures, readings, and discussions on modern concepts in basic and applied microbiology, with emphasis on modern methods of microbial taxonomy, major groups of bacteria, microbial ecology, and industrial fermentation. Prerequisite: BIO 411. 3 sem. hrs.

BIO 424. CELL PHYSIOLOGY: The molecular basis for structure, function, and energy transduction in animal and plant cells as well as the organization, function, and development of membrane and subcellular organelles. Prerequisite: BIO 440. 3 sem. hrs.

BIO 424L. CELL PHYSIOLOGY LABORATORY: Isolation and chemical characterization of cellular organelles; study of cell structure by light microscopy. 1 sem. hr.

BIO 425. PARASITOLOGY: Introduction to the morphology, life history, and clinical significance of parasites and other symbionts. Prerequisite: BIO 101-102 or 151-152. 3 sem. hrs.

BIO 425L. PARASITOLOGY LABORATORY: Course to accompany BIO 425. Recognition of common human parasites. Study of both living and preserved forms. One 3-hour period per week. 1 sem. hr.

BIO 427. IMMUNOLOGY: Discussions of antigens, antibodies, antigenicity, immunogenicity, and antigen-antibody reactions including hypersensitivity, immune tolerance, and transplants. Prerequisite: CHM 420. 3 sem. hrs.

BIO 430. ECOLOGY: Interrelationship of plants, animals, and microorganisms with the physical-chemical environment: nutrient cycles, energy flow, ecosystems, and factors affecting distribution and abundance of organisms. Prerequisite: One year of biology. 3 sem. hrs.

BIO 430L. ECOLOGY LABORATORY: Field and laboratory exercises to accompany BIO 430. May be taken concurrently with or following BIO 430. 1 sem. hr.

BIO 431. EXPERIMENTAL EMBRYOLOGY: Morphological and physiological aspects of development including an introduction to teratology. Prerequisite: BIO 407. 3 sem. hrs.

BIO 431L. EXPERIMENTAL EMBRYOLOGY LABORATORY: 1 sem. hr.

BIO 435. MICROBIAL ECOLOGY: Study of the diversity and activity of microorganisms and the interrelationships between microorganisms and their environments with emphasis on aquatic ecosystems. Prerequisites: BIO 411; CHM 313-314. 3 sem. hrs.

BIO 435L. MICROBIAL ECOLOGY LABORATORY: Examination of the methods of isolation and enumeration of microorganisms and techniques for determining their activities in the field and laboratory. *1 sem. hr.*

BIO 440. CELL BIOLOGY: Function, structure, composition, heredity, and growth of cells. Analysis of cell concept in biochemical terms. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*

BIO 440L. CELL BIOLOGY LABORATORY: Laboratory exercises to accompany BIO 440. May be taken concurrently with or following BIO 440. *1 sem. hr.*

BIO 441. PLANT PHYSIOLOGY: Current concepts concerning the physiology of higher plants. Topics include uptake and transfer of materials, metabolism, and regulation of growth and reproduction. Prerequisite: Junior or senior standing. *3 sem. hrs.*

BIO 442. DEVELOPMENTAL BIOLOGY: Analysis of growth and differentiation from standpoint of nucleo-cytoplasmic relationships, and biochemical/physiological aspects. Topics include regeneration and metamorphosis. *3 sem. hrs.*

BIO 442L. DEVELOPMENTAL BIOLOGY LABORATORY: Laboratory exercises to accompany BIO 442. May be taken concurrently with or following BIO 442. *1 sem. hr.*

BIO 444. PLANT DIVERSITY: Broad survey of the major divisions of the plant kingdom; consideration of algae, fungi, bryophytes, vascular plant groups; their generalized life histories, ecological and physiological characteristics, evolutionary relationships. *3 sem. hrs.*

BIO 444L. PLANT DIVERSITY LABORATORY: Laboratory studies of the plant groups, including life cycles and evolutionary, physiological, and ecological adaptations. One 3-hour laboratory per week. *1 sem. hr.*

BIO 446. 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 446L. PLANT DEVELOPMENT AND PHYSIOLOGY LABORATORY: Laboratory to complement BIO 441 and BIO 446. *1 sem. hr.*

BIO 450. COMPARATIVE ANIMAL PHYSIOLOGY: Organized on a function-system basis, course dealing with environment-organism interaction and with integrative systems of the principal phyla of animals. *3 sem. hrs.*

BIO 450L. COMPARATIVE ANIMAL PHYSIOLOGY LABORATORY: Laboratory to accompany BIO 450. Must be taken concurrently with BIO 450. *1 sem. hr.*

BIO 452. AQUATIC BIOLOGY: The interrelationship of organisms and stream and lake ecosystems, including nutrient cycles, oceanic and lake current development, chemical limnology, adaptation to the aquatic environment, and pollution ecology. *3 sem. hrs.*

BIO 452L. AQUATIC BIOLOGY LABORATORY: Laboratory and field exercises emphasizing chemical and physical limnology, evolution of aquatic ecosystems, and pollution ecology. One laboratory or field trip per week. *1 sem. hr.*

BIO 461. INVERTEBRATE ZOOLOGY: Survey of the structure, activities, life histories, and relationships of the invertebrate animals, with some emphasis on their origin and development. Prerequisites: BIO 101-102 or 151-152. *3 sem. hrs.*

BIO 461L. INVERTEBRATE ZOOLOGICAL LABORATORY: Course to accompany BIO 461. One 3-hour laboratory per week. *1 sem. hr.*

BIO 462. ADVANCED GENETICS: Analysis of the nature of the gene and gene action. Particular attention to genetic regulation and to recent advances in molecular genetics. Prerequisites: BIO 412, CHM 314. *2 sem. hrs.*

BIO 462L. ADVANCED GENETICS LABORATORY: Laboratory to accompany BIO 462, employing an experimental approach to genetic problems. Students work the entire term on projects of their choice. *1 sem. hr.*

BIO 464. PATHOPHYSIOLOGY: The role of physiological stress in human physiology and its relation to the disease process. Attention to stress assessment through critical interpretation of clinical laboratory data. Prerequisite: Junior-senior standing; BIO 403. *3 sem. hrs.*

BIO 464L. PATHOPHYSIOLOGY LABORATORY: *1 sem. hr.*

BIO 466. PATHOGENIC BACTERIOLOGY AND IMMUNOLOGY: The nature of infectious diseases, host-parasite relationships in resistance and infection, defense mechanism (antigen-antibody response); survey of the bacteria causing disease in humans. Prerequisites: BIO 411. *3 sem. hrs.*

BIO 466L. PATHOGENIC BACTERIOLOGY AND IMMUNOLOGY LABORATORY: Laboratory experiments to demonstrate immunological, serological, determinative, and medical bacteriology. Two 2-hour laboratory periods per week. *1 sem. hr.*



CHEMISTRY (CHM)

The B.A. program in chemistry provides a framework of scientific courses which serve as a preparation for a number of interdisciplinary professions. The traditional B.S. curriculum has been modified in the B.A. program, most notably in mathematics, physics, and advanced chemistry. The program is sufficiently flexible to afford a wide selection of courses in the humanities. Science courses may be chosen to provide a preparation for professions such as medicine, dentistry, optometry, veterinary medicine, biochemistry, education, and law, as well as for employment in many other areas which require a background in science.

PROGRAM—A2: BACHELOR OF ARTS WITH A MAJOR IN CHEMISTRY (CHA)¹

Dept.	No.	Course	1st Term ²	2nd Term
Freshman Year				
ENG	111-112	College Composition I and II ³	4-0-4 ²	3-0-3
CHM	123-124	General Chemistry ⁴	3-3-4	3-3-4
MTH	112-113	Introductory Calculus I and II ⁵	3-0-3	3-0-3
—	—	Humanities or social science elective ⁶		3-0-3
—	—	Religious studies or philosophy elective	3-0-3	
SPE	101	Fundamentals of Effective Speaking ³		3-0-3
CHM	100	Arts and Sciences Orientation	1-0-0	
—	—	Elective	3-0-3	
			17	16
Sophomore Year				
CHM	201	Quantitative Analysis ⁴	2-4-4	
MTH	215	Basic Statistics ⁵		3-0-3
PHY	201-202	General Physics ⁴	3-3-4	3-3-4
—	—	Religious studies or philosophy elective	3-0-3	
—	—	Humanities or social science elective ⁶		3-0-3
—	—	Elective		3-0-3
CHM	313-314	Organic Chemistry ⁷	3-3-4	3-3-4
			15	17
Junior Year				
CHM	302	Physical Chemistry ⁸	3-0-3	
—	—	Electives	6-0-6	3-0-3
CHM	—	Chemistry elective ⁹		3-0-3
—	—	Humanities and/or social science electives ⁶	6-0-6	6-0-6
—	—	Religious studies or philosophy elective		3-0-3
			15	15
Senior Year				
CHM	496	Professional Practices Seminar	1-0-1	
CHM	309	Chemical Literature		1-0-1
—	—	Religious studies or philosophy elective		3-0-3
CHM	—	Chemistry electives ¹⁰	6-0-6	3-0-3
—	—	Humanities and/or social science electives ⁶	6-0-6	6-0-6
—	—	Electives	3-0-3	3-0-3
			16	16

¹See General Requirements for all Bachelor of Arts Programs.

²For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

³Competence in written and oral communication must be demonstrated during the freshman year as prescribed by the College of Arts and Sciences. In the event of advanced placement, students take another English course or nonscience elective.

⁴May substitute more advanced course depending on background, placement test, or permission of department chairperson.

⁵May substitute MTH 118-119 for MTH 112-113, 215.

⁶Humanities electives must total at least 18 sem. hrs. Social science courses must total at least 12 sem. hrs. See also Distribution Table for Bachelor of Arts program.

⁷CHM 315L-316L may be elected to satisfy laboratory requirements.

⁸May substitute CHM 303-304.

⁹Must include one of the following courses: CHM 404, 406, 412, 415, 417, 420, 498, 499, 551, 552, or any graduate chemistry course with permission of the instructor.

¹⁰Must include either two additional courses listed in footnote 9 or two related science courses approved by the chairperson.

The B.S. program in chemistry is a rigorous curriculum which satisfies the requirements of the American Chemical Society for the training of professional chemists. Students who choose this program of study normally have careers in chemistry as their objective. Qualified students may participate in a co-operative education program following completion of the sophomore year.

Each student in the B.S. program is required to conduct an original research project, thereby gaining practical experience in library and laboratory research and in reporting results. Satisfaction of this requirement normally begins with enrollment in CHM 495 and selection of a research professor and project during the second term of the junior year. The research project, conducted during the entire senior year, normally requires two work periods of 3 to 4 hours each a week. The project culminates in the final term of the senior year with enrollment in CHM 498 or 499 (3 semester hours), the submission of an acceptable thesis, and the presentation of a seminar in CHM 497. Additional research work to a maximum total of 6 semester hours may be elected provided that the work extends beyond two semesters. Co-operative education students substitute work experience for research.

PROGRAM—S2: BACHELOR OF SCIENCE WITH A MAJOR IN CHEMISTRY (CHM)¹

Dept.	No.	Course	1st Term ²	2nd Term
Freshman Year				
CHM	100	Freshman Seminar	1-0-0	
CHM	123-124	General Chemistry ³	3-3-4 ²	3-3-4
MTH	118-119	Analytical Geometry and Calculus I and II	4-0-4	4-0-4
PHY	206	General Physics		3-0-3
PHY	210L	Physics Laboratory		0-3-1
ENG	111-112	College Composition I and II ⁴	4-0-4	3-0-3
SPE	101	Fundamentals of Effective Speaking ⁴	3-0-3	
			15	15
Sophomore Year				
CHM	201	Quantitative Analysis		2-4-4
CHM	313-314	Organic Chemistry	3-0-3	3-0-3
CHM	315L-316L	Organic Chemistry Laboratory	0-3-1	0-3-1

MTH	218	Analytical Geometry and Calculus III	4-0-4	
PHY	207-208	General Physics II and III	3-0-3	3-0-3
PHY	211L	Physics Laboratory	0-3-1	
—	—	Foreign language ⁵	4-0-4	4-0-4
			16	15
Junior Year				
CHM	303-304	Physical Chemistry	3-3-4	3-3-4
CHM	309	Chemical Literature		1-0-1
CHM	406	Qualitative Organic Analysis	2-6-4	
CHM	495	Introduction to Research		1-0-0
CHM	417	Inorganic Chemistry		3-0-3
—	—	Religious studies and/or philosophy electives ¹	3-0-3	3-0-3
—	—	Electives ⁶	6-0-6	6-0-6
			17	17
Senior Year				
CHM	415	Analytical Chemistry	2-6-4	
CHM	496-497	Chemistry Seminar	1-0-1	1-0-1
CHM	—	Chemistry courses ⁷	3-0-3	6-0-6
—	—	Humanities and/or social science electives	3-0-3	3-0-3
—	—	Religious studies and/or philosophy electives ¹	3-0-3	3-0-3
—	—	Electives ⁸	3-0-3	3-0-3
			17	16

¹Consult General Requirements for All Bachelor of Science programs.

²For example 3-3-4 means 3 class hrs., 3 lab hrs., 4 sem. hrs. of credit.

³May substitute more advanced courses depending on background. Consult chairperson. Students with weak or no chemistry background begin with CHM 115.

⁴Competence in written and oral communication must be demonstrated during the freshman year as prescribed by the College of Arts and Sciences. In the event of advanced placement, students take another English course or nonscience elective.

⁵For advanced placement, consult chairperson, Department of Languages.

⁶Any courses for which the student has the prerequisites. Students are strongly urged to complete CPS 144 before enrolling in CHM 304.

⁷Must include CHM 498. Choose others from CHM 404, 412, 499, and any graduate chemistry course with permission of the chairperson. One advanced course in physics or mathematics may be substituted with permission of the chairperson, Department of Chemistry.

⁸CTI 310, 310L, MAT 509 are recommended for students interested in industrial chemistry. Other electives are permissible. (See footnote 6.)

FACULTY

B. Lawrence Fox, *Chairperson*

Professors: Eveslage, Fox, Fratini, Lucier, Michaelis

Associate Professors: Keil, Knachel, Singer

Clinical Assistant Professor: Hilt

COURSES OF INSTRUCTION

CHM 110. GENERAL CHEMISTRY: A terminal course for the nonscience major involving fundamental chemical principles and their applications to problems of modern society. 3 sem. hrs.

CHM 110L. GENERAL CHEMISTRY LABORATORY: Laboratory course to complement CHM 110. 1 sem. hr.

CHM 115. COLLEGE PREPARATORY CHEMISTRY: A one-term course for students desiring to enter a science or engineering program but whose background is insufficient for CHM 123-124. Unacceptable for credit toward chemistry requirements in any chemistry program. 3 sem. hrs.

CHM 115L. COLLEGE PREPARATORY CHEMISTRY LABORATORY: Laboratory course to complement CHM 115. 1 sem. hr.

CHM 123-124. GENERAL CHEMISTRY: Comprehensive treatment of the fundamentals of general chemistry. Prerequisite: Competence in high school chemistry or successful completion of CHM 115. A placement examination is available for students whose background is doubtful. CHM 123 is a prerequisite for CHM 124. 6 sem. hrs.

CHM 123L-124L. GENERAL CHEMISTRY LABORATORY: Laboratory course to complement CHM 123-124. One 3-hour laboratory session per week. CHM 123 is a corequisite for CHM 123L. CHM 124 is a corequisite for CHM 124L. 2 sem. hrs.

CHM 201. QUANTITATIVE ANALYSIS: Fundamental theory and techniques of gravimetric, volumetric, spectrophotometric, and electroanalytical methods of chemical analysis. Two class periods per week. Prerequisites: CHM 124, 124L. 2 sem. hrs.

CHM 201L. QUANTITATIVE ANALYSIS LABORATORY: Course to accompany CHM 201 lecture. One 4-hour laboratory period per week. 2 sem. hrs.

CHM 302. PHYSICAL CHEMISTRY: Course especially designed for premedical, predental, or biology majors. Three lectures per week. Prerequisite: CHM 124. First term, each year. 3 sem. hrs.

CHM 303-304. PHYSICAL CHEMISTRY: Course for chemistry majors and chemical engineers. Three lecture hours per week. Prerequisite: CHM 201 or equivalent; corequisite: MTH 218. 6 sem. hrs.

CHM 303L-304L. PHYSICAL CHEMISTRY LABORATORY: Course to accompany CHM 303-304. One 3-hour laboratory each week. Corequisite: MTH 218. 2 sem. hrs.

CHM 309. CHEMICAL LITERATURE: The use of chemical literature, indexing methods, and patent procedure. Second term, each year. 1 sem. hr.

CHM 313-314. ORGANIC CHEMISTRY: Major topics in organic chemistry including synthesis, mechanisms, stereochemistry, and spectroscopy. Required of all chemistry majors and students in the life sciences. Prerequisite: CHM 124. CHM 313 is a prerequisite for CHM 314. 6 sem. hrs.

CHM 313L-314L. ORGANIC CHEMISTRY LABORATORY: Course designed for students in the life sciences. Common separation, purification, and analytical techniques including chromatography and spectroscopy. One 3-hour laboratory per week. Prerequisite: CHM 124L. CHM 313L is a prerequisite for CHM 314L. 2 sem. hrs.

CHM 315L-316L. ORGANIC CHEMISTRY LABORATORY: Emphasis on synthesis. Required of all B.S. chemistry majors. Prerequisite: CHM 124L. 315L is a prerequisite for 316L. 2 sem. hrs.

CHM 404. SPECIAL TOPICS IN PHYSICAL CHEMISTRY: Thorough treatment of topics such as macromolecules, spectroscopy, photochemistry, and electrochemistry. 3 sem. hrs.

CHM 406. QUALITATIVE ORGANIC ANALYSIS: Course in the identification of organic compounds based upon chemical, physical, and spectral properties. Two class periods per week. Prerequisite: CHM 314. *2 sem. hrs.*

CHM 406L. QUALITATIVE ORGANIC ANALYSIS LABORATORY: Course to accompany CHM 406. Two 3-hour laboratory periods each week. *2 sem. hrs.*

CHM 412. INTERMEDIATE ORGANIC CHEMISTRY: Modern theory and practice of organic chemistry. May include structure-reactivity relationships, reaction mechanism, and synthetic topics not normally treated in introductory courses. Prerequisites: CHM 302 or equivalent, CHM 313-314, and senior standing *3 sem. hrs.*

CHM 415. ANALYTICAL CHEMISTRY: Methods of analysis based on modern instrumentation, including chemical, electrical, and spectral methods. Prerequisites: CHM 201, and 302 or 303-304. *2 sem. hrs.*

CHM 415L. ANALYTICAL CHEMISTRY LABORATORY: Course to accompany CHM 415. Two 3-hour laboratory sessions each week. Prerequisites: CHM 201L, CHM 302 or equivalent. *2 sem. hrs.*

CHM 417. INORGANIC CHEMISTRY: Introductory course in fundamentals of modern inorganic chemistry: atomic structure, principles of structure and bonding, acid-base chemistry, periodicity, coordination compounds, nonaqueous solvents, electrochemistry, molecular symmetry, and the chemistry of selected representative elements. Prerequisites: CHM 124, 314. Corequisite: CHM 302 or 304. *3 sem. hrs.*

CHM 420. BIOCHEMISTRY: The fundamentals of biochemistry. Prerequisite: CHM 314. Second term, each year. Recommended for nonchemistry majors. *3 sem. hrs.*

CHM 490L. SCIENTIFIC GLASSBLOWING: The theory and practice of glass working. Under the supervision of a professional glassblower, students learn to make several standard seals and fabricate pieces of glass apparatus. Enrollment limited. Permission of departmental chairperson required. One 3-hour laboratory each week. *1 sem. hr.*

CHM 495. INTRODUCTION TO RESEARCH SEMINAR: Research topics presented by visiting scientists and faculty, and the results of thesis research by senior students. Required of all junior chemistry majors in the B.S. program. Grading option 2. *No credit*

CHM 496. PROFESSIONAL PRACTICES SEMINAR: Topics are career opportunities in chemistry, resumé preparation, and interviewing. Some practical experience in technical report writing and oral presentation. Required of all chemistry majors. *1 sem. hr.*

CHM 497. RESEARCH SEMINAR: A series of seminars as described under CHM 495. Required of all senior chemistry majors in the B.S. program. *1 sem. hr.*

CHM 498-499. RESEARCH AND THESIS: All students in the B.S. program (except Co-op) are required to enroll for a minimum of 3 semester hours in a research course (CHM 498). Students may elect to take additional research credits (CHM 499) only if the work extends for more than 2 semesters. Successful completion of research courses requires the submission of a typewritten thesis and the presentation of a seminar. *3-6 sem. hrs.*

CLASSICS (CLA)

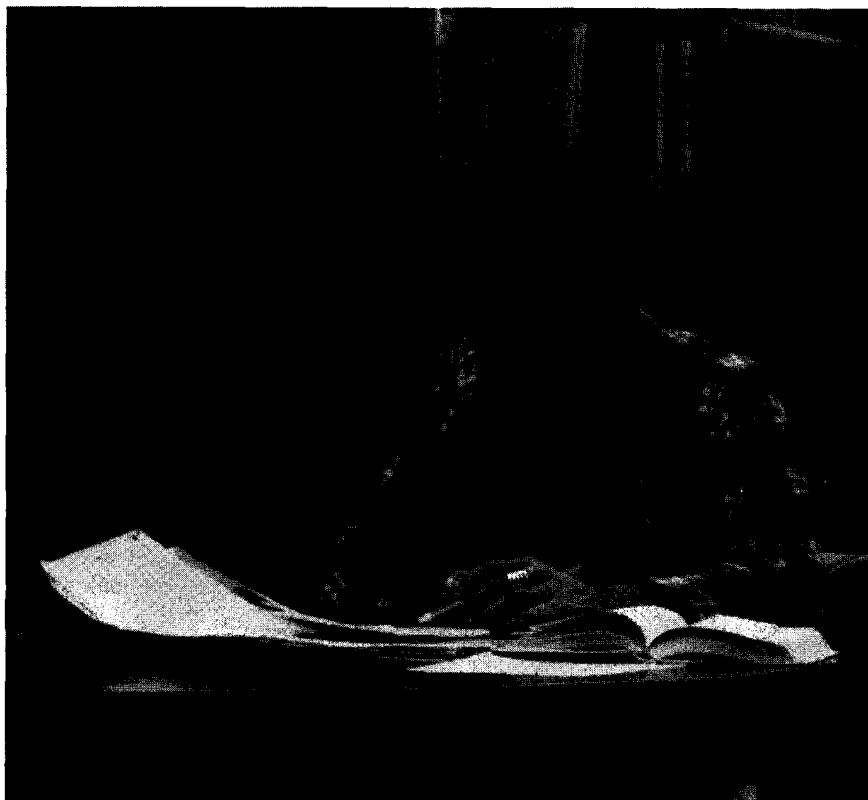
Courses in classics, taught in English, are offered by the Department of Languages. See LNG. See also HMS.

COURSES OF INSTRUCTION

CLA 203. CLASSICAL MYTHOLOGY: An introduction to the principal cycles of Greek and Roman mythology, with emphasis on the influence of classical mythology upon the literature and art of the Western world. No prerequisite. 2 sem. hrs.

CLA 205. INTRODUCTION TO GREEK ARCHAEOLOGY: Survey of Greek archaeology from the Neolithic to the Classical Age, including consideration of the theory and technique of archaeological investigation. Emphasis on the cultures of the Minoan Bronze Age, the Mycenaean Bronze Age, and the Classical Age. 3 sem. hrs.

CLA 350. CLASSICAL LITERATURE IN TRANSLATION: Course to acquaint students not majoring or minoring in classical languages with Latin and Greek authors and literary movements. Conducted in English. Repeatable when subtitle and content change. 3 sem. hrs.



COMMUNICATION ARTS (COM)

SPE 101 is a prerequisite for all COM, JRN, and SPE courses listed as 300 or above.

The course requirements for Communication Arts majors are 36 semester hours distributed as follows:

For General Major in Communication Arts (COM):

1. SPE 101, COM 120, and 30 semester hours in COM, SPE, and JRN courses.
2. At least one upper-level course in each of the following: Speech Communication, Broadcasting, Journalism, and allied areas, and electives in the field selected through consultation with the department chairperson.

For Concentrated Major in Communication Arts:

Broadcasting (RTV):

1. SPE 101, COM 120, SPE 206, SPE 316, SPE 329, SPE 412.
2. One of the following: SPE 410, SPE 416, SPE 420.
3. Six semester hours of COM courses; 6 semester hours of JRN courses.
4. Three semester hours of any COM, JRN, or SPE course.

Communication Management (CMT):

1. SPE 101, COM 313, SPE 312, COM 308, COM 309, COM 310, COM 330.
2. Fifteen semester hours of any COM, JRN, or SPE courses.

Journalism (JRN):

1. SPE 101, COM 120, JRN 206, JRN 301, JRN 400, COM 440.
2. One JRN elective.
3. Six semester hours of COM courses; 6 semester hours of SPE courses.
4. Three semester hours of any COM, JRN, or SPE course.

Public Relations (PUB):

1. SPE 101, COM 120, COM 301, COM 402, COM 455, JRN 206.
2. Six semester hours of JRN courses; 6 semester hours of SPE courses.
3. Six semester hours of any COM, JRN, or SPE courses.

Teacher certification through the E-11 program is an option for Communication Arts majors. Consult department chairperson for details.

Minors in Communication Arts must have SPE 101 and 12 semester hours of upper-level courses selected through consultation with the department chairperson.

A minor in Political Journalism is available for Political Science majors. The Political Journalism minor consists of COM 120, JRN 206, and any three of the following five courses: JRN 301, JRN 303, JRN 304, SPE 301, COM 314.

The Department of Communication Arts encourages co-curricular activities: Speech and Debate, Flyer News, WDCR radio, WVUD radio, Public Relations Student Society of America, Society of Professional Journalists (Sigma Delta Chi), Alpha Epsilon Rho, Advertising Club, Readers' Theater, and Women in Communication, Inc.

PROGRAM—A3: BACHELOR OF ARTS WITH A MAJOR IN COMMUNICATION ARTS¹

	<i>Semester Hours</i>
Major program	36
Mathematics and natural science (at least 4 sem. hrs. in natural science with laboratory)	7-12
Anthropology, economics, political science, psychology, sociology (at least one) ..	3
Two units of 12 sem. hrs. each selected from anthropology, economics, political science, psychology, sociology, management, criminal justice, education, marketing, military science, home economics. (At least 6 sem. hrs. in each unit must be 300-400 level.)	24
Two units of 12 sem. hrs. each selected from English, history, languages, philosophy, religious studies, performing and visual arts. (At least 6 sem. hrs. in each unit must be 300-400 level. If English, philosophy, or religious studies is chosen, then the unit of 12 sem. hrs. must be beyond what is already required by the University.) ...	24
University requirements	12-19
English 111-112	0-7 sem. hrs.
Philosophy and/or religious studies	12 sem. hrs.
General academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs.

FACULTY

Donald B. Morlan, *Chairperson*

Professors: Morlan, Trent, Wolff

Associate Professors: Blatt, Harwood, Rang

Assistant Professors: Bernard, Hawkins, Lain, J. Robinson, Weatherly, Williams

Instructors: Baxter, Bedard, Morse, A. Robinson

COURSES OF INSTRUCTION

COM 120. INTRODUCTION TO MASS COMMUNICATION MEDIA: The nature and purpose of mass communications: newspapers, television and radio, public relations, advertising, occupational opportunities, organizational structure of modern newspaper, and news on television and radio. 3 sem. hrs.

COM 230. FUNDAMENTALS OF LISTENING: Study of fundamental theories and related techniques applied during comprehensive, discriminate, empathic and appreciative listening; emphasis on listening competently and responsibly. 3 sem. hrs.

COM 301. PUBLICITY AND PUBLIC RELATIONS: Introduction to public relations. Familiarization with the public relations environment and process. Emphasis on the practitioner's role as agent for change and adaptation. Prerequisite: SPE 101. 3 sem. hrs.

COM 303. FREE-LANCE WRITING: Types of free-lance articles. Analysis of literary markets. Manuscript form and submission methods. Magazine and book publishing. Prerequisite: SPE 101. 3 sem. hrs.

COM 304. ADVERTISING: Nature and functions of advertising; preparation of layouts, writing of copy; selection and evaluation of media. Coordination of advertising with other marketing efforts. Social implications of advertising. (See MKT 421.) Prerequisite: SPE 101. 3 sem. hrs.

COM 305. PROPAGANDA ANALYSIS: Use and abuse of propaganda. Editorial persuasion. Propaganda devices and techniques. An application of the principles of Aristotelian logic to the field of mass communication. Prerequisite: SPE 101. 3 sem. hrs.

COM 306. REPORT WRITING: The principles of letter writing and report writing studied and applied in conformity with the best current practices in business. Prerequisite: SPE 101. 3 sem. hrs.

COM 308. INTERPERSONAL COMMUNICATION: Study of the student's own communication behavior through face-to-face spontaneous interaction with others. Prerequisite: SPE 101. 3 sem. hrs.

COM 309. COMMUNICATION AND CONFLICT RESOLUTION: Examination of the functions of communication in several types of conflict such as marital conflict, racial conflict, and role conflict, and the methods and strategies of communication to reduce these conflicts. Prerequisite: SPE 101. 3 sem. hrs.

COM 310. COMMUNICATION IN ORGANIZATIONS: Analysis of message initiation, diffusion, and reception in organizations; study of various methodological approaches for the purpose of conducting a communication audit within an organization. Prerequisite: SPE 101. 3 sem. hrs.

COM 313. SMALL GROUP COMMUNICATION: Guiding principles used by participants and leaders in preparing and conducting small group conferences and discussions; policy-making conferences staged. Prerequisite: SPE 101. 3 sem. hrs.

COM 314. POLITICAL CAMPAIGN COMMUNICATION: Analysis of the nature and functions of selected communication variables within political election campaigns. Prerequisite: SPE 101. 3 sem. hrs.

COM 325. NONVERBAL COMMUNICATION: Survey of theory and research, and experiential learning in nonverbal communication. Examination of the influence of environmental factors, physical behavior, and vocal cues on human communication. Prerequisite: SPE 101. 3 sem. hrs.

COM 330. INTERVIEWING FOR COMMUNICATION AND BUSINESS: Analysis of communication in structured dyadic interaction. Emphasis on the following types of interviews: information-gathering, employment, appraisal, and persuasive. Application through role playing and feedback systems. Prerequisite: SPE 101. 3 sem. hrs.

COM 391. INDEPENDENT STUDY 1: Supervised study involving directed readings, individual research (library, field, or experimental), or projects in the specialized areas of communication arts. Prerequisites: SPE 101, permission of department chairperson. 3 sem. hrs.

COM 397. COMMUNICATION PRACTICUM: Contracted participation in an approved communication organization. One sem. hr. per term to a maximum of 6. (Only 3 sem. hrs. may be applied to Communication Arts major.) Grade option 2 only. Prerequisite: SPE 101. 1-6 sem. hrs.

COM 398. COMMUNICATION INTERNSHIP: Communication work experience in an approved organization. Application approval: For summer, Dec. 15; for fall, Mar. 1; for spring, Oct. 15. Prerequisites: 24 sem. hrs. and 3.0 average in the major; 75 total sem. hrs. and 2.75 cum. average; permission of department chairperson. *3 sem. hrs.*

COM 402. PRACTICAL METHODS FOR PUBLIC RELATIONS: Procedures and methods of putting the public relations process into effect. Emphasis on specific writing skills and problem-solving techniques. Prerequisites: SPE 101, COM 301. *3 sem. hrs.*

COM 404. SPECIAL TOPICS IN COMMUNICATION: Concentrated study in specific areas of speech communication. May be repeated once with change of topic. Prerequisite: SPE 101. *3-6 sem. hrs.*

COM 410. FAMILY COMMUNICATION: Study of the family from a communication perspective, considering the communication processes within the family and the extent to which communication affects and is affected by the family. Prerequisites: SPE 101, COM 308. *3 sem. hrs.*

COM 430. DEVELOPMENT OF MASS MEDIA: History and analysis of the development and interdependence of mass media, print and electronic. Emphasis on its role in political and economic progress of U.S. and attendant responsibility. Prerequisite: SPE 101. *3 sem. hrs.*

COM 440. THE LAW AND NEWS MEDIA: Limitations of freedom of the press. The right of the people to know and the news media to report, within the limits of decency, fair comment, and privacy. Censorship. Off-the-record material. Libel laws, copyright restrictions. Postal regulations. Prerequisite: SPE 101. *3 sem. hrs.*

COM 455. PUBLIC RELATIONS WORKSHOP: Application of policy objectives to public relations program development. Students plan and carry out a public relations program for an established organization, working out solutions to communication and public relations problems. Prerequisites: SPE 101, and JRN 206 or COM 402. *3 sem. hrs.*

COM 491. PUBLIC RELATIONS INTERNSHIP: Practical public relations participation in an approved organization. Application approval: For summer, Dec. 15; for fall, Mar. 1; for spring, Oct. 15. Prerequisites: 24 sem. hrs. and 3.0 average in the major; 75 total sem. hrs. and 2.75 cum. average; permission of department chairperson. *3 or 6 sem. hrs.*

COMPUTER SCIENCE (CPS)

The Computer Science Department offers programs leading to the Bachelor of Science degree in three areas of study. The student may select the major Computer Science, Program S3; Systems Analysis, Program S3A; or Computer Science-Physics, Program S3P.

For a minor in computer science, the following are recommended: Introduction to Computer Programming, CPS 144, and additional programming courses such as CPS 245, CPS 248, and CPS 304. Twelve semester hours in upper-level courses are required, for a total of 15 to 18 semester hours. The sequence selected depends upon the major of the student and should be determined in consultation with the department chairperson.

PROGRAM—S3: BACHELOR OF SCIENCE WITH A MAJOR IN COMPUTER SCIENCE (CPS)

This program emphasizes computer science concepts with particular attention to computer software and its application to science and engineering.

COMPUTER SCIENCE—basic programming, CPS 150, 151, 250; and 24 semester hours in upper-level courses, including CPS 346, 350, 353.

MATHEMATICS—basic calculus and 12 semester hours beyond calculus including linear algebra and statistics. Differential equations and abstract algebra are recommended.

SCIENCE—PHY 206 and 207 are required. PHY 201 and 202 may be substituted with the consent of the advisor. One physics laboratory is recommended.

HUMANITIES AND SOCIAL SCIENCES—30 semester hours, including 12 in PHL and/or REL and a minimum of 6 semester hours each in social sciences and humanities; 100-level ENG and SPE courses do not apply to this requirement.

COMPOSITION AND SPEECH SKILLS—A certain level of proficiency is required in these skills: 0-10 semester hours as prescribed by the College.

ELECTIVES—additional courses to attain the required 120 semester hours. A concentration or a minor in a specific discipline is recommended. More detailed information may be obtained from the department.

PROGRAM—S3A: BACHELOR OF SCIENCE WITH A MAJOR IN SYSTEMS ANALYSIS (SYA)

This program emphasizes computer science concepts with particular attention to computer software and its application to commerce and the related areas of systems science.

COMPUTER SCIENCE—basic programming, CPS 150, 151, 250; and 24 semester hours in upper-level courses, including CPS 346, 350. CPS 145 is also recommended and may be taken as an elective.

MATHEMATICS—basic calculus, linear algebra, and statistics— for example, MTH 112, 113, 302, 367.

SCIENCE (biology, chemistry, geology, physics)—one full year, a minimum of 6 semester hours. A laboratory is recommended.

HUMANITIES AND SOCIAL SCIENCES—30 semester hours including 12 in PHL and/or REL, and a minimum of 6 semester hours each in social sciences and humanities; 100-level ENG and SPE courses do not apply to this requirement.

COMPOSITION AND SPEECH SKILLS—A certain level of proficiency is required in these skills: 0-10 semester hours as prescribed by the College.

ELECTIVES—additional courses to attain the required 120 semester hours. A minor or a concentration or block of courses from the School of Business such as ACC 207-208, ECO 203-204, MGT 305, MKT 305 is recommended.

**PROGRAM—S3P: BACHELOR OF SCIENCE WITH A MAJOR IN
COMPUTER SCIENCE-PHYSICS (CSP)**

This program emphasizes computer science concepts with particular attention to computer software and its application to physics.

COMPUTER SCIENCE—basic programming, CPS 150, 151, 250; and 24 semester hours in upper-level courses, including CPS 346, 350, 353. Additional numerical analysis courses are recommended.

MATHEMATICS—basic calculus, MTH 118, 119, 218; differential equations, MTH 219; and linear algebra, MTH 302. Additional courses in statistics are recommended.

PHYSICS—general physics, PHY 206, 207, 208, with PHY 210L, 211L; basic electronics, PHY 214; and 5 upper-level courses, including PHY 314.

HUMANITIES AND SOCIAL SCIENCES—30 semester hours, including 12 in PHL and/or REL, and a minimum of 6 semester hours each in social sciences and humanities; 100-level ENG and SPE courses do not apply to this requirement.

COMPOSITION AND SPEECH SKILLS—A certain level of proficiency is required in these skills: 0-10 semester hours as prescribed by the College.

ELECTIVES—additional courses to attain the required 120 semester hours. A concentration or a minor in a specific discipline is recommended. More detailed information may be obtained from the department.

For each of the programs—S3, S3A, S3P—the department recommends that a student repeat any course in the major for which a grade below C (under grading option 1) has been earned. For further requirements, consult the General Requirements for all Bachelor of Science programs.

FACULTY

Lawrence A. Jehn, *Chairperson*

Professors: Jehn, Winslow

Associate Professors: Kester, Neuendorf, Schoen

Assistant Professors: Gowda, Lang

Adjunct Associate Professor: Lokai

Adjunct Assistant Professors: Jansen, Keim

COURSES OF INSTRUCTION

CPS 107. COMPUTERS AND SOCIETY: Nontechnical introductory survey of the history and organization of digital computers; the diverse application of computers in government, business, education, and the arts; and the psychological and sociological impact of the computer age. Not open to CPS majors. 3 sem. hrs.

CPS 132. ENGINEERING FORTRAN: Fundamentals of computer programming including algorithms, program structure, and library routines, debugging, and program verification. Computer solutions of problems from science and engineering using FORTRAN. Prerequisite: MTH 118. *2 sem. hrs.*

CPS 144. INTRODUCTION TO COMPUTER PROGRAMMING: Basic programming theory and practice using a suitable compiler language such as FORTRAN, ALGOL, PL/I, or PASCAL. *1-4 sem. hrs.*

CPS 145. COBOL PROGRAMMING: Basic programming theory and practice using the COBOL language for business-oriented problems. Corequisite: CPS 151 or 245. *1-3 sem. hrs.*

CPS 146. (LIST PROCESSING) PROGRAMMING: Basic programming theory and practice using a language suitable to list-processing applications such as LISP or SNOBOL. *3 sem. hrs.*

CPS 150. ALGORITHMS AND PROGRAMMING I: Algorithms, programs, and computers. Algorithm development, basic programming and programming structure. Debugging and program verification. Data representation. Introduction to computer system architecture. Computer solutions to numeric and non-numeric problems using a compiler language. *4 sem. hrs.*

CPS 151. ALGORITHMS AND PROGRAMMING II: Continuation of CPS 150. Introduction to assembler language programming including macros; input-output techniques. Emphasis on program design, development and style, string processing, data structure, segmentation, linkage, subroutines, and re-entrant routines, using an assembler and a compiler language. Prerequisite: CPS 150. *4 sem. hrs.*

CPS 245. ASSEMBLER PROGRAMMING: Machine and assembler language programming; macros; input-output techniques. Prerequisite: CPS 144. *3-4 sem. hrs.*

CPS 248. INTERMEDIATE PROGRAMMING: Advanced topics and programming techniques in FORTRAN, PL/I, and Assembler. Prerequisite: CPS 144. *3 sem. hrs.*

CPS 250. ALGORITHMS AND PROGRAMMING III: Continuation of CPS 151. Advanced programming topics and techniques using compiler languages and assembler language. Introduction to file processing. Emphasis on program structure for large programs. Computer solutions to numeric and non-numeric problems. Prerequisite: CPS 151. *4 sem. hrs.*

CPS 304. COBOL PROGRAMMING: Basic programming theory and practice using the COBOL language for business-oriented problems. *3 sem. hrs.*

CPS 310. SYSTEMS ANALYSIS: Basic system analysis tools; identifying requirements, planning and measuring effectiveness of computer information systems; system life cycle studies. Prerequisite: COBOL. *3 sem. hrs.*

CPS 312. SYSTEMS DESIGN: State-of-the-art concepts and techniques involved in designing systems, including documentation, telecommunications, security, software packages, economics, productivity, design methodologies, and maintenance. Prerequisite: CPS 310. *3 sem. hrs.*

CPS 341. DISCRETE STRUCTURES: Set algebra including mappings and relations; algebraic structures including semi-groups and groups; elements of theory of directed and undirected graphs; Boolean algebra and propositional logic. Prerequisite: CPS 151 or 248. 3 sem. hrs.

CPS 342. 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. Prerequisite: CPS 248 or 250. 3 sem. hrs.

CPS 343. COMPARATIVE LANGUAGES: Programming language constructs, organization, specification, and analysis. Prerequisite: CPS 342 or 350. 3 sem. hrs.

CPS 346. OPERATING SYSTEM: Study of DOS/360 or similar system and its functions of data, job, and task management. Prerequisite: CPS 151 or 245. 3 sem. hrs.

CPS 350. DATA STRUCTURES AND ALGORITHMS: Basic concepts of data; list, strings, arrays, trees and graphs, abstract data types, multilinked structures; symbol tables; searching and sorting. Use of relations, functions, and graphs in data management. Random access and representation of data structures on storage devices. Prerequisite: CPS 250. 4 sem. hrs.

CPS 353. NUMERICAL METHODS I: Study of the algorithms of numerical mathematics with emphasis on interpolation, the solution of nonlinear equations, and linear systems of equations including matrix methods; analysis of errors associated with the algorithms. Prerequisites: CPS 144 or 150; MTH 218, 302. 3 sem. hrs.

CPS 354. NUMERICAL METHODS II: Study of the algorithms of numerical mathematics with emphasis on functional approximation, numerical differentiation and integration, numerical solution of ordinary differential equations and boundary value problems; analysis of errors associated with the algorithms. Prerequisite: CPS 353. 3 sem. hrs.

CPS 387. COMPUTER SYSTEM DESIGN I: Design of combinatorial and sequential logic circuits using current integrated circuit devices. Discussion of encoders, decoders, registers, counters, etc. as applied to design and use of arithmetic, logic, and storage units. Laboratory experiments with these devices. Prerequisites: CPS 151 or 245, PHY 207. 3 sem. hrs.

CPS 388. COMPUTER SYSTEM DESIGN II: Analysis of a specific microcomputer and its architecture. Machine, assembler, and higher level language programming. Discussion of interfacing with display devices, terminals, and other computers. Laboratory experiments with such interfacing. Prerequisite: CPS 387. 3 sem. hrs.

CPS 411. MANAGEMENT INFORMATION SYSTEMS: The management information systems environment. The theory, technology, development of information systems. Emphasis on integration of information systems for decision support and other management information requirements. Prerequisite: CPS 312. 3 sem. hrs.

CPS 424. DISCRETE EVENT SIMULATION TECHNIQUES: Design and use of simulation models; random number generation and testing; study and use of special purpose simulation languages such as GPSS and GASP IV. Prerequisites: MTH 367, CPS 151 or 248 or permission. 3 sem. hrs.

CPS 430. DATA BASE MANAGEMENT SYSTEMS: Physical and logical organization of data files; hierarchical, network, and relational data base models; the data definition language and the data manipulation language of a commercial data base management system such as IDMS; query languages. Prerequisites: CPS 342 or 350, COBOL. *3 sem. hrs.*

CPS 444. SYSTEMS PROGRAMMING I: Analysis of compilers and their construction; programming techniques discussed in the current literature; advanced computer applications in mathematical and nonnumeric areas. Prerequisites: CPS 346, 350. *3 sem. hrs.*

CPS 445. SYSTEMS PROGRAMMING II: A continuation of CPS 444, with emphasis on the application of the topics discussed. Prerequisite: CPS 444. *3 sem. hrs.*

CPS 446. 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 346, 350. *3 sem. hrs.*

CPS 455. NUMERICAL ANALYSIS I: Error analysis, mathematical development of functional approximation including interpolation, quadrature, numerical differentiation, solution of ordinary differential equations. Prerequisites: CPS 144 or 150, MTH 302, 319. Recommend CPS 353. *3 sem. hrs.*

CPS 456. NUMERICAL ANALYSIS II: Mathematical development of the method of least squares, minimax approximation, solution of partial differential equations, applications. Prerequisite: CPS 455. *3 sem. hrs.*

CPS 482. AUTOMATA THEORY: Finite automata, sequential machines, survey of formal languages, introduction to computability, recursive functions, and Turing machines. Prerequisite: CPS 341. *3 sem. hrs.*

CPS 498. PROBLEMS IN (NAMED AREA): Individual readings and research in a specialized area. (See CPS 499.) By arrangement. May be taken more than once for additional credit. Prerequisite: Permission of the department. *1-4 sem. hrs.*

CPS 499. (SPECIAL TOPICS): Lectures or laboratory work in such areas as artificial intelligence, computer architecture, information retrieval, microprogramming, multiprogramming techniques, numerical analysis, time-sharing topics, graphics, data communications, parallel processing. By arrangement. May be taken more than once. Prerequisite: Permission of the department. *1-4 sem. hrs.*

CRIMINAL JUSTICE (CRJ)

The University of Dayton's criminal justice faculty believe that the effective functioning of a criminal justice system is essential to an orderly society. Therefore, they are committed to providing their students with a critical theory of criminal justice as well as motivating them to perform within the criminal justice system at the highest level. They are dedicated to helping each student acquire the maximum knowledge and skills that student is capable of.

Program 54, leading to the Bachelor of Science with a Major in Criminal Justice, offers three tracks of study. The student is to select one of the following tracks:

1. *General (CRJ)*: This track prepares students for graduate or professional studies or, with appropriate minors, for specialized careers in criminal justice.
2. *Law Enforcement (CRL)*: This track prepares students for careers in law enforcement at the local, state, or national levels.
3. *Corrections (CRC)*: This track prepares students for line-entry careers in the correctional field—probation and parole counseling, community programs, and other rehabilitative services.

The College of Arts and Sciences will classify students according to their previous academic experience. Students who enter the University of Dayton as freshmen, or as transfers without associate degrees, will be classified under *Option A: Total Program*. Students who transfer here with acceptable associate degrees in specific fields similar or closely related to criminal justice will be classified under *Option B: Transfer Program*.

The minor in criminal justice requires 15 semester hours, to include CRJ 205, Introduction to Criminal Justice, or CRJ 210, Introduction to Corrections, or CRJ 220, Police Organization and Management, and 12 other upper-divisional semester hours in criminal justice subjects. Any student pursuing this minor is encouraged to consult a full-time criminal justice faculty member for guidance.

The criminal justice major may elect a minor by applying the general electives to that specific discipline that is of professional interest. It is necessary that the student obtain the formal approval of the academic advisor, consult the chairperson of the department in which the minor is taken, and register the minor with the respective school or college. Students should note that because of the limited number of elective hours available in the transfer option, they will be required to take a few additional hours beyond those required for the baccalaureate degree in criminal justice if they choose to have minors.

Proficiency examinations for limited CRJ credit are available only to majors who are in-service personnel, i.e., law-enforcement officers or probation and parole officials. Under Option A, students are limited to only 6 semester hours of proficiency examination credit, and under Option B, only 3 semester hours. Such students should make their formal appeals to the director's office at the beginning of each term in order that it can be determined whether scheduling a proficiency examination during that term is warranted.

It is the sole responsibility of students to inform themselves of whatever changes occur in the curriculum and to observe all the regulations, procedures, and requirements of the University and the criminal justice program.

PROGRAM—S4: BACHELOR OF SCIENCE WITH A MAJOR IN
CRIMINAL JUSTICE

OPTION A: TOTAL PROGRAM

The student must successfully complete a minimum of 120 semester hours for the degree and meet the General Requirements for all Bachelor of Science Programs.

Semester Hours

Criminal Justice 30 to 33

All criminal justice majors are required to complete CRJ 205, Introduction to Criminal Justice, and CRJ 320, Research in Criminal Justice. The remaining criminal justice course work must be those specific criminal justice courses required for the student's chosen area of study.

Social and Behavioral Science 27 to 30

Course work must include POL 201, The American Political System; POL 301, The American Judicial Process; PSY 101, Introduction to Psychology; PSY 341, Social Psychology, or SOC 341, Self and Society; and SOC 327, Criminology. The student is to complete the remaining 12 to 15 semester hours by taking those specific social science courses required for the chosen area of study.

Humanities 31

Course work must include ENG 111, College Composition I, and ENG 112, College Composition II; ENG 272, Expository Writing, or ENG 316, Advanced Composition, or ENG 474, Argumentation; 6 semester hours of philosophy or religious studies electives as well as PHL 310, Social Philosophy, or PHL 314, Philosophy of Law; PHL 312, Ethics, or REL 265, Christian Ethics, or REL 364, Current Moral Issues; and SPE 101, Fundamentals of Effective Speaking. The student is to complete the remaining 6 semester hours by taking those specific humanities courses required for the chosen area of study.

Natural Sciences with accompanying laboratory 8

Courses must be comprised of 6 semester hours of instruction and 2 semester hours of laboratory. The natural sciences are biology, chemistry, geology, and physics.

Quantitative Studies 9

Course work must include ACC 301, Financial Reporting and Administration; CPS 144, Introduction to Computer Programming, or CPS 304, COBOL Programming; and MTH 207, Statistical Methods for the Behavioral Sciences. CPS 107, Computers and Society, may be taken with the advisor's written permission.

CRIMINAL JUSTICE AREAS FOR OPTION A: TOTAL PROGRAM

Each criminal justice major is to select one of the following areas of study and formally register the chosen area with the Criminal Justice Program and the College of Arts and Sciences through the assigned academic advisor and the assistant to the dean.

1. General (CRJ)

Students are required to take CRJ 210, Introduction to Corrections; CRJ 220, Police Organization and Management; CRJ 305, Criminal Law; and 18 semester hours of criminal justice electives. The following courses are also required:

HST 251 American History to 1865

HST 252 American History Since 1865

POL 306 Public Policy Analysis

POL 413 Politics of Bureaucracy and Regulation *or*

SOC 336 Organizations in Modern Society

PSY 363 Abnormal Psychology *or*

SOC 325 Deviant Behavior

SOC 328 Racial and Ethnic Minorities

General electives (300-400-level courses encouraged) to reach a minimum total of 120 semester hours.

2. Law Enforcement (CRL)

Students are required to take CRJ 220, Police Organization and Management; CRJ 305, Criminal Law; CRJ 310, Law of Evidence; CRJ 315, Criminal Procedure; and 12 semester hours of criminal justice electives. The following courses are also required:

ENG 370 Report Writing

HST 460 U.S. Legal and Constitutional History I

POL 413 Politics of Bureaucracy and Regulation *or*

SOC 336 Organizations in Modern Society

POL 450 Civil Liberties

PSY 363 Abnormal Psychology

SOC 323 Juvenile Delinquency

SOC 328 Racial and Ethnic Minorities *or*

SOC 351 Cities: Urban Communities, Problems, and Planning

General electives (300-400-level courses encouraged) to reach a minimum total of 120 semester hours.

3. Corrections (CRC)

Students are required to take CRJ 210, Introduction to Corrections; CRJ 323, Management and Treatment of Offenders; CRJ 410, Victimology; and 15 semester hours of criminal justice electives. The following courses are also required:

ENG 370 Report Writing

HST 460 U.S. Legal and Constitutional History I

POL 305 Introduction to Public Administration *or*

POL 306 Public Policy Analysis

PSY 431 Interviewing and Counseling

SOC 323 Juvenile Delinquency

SOC 328 Racial and Ethnic Minorities

General electives (300-400-level courses encouraged) to reach a minimum total of 120 semester hours.

OPTION B: TRANSFER PROGRAM

To be admitted as a major in the S4 program under Option B, a transfer student must have received an accredited associate degree in corrections, law enforcement, police administration, police science, or a similar field of criminal justice and must have a 2.5 cumulative grade-point average on a 4.0 grading system. The transfer program offers three areas of study, of which the student is to choose one and formally register the selection with the Admissions Office, the Criminal Justice Program, and the College of Arts and Sciences through the admission counselor, the assigned academic advisor, and the assistant to the dean. The areas are (1) the criminal justice generalist area, (2) the law-enforcement area, and (3) the corrections area. For criminal justice majors who have completed the basic requirements for an accredited two-year criminal justice degree, 66 semester hours beyond the associate degree is suggested.

Prerequisites: The following are required for all criminal justice transfer majors in addition to the baccalaureate degree requirements if they were not included in the candidate's associate degree program.

	<i>Semester Hours</i>
Accounting	(ACC 301) 3
American government	(POL 201) 3
Criminology	(SOC 327) 3
English	(ENG 111-112) 3
Introductory Psychology	(PSY 101) 3
Natural science electives with laboratory ¹ 8
Statistics ²	(MTH 207) 3
Introduction to Criminal Justice	(CRJ 205) 3
Research in Criminal Justice	(CRJ 320) 3

¹Natural sciences are biology, chemistry, geology, and physics.

²Prerequisite for MTH 207 as well as CRJ 320 is two years of high school algebra. Students who have not had two years of high school algebra should first take MTH 107. All students are required to complete MTH 207 and CRJ 320.

Transfer students must complete the following courses as part of the course of study for criminal justice majors here at the University of Dayton.

Any course that is specifically required of the criminal justice candidate by the University of Dayton for the baccalaureate degree and was taken at the institution conferring the student's associate degree, should not be duplicated. Such a course is to be waived by the student's academic advisor upon the formal request of the student with the final approval of the College of Arts and Sciences and replaced with another course within the same division.

	<i>Semester Hours</i>
<i>Social and Behavioral Sciences</i>	18
Course work must include POL 301, The American Judicial Process; PSY 341, Social Psychology, or SOC 341, Self and Society. The transfer student is to complete the remaining 12 semester hours by taking those specific social science courses required for the chosen area of study.	
<i>Humanities</i>	24
Course work must include ENG 272, Expository Writing, or ENG 316, Advanced Composition, or ENG 474, Argumentation; 6 semester hours of philosophy or religious studies electives, as well as PHL 310, Social Philosophy, or PHL 314, Philosophy of Law; PHL 312, Ethics, or REL 265, Christian Ethics, or REL 364, Current Moral Issues; and SPE 101, Fundamentals of Effective Speaking. The transfer student is to complete the remaining 6 semester hours by taking those specific humanities courses required for the chosen area of study.	
<i>Quantitative Studies</i>	3
Course work must include CPS 144, Introduction to Computer Programming, or CPS 304, COBOL Programming. CPS 107, Computers and Society, may be taken with the advisor's written permission.	

CRIMINAL JUSTICE AREAS FOR OPTION B: TRANSFER PROGRAM

1.General (CRJ)¹

Transfer students are required to take CRJ 220, Police Organization and Management; CRJ 305, Criminal Law; and 12 semester hours of criminal justice electives. The following courses are also required:

HST 251 American History to 1865

HST 252 American History Since 1865

POL 306 Public Policy Analysis

POL 413 Politics of Bureaucracy and Regulation or

SOC 336 Organizations in Modern Society

PSY 363 Abnormal Psychology or

SOC 325 Deviant Behavior

SOC 328 Racial and Ethnic Minorities

General electives (300-400-level courses encouraged), excluding prerequisites, to reach a minimum of 66 semester hours.

2. Law Enforcement (CRL)²

Transfer students are required to take CRJ 310, Law of Evidence; CRJ 315, Criminal Procedure; and 9 semester hours of criminal justice electives. The following courses are also required:

ENG 370 Report Writing

HST 460 U.S. Legal and Constitutional History I

POL 413 Politics of Bureaucracy and Regulation or

SOC 336 Organizations in Modern Society

POL 450 Civil Liberties

SOC 323 Juvenile Delinquency

SOC 328 Racial and Ethnic Minorities or

SOC 351 Cities: Urban Communities, Problems, and Planning

General electives (300-400-level courses encouraged), excluding prerequisites, to reach a minimum of 66 semester hours.

3. Corrections (CRC)¹

Transfer students are required to take CRJ 323, Management and Treatment of Offenders; CRJ 410, Victimology; and 9 semester hours of criminal justice electives. The following courses are also required:

ENG 370 Report Writing

HST 460 U.S. Legal and Constitutional History I

POL 305 Introduction to Public Administration or

POL 306 Public Policy Analysis

PSY 431 Interviewing and Counseling

SOC 323 Juvenile Delinquency

SOC 328 Racial and Ethnic Minorities

General electives (300-400-level courses encouraged), excluding prerequisites, to reach a minimum of 66 semester hours.

¹CRJ 210, Introduction to Corrections, is specifically required as a prerequisite for students concentrating in the criminal justice generalist area and the corrections area in addition to the 18 semester hours in criminal justice for the generalist area if it was not included in the associate degree program.

²CRJ 220, Police Organization and Management, and CRJ 305, Criminal Law, are specifically required as prerequisites for students concentrating in the law enforcement area in addition to the 15 semester hours in criminal justice if they were not included in the associate degree program.

FACULTY

James A. Adamitis, *Director*

Associate Professor: Adamitis

Assistant Professor: Ingram

Adjunct Instructors: Apolito, Aultman, Connell, Dam, Frapwell, Garret, Koerner, Lehmann

COURSES OF INSTRUCTION

CRJ 205. INTRODUCTION TO CRIMINAL JUSTICE: Introduction to the field of criminal justice, stressing the theoretical foundations, origin, nature, methods, and limitations of criminal justice as a college curriculum. 3 sem. hrs.

CRJ 210. INTRODUCTION TO CORRECTIONS: The administration of correctional institutions and other detention facilities with emphasis on probation and parole systems and the rehabilitation and treatment of the psychiatrically incarcerated. 3 sem. hrs.

CRJ 220. POLICE ORGANIZATION AND MANAGEMENT: Principles and mechanisms for effective law enforcement management and responsive municipal police service; various police department structures, program development projects, promotional processes, and managerial techniques. Recommended for students interested in the urban police function and its administration. 3 sem. hrs.

CRJ 305. CRIMINAL LAW: Principles of criminal liability, preparation of case materials, court procedures, and case disposition. 3 sem. hrs.

CRJ 310. LAW OF EVIDENCE: Comprehensive study of the rules of evidence, evaluation of evidence and proof (testimonial and physical), and function of evidence within the criminal justice system. Prerequisite: A course in criminal law. 3 sem. hrs.

CRJ 315. CRIMINAL PROCEDURE: Fundamentals of criminal procedure: arrest, search, and seizure; interrogation, Constitutional limitations upon state and federal rules of criminal procedure. Prerequisite: A course in criminal law. 3 sem. hrs.

CRJ 320. RESEARCH IN CRIMINAL JUSTICE: Review of the nature, language, and processes of inquiry involving experiments, studies, surveys, and investigations. The instrumentation, types, and structures of content analysis, questionnaires, interviews, and structured observation, including analytic techniques, data processing resources, and preparation of research reports. Required for all CRJ majors. Prerequisite: MTH 207. 3 sem. hrs.

CRJ 323. MANAGEMENT AND TREATMENT OF OFFENDERS: Theory and practice of conducting and writing social investigations for agencies within the administration of justice, as well as managing and treating criminal offenders in community settings. Prerequisite: A course in corrections. 3 sem. hrs.

CRJ 325. COMMUNITY AND PUBLIC RELATIONS: Contemporary problems pertaining to criminal justice community relations: training programs, image development, and policies for releasing information to the mass media. 3 sem. hrs.

CRJ 327. CORPORATE SECURITY MANAGEMENT: Comprehensive managerial approach to developing adequate security systems; emphasis on personnel identification and theft-control procedures including intra-security surveys for deterring espionage, sabotage and subversive line/staff activities. 3 sem. hrs.

CRJ 330. ORGANIZED CRIME: Social, psychological, and legal factors characterizing criminal careers; regional, political, and financial factors influencing organized crime. 3 sem. hrs.

CRJ 333. FOUNDATIONS OF CRIMINAL HOMICIDE: Theories and concepts pertinent to the various classes of homicide and the effects certain heinous crimes have had on the regulatory aspects of the legal system. Emphasis on distinguishing characteristics historically pertaining to culpable, justifiable, and excusable homicide.

3 sem. hrs.

CRJ 336. COMPARATIVE CRIMINAL JUSTICE SYSTEMS: Survey of cross-cultural uniformities and diversities in law-enforcement agencies, correctional systems, and the courts in selected countries. Prerequisite: An introductory course in criminal justice.

3 sem. hrs.

CRJ 400. CORRECTIONAL LAW: Analysis and historical overview of the law of criminal correction. Emphasis on the current legal rights of inmates of penal institutions, parolees, probationers, and those persons upon whom sentence has not yet been imposed.

3 sem. hrs.

CRJ 401. POLITICAL VIOLENCE: Interdisciplinary course offered in cooperation with the Department of Political Science. Theoretical approaches to understanding violent change in political institutions, the continuum between violence and non-violence in revolution, revolt, campus dissent, and political assassination. Emphasis on the roles of criminal justice and government agencies in meeting political dissent. (Same as POL 452.)

3 sem. hrs.

CRJ 405. LABOR RELATIONS IN JUSTICE ADMINISTRATION: The role of law in collective bargaining; the activities of labor organizations; the impact certain unions have had on the administration of justice and law enforcement.

3 sem. hrs.

CRJ 407. CONSUMER LAW: Analysis of crimes against the consumer; legal systems, consumer structures, and agencies used to establish, advance, and litigate consumers' rights and protections.

3 sem. hrs.

CRJ 410. VICTIMOLOGY. The victimal justice process as an integral part of the criminal justice system; analysis of the penal couple and victimal receptivity with emphasis on victim-offender relationships, rape, and victim compensation.

3 sem. hrs.

CRJ 416. DRUG ABUSE: Physical and behavioral variables contributing to drug abuse and narcotic addiction; assessment of several rehabilitation programs and medical treatment centers; emphasis on law and drug abuse cases.

3 sem. hrs.

CRJ 440. INDEPENDENT STUDY: Directed study and research on selected topics of significant academic publications in law enforcement and criminal justice. Prerequisites: Permission of the instructor; an introductory course in criminal justice.

3 sem. hrs.

CRJ 447. CONTEMPORARY ISSUES IN JUSTICE ADMINISTRATION: Seminar to identify and discuss the contemporary issues in justice administration. Topics to be assigned by the instructor and presented for class discussion by the students.

3 sem. hrs.

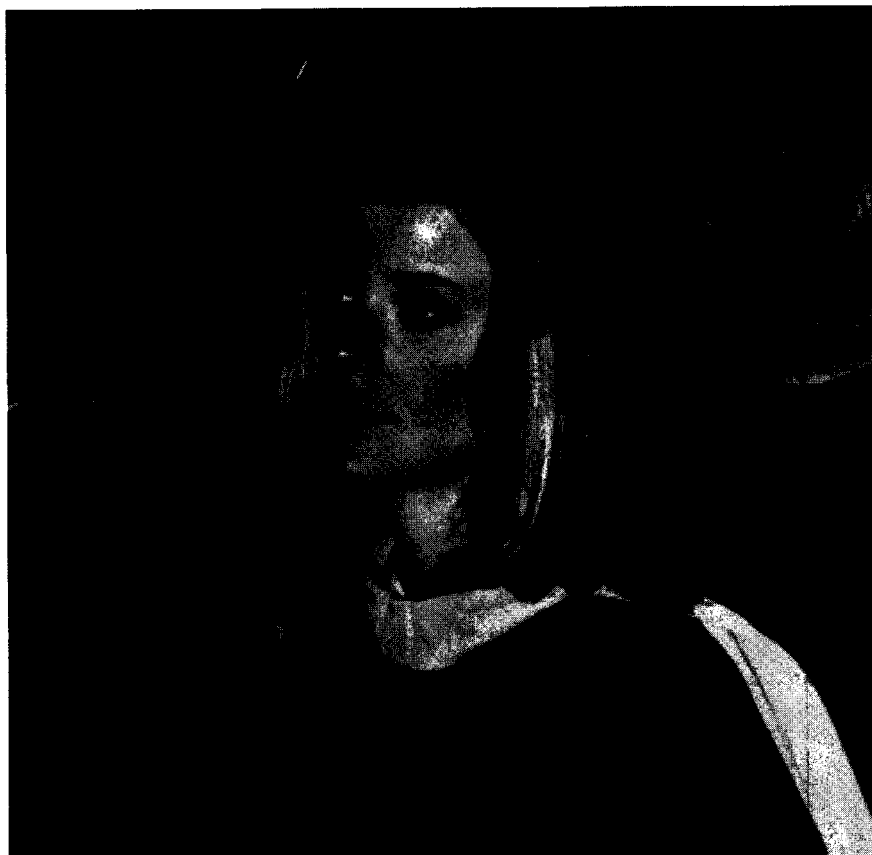
CRJ 495. INTERNSHIP IN CRIMINAL JUSTICE I: Supervised experience solely in a civilian capacity in a criminal justice or law-enforcement agency. Open to pre-service criminal justice majors only; in-service students do not qualify. Students who

enroll for internship credit are not given a stipend, nor are they permitted to register for CRJ 498 or 499. Credit granted only under grade option 2. Prerequisites: Junior status, 2.5 cumulative grade-point average, and permission of the director of criminal justice. *3 sem. hrs.*

CRJ 496. INTERNSHIP IN CRIMINAL JUSTICE II: Continuation of CRJ 495. *3 sem. hrs.*

CRJ 498. COOPERATIVE EDUCATION IN CRIMINAL JUSTICE I: Structured educational work experience for full-time pre-service criminal justice majors only. Career development and financial assistance for those who qualify and are placed through the University of Dayton's Office of Cooperative Education. Students who enroll for cooperative education credit are not permitted to register for CRJ 495 or 496. Credit granted only under grade option 2. Prerequisites: Sophomore status, 2.5 cumulative grade-point average, and permission from the director of cooperative education and the director of criminal justice. *3 sem. hrs.*

CRJ 499. COOPERATIVE EDUCATION IN CRIMINAL JUSTICE II: Continuation of CRJ 498. *3 sem. hrs.*



CYTOTECHNOLOGY (CTT)

The program leading to a Bachelor of Science with a major in Cytotechnology consists of three years of instruction at the University of Dayton followed by a 12-month clinical curriculum in the School of Cytotechnology at Miami Valley Hospital, Dayton, Ohio. The clinical program is fully accredited by The Committee on Allied Health Education and Accreditation of the American Medical Association through the American Society of Cytology. Completion of the clinical program qualifies the students to take the national certifying examination administered by The Board of Registry of the American Society of Clinical Pathologists.

Cytotechnology is a specialty within the field of medical laboratory sciences which deals with cells and tissues. Clinical cytology is concerned chiefly with malignant cells. The cytotechnologist collects, treats, and prepares cells and tissues for microscopic viewing and analyses so as to detect cell abnormalities. Successful completion of the program will prepare the students for careers as clinicians, researchers, administrators, and/or teachers. The certified cytotechnologist can work in hospitals, clinics, physicians' offices, public health agencies, the armed services, pharmaceutical firms, and research institutions.

Preclinical years

	<i>Semester Hours</i>
Biology courses (required and elective)	26
Supporting sciences (MTH, CHM, PHY)	27
College requirements (ENG, SPE, PHL/REL)	21 (22)
Humanities electives	9
Social-behavioral science electives	6
General electives	8
Total	97 (98)

Clinical year: CTT courses at Miami Valley Hospital36

Biology core courses: BIO 151, 152, 152L, 201L, 309, 309L, 310, 310L, 403, 412, plus one science elective.

Supporting sciences: One statistics course (MTH 207 or 215 depending on background). Four chemistry courses (CHM 123, 124, 313, 314, all with laboratories). Two physics courses (PHY 201, 201L, 202, 202L).

College requirements: Two English courses (ENG 111, 112, or 112/114/198 and an English elective). SPE 101 and 12 semester hours of philosophy and/or religious studies.

Humanities and social-behavioral science electives: Fifteen semester hours of electives, to strengthen appreciation of the aesthetic and spiritual life and to increase awareness of modern social problems. Nine semester hours should be selected from humanities (American studies, communication arts, English, history, languages, literature, music, performing and visual arts, philosophy, reli-

gious studies, etc.). A foreign language is recommended. Six semester hours should be selected from social-behavioral science (anthropology, criminal justice, economics, political science, psychology, sociology, social work, etc.). The College requirements of English, speech, philosophy and/or religious studies do not fulfill this requirement.

General electives: Elective courses from any arts and sciences area taken for their general educational value. With permission from the advisor and the Office of the Dean of the College, some electives can be taken in other schools within the University. An elective course in business management (MGT 305) is recommended.

CLINICAL YEAR

Students apply for the clinical program at Miami Valley Hospital during their third year. Acceptances are competitive and are based on formal application materials, academic grades, faculty recommendations, and interview performance. The clinical program lasts 12 months, beginning in August and ending the following July. The clinical year curriculum involves formal lectures, seminars, laboratories, and preceptorship experiences. Upon successful completion of the clinical year, students are granted the Bachelor of Science with a major in Cyto-technology at the summer commencement.

Tuition and fees for the clinical year are established by the hospital. The University will charge the Basic University Fee for terms I and II. Students will pay their hospital tuition and fees through the University. Information on clinical year tuition and fees, class size, grading policies, dress codes, etc. is presented in the hospital program brochure.

PROGRAM—S9B: BACHELOR OF SCIENCE WITH A MAJOR IN CYTOTECHNOLOGY (CTT)

Dept.	No.	Course	1st Term ¹	2nd Term
Freshman Year				
BIO	100	Seminar	1-0-0	
BIO	151-152	Concepts of Biology	3-0-3	3-3-4
CHM	123-124	General Chemistry ²	3-3-4	3-3-4
MTH		Statistics ³	3-0-3	
ENG	111-112	College Composition I and II ⁴	4-0-4	3-0-3
—	—	College requirements ⁵	3-0-3	3-0-3
—	—	Humanities/social-behavioral sciences		3-0-3
			17	17
Sophomore Year				
BIO	201L	Biology Laboratory Investigations	0-3-1	
BIO	310	Histology and Microtechnique		3-3-4
PHY	201-202	General Physics	3-2-4	3-2-4
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
—	—	College requirements ⁵	3-0-3	3-0-3
—	—	Humanities/social-behavioral sciences	3-0-3	
—	—	General elective	2-0-2	
			17	15

Junior Year

BIO	309	Comparative Vertebrate Anatomy		3-6-5
BIO	403	Physiology	3-0-3	
BIO	412	General Genetics	3-0-3	
BIO	—	Biology elective ⁶		3-0-3
—	—	College requirement ⁴	3-0-3	
—	—	Humanities/social-behavioral sciences	3-0-3	6-0-6
—	—	General electives	4-0-4	2-0-2
			16	16

¹For example, 3-0-3 means 3 hrs. class, 0 hrs. lab, 3 sem. hrs. of credit.

²Begin in CHM 115, 115L if background is insufficient for CHM 123, 123L.

³MTH 207 or 215 depending on background.

⁴Two English courses (ENG 111, 112) are required. Students with initial placement in ENG 112, 114, or 198 must take an English elective.

⁵SPE 101 and 12 sem. hrs. of religious studies and/or philosophy are required of all Arts and Science majors.

⁶Recommend choice from BIO 407, 425, 440, 442, CHM 201.

Senior Year

Clinical year of 12 months in the School of Cytotechnology at Miami Valley Hospital

Semester Hours

CTT 430	Introduction to Clinical Cytology	2
CTT 431	Reproductive Cytology I	5
CTT 432	Reproductive Cytology II	5
CTT 433	Reproductive Cytology III	4
CTT 434	Respiratory Cytology I	4
CTT 435	Respiratory Cytology II	4
CTT 436	Effusion Cytology	2
CTT 437	Gastrointestinal Cytology	2
CTT 438	Urinary Cytology	2
CTT 439	Breast Cytology	2
CTT 440	Oral Cytology	1
CTT 441	Aspiration Cytology	1
CTT 442	Laboratory Management	1
CTT 443	Cytopreparatory Techniques	1

FACULTY

Charles J. Chantell, *University Program Director*

Clinical Professor: Funkhouser

Clinical Assistant Professor: Carroll

COURSES OF INSTRUCTION

The courses taken during the first three years at the University of Dayton, listed under Program S9B, are described under the individual departments. The senior year is conducted at the Miami Valley Hospital.

CTT 430. INTRODUCTION TO CLINICAL CYTOLOGY: Introduction to clinical laboratory function including use and maintenance of the clinical microscope and

ancillary equipment, preparation of solutions, principles of staining and screening, quality control, and laboratory safety. *2 sem. hrs.*

CTT 431. REPRODUCTIVE CYTOLOGY I: Anatomy, histology, and cytology of the reproductive tract including hormonal cytology in normal and abnormal cells. *5 sem. hrs.*

CTT 432. REPRODUCTIVE CYTOLOGY II: Study of inflammatory processes, carcinomas of the uterine cervix, and adenocarcinomas of the reproductive tract. *5 sem. hrs.*

CTT 433. REPRODUCTIVE CYTOLOGY III: Study of malignant lesions of the reproductive tract, cytogenetics, and the cellular effects of radiation. *4 sem. hrs.*

CTT 434. RESPIRATORY CYTOLOGY I: Anatomy, histology, and cytology of the normal respiratory tract. *4 sem. hrs.*

CTT 435. RESPIRATORY CYTOLOGY II: Study of benign disorders of the respiratory tract and lung cancer. *4 sem. hrs.*

CTT 436. EFFUSION CYTOLOGY: Anatomy and histology of the body cavities and the cytology of effusions, cerebrospinal fluid, and primary tumors. *2 sem. hrs.*

CTT 437. GASTROINTESTINAL CYTOLOGY: Anatomy, histology, and cytology of the normal and the abnormal gastrointestinal tract. *2 sem. hrs.*

CTT 438. URINARY CYTOLOGY: Anatomy, histology, and cytology of the normal and the abnormal urinary tract. *2 sem. hrs.*

CTT 439. BREAST CYTOLOGY: Anatomy, histology, and cytology of the normal and the abnormal breast. *2 sem. hrs.*

CTT 440. ORAL CYTOLOGY: Anatomy, histology, and cytology of the normal and the abnormal oral cavity, larynx, nasopharynx, and paranasal sinuses. *1 sem. hr.*

CTT 441. ASPIRATION CYTOLOGY: Aspiration techniques and cytology of aspirates. *1 sem. hr.*

CTT 442. LABORATORY MANAGEMENT: Familiarization with cytology laboratory procedures including specimen handling, data collection, storage and retrieval, purchasing, and supply inventories. *1 sem. hr.*

CTT 443. CYTOPREPARATORY TECHNIQUES: Detailed study of various methods of obtaining, preparing, processing, and staining cytologic materials. *1 sem. hr.*

ECONOMICS (ECO)

In cooperation with the Department of Economics and Finance in the School of Business Administration, the College of Arts and Sciences offers the degree of Bachelor of Arts with a Major in Economics.

The College recognizes the importance of close cooperation between students and their economics advisors in selecting courses. Flexibility in the program is particularly important, for many areas of study can augment the course work in the major field. For example:

- a. An interest in the quantitative aspect of economics can be supported by courses in mathematics and computer science.
- b. An interest in international economic problems can be combined with proficiency in one or more foreign languages.
- c. An interest in socio-economic problems will naturally lead to coursework in other social sciences.

For course descriptions, see ECO, Chapter VII.

PROGRAM—A4: BACHELOR OF ARTS WITH A MAJOR IN ECONOMICS (ECS)¹

	<i>Semester Hours</i>
Economics	30
ECO 203, 204, 346, 347, and 18 sem. hrs. of upper-division electives.	
Natural science and mathematics	7-12
MTH 207 or MTH 112-113 is required. In addition, at least 4 sem. hrs. must be in approved natural science course (biology, chemistry, geology, physics) with an accompanying laboratory.	
Social and behavioral science	12
Anthropology, political science, psychology, sociology, and, with the approval of the chairperson of the major department or program, appropriate courses in management, criminal justice, education, marketing, military science, social work, or ASI. At least 3 sem. hrs must be in anthropology, political science, psychology, or sociology. At least one unit of 6 sem. hrs. in a single discipline required with at least 3 sem. hrs. from the 300-400 level.	
Humanities	18
American studies, communication arts, English, history, humanities studies, languages, performing and visual arts, philosophy, religious studies, and, with approval of chairperson of the major department or program, courses in ASI. At least 1 unit of 9 sem. hrs. in a humanities area with at least 3 sem. hrs. from 300-400 level courses (except languages and performing and visual arts, in which a unit may be satisfied with 9 sem. hrs. at any level). The remaining 9 sem. hrs. of electives are to be chosen from one or more other departments within the humanities. (The basic philosophy, religious studies, and communication skills courses do not fulfill this requirement.)	
Philosophy and/or religious studies	12
Communication skills (ENG 111, 112, SPE 101)	0-10
Each student in the College of Arts and Sciences must demonstrate competence in written and oral communications before the completion of the freshman year.	

¹See also General Requirements for all Bachelor of Arts programs.

ENGLISH (ENG)

The University requirement in English is satisfied by the completion of English 111 and English 112. Students whose verbal scores on the SAT or ACT are sufficiently high to warrant placement in English 112 upon admission may have English 111 waived. Students who are so placed in English 112 do not receive credit for English 111 but are free to take elective course work in place of the waived course. International students for whom English is a second language must submit TOEFL scores for placement in English 111 or 112. Particulars about the freshman program and testing procedures can be obtained from the chairperson or director of composition.

Students majoring in English must complete at least 36 semester hours of English courses, including freshman composition, at least 24 of them at the 300-400 level. Of the 24 semester hours of upper-level courses, English majors must take at least 3 semester hours in each of three of the following categories:

1. Literary periods—ENG 407, 410, 414, 433, 438, 444, 448, 451, 453, 455
2. Major authors—ENG 362, 405, 431
3. Literary genres—ENG 317, 319, 320, 324, 329, 330
4. Writing—ENG 308, 310, 312, 316, 370, 372, 376, 378, 474

Information about specific courses that serve the needs of students electing English as a preprofessional program (particularly pre-law), as a teaching concentration, as a pregraduate program, as a writing concentration, etc. can be obtained from the department office and from the student's advisor. Majors should consult the department chairperson for advisor assignment.

English minors must take 12 semester hours of upper-divisional (300-400) courses in addition to the composition requirement.

The department sponsors one co-curricular activity, *Orpheus*, the literary magazine of the University.

PROGRAM—A5: BACHELOR OF ARTS WITH A MAJOR IN
ENGLISH (ENG)¹

	<i>Semester Hours</i>
English	36
Speech 101	3
Natural science and mathematics	7
Social and behavioral science	12
Humanities	18
Philosophy and/or religious studies	12
General academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs.

FACULTY

R. Alan Kimbrough, *Chairperson*

Joyce R. Durham, *Director of Composition*

Professors: August, Bedard, Cochran, K. Marre, Martin, Patrouch

Associate Professors: Arons, Cameron, Farrelly, Henninger, Horst, Kimbrough, Labadie, Macklin, L. Marre, Means, Murphy, Palumbo, Pici, Ruff, Stockum

Assistant Professor: Durham

COURSES OF INSTRUCTION

ENG 111. COLLEGE COMPOSITION I: Reading analysis and writing proficiency development. Required of every student. Waiver granted for successful performance on a verbal skills proficiency test. 4 sem. hrs.

ENG 112. COLLEGE COMPOSITION II: An analysis of the logical, linguistic, and rhetorical structure of exposition and argument. Practical application aimed at developing perceptive readers and responsible writers. Emphasis on research and writing. Required conferences. Required of every student. Prerequisite: Successful performance on a verbal skills proficiency test or ENG 111. 3 sem. hrs.

ENG 114. FRESHMAN HONORS: Specific honors section of college composition for first-semester freshmen who show high proficiency. Prerequisite: Superior scores in entrance examinations. 3 sem. hrs.

ENG 198. FRESHMAN HONORS SEMINAR: Study and seminar discussion of selected literary masterworks and appropriate criticism thereof, with equal emphasis on composition. Open by permission only to freshmen in the University Honors Program. 3 sem. hrs.

ENG 203. MAJOR BRITISH WRITERS: Study of four or five writers representative of the principal periods in English literature. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 204. MAJOR AMERICAN WRITERS: Study of four or five writers representative of the principal periods in American literature. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 205. MAJOR WORLD WRITERS: Study (in translation) of four or five writers representative of the principal periods in world (chiefly Western) literature, exclusive of English and American literature. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 210. POETRY: Study of representative examples of a major literary genre. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 212. DRAMA: Study of representative examples of a major literary genre. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 214. FICTION: Study of representative examples of a major literary genre. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 230. TOPICS IN LITERATURE: Exploration of varying approaches to the study of literature. Can be repeated under special circumstances. Prerequisite: ENG 112 or equivalent. 1-6 sem. hrs.

ENG 242. SOPHOMORE HONORS: Seminar in which selected works from the literature of Western civilization are studied. By invitation only. 3 sem. hrs.

ENG 272. EXPOSITORY WRITING: Further practice in writing expository themes and documented papers. A continuation of ENG 112 for students desiring more experience in writing. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 282. INTRODUCTION TO WRITING POETRY: A beginning course in analyzing and writing poetry. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 284. INTRODUCTION TO WRITING FICTION: A beginning course in analyzing and writing short fiction. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 286. INTRODUCTION TO WRITING DRAMA: A beginning course in analyzing and writing short plays. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 301. SURVEY OF EARLY ENGLISH LITERATURE: Survey of English literature from the Medieval period to the end of the eighteenth century. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 302. SURVEY OF LATER ENGLISH LITERATURE: Survey of English literature from the beginning of the Romantic period to the present. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 305. SURVEY OF AMERICAN LITERATURE: Survey of American literature from the Colonial period to the present. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 308. ADVANCED WRITING OF POETRY: Intensive practice in the writing of poems. Prerequisite: ENG 282 or permission. 3 sem. hrs.

ENG 310. ADVANCED WRITING OF FICTION: Intensive practice in the writing of fiction. Prerequisite: ENG 284 or permission. 3 sem. hrs.

ENG 312. ADVANCED WRITING OF DRAMA: Intensive practice in the writing of plays. Prerequisite: ENG 286 or permission. 3 sem. hrs.

ENG 316. ADVANCED COMPOSITION: Intensive practice in the writing of essays and the study of rhetoric. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 317. CONTEMPORARY POETRY: Study of selected poems by recent writers. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 319. CONTEMPORARY FICTION: Study of selected novels and short fiction by recent writers. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 320. CONTEMPORARY DRAMA: Study of selected plays to illustrate major tendencies of modern drama. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 322. MASTERPIECES OF WORLD LITERATURE: Survey (in translation) of selected works, exclusive of English and American literature, to illustrate principal features of the world literary tradition. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 324. THE NOVEL: A consideration of selected novels to illustrate various fictional modes. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 325. SCIENCE FICTION: Survey of science fiction with detailed analysis of selected novels and short fiction. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 327. STUDIES IN POPULAR FICTION: Analysis of selected artifacts of popular culture with reference to serious literature. May be repeated as topics change. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 329. SHORT STORY: Study of the techniques employed in the writing of the short story. Analysis of various models of the short story. Not open normally to students who have had ENG 214. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 330. DEVELOPMENT OF DRAMA: Study of the historical development of the drama from its beginnings to the nineteenth century. Analysis of plays from each significant period. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 331. STUDIES IN FILM: Analysis of selected films to show developments in film technique or criticism. May be repeated as topics change. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 333. IMAGES OF WOMEN IN LITERATURE: Examination of significant literary works that portray traditional images of women. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 335. MODERN BLACK LITERATURE: Study of selected twentieth-century black writers. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 337. STUDIES IN FOLKLORE: Selected studies in American and/or world folklore. May be repeated as topics change. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 339. AMERICAN INDIAN LITERATURE: Survey of American Indian oral narrative and literature. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 348. MODERN IRISH LITERATURE: A consideration principally of the Irish literary revival of the late nineteenth and early twentieth centuries with appropriate background material. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 350. EUROPEAN LITERATURE OF ANTIQUITY: Study of significant works from the Old Testament and Greek, Roman, English, Irish, and/or Scandinavian writers. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 351. EUROPEAN LITERATURE OF THE MIDDLE AGES: Study of selected literary masterpieces of Western civilization in the Middle Ages. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 353. LITERATURE OF THE RENAISSANCE. Study of selected literary masterpieces from England and the Continent that illustrate the culture and ideas of the Renaissance. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 354. LITERATURE OF THE ENLIGHTENMENT. Study of selected English and European literature from the Age of Reason. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 355. LITERATURE OF THE ROMANTIC AGE: Study of the Romantic Revolution as illustrated in representative writings of English and European authors. Prerequisite: ENG 112 or equivalent. 3 sem. hrs.

ENG 356. EUROPEAN LITERATURE OF THE NINETEENTH CENTURY: Study of representative masterpieces from the literature of England and the Continent during the nineteenth century. Prerequisite: ENG 112 or equivalent. *3 sem. hrs.*

ENG 357. EUROPEAN LITERATURE OF THE EARLY TWENTIETH CENTURY: Study of significant English and European literature that illustrates the ideas and culture of the early modern period. Prerequisite: ENG 112 or equivalent. *3 sem. hrs.*

ENG 358. CONTEMPORARY LITERATURE OF EUROPE: Study of selected Western European literature that illustrates the ideas and culture of the present age. Prerequisite: ENG 112 or equivalent. *3 sem. hrs.*

ENG 362. SHAKESPEARE: Study of selected plays and poems of Shakespeare. Prerequisite: ENG 112 or equivalent. *3 sem. hrs.*

ENG 362L. SHAKESPEARE PERFORMANCE LABORATORY: Study of Shakespearean performances through films, video tapes, and recordings. Three hours a week. Students in 362L must have already taken or be registered for ENG 362 or an equivalent Shakespeare course. *1 sem. hr.*

ENG 368. THEME AND IDEA IN LITERATURE: Selected texts illustrating a universal theme or a consistent idea to serve as a base for developing critical and analytical insights and writing skills. Offered in seminar format. Prerequisite: ENG 112 or equivalent. *2 sem. hrs.*

ENG 370. REPORT WRITING: Analysis of and practice in both basic and complex written reports, including the long formal report. Prerequisite: ENG 112 or equivalent. *3 sem. hrs.*

ENG 372. APPLIED WRITTEN COMMUNICATIONS: Analysis of and practice in written communications appropriate to business and industrial organizations, including forms of correspondence and a job-application project but excluding formal reports. Prerequisite: ENG 112 or equivalent. *3 sem. hrs.*

ENG 376. TOPICS IN WRITING: Analysis of and practice in specific forms of writing. May be repeated as forms change. Prerequisite: ENG 112 or equivalent. *3 sem. hrs.*

ENG 378. PROFESSIONAL AND TECHNICAL WRITING: Practice in developing writing skills needed in business, government, and industry. Prerequisite: ENG 112 or equivalent. *3 sem. hrs.*

ENG 380. STUDIES IN LITERATURE: Study of special topics or themes in literature. May be repeated as topics change. Prerequisite: ENG 112 or equivalent. *1-6 sem. hrs.*

ENG 384. DIRECTED READINGS: A program of readings and reports in literature and the humanities. May be repeated with permission. Prerequisite: ENG 112 or equivalent. *3 sem. hrs.*

ENG 395. JUNIOR HONORS TUTORIAL: Independent directed study on special topics for selected students. May be repeated as topic or instructor changes. Permission required. *3 sem. hrs.*

ENG 405. CHAUCER: Study of Chaucer's life, world, language, and literary achievement, concentrating on *The Canterbury Tales* (in Middle English). Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 407. MEDIEVAL ENGLISH LITERATURE: Study of the dominant types in the literature of England from the beginning to 1500. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 410. EARLY RENAISSANCE LITERATURE: Survey of the literature of the sixteenth century from Thomas More to Sidney and Spenser. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 414. LATER RENAISSANCE LITERATURE: Survey of the literature of the early seventeenth century from Bacon, Jonson, and Donne to Marvell, exclusive of Milton. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 431. MILTON: Study of the major and minor poems and of selected prose of Milton. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 433. STUDIES IN NEO-CLASSICAL LITERATURE: Study of English literature from Dryden to Johnson. May be repeated as topics change. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 438. ENGLISH ROMANTICISM: Study of the major poets and critics of the Romantic Age. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 444. STUDIES IN NINETEENTH-CENTURY ENGLISH LITERATURE: Study of English literature in the nineteenth century. May be repeated as topics change. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 448. TWENTIETH-CENTURY BRITISH LITERATURE: Study of significant developments in modern British literature. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 451. AMERICAN ROMANTICISM: Study of significant developments in American literature of the mid-nineteenth century. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 453. AMERICAN REALISM AND NATURALISM: Study of representative writers from the post-Civil War period in American literature. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 455. TWENTIETH-CENTURY AMERICAN LITERATURE: Study of significant developments in American literature of the twentieth century. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 468. INTRODUCTION TO LINGUISTICS: Introduction to the basic concepts and procedures of general linguistics, including language description, history, variation, theory, and acquisition. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 470. HISTORY OF ENGLISH: Study of stages in the development of the English language and of influences shaping its development from the beginning to the present. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 472. THE STRUCTURE OF ENGLISH: Study of the grammatical structure of modern English from traditional and modern linguistic points of view. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 474. ARGUMENTATION: Studies and practice in the patterns of argumentative writing. Recommended for the pre-professional student. Prerequisite: ENG 272, 316, 370, or permission of instructor. *3 sem. hrs.*

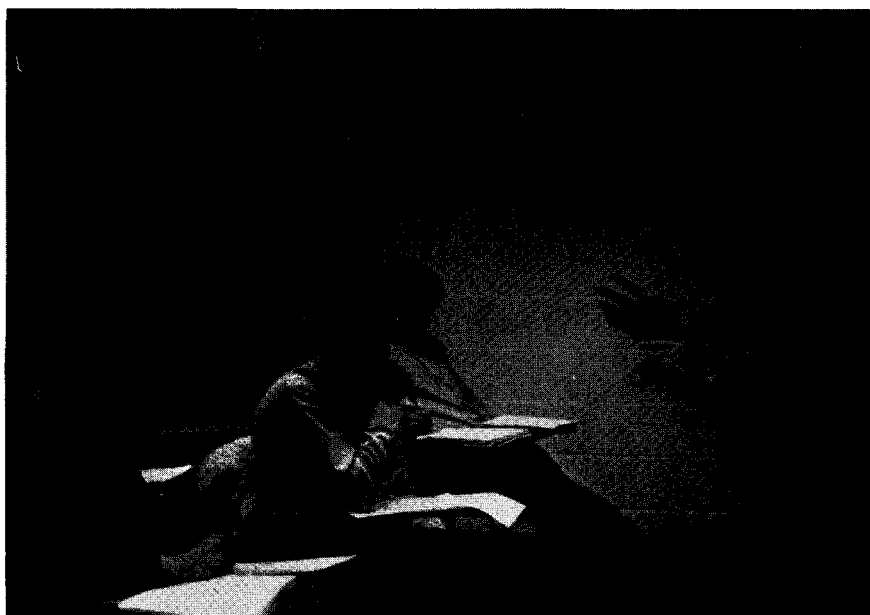
ENG 480. INDEPENDENT STUDY: Individual investigations of special topics under faculty direction. With permission. May be repeated under special circumstances. Prerequisite: At least fifteen semester hours of English. *1-6 sem. hrs.*

ENG 482. MODERN POETRY: Concentrated, advanced study in the development of modern poetry, both English and American. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 485. INTERNSHIP IN WRITING: Application of writing skills to specific projects of an approved organization. Practical and professional experience offered to juniors and seniors (particularly English majors and minors) as a supplement to the writing curriculum. Prerequisite: Permission of supervising instructor. May be repeated up to six semester hours. *1-6 sem. hrs.*

ENG 490. SEMINAR: Concentration on one literary figure, genre, or period for research and analysis. May be repeated as topics change. Consult departmental booklet for specific prerequisites for each section. Permission required. *3 sem. hrs.*

ENG 495. SENIOR HONORS TUTORIAL: Independent directed study on special topics for selected students. May be repeated as topic or instructor changes. Permission required. *3 sem. hrs.*



FINE ARTS (ART)

The Fine Arts Division of the Performing and Visual Arts Department offers five degree programs:

Bachelor of Arts with a Major in Fine Arts (A6)

Bachelor of Arts with a Major in Interior Design (A6A)

Bachelor of Fine Arts with a Major in Studio Art (A7)

Bachelor of Fine Arts with a Major in Commercial Design (A7A)

Bachelor of Fine Arts with Teacher Certification (A7B)

Each applicant to a program of the Fine Arts Division is required to submit a portfolio of acceptable quality for specific program placement. Specific information on portfolio entrance requirements and submission dates for both entering and transfer students should be requested from the Fine Arts Division office, Rike Center. Applicants without portfolios will be admitted on a probationary basis and placed in a one- to two-semester introductory program.

A faculty review of each degree candidate is conducted during the second year of the candidate's program. All senior Bachelor of Fine Arts program candidates must present portfolios for faculty evaluation before graduation.

Fees are noted in course descriptions if required. These are variable. Information on current fees is obtainable in the Fine Arts Division office.

A minor in fine arts is a 21-semester-hour program requiring the following:

1. Permission of the head of the Fine Arts Division, who assigns an advisor.
2. ART 104 Introductory Drawing 3 sem. hrs.
ART 112 Principles of Design 3 sem. hrs.
ART 181 Art Appreciation 3 sem. hrs.
3. Twelve additional semester hours in any combination selected from the Fine Arts Division offerings. These may not include commercial design courses.

A minor in commercial design is a 24- or 25-semester hour program with the following requirements:

1. Permission of the head of the Fine Arts Division, who assigns an advisor.
2. ART 101-102 Fundamentals and Materials of Art 4 sem. hrs.
ART 104 Introductory Drawing 3 sem. hrs.
ART 112 Principles of Design 3 sem. hrs.
ART 216 Design and Color 3 sem. hrs.
ART 345 Typography 3 sem. hrs.
ART 349 Production for Commercial Artists 3 sem. hrs.
ART 411-412 Commercial Design I and II 6 sem. hrs.
3. The following courses must be taken in sequence: 101, 102, 112, 216, 345, 411, 415. ART 104 may be taken at the same time as 112. ART 349 may be taken at the same time as 411. Students who have had 2 to 4 years of high school or other formal art training may test out of ART 101-102 by submitting portfolios as for entering majors. On testing out, the student must replace ART 101-102 with ART 415, Advanced Commercial Design, later in the program.

PROGRAM—A6: BACHELOR OF ARTS WITH A MAJOR IN FINE ARTS (ART)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
Freshman Year			1st Term	2nd Term
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	216	Design and Color		3
ART	183-184	Visual Fundamentals I and II	3	3
ENG	111-112	College Composition I and II	4	3
SPE	101	Fundamentals of Effective Speaking		3
—	—	Philosophy and/or religious studies	3	3
			16	15
Sophomore Year				
ART	207	Figure Drawing	3	
ART	226	Introductory Painting	3	
ART	—	Art history elective		3
PHO	101	Basic Photography		3
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement	6	6
			15	15
Junior Year				
ART	231	Sculpture		3
ART	253	Printmaking I	3	
ART	362	Copper Enameling or	3	
ART	364	Jewelry Construction	(3)	
ART	—	Art elective		3
—	—	Breadth requirement	6	6
—	—	General electives	3	3
			15	15
Senior Year				
ART	240	Introductory Ceramics	3	
ART	—	Art elective		2
—	—	Breadth requirement	9	9
—	—	General electives	3	3
			15	14
			<i>Semester Hours</i>	
University/College requirements			22	
Major Program—Required courses			36	
Art history elective			3	
ART electives			5	
Total in ART			44	
Breadth requirements—Natural science and mathematics			7-12	
Social and behavioral science			12	
Humanities			18	
Program and general electives to total at least			120	
See General Requirements and Distribution Table for Bachelor of Arts Programs.				

**PROGRAM—A6A: BACHELOR OF ARTS WITH A MAJOR IN
INTERIOR DESIGN (IDE)**

Dept.	No.	Course	Semester Hours	
Freshman Year			1st Term	2nd Term
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	183-184	Visual Fundamentals I and II	3	3
ART	216	Design and Color		3
ENG	111-112	College Composition I and II	4	3
SPE	101	Fundamentals of Effective Speaking		3
—	—	Philosophy and/or religious studies	3	3
			16	15
Sophomore Year				
ART	231	Sculpture		3
ART	297	Marker Rendering	2	
ART	311	Design III	2	
HEC	214	Textiles	3	
PHO	101	Basic Photography		3
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement	6	6
			16	15
Junior Year				
ART	307	Drawing for Commercial Artists		2
HEC	320	Family Housing	2	
HES	330, 340	Interior Design I and II	3	3
—	—	Breadth requirement	6	6
—	—	General electives	3	3
			14	14
Senior Year				
HEC	350	Interior Design III	3	
HEC	430	Issues in Interior Design		2
—	—	Breadth requirement	9	9
—	—	General electives	3	4
			15	15
			Semester Hours	
University/College requirements			22	
Major Program—ART courses			24	
PHO course			3	
HEC courses			16	
Total major program			43	
Breadth requirements—Natural science and mathematics			7-12	
Social and behavioral science			12	
Humanities			18	
Program and general electives to total at least			120	
See General Requirements and Distribution Table for Bachelor of Arts Programs.				

**PROGRAM—A7: BACHELOR OF FINE ARTS WITH A MAJOR
IN STUDIO ART (STA)**

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
Freshman Year			1st Term	2nd Term
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	183-184	Visual Fundamentals I and II	3	3
ART	206	Anatomical Drawing		3
ART	216	Design and Color		3
ENG	111-112	College Composition I and II	4	3
SPE	101	Fundamentals of Effective Speaking	3	
PHO	101	Basic Photography		3
			<hr/> 16	<hr/> 15
Sophomore Year				
ART	207	Figure Drawing	3	
ART	226-227	Introductory Painting	3	3
ART	231	Sculpture		3
ART	253	Printmaking I	3	
ART	—	Art history electives	3	3
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement		3
			<hr/> 15	<hr/> 15
Junior Year				
ART	232	Sculpture	3	
ART	—	Art electives	5	3
ART	—	Major area of concentration		5
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement	6	6
			<hr/> 17	<hr/> 17
Senior Year				
ART	495-496	Graduation Portfolio	1	1
ART	—	Art electives	5	5
ART	—	Major area of concentration	5	5
—	—	Breadth requirement	6	6
			<hr/> 17	<hr/> 17

	<i>Semester Hours</i>
University/College requirements ¹	22
Major Program—Required courses	47
ART electives	18
Area of concentration ²	15
Total in ART	80
Breadth requirements ³	27
Total	129

¹University/College Requirements: SPE 101, ENG 111-112, 12 semester hours of philosophy and/or religious studies.

²Major area of concentration of 300-400 level courses (15 semester hours).

³Breadth Requirements: Two units of 6-9 semester hours each selected from the Departments of Psychology, Sociology-Anthropology, Political Science, Mathematics, Science, Economics, Marketing, Management, Social Work. (12-15 semester hours required.)

Two units of 6-9 semester hours each selected from American Studies, Communication Arts, English, History, Languages, Philosophy, Religious Studies, or Performing and Visual Arts (excluding Fine Arts and Photography). At least 6 semester hours must be taken outside the Performing and Visual Arts Department. For specific courses consult head of the Fine Arts Division. If English, Philosophy, Religious Studies, or Communication Arts is chosen, then the requirement excludes University/College requirements. (12-15 semester hours required.)

PROGRAM—A7A: BACHELOR OF FINE ARTS WITH A MAJOR IN COMMERCIAL DESIGN (CDE)

Dept.	No.	Course	Semester Hours	
Freshman Year			1st Term	2nd Term
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	183-184	Visual Fundamentals I and II	3	3
ART	206	Anatomical Drawing		3
ART	216	Design and Color		3
ART	285	Technical Graphics		2
PHO	101	Basic Photography		3
ENG	111-112	College Composition I and II	4	3
SPE	101	Fundamentals of Effective Speaking	3	
			16	17
Sophomore Year				
ART	207	Figure Drawing	3	
ART	226	Introductory Painting	3	
ART	253-254	Printmaking I and II	3	3
ART	297	Marker Rendering		2
ART	298	Studio Skills		3
ART	311-312	Design III and IV	2	3
ART	345	Typography		3
PHO	201	Intermediate Photography	3	
—	—	Breadth requirement	3	3
			17	17
Junior Year				
ART	307	Drawing for Commercial Artists	2	
ART	316	Life Studies		1
ART	318	Three-Dimensional Design, Commercial		3
ART	344	Designing with Type and Symbols	3	
ART	349	Production for the Commercial Artist	3	
ART	411	Commercial Design I		3
—	—	Art elective	3	
—	—	Breadth requirement	3	6
—	—	Philosophy and/or religious studies	3	3
			17	16
Senior Year				
ART	412	Commercial Design II	3	
ART	415	Advanced Commercial Design		3
ART	498-499	Graduation Portfolio	1	1

College of Arts and Sciences

ART

ART	—	Art electives	3	3
—	—	Breadth requirement	3	6
—	—	Philosophy and/or religious studies	3	3
			<u>13</u>	<u>16</u>

Design Illustration

For a concentration in design illustration, commercial design majors may replace ART 345, 318, 344, 411, 412, 415 with the following course sequence:

ART 227	Introductory Painting II	3 sem. hrs.
ART 317	Airbrush	3 sem. hrs.
ART 325	Figure Painting	3 sem. hrs.
ART 397	Design Illustration I	3 sem. hrs.
ART 398	Design Illustration II	3 sem. hrs.
ART 303	Advanced Drawing	3 sem. hrs.

Semester Hours

University/College requirements ¹	22
Major Program—Required courses	74
ART electives	9
Total in ART	83
Breadth requirements ²	24
Total	<u>129</u>

¹University/College Requirements: SPE 101, ENG 111-112, 12 semester hours of philosophy and/or religious studies.

²Breadth Requirements: Two units of 6 semester hours each selected from the Departments of Economics, Management, Marketing, Mathematics, Political Science, Psychology, Science, Social Work, Sociology-Anthropology. (12 semester hours required.)

Two units of 6 semester hours each selected from American Studies, Communication Arts, English, History, Languages, Philosophy, Religious Studies, or Performing and Visual Arts (excluding Fine Arts and Photography). At least six semester hours must be taken outside the Performing and Visual Arts Department. For specific courses consult head of the Fine Arts Division. If English, Philosophy, Religious Studies, or Communication Arts is chosen, then the requirement excludes University/College requirements.

PROGRAM—A7B: BACHELOR OF FINE ARTS WITH TEACHER CERTIFICATION (E-11) (FAE)

Note: Students seeking certification in the B.F.A. program must apply in the sophomore year with 40 semester hours completed and with a 2.9 cumulative point average. See also EDT.

Dept.	No.	Course	Semester Hours	
Freshman Year			1st Term	2nd Term
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	183-184	Visual Fundamentals I and II	3	3
ART	206	Anatomical Drawing		3
ART	216	Design and Color		3
ENG	111-112	College Composition I and II	4	3
PHL	103	Introduction to Philosophy		3
SPE	101	Fundamentals of Effective Speaking	3	
			<u>16</u>	<u>15</u>

Sophomore Year

ART	207	Figure Drawing	3	
ART	226	Introductory Painting	3	
ART	231	Sculpture	3	
ART	240	Introductory Ceramics	3	
ART	254	Printmaking II		3
ART	—	Art elective		2
PHO	101	Basic Photography		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning		3
EDT	318	Human Relations in Education	2	
MTH	—	Mathematics elective		3
PHL	320	Philosophy of Art		3
			<u>17</u>	<u>17</u>

Junior Year

ART	362	Copper Enameling or		
ART	366	Jewelry Casting or		
ART	364	Jewelry Construction		3
ART	292	Lettering and Calligraphy or		
ART	344	Designing with Type and Symbols	3	
ART	341	Weaving		2
ART	—	Art history elective	3	
ART	—	Art electives	2	2
—	—	Natural science elective		4
—	—	Breadth requirement	3	3
—	—	Social studies electives	3	3
EDT	351	Secondary School, Self, Society	3	
			<u>17</u>	<u>17</u>

Senior Year

ART	483	Creative Art Teaching	4	
ART	495-496	Graduation Portfolio	1	1
ART	—	Art electives	6	
EDT	419	Philosophy of Education		3
EDT	421	Student Teaching		12
EDT	469	Reading in the Content Areas	2	
—	—	Philosophy or religious studies	3	
			<u>16</u>	<u>16</u>
			<i>Semester hours</i>	

University/College requirements 22

Major Program—Field experiences are arranged by the University in the following courses: EDT 208, EDT 318, EDT 351, EDT 469, ART 483. Required art courses, except ART 496, must be taken before placement in student teaching.

Required art and photography courses 53

Art electives 12

Total in ART 65

Education requirements 25

Breadth requirements² 19

Total 131

¹University/College Requirements: SPE 101, ENG 111-112, 12 semester hours of philosophy and/or religious studies.

²Breadth Requirements: Two units of 6-9 semester hours each selected from Psychology, Sociology-Anthropology, Political Science, Mathematics, Science, Economics, Marketing, Management, Education, Home Economics. (12-15 semester hours required.)

Two units of 6-9 semester hours each selected from the Departments of Languages, English, History, Communication Arts, Philosophy, Religious Studies. (If English, Philosophy, Religious Studies, or Communication Arts is chosen, then the requirement excludes the semester hours already required by the University.) (12-15 semester hours required.)

Portfolio required before program placement for regular as well as transfer students. Portfolio required for graduation.

Second-year candidates for B.F.A. participate in a faculty review.

All education courses are to be taken in sequence except EDT 318, 455, and 419.

Philosophy of Education, EDT 419, is accepted as part of the University philosophy and/or religious studies requirement.

National Teachers Examination is required of all students.

Students seeking a B.F.A. with teacher certification are encouraged to attend summer school between the junior and senior years.

FACULTY

Patrick S. Gilvary, *Chairperson, Department of Performing and Visual Arts*

Louis Weber, *Head of Fine Arts Division*

Associate Professors: Plogman, Weber

Assistant Professors: Barrish, Fiehler, Hitt, Myers, Richardson, Strohmaier, Zahner

Part-time Instructors: Cave, Falke, Rudegeair, Tuss

COURSES OF INSTRUCTION

ART 101-102. FUNDAMENTALS AND MATERIALS OF ART: Course to acquaint beginners with the principles and concepts of art and with the various kinds of materials and techniques used in artistic expression. Open to all students. Prerequisite for ART 102 is ART 101 or permission. Studio fee. 2 sem. hrs. each

ART 103. INTRODUCTORY DRAWING: Introduction of basic visual concepts, various drawing media, and approaches to experimental technique. Emphasis on perspective, perceptual awareness, and expressive freedom. Open to all students except art majors. 2 sem. hrs.

ART 104. INTRODUCTORY DRAWING: Introduction of basic visual concepts, various drawing media, and approaches to experimental technique. Emphasis on perspective, perceptual awareness, and expressive freedom. Includes an introduction to figure drawing. Art majors only. Model fee. 3 sem. hrs.

ART 111. PRINCIPLES OF DESIGN: Study of the underlying elements and principles of design as they are applied to surface pattern. Color theories and their use in creative design. Open to all students except art majors. 2 sem. hrs.

ART 112. PRINCIPLES OF DESIGN: Study of the underlying elements and principles of design as they are applied to surface pattern. Color theories and their use in creative design. 3 sem. hrs.

ART 181. ART APPRECIATION: Course to develop a greater capacity to enjoy as well as understand contemporary art expression. Emphasis on understanding the creative process and investigating the artist's point of view and relationship to audience. Open to all students except art majors. One 3-hour session each week. 3 sem. hrs.

ART 183. VISUAL FUNDAMENTALS I: Introductory course to present concepts in the visual arts through an integration of fundamentals in art theory, practice, and history. Not open to students who have taken ART 181. *3 sem. hrs.*

ART 184. VISUAL FUNDAMENTALS II: Continuation of ART 183 with emphasis on the historical evolution of styles and their relationship to twentieth-century art. Not open to students who have taken ART 181. *3 sem. hrs.*

ART 206. ANATOMICAL DRAWING: Studies from the nude model, skeleton, anatomy diagrams, and drawings of the masters. Emphasis on skeletal-muscular structure, external contour, and "norms" for proportion. Prerequisite: ART 104. Model fee. *3 sem. hrs.*

ART 207. FIGURE DRAWING: The integration of previous studies of visual concepts, anatomy, and expressive freedom into a personally distinctive figure-drawing approach. Prerequisites: ART 104, 206, and/or permission of instructor. Model fee. *3 sem. hrs.*

ART 216. DESIGN AND COLOR: The study of color based principally on Alber's theory of color and its use in expressing and integrating various designs. Prerequisite: ART 112 or permission of instructor. *3 sem. hrs.*

ART 226-227. INTRODUCTORY PAINTING: Painting in oil, acrylics, and water-color: still life, landscape, figure, and abstraction; emphasis on composition and techniques; use of imaginative subject matter. Prerequisite for ART 227 is ART 226 or permission. *3 sem. hrs. each*

ART 228-229. WATERCOLOR: Basic principles and techniques of transparent water-colors. Emphasis on composition, value, and color sketching as preparatory steps in painting. In the second course, varying expressions and interpretations of subject material are encouraged. Prerequisites: ART 103 or 104, 111 or 112, 226-227. Model fee. *3 sem. hrs. each*

ART 231-232. SCULPTURE: Consideration of forms as a means of developing an understanding of mass, shape, and control of medium. Use of wide range of materials with emphasis on the integration of their characteristics with the expression. Prerequisite for ART 232 is ART 231 or permission. Studio fee. *3 sem. hrs. each*

ART 240. INTRODUCTORY CERAMICS, HAND BUILDING: Introduction to basic methods of working in clay by way of coil and slab. Emphasis on originality and proper methods. Studio fee. *3 sem. hrs.*

ART 241. INTERMEDIATE CERAMICS, WHEEL THROWING: Introduction to basic methods of working clay by way of the wheel. Emphasis on originality and proper methods. Prerequisite: ART 240. Studio fee. *3 sem. hrs.*

ART 253. PRINTMAKING I: Introduction and practice in two basic printmaking techniques, the relief and the intaglio print. Studio fee. *3 sem. hrs.*

ART 254. PRINTMAKING II: Introduction to the basic principles of lithography and silkscreen printing. Studio fee. *3 sem. hrs.*

ART 273. SURVEY OF ART I: Survey of Western art and significant historical and cultural influences from prehistory through the medieval and Gothic periods. Open to all University students. *3 sem. hrs.*

ART 274. SURVEY OF ART II: Continuation of ART 273, beginning with the Renaissance and continuing through the Baroque and Rococo periods. Open to all University students. 3 sem. hrs.

ART 275. SURVEY OF ART III: Survey of art history from transformations in late 18th-century art through 20th-century contemporary art. Open to all University students. 3 sem. hrs.

ART 281. CREATIVE FIBER DESIGN: Investigation of soft sculpture, macrame, stitchery, and textile printing. Experiences with fiber media and processes oriented around perception and developing an awareness of fiber properties. Studio fee. 2 sem. hrs.

ART 285. TECHNICAL GRAPHICS: Introduction to technical drawing for the graphic communication student. Familiarization with technical drawing instruments and their use. Techniques studied include preparation of orthographic views, perspective drawing, various types of general business graphics. Studio fee. 2 sem. hrs.

ART 292. CALLIGRAPHY: Principles of lettering; study of vertical and slant script styles. Applications in finished pieces of work. 3 sem. hrs.

ART 297. MARKER RENDERING: Drill and practice in the marker medium. Emphasis on technique and control. Prerequisite: ART 104. 2 sem. hrs.

ART 298. STUDIO SKILLS: Development of various fundamental art skills required by the commercial art studio, advertising agency, and printer. The tools and terminology of the trade. Emphasis on preparing camera-ready art—keylines and paste-ups (mechanicals). Prerequisite: ART 216. Studio fee. 3 sem. hrs.

ART 303. ADVANCED DRAWING: Observational and expressive drawing. Use of accumulated knowledge from previous drawing experiences to develop individual creativity and original style. Prerequisites: ART 206-207 or permission. Model fee. 3 sem. hrs.

ART 307. DRAWING FOR COMMERCIAL ARTISTS: Emphasis on the aspects of drawing needed by commercial artists: one-, two-, and three-point perspective, spatial drawing, and the "ideal" human figure. Prerequisite: ART 104. Studio fee. 2 sem. hrs.

ART 311. DESIGN III: A continuing exploration of color including Itten and Munsell, color psychology, color perception in the visual arts. Prerequisite: ART 216. Studio fee. 2 sem. hrs.

ART 312. DESIGN IV: Perception and illusion in the visual arts, with studies of modern graphics in both historical and stylistic contexts. Prerequisite: ART 216. Studio fee. 3 sem. hrs.

ART 316. LIFE STUDIES: Studies in drawing from the live model, both nude and clothed, for practice and refinement of technique. Variety of media permitted. Prerequisites: ART 104, junior or senior status. Repeatable up to 4 sem. hrs. Model fee. 1 sem. hr.

ART 317. AIRBRUSH TECHNIQUE: Fundamental course in the principles of air-brush in illustration. Prerequisites: ART 112, 226, 216. Studio fee. 3 sem. hrs.

ART 318. THREE-DIMENSIONAL DESIGN COMMERCIAL: Investigation of materials, processes, and three-dimensional aesthetic principles of advantage to the commercial designer. Prerequisites: ART 112, 216. Studio fee. *3 sem. hrs.*

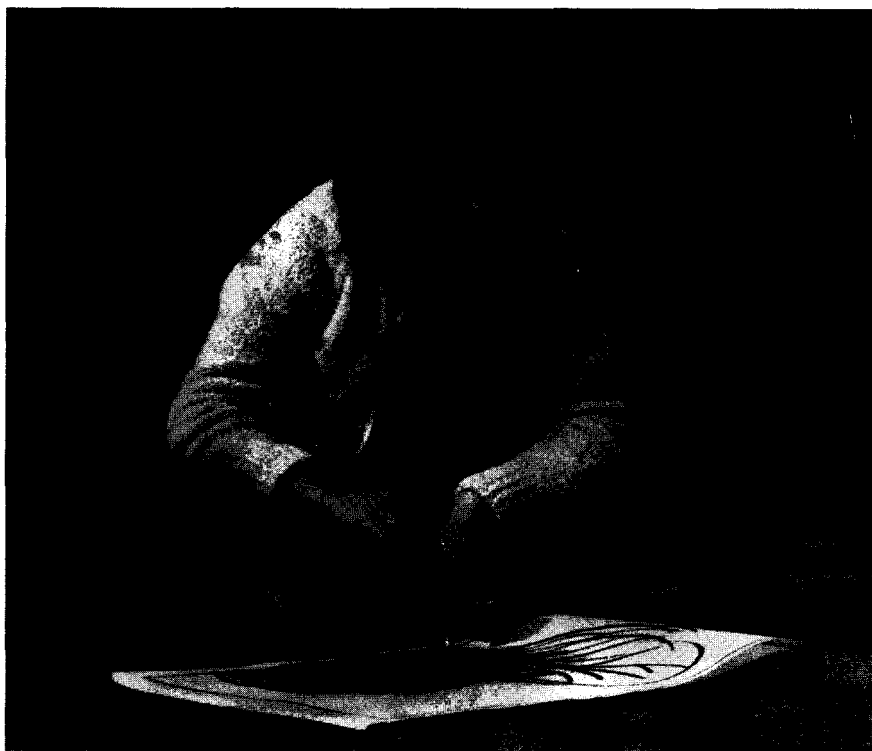
ART 319. STUDIO: A faculty-supervised time block that allows students to pursue work in a variety of media as designated in the course composite by area (painting, drawing, etc.) and instructor. Prerequisites: 6 sem. hrs. of course work in the area selected or permission of the instructor. Repeatable up to 18 sem. hrs. Studio fee. *3 sem. hrs.*

ART 325. FIGURE PAINTING: Fundamentals and practice of painting from the model. Both representational and abstract approaches; stress on technical quality and personal expression. Prerequisites: ART 103 or 104, or permission of instructor. Model fee. *3 sem. hrs.*

ART 341. WEAVING: Exploration of fabrics with emphasis on the functional aspects of handweaving, including use of the loom. Fiber construction, basketry, stitchery, hooking, batik, and macrame. Prerequisites: ART 111 or 112. Studio fee. *2 sem. hrs.*

ART 343. RAKU: A 400-year-old Japanese ceramic technique adapted for the contemporary potter. Study includes kiln building, glaze formulation, handbuilding techniques. Studio fee. *3 sem. hrs.*

ART 344. DESIGNING WITH TYPE AND SYMBOLS: The visual as opposed to the technical aspects of type: letterforms as creative design tools in pattern and texture, esthetical and psychological effects. Prerequisite: ART 216. Studio fee. *3 sem. hrs.*



ART 345. TYPOGRAPHY: Introduction to typography for those entering the commercial design field. Type styles, type measurements, preparing copy for printing. Studio fee. *3 sem. hrs.*

ART 349. PRODUCTION FOR THE COMMERCIAL ARTIST: Survey of the graphic arts field: its equipment, its processes, and the preparation of art for reproduction purposes—process photography, photomechanical procedures, color separation, and printing methods and machines. Hard line art and advanced problems in camera-ready art. Prerequisites: ART 298, 345. Studio fee. *3 sem. hrs.*

ART 355-356. SILK SCREEN-SERIGRAPHY: Basic principles and techniques of the silk screen process; all operations of screen printing including stencil and resist techniques, selecting and preparing the color material, printing and displaying the finished print. Prerequisite: ART 254. Studio fee. *3 sem. hrs. each*

ART 357. LITHOGRAPHY: Investigation of lithographic printing techniques, stone lithography, metal plate lithography, multi-color prints, mastery of color registration methods, and use of various lithographic drawing materials and techniques. Prerequisite: ART 254 or permission of the instructor. Studio fee. *3 sem. hrs.*

ART 358. INTAGLIO PRINTING: Advanced work in intaglio printmaking including etching, drypoint, aquatint, color printing, and the use of photographic images. Prerequisite: ART 253. Studio fee. *3 sem. hrs.*

ART 362. COPPER ENAMELING: Basic principles and techniques of enameling on copper, in stencil, graffiti, wet-pack painting, cloisonne, and champleve. Design and execution of original pieces in each of these processes. Prerequisite: ART 112. Studio fee. *3 sem. hrs.*

ART 364. JEWELRY CONSTRUCTION: Basic principles of construction with special emphasis on soldering techniques, use of tools, and the design of the piece of work. Prerequisite: ART 112. Studio fee. *3 sem. hrs.*

ART 366. JEWELRY CASTING: The complete jewelry-casting process: designing of original pieces, making the wax models, spruing, investing, burning out, casting, and finishing. Emphasis at the beginning of the course on learning the process and correct procedures; later emphasis on the aesthetic and sculptural nature of the piece of work. Studio fee. *3 sem. hrs.*

ART 367. STAINED GLASS: Introduction into the techniques of cutting glass, use of tools, copper foil, and leaded came. Emphasis in the first half of the course on technical skills and good design in building small windows. In the latter half of the course more advanced work in three-dimension object building. Studio fee. *3 sem. hrs.*

ART 376. AMERICAN PAINTING: Survey of major American artists from the colonial period to World War II, with emphasis on problems of function and patronage. Open to all University students. *3 sem. hrs.*

ART 377. WOMEN ARTISTS: AN HISTORICAL SURVEY: Historical survey of women artists from the Middle Ages to the present with particular emphasis on current revisionist literature and exhibitions. Open to all University students. *3 sem. hrs.*

ART 397-398. DESIGN ILLUSTRATION I and II: Applications, methods, problems in various illustrative styles, media, materials, and techniques for effective visual communication, representation, or interpretation of concepts, products, or narratives for magazines, books, newspapers, and advertising. Prerequisites: ART 216, 227. ART 397 is a prerequisite for ART 398. Studio fee. *3 sem. hrs. each*

ART 411-412. **COMMERCIAL DESIGN I and II:** Applications, methods, and problems in layout design for magazine advertisements, retail advertising, and collateral materials. Emphasis on creating concepts for effective visual communication and attention-arresting techniques; professional methods and materials. Prerequisite: ART 349. ART 411 is a prerequisite for ART 412. Studio fee. *3 sem. hrs. each*

ART 415. **ADVANCED COMMERCIAL DESIGN:** The art of identification: creation, psychology, and perception of trade-marks, the anatomy of annual reports, and a survey of company identification and corporate image programs. Design of letterheads, envelopes, charts, graphs, and annual reports. Prerequisite: ART 412. Studio fee. *3 sem. hrs.*

ART 472. **ART IN THE TWENTIETH CENTURY:** The development of 20th-century art, covering the early cubist movement, abstract expressionism, and various aspects of other major art movements to the present. Open to all University students. *3 sem. hrs.*

ART 473. **ART IN THE NINETEENTH CENTURY:** Study of major artists and movements in European art, beginning with the late 18th century and continuing through the Impressionist and Post-Impressionist movements in the 19th century. Open to all University students. *3 sem. hrs.*

ART 474. **CONTEMPORARY TRENDS IN THE VISUAL ARTS:** Seminar for senior fine arts majors only, treating only post-1950s trends in painting, sculpture, architecture, new methods and materials in graphics, and theories in current art criticism. Prerequisite: ART 472. *3 sem. hrs.*

ART 483. **CREATIVE ART TEACHING IN ELEMENTARY AND SECONDARY SCHOOLS:** The philosophy of art education, creative teaching, use and care of tools and equipment, class management, art therapy, curriculum planning, art media; actual teaching experience in children's classes. Art education majors only. Studio fee. *4 sem. hrs.*

ART 483W. **ELEMENTARY SCHOOL ART:** Workshop to give the regular elementary classroom teacher new and practical ideas on the employment of art materials and techniques in relation to seasonal interests of pupils and to holiday observances. Studio fee. *3 sem. hrs.*

ART 490. **SPECIAL PROBLEMS:** A course reserved for art students devoted to advanced individual work in the following designated art fields: airbrush, drawing, enameling, graphics, art history, jewelry, lettering and calligraphy, ceramics, design, painting, lithography, sculpture, general fine arts. Approval based on academic standing and instructor-division head permission. Repeatable up to 15 semester hours. Studio fee. *1-5 sem. hrs.*

ART 495-496. **GRADUATION PORTFOLIO:** Required of all B.F.A. candidates. The course deals with criteria, schedule, selection of work, presentation, and exhibition in constructing a portfolio. Grade option 2. *1 sem. hr. each*

ART 498-499. **GRADUATION PORTFOLIO IN COMMERCIAL DESIGN:** The portfolio is a graduation requirement for a B.F.A. degree in commercial design. Evaluation and preparation of a portfolio of professional-quality work; resume writing, job interview techniques. Approval of the portfolio is required for graduation. Grade option 2. *1 sem. hr. each*

GENERAL STUDIES (GEN)

The Bachelor of General Studies program is designed for those students who do not wish to pursue a traditional degree program with a departmental major. It permits great latitude in utilizing University resources for acquiring an education that serves individual needs. Since only the basic University requirements must be met, there are no specific requirements. Students may plan their programs to the best advantage of their particular educational objectives.

BACHELOR OF GENERAL STUDIES PROGRAM (GEN)

Admission requirements for the Bachelor of General Studies are the same as those for any other degree now offered in the College of Arts and Sciences.

Candidacy for the Bachelor of General Studies may be declared in the freshman year but not later than the end of the junior year. Students in good academic standing may transfer from one program to another, provided they meet the requirements of, and can be accommodated by, the programs into which they wish to transfer.

The first-year student is required to seek approval of course elections under the direction of the appropriate official of the College of Arts and Sciences. Thereafter, the student will be required to plan an academic program satisfying requirements for graduation in consultation with the program director, Sister Ellen Murphy. The usual policy on prerequisites remains in effect in this program.

The candidate must complete 120 semester hours with an overall grade point average of 2.0 or better, including

1. University requirements,
2. a minimum of 54 semester hours of courses at the 300-400 level with a grade point average of 2.0 or better, and
3. not more than 30 semester hours of work from any one academic discipline.



GEOLOGY (GEO)

The following program, leading to the Bachelor of Science degree with a major in Geology, is designed to present students with the basic courses in the geological sciences and to enable them to construct specific curricula to suit their particular interests in areas of advanced study.

PROGRAM—S5: BACHELOR OF SCIENCE WITH A MAJOR IN
GEOLOGY (GEO)¹

	<i>Semester Hours</i>
Geology	38
Mathematics 118-119 ²	8
Chemistry 123-124	8
Physics 206-207 ³	6
Science electives ⁴	16
Philosophy and/or religious studies	12
English 111-112	7
Speech 101	3
Humanities and/or social science electives	6
General academic electives to total at least	120

¹See General Requirements for all Bachelor of Science programs.

²May substitute MTH 112-113, with permission of department.

³May substitute PHY 201-202 with permission of department.

⁴Choose from courses in chemistry, mathematics, physics, biology, geology, or (with chairperson's approval) engineering.

Any student wishing to pursue a Bachelor of Arts program with a major in Geology should consult with the chairperson of the department.

A student wishing to choose geology as an area of minor concentration must take 12 semester hours in 300-400 level courses, and any prerequisites.

FACULTY

Charles J. Ritter, *Chairperson*

Professors: Ritter, Springer

Assistant Professor: Gray

COURSES OF INSTRUCTION

GEO 103. PRINCIPLES OF GEOGRAPHY: Analysis of the physical factors of the earth's environment: weather, climate, land forms, oceans. 3 sem. hrs.

GEO 104. INTRODUCTORY GEOLOGY FIELD COURSE: Fundamental earth science topics with emphasis on direct field experience. One week on campus, 3 weeks in the Rocky Mountains near Denver, Colorado, and one week of travel. For all non-geology and non-biology majors. Corequisites: BIO 104; GEO 104L or BIO 104L. Third term each year. 3 sem. hrs.

GEO 104L. INTRODUCTORY GEOLOGY FIELD LABORATORY: Course to accompany GEO 104. Third term each year. 1 sem. hr.

GEO 109. GENERAL GEOLOGY: Introduction to the earth as a planet, its composition, structure, and evolutionary development; a brief consideration of the life of the past. For the nonscience major. May be taken without laboratory. 3 sem. hrs.

GEO 109L. GENERAL GEOLOGY LABORATORY: Course to accompany GEO 109. Two hours per week. 1 sem. hr.

GEO 115. PHYSICAL GEOLOGY: Introductory course in geologic principles; the composition and structure of the earth, its land forms, and the agencies active in their production. Laboratory optional for nonmajors. 3 sem. hrs.

GEO 115L. PHYSICAL GEOLOGY LABORATORY: Course to accompany GEO 115. Two hours per week. 1 sem. hr.

GEO 116. HISTORICAL GEOLOGY: A comprehensive study of earth history as interpreted from the rocks of the crust. Prerequisite: GEO 115. 3 sem. hrs.

GEO 116L. HISTORICAL GEOLOGY LABORATORY: Course to accompany GEO 116. Two hours per week. 1 sem. hr.

GEO 201. MINERALOGY: Introduction to the study of minerals, their chemical and physical properties, associations and occurrences. First term, each year. 3 sem. hrs.

GEO 201L. MINERALOGY LABORATORY: Course to accompany GEO 201. Three hours per week. First term, each year. 1 sem. hr.

GEO 204. OPTICAL MINERALOGY: Mineral determination through the use of the petrographic microscope employing crushed grains and thin sections. Prerequisite: GEO 201. Second term, each year. 2 sem. hrs.

GEO 204L. OPTICAL MINERALOGY LABORATORY: Course to accompany GEO 204. Four hours per week. Second term, each year. 2 sem. hrs.

GEO 208. ENVIRONMENTAL GEOLOGY: Study of the relationship of geologic factors to the problems of water supply, pollution, erosion, land use, and earth resources. Laboratory optional. Third term, each year. 3 sem. hrs.

GEO 208L. ENVIRONMENTAL GEOLOGY LABORATORY: Third term, each year. 1 sem. hr.

GEO 218. ENGINEERING GEOLOGY: A comprehensive study of geologic principles applicable to civil engineering practices. Second term, each year. 3 sem. hrs.

GEO 301. STRUCTURAL GEOLOGY: The origin and development of structural features of the earth's crust; folding, faulting, volcanism, mountain building, and metamorphism. Prerequisites: GEO 115, 116, 201, 204. First term, 1983-84. 3 sem. hrs.

GEO 301L. STRUCTURAL GEOLOGY LABORATORY: Course to accompany GEO 301. Two hours per week. First term, 1983-84. 1 sem. hr.

GEO 302. GLACIAL GEOLOGY: The origin of mountain and continental glaciers; their depositional features and erosive activity; history of glaciation in geologic past with special emphasis on North American Quaternary ice advances. Prerequisites: GEO 115, 116. Second term, 1983-84. 3 sem. hrs.

GEO 302L. GLACIAL GEOLOGY LABORATORY: Course to accompany GEO 302. Two hours per week. Second term, 1983-84. *1 sem. hr.*

GEO 303. FIELD GEOLOGY: Six weeks' summer study of structural and age-relationship problems in areas containing abundant crystalline and sedimentary exposures. Prerequisites: GEO 115, 116, 301. Summer. *6 sem. hrs.*

GEO 307. GEOMORPHOLOGY: Detailed study of landforms and the erosional processes that develop them. Prerequisites: GEO 115, 116, 301. Second term, 1984-85. *3 sem. hrs.*

GEO 307L. GEOMORPHOLOGY LABORATORY: Course to accompany GEO 307. Two hours per week. Second term, 1984-85. *1 sem. hr.*

GEO 310. STRATIGRAPHY: The interpretation of specific lithotypes and the synthesis of the stratigraphic record. Prerequisites: GEO 116, 301. Second term, 1984-85. *3 sem. hrs.*

GEO 310L. STRATIGRAPHY LABORATORY: Course to accompany GEO 310. Two hours per week. Second term, 1984-85. *1 sem. hr.*

GEO 401. PALEONTOLOGY: A study of animal life of the geologic past as shown by the fossil record. First term, 1983-84. *3 sem. hrs.*

GEO 401L. PALEONTOLOGY LABORATORY: Course to accompany GEO 401. Two hours per week. First term, 1983-84. *1 sem. hr.*

GEO 403. SEDIMENTATION: Detailed study of sediments: their sources, environments of deposition, and methods of consolidation; sedimentary rock classifications and analyses. Prerequisites: GEO 201, 204, 301. First term, 1984-85. *3 sem. hrs.*

GEO 403L. SEDIMENTATION LABORATORY: Course to accompany GEO 403. Two hours per week. First term, 1984-85. *1 sem. hr.*

GEO 404. PROBLEMS IN GEOLOGY: A consideration of special problems involving advanced work in the laboratory and library; arranged to meet the needs of individual students. *3 sem. hrs.*

GEO 411. IGNEOUS PETROLOGY: Study of the formation of igneous rocks. Prerequisites: GEO 201, 204, 309. First term, 1984-85. *3 sem. hrs.*

GEO 411L. IGNEOUS PETROLOGY LABORATORY: Course to accompany GEO 411. Two hours per week. First term, 1984-85. *1 sem. hr.*

GEO 412. INTRODUCTORY GEOCHEMISTRY: Investigation of the chemical nature and development of the earth, its interior, crust, and surface materials. Quantitative chemical and physical chemical studies of formation rock types, ore deposition, and geochronology. Second term, 1984-85. *3 sem. hrs.*

GEO 412L. INTRODUCTORY GEOCHEMISTRY LABORATORY: Course to accompany GEO 412. Three hours per week. Second term, 1984-85. *1 sem. hr.*

HISTORY (HST)

The course requirement for history majors is 36 semester hours, distributed as follows:

1. Four courses (12 semester hours) from the HST 100-200 sequences;
2. HST 301—3 semester hours;
3. Seven additional courses (21 semester hours), all from the HST 300-400 sequences. The department firmly recommends that the student attempt to distribute these fairly equally between American and the non-American history.
4. Independent study courses (HST 496 and 497) and courses given under HST 299 and 499 may be substituted for any course except HST 301.

The course requirement for history minors is 18 semester hours. Two courses (6 semester hours) should be selected from the 100-200 sequences. Two upper-level courses should be selected from the American history field and two upper-level courses from the non-American history field.

PROGRAM—A8: BACHELOR OF ARTS WITH A MAJOR IN HISTORY (HST)¹

	<i>Semester Hours</i>
History	36
Natural science and mathematics	7
Social and behavioral science	12
Humanities	18
Philosophy and/or religious studies	12
Communication skills	0-10
General academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs.

The department considers consistent and candid counseling to be the key to academic success. Freshmen are counseled by B. A. Perkins; other history majors are usually counseled by other members of the department.

History students are strongly encouraged to participate in the Interdepartmental Summer Study Abroad Program conducted by the College of Arts and Sciences. See Chapter X.

Minors and Area Concentrations

A student may elect a minor in education under the E-11 Program or in any related disciplines within the College of Arts and Sciences. The student must consult with the department administering the discipline for the particular requirements of a minor. In addition, the student may elect any one of the four multi-disciplinary concentrations in Pre-Graduate Study in History, Pre-Law, International Affairs, and Historical Administration, Preservation, and Archival Management.

1. Pre-Graduate Study in History

Ph.D. programs generally require the candidate to have a reading knowledge of French and German. Therefore, language study is necessary. Another language may sometimes be substituted. Students should consult graduate catalogues for specific requirements. Since teaching and research are the usual outcomes of graduate study, appropriate speech and composition courses should be taken (SPE 307 and ENG 272), and social science study is essential. Courses in computer science may be useful. Students interested in graduate study must maintain a high grade point average to receive financial assistance for graduate studies. They should consult with faculty members to determine the areas where there may be openings for teaching positions in the near future.

2. Pre-Law

Students should take the following courses as part of their 36 required semester hours in history:

HST 103, 104, 105	History of Western Civilization (Choose two.)
HST 251	American History to 1865
HST 252	American History since 1865
HST 424	English Constitutional and Legal History
HST 460-461	U.S. Legal and Constitutional History I and II

In addition students must take at least five of the following courses:

ACC 207-208	Principles of Accounting, or
ACC 301	Financial Reporting and Administration
FIN 301	Business Finance
ECO 203	Principles of Microeconomics
ECO 204	Principles of Macroeconomics
ECO 442	Money and Banking (Prerequisites: ECO 203-204)
ENG 272	Expository Writing
ENG 316	Advanced Composition
MTH 207	Statistical Methods for the Behavioral Sciences
PHL 301	Practical Logic
PHL 312	Ethics
PHL 314	Philosophy of Law
POL 201	The American Political System
POL 301	The American Judicial Process
POL 411	Constitutional Law
POL 495	Internship in Law

3. International Affairs

Students should take the following history courses:

Two 100-level courses (6 semester hours), European and Third World
 HST 265, Diplomatic History of the U.S., and one other 200-level course
 Three 300-400-level courses, not American or European
 Three 300-400-level courses, European

Students are urged to take 18 semester hours of modern language.

Students are urged to take at least five of the following:

ANT 351	Cultures of the Caribbean
ANT 352	Cultures of Latin America
COM 305	Propaganda Analysis
MTH 207	Statistical Methods
CRJ 336	Comparative Criminal Justice Systems
ENG 272	Expository Writing
PHL 312	Ethics
POL 202	Introduction to Comparative Politics
POL 214	Principles of International Relations
POL 320-326	Comparative Politics (any course)
POL 406	International Law and Organization
POL 408	American Foreign Policy
POL 410	Comparative Foreign Policy
REL 201-202	Religions of the World I and II
SOC 350	National and World Population Trends
ECO 450	Comparative Economic Systems
ECO 461	International Economics
FIN 450	International Business Finance

4. Historical Administration, Preservation, and Archival Management

Students should take the following courses as part of their 36 required semester hours in history:

Two 100-level courses (6 semester hours)

Two courses from HST 251, HST 252, HST 260

HST 301	Research Seminar
HST 364	History of Ohio
HST 385	Internship
HST 479	American Architectural History and Preservation

In addition, students must take at least five of the following:

ENG 272	Expository Writing
MGT 102	American Business Environment
MGT 305	Principles of Management
MGT 308	Small Business Management
MGT 314	Personnel Management
MKT 421	Advertising
MKT 310	Salesmanship
POL 303	State and Local Government
POL 305	Introduction to Public Administration
POL 360	Urban Politics
POL 413	The American Bureaucracy
ACC 207-208	Principles of Accounting, or
ACC 301	Financial Reporting and Administration

FACULTY

Roberta S. Alexander, *Chairperson*

Professors: E. Beauregard, Donatelli, Eid, Maras, Mathias, Rhee, Steiner

Associate Professors: Alexander, King, Palermo, Taylor, Vines

Assistant Professor: Bannan

Lecturer and Counselor: Perkins

Part-time Instructors: C. Beauregard, Bell, Bennett, Gannon

COURSES OF INSTRUCTION

HST 103. HISTORY OF WESTERN CIVILIZATION I: Survey from earliest times to 1453: the social, cultural, and political aspects of the prehistoric, ancient, and medieval eras. 3 sem. hrs.

HST 104. HISTORY OF WESTERN CIVILIZATION II: Survey from 1453 to 1815, emphasizing the Renaissance and Reformation, the Age of the Enlightenment, and the French Revolutionary and Napoleonic era. 3 sem. hrs.

HST 105. HISTORY OF WESTERN CIVILIZATION III: Survey from 1815 to the present, emphasizing the era of nationalism and revolution, the new industrialism, socialism, imperialism, and 20th-century developments. 3 sem. hrs.

HST 120. HISTORY OF ENGLAND: Major forces and trends in the history of England from earliest times to the present. 3 sem. hrs.

HST 125. HISTORY OF RUSSIA: The development of the Russian state from earliest times to the present: origins of the Russian state, political and economic growth, development of the modern Soviet state. 3 sem. hrs.

HST 130. HISTORY OF THE FAR EAST: Brief review of the early historical development of the Far East; study of China and Japan in the 19th and 20th centuries, emphasizing political, religious, cultural, and economic growth. 3 sem. hrs.

HST 131. INTRODUCTION TO THE MIDDLE EAST: Introduction to the history of the Middle East, its unity and diversity of geography, ethnic background, and national aspirations and trends. 3 sem. hrs.

HST 135. HISTORY OF AFRICA: Survey from early times to the present, to Africa's significance by examples of political grandeur, commercial ingenuity, intellectual ferment, and religious revolutions. 3 sem. hrs.

HST 175. LATIN AMERICAN HISTORY: A study of developing nations in search of cultural identity, social justice, and political stability. 3 sem. hrs.

HST 251. AMERICAN HISTORY TO 1865: Survey of the development of the American nation from colonial times to 1865; political trends, economic and social foundations of American institutions. 3 sem. hrs.

HST 252. AMERICAN HISTORY SINCE 1865: Survey of the development of the nation after the Civil War, stressing social, economic, and political problems. 3 sem. hrs.

HST 260. SOCIAL AND CULTURAL HISTORY OF THE UNITED STATES: Social and cultural development of the American people: growth of national spirit, impact of expansion, conflict over slavery, and problems of industrialization and urbanization. 3 sem. hrs.

HST 265. DIPLOMATIC HISTORY OF THE UNITED STATES: Foundations of American foreign policy; the diplomacy of continental expansion through the 19th century; emphasis on diplomatic problems since 1898. *3 sem. hrs.*

HST 270. ECONOMIC HISTORY OF THE UNITED STATES: Survey of the economic theories and institutions peculiar to the United States with special reference to their influence on social and political development. *3 sem. hrs.*

HST 299. HISTORY TOPICS: Specific subtitles and descriptions to be announced in the composite and posted in the History Department office. *1-6 sem. hrs.*

HST 301. RESEARCH SEMINAR: History methods, philosophy, and introductory historiography, the last based on the professor's field of specialization. Required for junior history majors. *3 sem. hrs.*

HST 306. INTELLECTUAL AND CULTURAL HISTORY OF MODERN EUROPE: Close analysis of people, ideas, and principal cultural developments from the Renaissance into the 20th century. *3 sem. hrs.*

HST 318. FRENCH REVOLUTION AND NAPOLEONIC ERA: Ideological, economic, social, and political background of the Revolution; analysis of the revolutionary governments; the resulting international wars; the rise and fall of Napoleon. *3 sem. hrs.*

HST 319. FRANCE SINCE 1815: French history from the Bourbon Restoration in 1815 to the Fifth Republic in 1958, with emphasis on evolutionary and revolutionary factors in the political survival of the French people. *3 sem. hrs.*

HST 320. MODERN ITALIAN HISTORY: Italian history from the settlement imposed by the Congress of Vienna in 1815 to the proclamation of the republic in 1946, stressing the emergence of the Risorgimento and subsequent developments within the Kingdom of Italy. *3 sem. hrs.*

HST 323. HISTORY OF LONDON: Study of the evolution of London from a small Roman town to the world's first industrial metropolis. Particular attention to social and environmental conditions and the life of the people. *3 sem. hrs.*

HST 328. HISTORY OF EASTERN EUROPE: Survey of the history of the nations lying between Germany and the Soviet Union, the Baltic and Aegean Seas, stressing medieval and early modern background as a foundation of contemporary history. *3 sem. hrs.*

HST 329. MODERN GERMANY: Analysis of the development of the German state from 1843 through the period of unification, Second Empire, Weimar Republic, Third Reich, the post-World War II Germanies. *3 sem. hrs.*

HST 332. SOCIAL AND CULTURAL HISTORY OF THE MIDDLE EAST: Social and cultural development of the Middle-Eastern people: the growth of national spirit, the impact of westernization and industrialization; transition and innovation. *3 sem. hrs.*

HST 345. IRELAND AND AMERICA: Study of the cultural-historical background of both Scotch-Irish and Celtic Irish immigrants to America and how that influenced their varying reactions to the dominant Anglo-Saxon Protestantism of America. *3 sem. hrs.*

HST 349. HISTORY OF THE COLD WAR: A study of the origins and evolution of the Cold War from 1917 to the present. 3 sem. hrs.

HST 351. AMERICAN FEMINISM: Historical study of the changing roles of women in American society and the struggle for social, political, economic, legal, and educational rights from the 17th century to the present. 3 sem. hrs.

HST 355. AMERICAN URBAN HISTORY: Historical analysis of community life in American society: the nature and development of small towns, cities, and suburbs; communal experience, social organizations, and political culture. 3 sem. hrs.

HST 357. LATIN AMERICA IN THE 20th CENTURY: Intensive examination of revolution and reaction in today's Latin America and the implications for those who formulate U.S. foreign policy. 3 sem. hrs.

HST 360. HISTORY OF MENTAL HEALTH CARE IN AMERICA: History of the treatment of the mentally ill in America from colonial times to the present. 3 sem. hrs.

HST 364. HISTORY OF OHIO: Political, economic, and cultural history of the state in relation to the parallel growth of the United States. Recommended for elementary and secondary school teachers. 3 sem. hrs.

HST 365. AMERICAN FILMS AS HISTORY: Study of the development of American values, myths, institutions, and perspectives through the use of films as a primary source. 3 sem. hrs.

HST 380. HISTORY OF THE AMERICAN INDIAN: Historical and descriptive survey of the native peoples of North America. 3 sem. hrs.

HST 385. INTERNSHIP: Practical approach to history through field study and work with historical societies and architectural preservation boards. 3 sem. hrs.

HST 390. THE WESTWARD MOVEMENT: A history of the expansion of settlement in the U.S. since 1783: explorations, Indian relations, land policy, transportation, types of frontier settlements, and Western influence on American ideals and institutions. 3 sem. hrs.

HST 398. HISTORY OF BLACKS IN UNITED STATES, 1526-1900: Study of the saga of black people in the U.S. from 1526 until 1900. 3 sem. hrs.

HST 399. HISTORY OF BLACKS IN UNITED STATES, 1900 to PRESENT: Study of the saga of black people in the U.S. from 1900 to the present. 3 sem. hrs.

HST 402. MAIN CURRENTS IN ANCIENT HISTORY: Aspects of the civilizations of the ancient Near East, Greece, and Rome, emphasizing the Hebrew world view and value system, Greek democracy, Roman political and social institutions. 3 sem. hrs.

HST 405. MEDIEVAL EUROPE: European history from the 4th to the 14th century, including birth of Middle Ages; development of Christianity; Byzantine, Islamic, and Carolingian Empires; feudalism; Crusades; rise of universities; birth of national cultures. 3 sem. hrs.

HST 407. RENAISSANCE AND REFORMATION: The development of European history from the 14th to the middle of the 17th century. Emphasis on the economic, political, social, and religious aspects of the Renaissance, Protestant Revolution, and Catholic Reformation. *3 sem. hrs.*

HST 411. ERA OF ABSOLUTISM, ENLIGHTENMENT: From the later Reformation to the era of the French Revolution: intellectual and cultural development; political, economic, and social trends of the Old Regime. *3 sem. hrs.*

HST 413. THE REVOLUTIONARY ERA, 1798-1918: A historical analysis of European nations and peoples emphasizing war and revolutions of the period as well as ideological, scientific, and technological developments. *3 sem. hrs.*

HST 414. 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 415. SOVIET UNION SINCE 1917: Detailed survey and analysis of the historical development of the U.S.S.R. from the Revolution of 1917 to the present. *3 sem. hrs.*

HST 418. MILITARY HISTORY: Survey from ancient times to the present emphasizing the military's role in society, the philosophy of war, and military institutions, organization, and weapons. *3 sem. hrs.*

HST 424. ENGLISH CONSTITUTIONAL AND LEGAL HISTORY: Study of the origins and development of common law and parliamentary government from the Saxon folkmoot to modern representative government. *3 sem. hrs.*

HST 426. TUDOR-STUART ENGLAND: Study of England from 1405 to 1714: Development of the national state, royal absolutism, and the Reformation; evolution of the constitutional question; diplomacy; social, economic, and cultural aspects of the period. *3 sem. hrs.*

HST 428. MODERN ENGLAND—1815 TO PRESENT: Development of England as an industrialized nation and as an empire; results of industrialization, urbanization, and loss of empire due to two world wars. *3 sem. hrs.*

HST 432. NORTH AFRICA IN MODERN TIMES: Study of Morocco, Algeria, Tunisia, and Libya since the 16th century; stress on the institutional histories of these countries that enabled them ultimately to expel European imperialism. *3 sem. hrs.*

HST 436. SOUTH AFRICA IN MODERN TIMES: Study of the establishment of the Bantu people and institutions and their subjection to assaults by Boers and British to illuminate the present dominant governmental policy of apartheid. *3 sem. hrs.*

HST 437. WEST AFRICA IN MODERN TIMES: West Africa's significance since the 18th century, with special references to slave trade, commercial revolution, religious ferment, imperialistic rivalry, and the recent independence movement. *3 sem. hrs.*

HST 438. THE MIDDLE EAST, NINETEENTH AND TWENTIETH CENTURIES: Survey of the Ottoman Empire, Iran, Egypt, and the modern states of the Middle East, emphasizing the development of nationalism and the role in international politics. *3 sem. hrs.*

HST 443. MODERN CHINA: Survey of the political, cultural, and international developments in China from the 18th century to the present. 3 sem. hrs.

HST 447. DIPLOMATIC HISTORY OF THE FAR EAST SINCE 1840: Survey of the diplomatic relations of China, Korea, and Japan among themselves and with other powers. 3 sem. hrs.

HST 448. JAPAN SINCE PERRY: Study of the economic, social, and political developments of modern Japan from the end of the "Seclusion" to the present time. 3 sem. hrs.

HST 450. THE FOUNDING OF AMERICA: Foundations of American nationality and democratic growth under the British colonial system, with special attention to the economic, political, social, and cultural life of the era. 3 sem. hrs.

HST 454. THE AGE OF JEFFERSON AND JACKSON: The range of historical, cultural, social, and political trends traditionally associated with the presidencies of Jefferson and Jackson; the period from the 1790's to the 1850's. 3 sem. hrs.

HST 455. THE AMERICAN SOUTH, 1607 TO PRESENT: Study of the role of the South in American History. 3 sem. hrs.

HST 456. CIVIL WAR AND RECONSTRUCTION: Remote and immediate causes of the Civil War; problems of North and South during the war; consequences of the war; efforts to create a new Union, 1865 to 1877; problems caused by those efforts. 3 sem. hrs.

HST 460. U.S. LEGAL AND CONSTITUTIONAL HISTORY I: From Colonial beginnings through Reconstruction. The first semester of a year's sequence that analyzes the major developments in American legal and constitutional thought and institutions. Emphasis on the evolution of the U.S. Constitution, constitutional theory and practice, and the legal profession. Prerequisite: Junior or senior status. 3 sem. hrs.

HST 461. U.S. LEGAL AND CONSTITUTIONAL HISTORY II: From the Gilded Age to the present. Continuation of HST 460. Prerequisite: HST 460. 3 sem. hrs.

HST 472. THE SOUTHERN APPALACHIAN REGION: Study and appraisal of the internal and external historical forces that have shaped Appalachia. 3 sem. hrs.

HST 475. THE PROGRESSIVE PERIOD, 1900-1920: Major historical trends that dominated these years which saw the universal acceptance of America's claim to world power. Cultural as well as political developments. 3 sem. hrs.

HST 476. BETWEEN THE WARS: Intensive study of chief facets of United States history from 1919 to 1941, including Normalcy, the Depression, the evolving New Deal, and the approach of World War II. 3 sem. hrs.

HST 477. CONTEMPORARY AMERICAN HISTORY: The immediate background of contemporary political, social, and economic problems: impact of World War II on the United States, Cold War, New Frontier, and Johnson Administration. 3 sem. hrs.

HST 478. INTERPRETATIONS IN AMERICAN HISTORY: Specific topics for investigation as determined by the instructor. The objective is to study new interpretations of historical events. Prerequisite: General knowledge of American history.

3 sem. hrs.

HST 479. 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 482. THE HISTORY OF MEXICO: Mexican History since 1820. Origins of the revolution of 1910 and its developments to the present; Mexico's struggle for democracy; diplomatic and cultural relations between Mexico and the U.S.

3 sem. hrs.

HST 484. CARIBBEAN SINCE 1801: Study of 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 independence or autonomy.

3 sem hrs.

HST 496. INDEPENDENT STUDY: The study of a special topic to be mutually selected by the student and a history professor. Prerequisite: Permission of chairperson. May be repeated once.

1-6 sem. hrs.

HST 497. HONORS TUTORIAL: The study of a special topic to be selected by the instructor. Applicants will be admitted on the basis of academic record. May be repeated once.

1-6 sem. hrs.

HST 499. TOPICS IN HISTORY: Specific subtitles and descriptions to be announced in the composite and posted in the History Department office.

1-6 sem. hrs.



HOME ECONOMICS (HEC)

Home economics is the study of interrelationships within the family and between the family and individuals and the environment. It is concerned with achieving, maintaining, and enhancing family and individual well-being in daily life. Thus it is a diversified field of applied knowledge and service integrating many disciplines.

The Bachelor of Science with a major in Home Economics is currently awarded in two areas: Home Economics (General) and Home Economics (Food and Nutrition).

Home Economics (General)

Students following the General Home Economics program have six options for concentration. Each student will follow the basic curriculum, which provides an overview of the discipline, and choose one of the following options: I. Comprehensive Study; II. Clothing, Textiles, and Fashion Merchandising; III. Consumer Science; IV. Family and Child Development; V. Interior Design; VI. Vocational Certification in Home Economics.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (GENERAL) (HEG)

	<i>Semester Hours</i>
Home Economics	39
BIO 101-102 or CHM 123-124	8
ENG 111, 112, ENG elective	10
Social sciences, language, or history	18
Philosophy and/or religious studies	12
SPE 101	3
Major, minor, electives to total at least	120

<i>Basic Curriculum</i>		<i>Semester Hours</i>
HEC 103	Introduction to Home Economics	1
HEC 105	Related Art	3
HEC 303	Nutrition and Health or	
HEC 437-437L	Meal Management and Laboratory	3
HEC 306	Family Management or	
HEC 321	The Consumer and Society	3
HEC 318	Family Living	3
HEC 320	Family Housing	2
HEC 323	Demonstration Techniques	2
HEC 325	Child Development	3
HEC 360	Clothing Selection and Consumption	3
		23

The student will select one of the following options of 16 semester hours to bring the total to 39 semester hours (51 for Option VI).

<i>I. Comprehensive Study</i>		<i>Semester Hours</i>
HEC 101-101L	Introductory Clothing and Laboratory	3
HEC 214	Textiles	3
HEC 303	Nutrition and Health ¹	3
HEC 306	Family Management ²	3
HEC 309	Household Equipment	3
HEC 436	Independent Study or	
HEC 470	Home Economics Laboratory Internship	1
		<u>16</u>

¹The student will take HEC 437, Meal Management, in the basic curriculum.

²The student will take HEC 321, The Consumer and Society, in the basic curriculum.

<i>II. Clothing, Textiles, and Fashion Merchandising¹</i>		<i>Semester Hours</i>
HEC 101-101L	Introductory Clothing and Laboratory	3
HEC 214	Textiles	3
HEC 311-311L	Advanced Clothing and Laboratory	3
HEC 404	Fashion Merchandising	3
HEC 415-415L	Tailoring and Laboratory	3
HEC 436	Independent Study or	
HEC 470	Home Economics Laboratory Internship	1
		<u>16</u>

¹The student will seek a minor in marketing.

<i>III. Consumer Science¹</i>		<i>Semester Hours</i>
HEC 309	Household Equipment	3
HEC 331	Money Management	3
HEC 341	Social Issues in Consumerism	3
HEC 436	Independent Study and/or	
HEC 470	Home Economics Laboratory Internship	4
HEC 437-437L	Meal Management and Laboratory ²	3
		<u>16</u>

¹The student will elect support courses in economics, political science, criminal justice, sociology-anthropology, and marketing and will take HEC 321, The Consumer and Society, in the basic curriculum.

²The student will take HEC 303, Nutrition and Health, in the basic curriculum.

<i>IV. Family and Child Development¹</i>		<i>Semester Hours</i>
HEC 329	Child Development Practicum	3
HEC 341	Social Issues in Consumerism	3
HEC 403	Community Nutrition	2
HEC 406	Family Management Practicum ²	3
HEC 429	Management of Pre-School Programs	2
HEC 436	Independent Study and/or	
HEC 470	Home Economics Laboratory Internship	3
		<u>16</u>

¹The student will elect support courses in education, psychology, and social work.

²The student will take the prerequisite, HEC 306, Family Management, in the basic curriculum.

<i>V. Interior Design¹</i>		<i>Semester Hours</i>
HEC 214	Textiles	3
HEC 330,340,350	Interior Design I, II, III	9
HEC 430	Issues in Interior Design	2
HEC 470	Home Economics Laboratory Internship	2
		<u>16</u>

¹The student will take the following support courses in fine arts:

ART 104	Introductory Drawing	3
ART 183-184	Visual Fundamentals I, II	6
ART 216	Color and Design	3
ART 307	Drawing for the Commercial Artist	2
ART 311	Design III	2
		<u>16</u>

<i>VI. Vocational Certification in Home Economics¹</i>		<i>Semester Hours</i>
HEC 101-101L	Introductory Clothing and Laboratory	3
HEC 200-200L	Introductory Foods and Laboratory	4
HEC 214	Textiles	3
HEC 303	Nutrition and Health ²	3
HEC 306	Family Management ³	3
HEC 309	Household Equipment	3
HEC 329	Child Development Practicum	3
HEC 406	Family Management Practicum	3
HEC —	Home Economics elective	3
		<u>28</u>

¹The student following the E11 program will take 51 semester hours in home economics plus HEC 405, Teaching of Home Economics in Schools.

²The student will take HEC 437, Meal Management, in the basic curriculum.

³The student will take HEC 321, The Consumer and Society, in the basic curriculum.

**PROGRAM—S6: BACHELOR OF SCIENCE WITH A MAJOR IN
HOME ECONOMICS (GENERAL) (HEG)¹**

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term²</i>	<i>2nd Term</i>
Freshman Year				
HEC	100	Freshman Orientation Seminar	1-0-0	
HEC	103	Introduction to Home Economics		1-0-1
HEC	105	Related Art	3-0-3	
BIO	101-102	General Biology ³	3-3-4 ²	3-3-4
ENG	111-112	College Composition I, II	4-0-4	3-0-3
SPE	101	Fundamentals of Effective Speaking		3-0-3
—	—	Philosophy or religious studies	3-0-3	
—	—	Electives	3-0-3	3-0-3
			<u>17</u>	<u>14</u>
Sophomore Year				
HEC	214	Textiles		3-0-3
HEC	325	Child Development	3-0-3	
HEC	360	Clothing Selection and Consumption	3-0-3	
HEC	—	Home Economics Option courses	3-0-3	3-0-3

ENG	—	English elective		3-0-3
—	—	Philosophy or religious studies		3-0-3
—	—	Electives	6-0-6	3-0-3
			15	15
Junior Year				
HEC	303	Nutrition and Health or		
HEC	437	Meal Management	3-0-3	
HEC	306	Family Management or		
HEC	321	Consumer and Society	3-0-3	
HEC	309	Household Equipment		3-0-3
HEC	318	Family Living		3-0-3
HEC	320	Family Housing		2-0-2
HEC	—	Home Economics Option courses	6-0-6	3-0-3
—	—	Philosophy or religious studies	3-0-3	
—	—	Electives		6-0-6
			15	17
Senior Year				
HEC	323	Demonstration Techniques		2-0-2
HEC	—	Home Economics Option courses	3-0-3	1-0-1
—	—	Philosophy or religious studies	3-0-3	
—	—	Electives	9-0-9	9-0-9
			15	12

¹See General Requirements for all Bachelor of Science programs.

²For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

³May substitute CHM 123-124.

Home Economics (Food and Nutrition)

The Bachelor of Science degree with a major in Home Economics (Food and Nutrition) allows for the following three areas of concentration:

Program S7: Bachelor of Science with a major in Home Economics (Food and Nutrition—ADA Plan IV) (HEA)

Program S7A: Bachelor of Science with a major in Home Economics (Food and Nutrition—Food Systems) (HEF)

Program S7B: Bachelor of Science with a major in Home Economics (Food and Nutrition—Nutrition) (HEN)

REQUIREMENTS FOR THE BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (FOOD AND NUTRITION—ADA PLAN IV) (HEA)

Program S7: Plan IV of the American Dietetic Association (ADA) prepares the student to function as a professional in some phase of nutritional care. Plan IV meets the standards of the ADA to enter a fifth year of study in a dietetic internship program.

	<i>Semester Hours</i>
Home Economics	39
Anthropology 150 or Sociology 204	3
Biology 101, 102, 411L	10
Chemistry 123, 124, 313, 314, 420	19
Physical and Health Education 305, 306	6
Psychology 101 or Sociology 101	3
Philosophy and/or religious studies	12
English 111, 112, 370 or 272 or 372	10
Speech 101	3
Accounting 301	3
Management 314	3
Economics 203	3
Mathematics 207	3
General academic electives to total at least	120

**PROGRAM—57: BACHELOR OF SCIENCE WITH A MAJOR IN
HOME ECONOMICS (FOOD AND NUTRITION—
ADA PLAN IV) (HEA)¹**

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term²</i>	<i>2nd Term</i>
Freshman Year				
HEC	100	Freshman Orientation Seminar	1-0-0 ²	
CHM	123-124	General Chemistry	3-3-4	3-3-4
ENG	111-112	College Composition I and II	4-0-4	3-0-3
HEC	200	Introductory Foods		2-4-4
—	—	Philosophy or Religious Studies	3-0-3	
PSY	101	General Psychology ³		3-0-3
ANT	150	Cultural Anthropology ³	3-0-3	
SPE	101	Fundamentals of Effective Speaking	3-0-3	
HEC	202	Introduction to Hospital Dietetics ⁴		1-0-1
			17	15
Sophomore Year				
BIO	101-102	General Biology	3-3-4	3-3-4
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
ENG	370	Report Writing ⁵		3-0-3
HEC	303	Nutrition and Health	3-0-3	
HEC	325	Child Development	3-0-3	
ECO	203	Principles of Microeconomics		3-0-3
MTH	207	Statistical Methods for Behavioral Sciences ^{4, 6}	3-0-3	
—	—	Philosophy or religious studies		3-0-3
			17	17
Junior Year				
ACC	301	Financial Reporting and Administration	3-0-3	
CHM	420	Biochemistry		3-0-3
EDD	305-306	Anatomy and Physiology ⁷	3-0-3	3-0-3
HEC	—	Foods elective	3-0-3	
HEC	304	Quantity Foods Production	3-0-3	
HEC	308	Institutional Buying		3-0-3
HEC	323	Demonstration Techniques		2-0-2
—	—	Philosophy and/or religious studies	3-0-3	3-0-3
—	—	Elective		3-0-3
			15	17

Senior Year				
HEC	357	Food Microbiology	3-0-3	
BIO	411L	General Bacteriology Laboratory	0-4-2	
HEC	318	Family Living		3-0-3
HEC	401	Advanced Nutrition		3-0-3
HEC	402	Diet Therapy	3-0-3	
HEC	405	Teaching of Home Economics in Schools ⁸	3-0-3	
HEC	407	Food Service Systems Management	3-0-3	
HEC	410	Nutritional Biochemistry with Laboratory ⁴	1-3-2	
MGT	314	Personnel Management		3-0-3
—	—	Elective		6-0-6
			16	15

¹See General Requirements for all Bachelor of Science programs.

²For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

³May substitute SOC 101 for PSY 101; may substitute SOC 204 for ANT 150.

⁴Recommended but not required.

⁵May substitute ENG 272 or 372.

⁶May substitute CPS 144 with permission.

⁷May substitute BIO 403 with permission.

⁸May substitute EDT 208.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (FOOD AND NUTRITION— FOOD SYSTEMS) (HEF)

Program S7A: The Food Systems area of the Food and Nutrition major prepares the student for a career in a commercial aspect of food and nutrition as well as the optional fifth year for the Master of Business Administration.

Semester Hours

Home Economics	33
Biology 101, 102, 411L	10
Chemistry 123, 124	8
English 111, 112, 370 or 372	10
Philosophy and/or religious studies	12
Psychology 101 or Sociology 101 or 204	3
Speech 101	3
Economics 203, 204	6
Mathematics 112, 113, 207	9
Management 305, elective	6
Accounting 207, 208	6
Finance 301	3
Marketing 305	3
General academic electives to total at least	120

PROGRAM—S7A: BACHELOR OF SCIENCE WITH A MAJOR IN
HOME ECONOMICS (FOOD AND NUTRITION—
FOOD SYSTEMS) (HEF)

Dept.	No.	Course	1st Term ²	2nd Term
Freshman Year				
HEC	100	Freshman Orientation Seminar	1-0-0 ²	
HEC	200	Introductory Foods		2-4-4
ENG	111-112	College Composition I and II ³	4-0-4	3-0-3
SPE	101	Fundamentals of Effective Speaking ⁴		3-0-3
CHM	123-124	General Chemistry	3-3-4	3-3-4
PSY	101	General Psychology ⁵	3-0-3	
MTH	112-113	Introductory Calculus I and II ⁶	3-0-3	3-0-3
—	—	Philosophy or religious studies	3-0-3	
			17	17
Sophomore Year				
HEC	303	Nutrition and Health		3-0-3
HEC	325	Child Development	3-0-3	
ECO	203-204	Microeconomics and Macroeconomics	3-0-3	3-0-3
BIO	101-102	General Biology	3-3-4	3-3-4
ENG	370	Report Writing ⁷	3-0-3	
MTH	207	Statistical Methods for Behavioral Sciences		3-0-3
—	—	Philosophy or religious studies		3-0-3
—	—	General elective ⁸	3-0-3	
			16	16
Junior Year				
HEC	304	Quantity Food Production	3-0-3	
HEC	308	Institutional Buying		3-0-3
HEC	318	Family Living		3-0-3
HEC	321	The Consumer and Society	3-0-3	
ACC	207-208	Principles of Accounting	3-0-3	3-0-3
MGT	305	Principles of Management and Organization	3-0-3	
MKT	305	Principles of Marketing		3-0-3
—	—	Philosophy or religious studies		3-0-3
—	—	General elective ⁸	3-0-3	
			15	15
Senior Year				
HEC	323	Demonstration Techniques		2-0-2
HEC	327	Experimental Foods	2-3-3	
HEC	357	Food Microbiology	3-0-3	
HEC	407	Food Service Systems Management	3-0-3	
BIO	411L	General Bacteriology Laboratory	0-4-2	
FIN	301	Business Finance	3-0-3	
MGT	—	Management elective		3-0-3
—	—	Philosophy or religious studies	3-0-3	
—	—	General electives ⁸		10-0-10
			17	15

¹Consult General Requirements for the Bachelor of Science programs.

²For example 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

³General elective if first-term placement is in ENG 112. See footnote #8.

⁴General elective if waived. See footnote #8.

⁵May take SOC 101 or 204.

⁶General elective if placement is in MTH 113. See footnote #8.

⁷May substitute ENG 372.

⁸It is recommended that general electives not be taken in home economics or in the School of Business Administration. The number of undergraduate semester hours taken in the School of Business Administration must not exceed 25% of the total.

REQUIREMENTS FOR BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (FOOD AND NUTRITION—NUTRITION) (HEN)

Program S7B: A student who selects the nutrition area of the Food and Nutrition major may function as a nutritionist or may elect to continue the study of nutrition in graduate work and research.

	<i>Semester Hours</i>
Home Economics	36
Chemistry 123, 124, 313, 314, 420	19
Biology 101, 102, 411L	8
English 111, 112, 370 or 372	10
Physical and Health Education 305, 306	6
Mathematics 207	3
Psychology 101 or Sociology 101 or 204	3
Speech 101	3
Philosophy and/or religious studies	12
General academic electives to total at least	120

PROGRAM—S7B: BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (FOOD AND NUTRITION—NUTRITION) (HEN)¹

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term²</i>	<i>2nd Term</i>
Freshman Year				
HEC	100	Freshman Orientation Seminar	1-0-0 ²	
HEC	200	Introductory Foods	2-4-4	
ENG	111-112	College Composition I and II ³	4-0-4	3-0-3
CHM	123-124	General Chemistry	3-3-4	3-3-4
SPE	101	Fundamentals of Effective Speaking ⁴		3-0-3
PSY	101	General Psychology ⁵		3-0-3
—	—	Philosophy and/or religious studies	3-0-3	3-0-3
			15	16
Sophomore Year				
HEC	325	Child Development	3-0-3	
BIO	101-102	General Biology	3-3-4	3-3-4
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
ENG	370	Report Writing ⁶		3-0-3
EDD	305-306	Anatomy and Physiology ⁷	3-0-3	3-0-3
MTH	207	Statistical Methods for Behavioral Science		3-0-3
			14	17

Junior Year			
HEC	303	Nutrition and Health	3-0-3
HEC	318	Family Living	3-0-3
HEC	323	Demonstration Techniques	2-0-2
HEC	327	Experimental Foods	2-3-3
HEC	401	Advanced Nutrition	3-0-3
HEC	410	Nutritional Biochemistry with Laboratory	1-3-2
CHM	420	Biochemistry	3-0-3
—	—	General electives	6-0-6
			<u>14</u>
			17
Senior Year			
HEC	357	Food Microbiology	3-0-3
HEC	403	Community Nutrition	3-0-3
HEC	436	Special Problems in Nutrition	3-0-3
HEC	451	Advanced Nutritional Biochemistry	3-0-3
HEC	460	Seminar in Food and Nutrition	1-0-1
BIO	411L	General Bacteriology Laboratory	0-4-2
—	—	Philosophy and/or religious studies	3-0-3
—	—	General electives	5-0-5
			<u>17</u>
			15

¹Consult General Requirements for all Bachelor of Science programs.

²For example 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

³General elective if first-term placement is 112.

⁴General elective if waived.

⁵May take SOC 101 or 204.

⁶May substitute ENG 272 or 372.

⁷May substitute BIO 403 with permission.

FACULTY

Julia A. Palmert, *Chairperson*

Associate Professors: Lefler, Metzger, Schroeder

Assistant Professors: DeLuca, Palmert

Part-time Instructors: Butler, Eppley, Freeman, Herald, Margulis, Morath, Moss, Wright

COURSES OF INSTRUCTION

HEC 101. INTRODUCTION TO CLOTHING: Study of clothing selection and construction of a basic garment using a commercial pattern with emphasis on fitting, dress-making techniques, and finishing procedures. Corequisite: HEC 101L. 2 sem. hrs.

HEC 101L. INTRODUCTION TO CLOTHING LABORATORY: Course to accompany HEC 101 lecture. One 3-hour period each week. Corequisite: HEC 101. 1 sem. hr.

HEC 103. INTRODUCTION TO HOME ECONOMICS: Study of the role and scope of home economics with emphasis on professional development. 1 sem. hr.

HEC 105. RELATED ART: Study of the elements and principles of design and their application in the selecting and arranging of materials. 3 sem. hrs.

HEC 111. BASIC CLOTHING CONSTRUCTION: For nonmajors only. Introduction to the sections of the commercial pattern and guide sheet, the operation of the sewing

machine, and basic techniques of clothing construction with a minimal emphasis on alterations. Corequisite: HEC 111L. *2 sem. hrs.*

HEC 111L. BASIC CLOTHING CONSTRUCTION LABORATORY: Course to accompany HEC 111 lecture. One 3-hour period each week. Corequisite: HEC 111. *1 sem. hr.*

HEC 200. INTRODUCTORY FOODS: Application of scientific principles to food preparation and evaluation. Corequisite: HEC 200L. *2 sem. hr.*

HEC 200L. INTRODUCTORY FOODS LABORATORY: Course to accompany HEC 200 lecture. Two 2-hour periods per week. Corequisite: HEC 200. *2 sem. hrs.*

HEC 202. INTRODUCTION TO HOSPITAL DIETETICS: To acquaint the student interested in a career in dietetics with the profession of dietetics and the role and responsibilities of the dietitian. Primary emphasis on dietetics as practiced in hospitals. *1 sem. hr.*

HEC 203. ELEMENTARY NUTRITION: Course for the nonmajor interested in food and nutrition. Emphasis on basic nutrition as it applies to the individual. Contemporary issues pertaining to nutrition. *2 sem. hrs.*

HEC 214. TEXTILES: Study of the natural, thermoplastic, and nonthermoplastic fibers, including yarns, structures, and finishing of fabrics for their use and care. *3 sem. hrs.*

HEC 300. CULTURAL ASPECTS OF FOOD: Study of the effect of culture and food resources on food patterns and food preparation; historical evolution of food; U.S. regional food habits. Corequisite: HEC 300L. *2 sem. hrs.*

HEC 300L. CULTURAL ASPECTS OF FOOD LABORATORY: Course to accompany HEC 300 lecture. One 3-hour period each week. Corequisite: HEC 300. *1 sem. hr.*

HEC 303. NUTRITION AND HEALTH: Fundamental principles of normal nutrition as they relate to human needs—physical, biological, and socio-cultural. Emphasis on selection and utilization of foods during the life cycle. *3 sem. hrs.*

HEC 304. QUANTITY FOOD PRODUCTION: Basic steps of quantity food service systems. Coordinated working experience. Prerequisite: HEC 200. *3 sem. hrs.*

HEC 306. FAMILY MANAGEMENT: A systems approach to the study of home management and the use of resources (time, energy, money, and material goods) to promote the development of home and family life from the consumer standpoint. *3 sem. hrs.*

HEC 308. INSTITUTIONAL BUYING: Application of principles for determining needs and procuring and storing foods in quantity. Institutional equipment selection, maintenance, and layout. *3 sem. hrs.*

HEC 309. HOUSEHOLD EQUIPMENT: Study of the principles of selection, construction, operation, and care of household equipment and its relation to the well being of the family. Prerequisite: HEC 200 or equivalent. *3 sem. hrs.*

HEC 311. ADVANCED CLOTHING: The application of the personal basic-fitting garment to a commercial dress pattern and tailored pant pattern for the construction of an underlined garment and tailored pants. Prerequisite: HEC 101. Corequisite: HEC 311L. *2 sem. hrs.*

HEC 311L. **ADVANCED CLOTHING LABORATORY:** Course to accompany HEC 311 lecture. One 3-hour period each week. Corequisite: HEC 311. *1 sem. hrs.*

HEC 318. **FAMILY LIVING:** Developmental tasks, socio-economic and cultural influences on family interaction at each stage of the life cycle. Open to the University. *3 sem. hrs.*

HEC 320. **FAMILY HOUSING:** Topics include housing constraints, needs, alternatives, environment, finance, and government involvement in housing. Open to the University. *2-3 sem. hrs.*

HEC 321. **THE CONSUMER AND SOCIETY:** The economic interrelationship of the political, business, and household systems from the consumer point of view. How to gain and use knowledge to improve economic welfare of the consumer. Open to the University. *3 sem. hrs.*

HEC 325. **CHILD DEVELOPMENT:** Developmental study of stages and principles from infancy through adolescence. Observation and work in nursery school arranged. Open to the University. *3 sem. hrs.*

HEC 327. **EXPERIMENTAL FOODS:** Comparative and experimental approach to food preparation as it affects quality. Introduction to the standard experimental procedures leading to independent project of student's choice. Prerequisite: HEC 200. Corequisite: HEC 327L. *2 sem. hrs.*

HEC 327L. **EXPERIMENTAL FOODS LABORATORY:** Course to accompany HEC 327 lecture. One 3-hour laboratory period each week. Corequisite: HEC 327. *1 sem. hr.*

HEC 329. **CHILD DEVELOPMENT PRACTICUM:** Supervised experience in working with preschool children and their parents. Case study and nursery school participation arranged. Two hours of lecture and 3 hours of work experience each week. Prerequisite: HEC 325. *3 sem. hrs.*

HEC 330. **INTERIOR DESIGN I:** Fundamentals of selection and arrangement of furnishings in the home, considering the principles of design, individual family needs, and available resources. No prerequisite. *3 sem. hrs.*

HEC 331. **MONEY MANAGEMENT:** Study of the management of financial resources and allocation of income to various consumption activities. Open to the University. *3 sem. hrs.*

HEC 340. **INTERIOR DESIGN II:** History of art, architecture, and interiors from the new wave to modern times; influences reflected in America from past cultures. No prerequisite. *3 sem. hrs.*

HEC 341. **SOCIAL ISSUES IN CONSUMERISM:** Various issues related to the social aspects of consumerism analyzed within the context of business, government, and consumers, emphasizing the interrelationships among the three sectors. Open to the University. *3 sem. hrs.*

HEC 350. **INTERIOR DESIGN III:** Practical application of interior design principles and the business of being an interior designer. Prerequisites: HEC 330, 340; ART 307. *3 sem. hrs.*



HEC 357. **FOOD MICROBIOLOGY:** Study of microorganisms that are related to food-borne illnesses, food preservation, and food sanitation. Prerequisites: BIO 101-102. Corequisite: BIO 411L. *3 sem. hrs.*

HEC 360. **CLOTHING SELECTION AND CONSUMPTION:** Study of clothing with emphasis on social, psychological, and economic relationships. Open to the University. *3 sem. hrs.*

HEC 401. **ADVANCED NUTRITION:** Extension of the student's knowledge of the science of nutrition, stressing the metabolism of food constituents and recent advances in the field of nutrition. Prerequisites: HEC 303, CHM 420. *3 sem. hrs.*

HEC 402. **DIET THERAPY:** Study of diet modification for the effective prevention and treatment of disease; health care delivery, medical technology, review of organ systems (normal and pathologic), diet counseling, menu planning, research. Prerequisite: Biochemistry, HEC 303, or permission of instructor. *3 sem. hrs.*

HEC 403. **COMMUNITY NUTRITION:** Study of public health nutrition programs and their services to the community. An opportunity to explore alternate methods of health care delivery and preventive measures. *2 sem. hrs.*

HEC 404. **FASHION MERCHANDISING:** Study of the movement of fashion, the promotion of fashion; advertising and display, trends in retail fashion distribution. *3 sem. hrs.*

HEC 405. **TEACHING OF HOME ECONOMICS IN SCHOOLS:** Study of vocational home economics philosophy and organizational structure. Instructional planning and developing media, methods, and materials for consumer homemaking. Students seeking vocational certification take 4-sem.-hr. version of this course. *3-4 sem. hrs.*

HEC 406. **FAMILY MANAGEMENT PRACTICUM:** Integration of managerial concepts with activities related to students' own lives to foster the attitude that these concepts are useful in individual and family living. *3 sem. hrs.*

HEC 407. FOOD SERVICE SYSTEMS MANAGEMENT: Principles related to feeding people in institutions; personnel management, organization, administration, and cost control. *3 sem. hrs.*

HEC 410. NUTRITIONAL BIOCHEMISTRY: Biochemical and clinical methods for the study of nutrition; evaluation and interpretation of the data in relation to various nutritional states. Prerequisite: CHM 420. Corequisite: HEC 410L. *1 sem. hr.*

HEC 410L. NUTRITIONAL BIOCHEMISTRY LABORATORY: Course to accompany HEC 410 lecture. One 3-hour period each week. Corequisite: HEC 410. *1 sem. hr.*

HEC 415. TAILORING: Tailoring techniques as applied to the construction of coats and suits. Two lecture periods each week. Prerequisites: HEC 101, 105, 311. Corequisite: HEC 415L. *2 sem. hrs.*

HEC 415L. TAILORING LABORATORY: Course to accompany HEC 415 lecture. Three laboratory hours each week. Corequisite: HEC 415. *1 sem. hr.*

HEC 429. MANAGEMENT OF PRE-SCHOOL PROGRAMS: Thorough examination of philosophies and program models with implication for planning, administering, and evaluating pre-school programs. *2 sem. hrs.*

HEC 430. ISSUES IN INTERIOR DESIGN: Investigation of the elements of housing and interiors from economic, functional, and aesthetic points of view. Topics may vary from term to term. *1-3 sem. hrs.*

HEC 436. INDEPENDENT STUDY: A course to allow students to concentrate on special interests. Original investigation, independent conferences, and reports are required. Approval of department chairperson and instructor. *1-6 sem. hrs.*

HEC 437. MEAL MANAGEMENT: Development of the ability to plan, prepare, and serve palatable, nutritious and attractive meals at various economic levels. Corequisite: HEC 437L. Open to the University. *2 sem. hrs.*

HEC 437L. MEAL MANAGEMENT LABORATORY: Course to accompany HEC 437 lecture. One 2-hour period each week. Corequisite: HEC 437. *1 sem. hr.*

HEC 451. ADVANCED NUTRITIONAL BIOCHEMISTRY: Comprehensive study of the role of nutrients in the control of body metabolism. Prerequisites: CHM 420, HEC 401. *3 sem. hrs.*

HEC 455. PHARMACOLOGY—NUTRITION IMPLICATIONS: Study of the effect of drug therapy on the patient's body processes and nutritional status, including indications, dosage, cautions, side effects, monitoring, and drug-food interactions. *3 sem. hrs.*

HEC 460. SEMINAR IN FOOD AND NUTRITION: Survey, discussion, and oral presentation of selected topics from current food and nutrition literature. May be taken twice. *1 sem. hr.*

HEC 470 HOME ECONOMICS LABORATORY INTERNSHIP: Practical field experience in the student's major area of interest. Prerequisite: permission of department chairperson. Grade option 2. *1-6 sem. hrs.*

HUMANITIES STUDIES (HMS)

No major concentration is available. See also Classics (CLA).

INTERDEPARTMENTAL COMMITTEE

Gordon A. Neufang (Languages), *Committee Chairperson*

K. Marre (English), Conard (Languages), Gilvary (Performing and Visual Arts), Zembaty (Philosophy), Vines (History), Martin (Religious Studies)

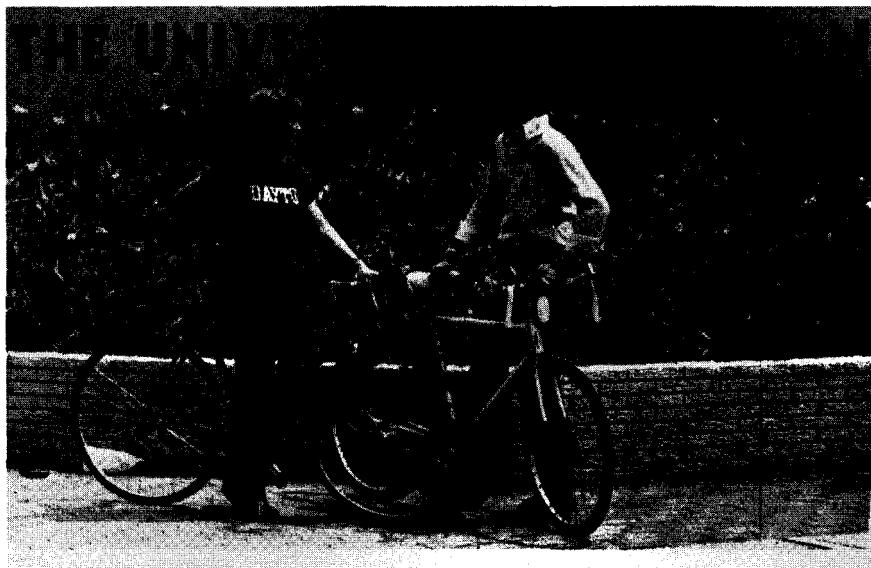
COURSES OF INSTRUCTION

HMS 201. THE GREEK EXPERIENCE: The development of Greek ideas and ideals in the literature, art, and archaeology of ancient Greece. Readings (in English translation) in Homer, the lyric poets, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, and Plato. *3 sem. hrs.*

HMS 202. OUR ROMAN HERITAGE: Study of Roman contributions to the modern world as evidenced in the literature, art, and archaeology of ancient Rome. Readings (in English translation) in Plautus, Lucretius, Catullus, Cicero, Vergil, Horace, Livy, Ovid, and Seneca. *3 sem. hrs.*

HMS 301. CIVILIZATION: Interdisciplinary course using Sir Kenneth Clark's Civilization film series as the basis for exploring Western thought and culture from the early Middle Ages to the present; readings pertinent to Western civilization. Team-taught. *3 sem. hrs.*

HMS 395. CONTEMPORARY INTELLECTUAL TRENDS, EUROPE: Multi-disciplinary course in art, film, literature, music, and philosophy, concentrating on the post-World War II period and contemporary European intellectual trends. *6 sem. hrs.*



INTERDISCIPLINARY STUDIES (ASI)

The College of Arts and Sciences constantly strives to present significant, innovative learning experiences to its students. Courses and programs or activities that are interdisciplinary or multidisciplinary and therefore not offered through the traditional department structure are possible through authorization by the Academic Affairs Committee of the College.

All ASI credit applies toward the student's general elective requirements, but a student may petition the chairperson of a department to apply credit to specific departmental requirements.

Additional information is available in the Office of the Dean of the College of Arts and Sciences.

COURSES OF INSTRUCTION

ASI 201. PERSONAL VALUE DEVELOPMENT: Exploration of the conceptual framework of value development. Application of concepts in such personal decision making as educational and career planning, developing satisfying personal relationships, and using time productively. *3 sem. hrs.*

ASI 210M. TO BE THE CHURCH: A course with the pastoral orientation of recognizing and identifying the faith-stance of a Catholic Christian in the modern world. *1 sem. hr.*

ASI 228. FOCUS ON WOMEN: Interdisciplinary seminar on the changing roles and status of women. Requirement for women's studies minors. May be repeated since topics change yearly. *1 sem. hr.*

ASI 305. APPALACHIAN STUDIES: Appalachian history and its influence on the present; problems of recent events; influence of local government and federal programs on the people; economic problems of underprivileged people and the future of industrial development; ecology of the region; literature, art, and music; psychology of social change and community development in the underdeveloped regions; health and mental health; problems of the Appalachian migrant. *3 sem. hrs.*

ASI 398. SPECIAL TOPICS IN INTERNATIONAL DEVELOPMENT: Study of political, philosophical, historical, and economic questions associated with developing countries. Topics determined by an interdisciplinary team. Required for the minor in international development. Second term. *3 sem. hrs.*

ASI 498-499. HONORS THESIS: Selection, design, investigation, and completion of an independent, original research thesis under the guidance of a faculty research director. Restricted to students in the University Honors Program with permission of the director of the program. *6 sem. hrs.*

INTERNATIONAL STUDIES (INS)

International Studies is a multidisciplinary major designed to meet the needs of students interested in acquiring a broadly based international perspective for eventual careers in government service, international business, foreign area studies, international law, secondary school teaching, and self-enrichment. The curriculum includes a core of required courses, an intensive regional concentration (Western Europe, Eastern Europe, or Latin America), a foreign language requirement, and additional hours of course work drawn from the multidisciplinary elective pool.

Majors are strongly encouraged to participate in the Interdepartmental Summer Study Abroad Program or the Department of Languages' Summer Program or other accredited study abroad programs.

There is no minor in International Studies.

PROGRAM—A9: BACHELOR OF ARTS WITH A MAJOR IN INTERNATIONAL STUDIES (INS)

A student must successfully complete a minimum of 120 semester hours for the degree with at least 54 semester hours of upper-level (300-400 numbered) courses. See also Distribution Table for Bachelor of Arts Programs.

Breadth Requirements:	<i>Semester Hours</i>
<i>Humanities</i>	40
<i>Natural science and mathematics</i>	7
<i>Philosophy and religious studies</i>	12
<i>Communication skills</i> (ENG 111, 112, SPE 101)	0 to 10
<i>Social and behavioral science</i>	12

With the approval of the advisor, a major in International Studies may utilize courses in the International Studies Program to satisfy some of the University requirements.

Requirements for the Major:

The major in International Studies consists of a minimum of 60 semester hours of coursework distributed as follows:

Required courses (30-33 semester hours)

GEO 103

POL 202, 410, 455

ECO 203, 204, 450

ENG 272

HST 175, 357; or HST 414, HMS 395

Intensive concentration (24 semester hours)

The first 12 semester hours must be one of the following three area concentrations:

Western Europe: POL 320; HST 428, 319, 329

Eastern Europe: POL 321; HST 125, 328, 415

Latin America: POL 323, 457; ECO 460; ANT 352

The remaining 12 semester hours are to be chosen from the other two concentrations or from the following elective pool:

PHL 323, 353, 358, 359, 360

HST 306, 320, 482, 484

ECO 461

ENG 322, 356, 357, 358

ART 472

ANT 315, 351

SOC 350

REL 463

POL 214, 322, 325, 406, 408, 437

Any upper-level foreign language course (French, German, Italian, Spanish, Russian)

With permission, other courses including special topics courses and independent study may be elected.

Language (6-20 semester hours)

A student majoring in International Studies must complete at least 6 semester hours of upper-level foreign language instruction in one of the following languages: French, German, Italian, Russian, or Spanish. Foreign language literature in translation courses do not fulfill this requirement. Also, these 6 semester hours may not duplicate upper-level foreign language courses taken to fulfill the requirement of 12 semester hours drawn from the elective pool.

Minor in International Development

For students interested in the problems of development in Third World countries, a minor in international development is available. It is intended to give students the cultural, historical, and political sensitivity required for working effectively in the interest of developing countries. The minor in international development consists of 15 semester hours of course work in anthropology, history, political science, and international development. Students are encouraged to participate in an immersion experience in a Third World country. For details, see director, Strategies for Responsible Development.

UNDERGRADUATE CURRICULUM POLICY COMMITTEE

Margaret P. Karns (Political Science), *Director of International Studies Program*

Aaron (Strategies for Responsible Development), Bannon (History), Chiodo (Languages), Gray (Geology), Hadley (Economics and Finance), Nersoyan (Philosophy), Richardson (Performing and Visual Arts), Ruff (English), Vines (History)

JOURNALISM (JRN)

Journalism is an area of concentration in the Department of Communication Arts. See also requirements and courses of instruction under COM and SPE.

Students concentrating in journalism must take SPE 101, COM 120, and 30 semester hours in JRN, SPE, and COM.

A minor in political journalism is available for political science majors. The political journalism minor consists of COM 120, JRN 206, and any three of the following five courses: JRN 301, JRN 303, JRN 304, SPE 301, COM 314.

COURSES OF INSTRUCTION

JRN 206. NEWSWRITING: Determining news values; structure of a news story; techniques of gathering news for all media; how this material is applied to newspapers, television, and radio. Prerequisites: SPE 101, COM 120, typing skills. Studio fee. *3 sem. hrs.*

JRN 301. PUBLIC AFFAIRS REPORTING: Advanced reporting and newswriting. Analysis and structure of stories on all government areas. Information-gathering techniques and specialized reporting. Prerequisites: SPE 101, COM 120, JRN 206. *3 sem. hrs.*

JRN 303. INTERPRETATIVE AND FEATURE WRITING: Writing non-news materials: features, personality stories, columns, reviews, consumer information. New journalism. Contents and organization of feature sections. Prerequisite: SPE 101. *3 sem. hrs.*

JRN 304. EDITORIAL WRITING: Study of the methods used in preparing and writing newspaper editorials—editorial conferences to discuss topics, research necessary. Prerequisite: SPE 101. *3 sem. hrs.*

JRN 400. EDITING AND COPYREADING: The copy desk on large and small newspapers, editing, headline writing, uses of pictures and type. Prerequisites: SPE 101 and JRN 206 or permission of instructor. Studio fee. *3 sem. hrs.*

JRN 404. NEWSPAPER MANAGEMENT PROBLEMS: Noneditorial operations—problems of business, circulation, advertising, and printing departments as they affect operations of the news department. Special emphasis on small dailies and weeklies. Prerequisite: SPE 101. *3 sem. hrs.*

JRN 410. PUBLICATION DESIGN: Layout and design of newspapers, newsletters, brochures, and magazines. Type selection, copy preparation, cost appraisal, printing methods. Prerequisite: SPE 101. Studio fee. *3 sem. hrs.*

JRN 420. SPECIAL TOPICS IN JOURNALISM: Concentrated study in specialized areas of journalism. May be repeated with change of topic. Prerequisite: SPE 101. *3-6 sem. hrs.*

LANGUAGES (LNG)

The Department of Languages offers instruction in modern languages (French, German, Italian, Russian, and Spanish) and in classical languages (Greek and Latin). The department also offers courses in classics, taught in English. (See CLA. See also HMS.)

Modern languages are increasingly attractive in double majors because the combination of foreign languages with social work, business, or other specialized training enhances one's opportunities of employment. The major requirements in the second fields are determined by the respective departments.

Greek and Latin provide significant background for students interested in anthropology, English, modern foreign languages, history, music, philosophy, and theology. The major in classical languages provides a widely recognized and respected humanistic education, and it develops analytical skills and linguistic mastery important for students intending further study in law, theology, education, journalism, and business.

Every major in and prospective teacher of modern languages is urged to spend at least a summer traveling and studying in a country in which the citizens speak the language the student is studying. The Department of Languages conducts one-month summer programs abroad, usually in Paris and Madrid (see courses FRN 470 and SPN 470), and the College of Arts and Sciences conducts a three-month Interdepartmental Summer Studies Abroad program. (See Chapter X.)

Advanced placement based on high school study or study in foreign countries is regularly awarded. In general, one year of high school language study is equal to one term of study at the University; four years of high school language study normally prepares one for upper-level (300-400) language courses. Since language skills tend to be forgotten when unused, a student who resumes language study after a considerable lapse may wish to enter a lower level than that indicated above. The Department provides upon request guidance in selecting the correct course level. Furthermore, the Department recommends that students continue the languages begun in high school in order to achieve a useful level of skill.

A language major may arrange courses, with the approval of the departmental chairperson, in one of these three forms of concentration:

1. Major in a single language, requiring 24 semester hours in upper-level (300-400) courses;

2. Composite major, requiring a minimum of 20 semester hours in each of two languages (any level);

3. Composite major in classical languages (Greek and Latin), which differs from the preceding composite major by viewing classical antiquity as a whole and by giving attention to cultural and literary interconnections in the Graeco-Roman world. It requires the following:

- a. minimum of 24 semester hours of courses in Greek or Latin at the 300-400 level;

- b. minimum of 12 semester hours of courses in the other classical language at any level.

Students with a composite major arrangement should begin their second language no later than the fourth term.

A minor in a single language requires 12 semester hours at the 300-400 level.

NOTE: The Department of Languages advises all students that, since learning a foreign language involves the progressive accumulation of skills and knowledge—especially in elementary, intermediate, and advanced communication skills courses (conversation, composition, etc.)—regular participation in class is vital to success in foreign language courses.

PROGRAM—A10: BACHELOR OF ARTS WITH A MAJOR IN
LANGUAGES (LNG)

See also Distribution Table for Bachelor of Arts programs and consult chairperson for specifics.

	<i>Semester Hours</i>
Languages	24-40
Communication skills	0-10
Humanities ¹	18
Philosophy and/or religious studies	12
Natural science and mathematics	7
Social and behavioral science	12
General academic electives to total at least	120

¹It is recommended that students take any courses, such as the history of a particular country or period, that will strengthen their grasp of the cultural background of the languages they are studying. A good student with a background in two languages may be permitted to take as little as one term of a new language for reasons approved by the departmental chairperson. In general, however, any additional language should be taken for at least two terms.

FACULTY

Robert C. Conard, *Chairperson*

Professors: Conard, Lazarus, McKenzie

Associate Professor: Neufang

Assistant Professors: Castello-Lamas, Chiodo, Galeano, Greely, Lowry, Romaguera

FRENCH (FRN)

COURSES OF INSTRUCTION

FRN 300 or 301 or equivalent is a prerequisite for all other upper-level courses conducted in French. Most 300-400 level courses in French are offered on a two-year rotating cycle. For advanced placement see under LNG.

FRN 103-104. ELEMENTARY FRENCH I, II: Basic elements of the French language with emphasis on audio-oral skills. Language laboratory required. No prerequisite for FRN 103. *4 sem. hrs. each*

FRN 199. FRENCH LANGUAGE TABLE: Weekly informal practice in conversation. Faculty supervised. All speakers of French welcome as guests. Repeatable up to 3 sem. hrs. Does not count toward major or minor. Grade option 2 only. Credit granted (S) solely on basis of attendance; maximum 2 absences permitted. Prerequisite: Enrollment in FRN 103 or equivalent proficiency. *1 sem. hr.*

FRN 201-202. **INTERMEDIATE FRENCH I, II:** Intensive review of French grammar, selected readings in French literature or culture, practice in spoken and written language skills. Language laboratory required. *3 sem. hrs. each*

FRN 300-301. **FRENCH CONVERSATION:** Intensive drill to develop communication skills: vocabulary development, pattern drills, and use of idioms in discussions centered on French life and culture. May be taken in either sequence. One term required for majors and minors. FRN 300 or 301 or equivalent is a prerequisite for all other upper-level courses conducted in French. *3 sem. hrs.*

FRN 302-303. **FRENCH COMPOSITION I, II:** Practice in composition on topics dealing with French life and culture. Systematic vocabulary enrichment, refinement of grammar, and assimilation of stylistic patterns. Emphasis on correct writing, creativity, and initiation into the concept of style in French prose. May be taken in either sequence. *3 sem. hrs. each*

FRN 305. **EXPLICATION DE TEXTES:** Introduction to method of analyzing literary texts, both prose and poetry. Elements of French versification. Recommended for all French majors and prospective teachers. *3 sem. hrs.*

FRN 306. **FRENCH PHONETICS AND DICTION:** Formation of the sounds of French, rules of pronunciation, use of phonetic transcription, practical exercises in interpretive reading. Recommended for French majors and required for prospective teachers. *3 sem. hrs.*

FRN 307. **FRENCH CULTURE AND CIVILIZATION:** Introduction to the history of French civilization with emphasis on the arts and life in each major cultural period. Recommended for all French majors and minors. *3 sem. hrs.*

FRN 310. **INTRODUCTION TO COMMERCIAL FRENCH:** Introduction to French business and the French position in international trade. Basic vocabulary of the office and the world of trade, introduction to formal correspondence and transactions. *3 sem. hrs.*

FRN 313-314. **SURVEY OF FRENCH LITERATURE I, II:** Major texts, trends, authors from the Middle Ages to the present, showing influences and continuity. Lectures, discussions, oral and written reports. Recommended for all French majors and and prospective teachers. *3 sem. hrs. each*

FRN 350. **FRENCH LITERATURE IN TRANSLATION:** Course to acquaint non-majors and nonminors with major French writers and literary movements. Conducted in English. Repeatable when subtitle and content change. *3 sem. hrs.*

FRN 405. **FRENCH LITERATURE:** Lectures and discussions in French in specialized areas such as medieval French literature, French Renaissance, French classicism, the Enlightenment, 20th-century French poetry, French drama, and the French novel. Repeatable when subtitle and content change. *3 sem. hrs.*

FRN 410. **ADVANCED COMMERCIAL FRENCH:** Intensive study of business in France. Emphasis on specialized vocabulary, style, and syntax in commercial correspondence and accurate translation of current documents related to business and publicity. Prerequisites: FRN 302, 303, and 310 or equivalent. *3 sem. hrs.*

FRN 470. **STUDY ABROAD:** Intensive study in a foreign country whose everyday language is French, treating the culture and civilization of the country. Conducted in French. Available only during the summer session. Repeatable when subtitle and content change. *3 sem. hrs.*

FRN 491. **INDEPENDENT STUDY:** Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of the chairperson. *1-3 sem. hrs.*

GERMAN (GER)

COURSES OF INSTRUCTION

GER 103, 104, 201, and 202 or their equivalent are prerequisite for all upper-level German courses. For advanced placement see under LNG.

GER 100-101. GUTEN TAG I, II: Beginning conversational German based on a 26-film motion picture series. Basic vocabulary and expressions through dialogues and drills in the language of everyday situations. Grammar instruction minimal; no reading taught. GER 100-101 is not a substitute for GER 103-104 and does not permit one to enter GER 201. *2 sem. hrs. each*

GER 103-104. ELEMENTARY GERMAN I, II: Basic elements of German language with emphasis on pronunciation, speaking, reading, and grammar. Language laboratory required. No prerequisite for GER 103. *4 sem. hrs. each*

GER 199. GERMAN LANGUAGE TABLE: Weekly informal practice in conversation. Faculty supervised. All speakers of German welcome as guests. Repeatable up to 3 sem. hrs. Does not count toward major or minor. Grade option 2 only. Credit granted (S) solely on basis of attendance; maximum 2 absences permitted. Prerequisite: Enrollment in GER 103 or equivalent proficiency. *1 sem. hr.*

GER 201. INTERMEDIATE GERMAN I: Systematic grammar review. Increased use of the language in written exercises and classroom discussions based on readings. Prerequisite: GER 104 or equivalent. *3 sem. hrs.*

GER 202. INTERMEDIATE GERMAN II: Continuation of GER 201. Exposure to the development of German civilization and culture. Reading, conversation, and composition. Prerequisite: GER 201 or equivalent. *3 sem. hrs.*

GER 304-305. SPOKEN GERMAN: Intensive drill to develop communication skills: vocabulary development, pattern drills, and use of idioms in discussions and oral reports centered on German daily life and culture. May be taken in either sequence. One term required for majors and minors. *3 sem. hrs. each*

GER 306. GERMAN COMPOSITION I: Practice in writing German based on description of common events in everyday German life and including personal and business letters. Short weekly written assignments to build vocabulary and control of idioms. *3 sem. hrs.*

GER 307. GERMAN COMPOSITION II: Continuing practice in German composition including vocabulary building and introduction to the concept of style. Prerequisite: GER 306 or permission of instructor. *3 sem. hrs.*

GER 313. SURVEY OF GERMAN LITERATURE I: German literature and its development from 750 A.D. to the end of the 17th century. Study of exemplary works and literary movements. *3 sem. hrs.*

GER 314. SURVEY OF GERMAN LITERATURE II: German literature from the 18th century to the present. Study of exemplary literary works and movements. *3 sem. hrs.*

GER 350. GERMAN LITERATURE IN TRANSLATION: Course to acquaint non-majors and nonminors with major German writers and literary movements. Conducted in English. Repeatable when subtitle and content change. *3 sem. hrs.*

GER 440. GERMAN LITERATURE: Lectures and discussions in German in such specialized areas as Medieval lyric, Romanticism, 20th-century novel, modern drama, and individual authors. Repeatable when subtitle and content change. *3 sem. hrs.*

GER 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of credits require approval of chairperson. *1-3 sem. hrs.*

GREEK (GRK)

COURSES OF INSTRUCTION

GRK 103-104. ELEMENTARY GREEK I, II: Development of a foundation for reading classical Greek. No prerequisite for GRK 103. *4 sem. hrs. each*

GRK 201. INTERMEDIATE GREEK: Readings from Plato, Homer, and Euripides selected both for their literary merit and for their value in improving reading skills. Prerequisite: GRK 104. *3 sem. hrs.*

GRK 350. GREEK LITERATURE: Advanced readings in a particular author or genre (epic, drama, history, philosophy). Repeatable when subtitle and content change. *3 sem. hrs.*

ITALIAN (ITA)

COURSES OF INSTRUCTION

ITA 103, 104, 201, and 202 or their equivalent are prerequisite for all upper-level Italian courses. For advanced placement see under LNG.

ITA 103-104. ELEMENTARY ITALIAN: Introduction to listening, speaking, reading, and writing in Italian. Dictations, pronunciation drills, grammar exercises, structured and unstructured conversations, and reading and writing exercises. The class is conducted primarily in Italian. *4 sem. hrs. each*

ITA 199. ITALIAN LANGUAGE TABLE: Weekly informal practice in conversation. Faculty supervised. All speakers of Italian welcome as guests. Repeatable up to 3 sem. hrs. Does not count toward minor. Grade option 2 only. Credit granted (S) solely on basis of attendance; maximum 2 absences permitted. Prerequisite: Enrollment in ITA 103 or equivalent proficiency. *1 sem. hr.*

ITA 201-202. INTERMEDIATE ITALIAN: Development of listening, speaking, reading, and writing skills. Conversation practice, oral reports, reading assignments, composition assignments, and grammar exercises. The class is conducted in Italian. *3 sem. hrs. each*

ITA 301-302. SURVEY OF ITALIAN LITERATURE: Italian literature from its beginnings in the 13th century to the present. Principal writers and literary trends; the techniques of literary analysis. Lectures, discussions, readings, and papers are in Italian. *3 sem. hrs. each*

ITA 307-308. COMMUNICATING IN ITALIAN: Developing the ability to speak and write in Italian at an advanced level. Building vocabulary, learning correct idiomatic usage, increasing fluency, and improving syntax and style. The class is conducted in Italian. *3 sem. hrs. each*

ITA 315-316. ITALIAN CULTURE AND CIVILIZATION I, II: Survey of the major historical and cultural events in Italy from the Middle Ages to the present. All readings, lectures, discussions, reports, and tests are in Italian. *3 sem. hrs. each*

ITA 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of credits require approval of chairperson. *1-3 sem. hrs.*

LATIN (LAT)

COURSES OF INSTRUCTION

LAT 103-104. ELEMENTARY LATIN I, II: Development of a foundation for reading classical Latin. No prerequisite for LAT 103. *4 sem. hrs. each*

LAT 201-202. INTERMEDIATE LATIN I, II: Systematic review of grammar, exercises in vocabulary development, readings from Caesar, Cicero, Vergil, or Ovid. Prerequisite: LAT 104. *3 sem. hrs. each*

LAT 301. LATIN COMPOSITION AND SYNTAX: Practice in writing Latin, for enrichment of vocabulary, refinement of grammar, and control of major Latin prose styles. *3 sem. hrs.*

LAT 350. LATIN LITERATURE: Advanced readings in a particular author or genre (epic, drama, history, philosophy). Repeatable when subtitle and content change. *3 sem. hrs.*

LAT 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson. *1-3 sem hrs.*

RUSSIAN (RUS)

COURSES OF INSTRUCTION

For advanced placement see under LNG.

RUS 103-104. ELEMENTARY RUSSIAN I, II: Familiarization of the beginner with the essentials of the spoken and written language. Vocabulary practice, simple sentence structure, conversational drills, and reading; stress on pronunciation and handwriting. No prerequisite for RUS 103. *4 sem. hrs. each*

RUS 201-202. INTERMEDIATE RUSSIAN I, II: Review of the essentials of grammar, intensive conversation and comprehension exercises, reading of graded modern and contemporary prose and poetry. Prerequisite: RUS 104 or equivalent. *3 sem. hrs. each*

RUS 301-302. SPOKEN RUSSIAN: Vocabulary development, pattern drills, and the use of idioms in discussion and oral reports centered on Russian life and culture. May be taken in either sequence. Prerequisite: RUS 202 or equivalent. *3 sem. hrs. each*

RUS 304. RUSSIAN COMPOSITION: Practice in composition on topics dealing with Russian life and culture; personal and business letters. Short weekly assignments to build vocabulary and control of idioms. Prerequisite: RUS 202. *3 sem. hrs.*

RUS 307. SURVEY OF RUSSIAN LITERATURE: Russian literature and its development during the 19th and 20th centuries. Study of exemplary works and literary movements. Prerequisite: RUS 202. *3 sem. hrs.*

SPANISH (SPN)

COURSES OF INSTRUCTION

SPN 103, 104, 201, and 202 or their equivalent are prerequisites for SPN 305 or 306. SPN 305 or 306 or equivalent is a prerequisite for all other upper-level courses conducted in Spanish. For advanced placement see under LNG.

SPN 103-104. ELEMENTARY SPANISH I, II: Development of a foundation for understanding, speaking, reading, and writing Spanish. Language laboratory required. No prerequisite for SPN 103. *4 sem. hrs. each*

SPN 199. SPANISH LANGUAGE TABLE: Weekly informal practice in conversation. Faculty supervised. All speakers of Spanish welcome as guests. Repeatable up to 3 sem. hrs. Grade option 2 only. Does not count toward major or minor. Credit granted (5) solely on basis of attendance; maximum 2 absences permitted. Prerequisite: Enrollment in SPN 103 or equivalent proficiency. *1 sem hr.*

SPN 201-202. INTERMEDIATE SPANISH I, II: Review of the basic principles of Spanish through composition and conversation, stressing fluency. Language laboratory required. *3 sem. hrs. each*

SPN 301-302. SPANISH LITERATURE I, II: Survey of Spanish literature. Recommended for majors and prospective teachers. *3 sem. hrs. each*

SPN 305-306. SPOKEN SPANISH: Development of fluency in the vocabulary and idioms of the spoken language through discussion of topics related to contemporary living in the Hispanic world. May be taken in either sequence. One term required for majors and minors. SPN 305 or 306 or equivalent is a prerequisite for all other upper-level courses conducted in Spanish. *3 sem. hrs. each*

SPN 307-308. SPANISH COMPOSITION: Private and commercial correspondence as basis for developing a facility to write clearly in Spanish. May be taken in either sequence. Recommended for majors and prospective teachers. *3 sem. hrs. each*

SPN 313. EXPLICACION DE TEXTOS: Introduction to the methods of analyzing literary texts by observing and analyzing Spanish prose and poetry. Elements of Spanish versification. Recommended for Spanish majors and prospective teachers. Conducted in Spanish. *3 sem. hrs.*

SPN 315. SPANISH CIVILIZATION AND CULTURE: Readings and discussions on the historical, social, political, and cultural phenomena of Spain. Conducted in Spanish. *3 sem. hrs.*

SPN 316. IBERO-AMERICAN CIVILIZATION AND CULTURE: Readings and discussions on the historical, social, political, and cultural phenomena of Ibero-America. Conducted in Spanish. *3 sem. hrs.*

SPN 350. HISPANIC LITERATURE IN TRANSLATION: Course to acquaint non-majors and nonminors with major Spanish and Spanish-American writers and literary movements. Conducted in English. Repeatable when subtitle and content change. *3 sem. hrs.*

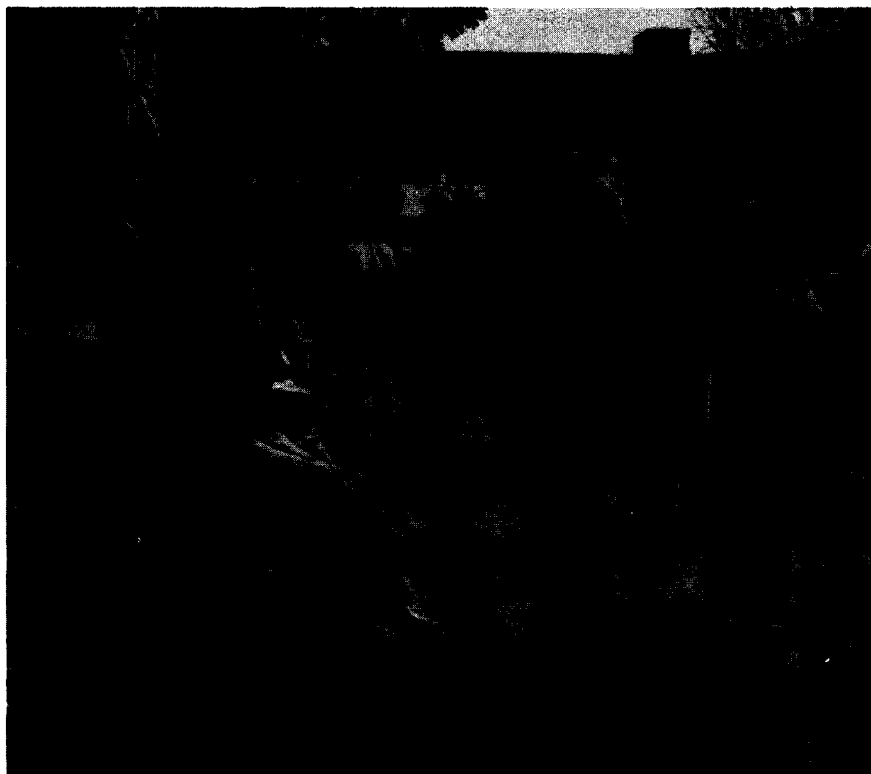
SPN 407-408. SPANISH LITERATURE OF THE 20TH CENTURY I, II: Study of the principal Spanish and Spanish-American authors and works of the present century. Lectures, discussions, and reports on assigned readings. Conducted in Spanish.
3 sem. hrs. each

SPN 420. SPANISH-AMERICAN LITERATURE: Lectures and discussions in Spanish in such specialized areas as Spanish-American colonial literature, contemporary Spanish-American novel, Spanish-American poetry, Spanish-American prose. Repeatable when subtitle and content change.
3 sem. hrs.

SPN 440. SPANISH LITERATURE: Lectures and discussions in Spanish in such specialized areas as Medieval Spanish literature, Spanish drama of the Golden Age, Cervantes, 19th-century Spanish novel, contemporary Spanish drama. Repeatable when subtitle and content change.
3 sem. hrs.

SPN 470. STUDY ABROAD: Intensive study in a foreign country whose everyday language is Spanish, treating the culture and civilization of the country. Conducted in Spanish. Available only during the summer session. Repeatable when subtitle and content change.
3 sem. hrs.

SPN 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson.
1-3 sem. hrs.



MATHEMATICS (MTH)

**PROGRAM—A11: BACHELOR OF ARTS WITH A MAJOR IN
MATHEMATICS (MTA)**

A. MAJOR FIELD—Qualified students elect MTH 118 upon entering; those with weaker backgrounds elect MTH 101. Upon completion of MTH 118, MTH 119, and MTH 218 (or demonstration of proficiency) a student will, with the approval of the department, elect 9 upper-level courses including MTH 302, MTH 319, MTH 361, and MTH 430. Students with strong mathematical ability are encouraged to satisfy these requirements in the departmental honors program. In the senior year, mathematics majors in the honors program will be expected to enroll in one graduate course. Honors students are invited to inquire about the five-year master's degree program.

B. BREADTH REQUIREMENT

1. Seven semester hours of course work in any area of natural science or computer science, 4 semester hours of which must be in natural science with an accompanying laboratory. Majors are strongly advised to learn computer programming.

2. Twelve semester hours of course work in social and behavioral science. (See the listing of departments in the Distribution Table for Bachelor of Arts programs.) At least one unit of 6 semester hours in a single discipline is required with at least 3 semester hours from the 300-400 level.

3. Eighteen semester hours in the humanities. (See the listing of departments in the Distribution Table for Bachelor of Arts programs.) Required is at least one unit of 9 semester hours, with at least 3 semester hours from 300-400 level courses (except languages and performing and visual arts, in which a unit may be satisfied with 9 semester hours at any level). The remaining 9 semester hours may be chosen from one or more other departments within the humanities. The basic philosophy, religious studies, and communication skills courses do not fulfill this requirement.

4. Twelve semester hours in religious studies and/or philosophy.

5. Demonstration of proficiency or successful completion of SPE 101, ENG 111, and ENG 112.

C. Other requirements as listed in the General Requirements for all Bachelor of Arts programs.

**PROGRAM—S8: BACHELOR OF SCIENCE WITH A MAJOR IN
MATHEMATICS (MTH)**

A. MAJOR FIELD—Qualified students elect MTH 118 upon entering; those with weaker backgrounds elect MTH 101. Upon completion of MTH 118, MTH 119, and MTH 218 (or demonstration of proficiency) a student will, with the approval of the department, elect 9 upper-level courses including MTH 302, MTH 319, MTH 361, and MTH 430. Students with strong mathematical ability are encouraged to satisfy these requirements in the departmental honors program. In the senior year, mathematics majors in the honors program will be expected to enroll in one graduate course. Honors students are invited to inquire about the five-year master's program.

B. MINOR FIELD—The requirement for the minor normally consists of 12 semester hours of 300-400 level courses. The chosen field may require prerequisite knowledge that could extend the total number of semester hours beyond 12. The choice of a minor and the supporting course work must be approved by the student's advisor.

C. ADDITIONAL REQUIREMENTS

1. Communication skills—In addition to ENG 111, ENG 112, and SPE 101, which are College requirements, a course in programming is required of all majors, and those looking forward to research are strongly advised to elect a foreign language.

2. Humanities, social and behavioral sciences—A minimum of 30 semester hours, including 12 in religious studies and/or philosophy. ENG 111, ENG 112, and SPE 101 may not be counted toward the fulfillment of this requirement.

3. Science requirement—This requirement is fulfilled by electing the sequence of basic courses in two science areas approved by the department (physics and chemistry, for example). A minimum of 16 semester hours is required, including at least one semester hour of laboratory.

4. University requirements, electives—Students are subject to all general requirements of the University. Consult the General Requirements for all Bachelor of Science programs.

More detailed information will be provided by the department upon request. All majors are encouraged to cooperate closely with their departmental advisors in planning their course work. Honors students may wish to follow a five-year program leading to a master's degree in mathematics.

FACULTY

John W. McCloskey, *Chairperson*

Distinguished Service Professor: Schraut

Professors: McCloskey, Peterson, Rice, Stander, Steinlage

Associate Professors: Back, Gantner, Gorton, Mushenheim, Shaughnessy

Assistant Professors: Eloë, Friel, Kauflin

COURSES OF INSTRUCTION

MTH 098. FUNDAMENTALS OF ALGEBRA I: A review of the principles of algebra usually treated in high school. Three class hours weekly. *No credit*

MTH 099. FUNDAMENTALS OF ALGEBRA II: Continuation of MTH 098. Further topics in basic algebra: systems of linear and quadratic equations, determinants, progressions, synthetic division, approximation of roots, mathematical induction. Three class hours weekly. *No credit*

MTH 101. PRECALCULUS MATHEMATICS: For students whose achievement in mathematics is insufficient to profit from instruction in MTH 112 or MTH 118. Topics from algebra and trigonometry chosen to satisfy the needs of the class. *4 sem. hrs.*

MTH 107. FUNDAMENTALS OF MATHEMATICS: Sets, functions and graphs, exponents, polynomials and algebraic equations, systems of equations. Prerequisite: One year of high school algebra. *3 sem. hrs.*

MTH 111. MATHEMATICS AND ITS CULTURAL ASPECTS: Introduction to basic concepts of algebra, geometry, probability and statistics. Also, depending on the needs and interests of the class, such topics as logic, set theory, abstract mathematical systems, and intuitive topology. Prerequisite: One year of high school mathematics. *3 sem. hrs.*

MTH 112. INTRODUCTORY CALCULUS I: Basic coordinate geometry, differentiation of algebraic functions with applications to geometry. Indefinite and definite integrals with applications to the life and physical sciences. Prerequisite: MTH 101 or equivalent. Intended for students in the life and social sciences. *3 sem. hrs.*

MTH 113. INTRODUCTORY CALCULUS II: Differentiation and integration of exponential and logarithmic functions with applications to life sciences and to solution of applied differential equations with variables separable. Differentiation and integration of trigonometric functions with applications. Use of tables of integrals. Introduction to vector calculus, partial derivatives, and multiple integrals. Prerequisite: MTH 112. *3 sem. hrs.*

MTH 118. ANALYTIC GEOMETRY AND CALCULUS I: Introduction to the differential and integral calculus; differentiation and integration of algebraic and transcendental functions with applications to science and engineering. Prerequisite: MTH 101 or equivalent. *2-4 sem. hrs.*

MTH 119. ANALYTIC GEOMETRY AND CALCULUS II: Continuation of MTH 118. Conic sections, techniques of integration with applications to science and engineering, infinite series, indeterminate forms, Taylor's theorem. Prerequisite: MTH 118. *2-4 sem. hrs.*

MTH 204. MATHEMATICAL CONCEPTS I: Concepts necessary for an understanding of the structure of arithmetic and its algorithms. Prerequisites: One year of high school algebra and one year of high school geometry. *3 sem. hrs.*

MTH 205. MATHEMATICAL CONCEPTS II: Recommended for students in elementary education who seek a strong background in the mathematical concepts discussed in grades 4-8. Topics include the metric system, probability and statistics, the use of calculators, and elementary geometry. *3 sem. hrs.*

MTH 207. STATISTICAL METHODS FOR THE BEHAVIORAL SCIENCES: Measures of central tendency and variability, frequency distributions, probability, the binomial distribution, normal distribution, inferences from sample means, curve fitting, correlation and regression. Prerequisite: Two years of high school algebra. *3 sem. hrs.*

MTH 215. BASIC STATISTICS FOR THE BIOMEDICAL SCIENCES: Probability, the binomial distribution, normal distribution, confidence intervals, tests of hypotheses, proportions, Chi-square test, F-distribution, regression and correlation. Prerequisite: MTH 113 or consent of instructor. *3 sem. hrs.*

MTH 218. ANALYTIC GEOMETRY AND CALCULUS III: Continuation of MTH 119. Multi-variable calculus, solid analytic geometry, partial differentiation, multiple integrals. Prerequisite: MTH 119. *4 sem. hrs.*

MTH 219. APPLIED DIFFERENTIAL EQUATIONS: First order equations, linear equations with constant coefficients, systems of equations, the Laplace transform, power series solutions, numerical methods, applications. Prerequisite: MTH 218. Credit will not be given for both MTH 219 and MTH 319. Mathematics majors are expected to take MTH 319. *3 sem. hrs.*

MTH 302. LINEAR ALGEBRA AND MATRICES: Fundamental concepts of vector spaces, determinants, linear transformations, matrices and inner product spaces. Prerequisite: MTH 218. Offered each term. *3 sem. hrs.*

MTH 302H. HONORS LINEAR ALGEBRA AND MATRICES: Same material as MTH 302, with additional topics for enrichment covered in one extra hour per week. Prerequisites: MTH 218 and permission of the instructor. Second term each year. *4 sem. hrs.*

MTH 319. ORDINARY DIFFERENTIAL EQUATIONS AND LINEAR SYSTEMS: First order equations, theory of linear equations and existence, uniqueness of solutions of initial value problems, systems of first order equations, Laplace transforms, and power series methods. Prerequisite: MTH 302. Credit will not be given for both MTH 219 and MTH 319. Mathematics majors take MTH 319. First term each year. *3 sem. hrs.*

MTH 342. SET THEORY: Introduction to mathematical logic and method of proof. Elementary set theory including relations, functions, indexed families, denumerable and nondenumerable sets, cardinal and ordinal arithmetic, Zorn's Lemma, the well-ordering principle and transfinite induction. Prerequisites: MTH 218 or permission of the instructor. Second term, alternate years. *3 sem. hrs.*

MTH 361. INTRODUCTION TO ABSTRACT ALGEBRA: Fundamental concepts of groups, rings, integral domains and fields. Prerequisite: MTH 218. First and second terms each year. *3 sem. hrs.*

MTH 361H. HONORS ABSTRACT ALGEBRA: Same material as MTH 361, with additional topics for enrichment covered in one extra hour per week. Prerequisites: MTH 218 and permission of the instructor. First term each year. *4 sem. hrs.*

MTH 367. STATISTICAL METHODS I: Probability distributions including binomial, hyper-geometric, Poisson, and normal. Monte Carlo methods, computer simulation, estimation of population mean and standard deviation. Confidence intervals and tests of hypotheses using t-, Chi-square, and F-statistics. Prerequisite: MTH 113 or 218. Mathematics majors enroll in MTH 411 instead of MTH 367. *3 sem. hrs.*

MTH 368. STATISTICAL METHODS II: Distribution-free methods including rank tests, sign tests, and Kolmogorov-Smirnov test. Method of least squares, correlation, linear regression, analysis of variance. Design of experiments. Prerequisite: MTH 367. Mathematics majors enroll in MTH 412 instead of MTH 368. *3 sem. hrs.*

MTH 370. INTRODUCTION TO HIGHER GEOMETRY: Projective, affine, and hyperbolic geometries using synthetic and/or analytic techniques. Prerequisites: MTH 218 or permission of the instructor. Second term each year. *3 sem. hrs.*

MTH 376. NUMBER THEORY: Topics include Diophantine equations, Chinese Remainder theorem, Mobius inversion formula, quadratic residues and the Law of Quadratic Reciprocity, Gaussian integers, and integral quaternions. Prerequisite: MTH 218. First term, alternate years. *3 sem. hrs.*

MTH 395. DEVELOPMENT OF MATHEMATICAL IDEAS: Survey of the evolution of mathematical ideas from ancient times to the present. Famous men and famous problems. Chronological outline of mathematics compared with outlines in sciences, history, philosophy, and astronomy. Prerequisite: MTH 112 or MTH 118 or permission of instructor. First term, alternate years. *3 sem. hrs.*

MTH 403. BOUNDARY VALUE PROBLEMS: Introduction to the Sturm Liouville problem. Fourier trigonometric series, Fourier integrals, Bessel functions, and Legendre polynomials. The heat equation, wave equation, and Laplace's equation with applications. Solutions by the product method. Prerequisite: MTH 219 or 319. First term each year. *3 sem. hrs.*

MTH 404. APPLIED COMPLEX VARIABLES: Functions of a complex variable, conformal mapping, integration in the complex plane. Laurent series and residue theory. Prerequisite: MTH 219 or 319. Mathematics majors enroll in MTH 431 instead of MTH 404. Second term each year. *3 sem. hrs.*

MTH 411. PROBABILITY AND STATISTICS I: Mathematical probability, combinatorial methods, random variables, Bayes's theorem, moments, Chebyshev's inequality, binomial, Poisson, and normal probability laws, moment-generating functions limit theorems. Prerequisite: MTH 218. Second term each year. *3 sem. hrs.*

MTH 412. PROBABILITY AND STATISTICS II: Distribution theory, central limit theorem, random sampling, estimation of parameters including maximum likelihood, confidence intervals, the Neyman-Pearson lemma, tests of hypotheses, likelihood ratio tests, sampling from a normal population. Prerequisite: MTH 411. First term each year. *3 sem. hrs.*

MTH 413. PROBABILITY AND STATISTICS III: Statistical decision theory, partitioning of sums and squares, analysis of variance, regression on several independent variables, multiple regression approach to analysis of variance, design of experiments. Prerequisite: MTH 412. Second term each year. *3 sem. hrs.*

MTH 430. REAL ANALYSIS: Fundamental concepts of analysis: metric completeness, uniform continuity and uniform convergence; power series and interchange of limits. Prerequisite: MTH 302. First term each year. *3 sem. hrs.*

MTH 430H. HONORS REAL ANALYSIS. Same material as MTH 430, with additional topics for enrichment covered in one extra hour per week. Prerequisites: MTH 302 and permission of the instructor. First term each year. *4 sem. hrs.*

MTH 431. COMPLEX ANALYSIS: Introduction to complex analysis: analytic functions and the Cauchy integral theory; Laurent series and the calculus of residues. Optional topics may include applications of the residue theory. Prerequisite: MTH 302. Second term each year. *3 sem. hrs.*

MTH 431H. HONORS COMPLEX ANALYSIS: Same material as MTH 431, with additional topics for enrichment covered in one extra hour per week. Prerequisites: MTH 302 and permission of the instructor. Second term each year. *4 sem. hrs.*

MTH 440. INTRODUCTION TO MATHEMATICAL MODELING: Introduction to the use of mathematical techniques and results in constructing and modifying models designed to solve problems encountered in everyday life. Computer simulation and limitations thereon, dimensional analysis, scaling, and approximations at various

levels. Prerequisites: MTH 219 (or 319), MTH 302, and permission of the instructor.
Second term each year. *3 sem. hrs.*

MTH 441. MATHEMATICS CLINIC: Student teams will be responsible for the development or modification and testing of a mathematical model designed for a particular purpose. Faculty guidance. Prerequisites: MTH 440 and permission of the chairperson. *3 sem. hrs.*

MTH 445H. (SPECIAL TOPICS IN NAMED AREA): Lectures in specialized areas such as abstract algebra, applied mathematics, complex variables, differential forms, functional analysis, Galois theory, game theory, general topology, normed linear spaces, probability theory, real variables, topological groups. May be taken more than once for additional credit. Prerequisite: Permission of the chairperson. *1-3 sem. hrs.*

MTH 463. APPLIED LINEAR ALGEBRA: Topics include linear programming and its applications, game theory, Markov chains or linear codes and their error-correcting capabilities. Prerequisite: MTH 302. First term each year. *3 sem. hrs.*

MTH 466. APPLIED MODERN ALGEBRA: Introduction and development of concepts in abstract algebra with emphasis on selected applications to problems in computer science, engineering, and other areas. Algebraic structures and homomorphisms, group codes, enumeration theory. Boolean algebra and logic circuits, machines, computability, and Turing machines. Prerequisite: MTH 302. Second term each year. *3 sem. hrs.*

MTH 471. TOPOLOGY: Calculus of point sets. Hausdorff and other topological spaces. Completeness, compactness, metrics, Euclidean spaces, connectedness, partial ordering, axiom of choice, homeomorphisms and continuous functions. Prerequisite: MTH 218. *3 sem. hrs.*

MTH 490. READING IN (NAMED AREA): Individual study in specialized areas carried out under the supervision of a staff member. May be taken more than once for additional credit. Prerequisite: Permission of the chairperson. *1-3 sem. hrs.*



MEDICAL TECHNOLOGY (MET)

The program leading to a Bachelor of Science with a major in Medical Technology consists of three years of preclinical instruction at the University of Dayton with a twelve- or thirteen-month clinical course offered by Dayton area schools of medical technology at St. Elizabeth Medical Center, Good Samaritan Hospital, Miami Valley Hospital, and Kettering Medical Center. The hospital programs are accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association through the National Accrediting Agency for Clinical Laboratory Sciences.

Completion of the clinical program qualifies the students to take a national examination in order to become certified medical technologists. Because of their theoretical background and practical experience in the various sections of the clinical laboratory, qualified medical technologists can work in hospitals, clinics, physicians' offices, reference laboratories, public health agencies, the armed services, pharmaceutical companies, biomedical instrumentation firms, and research institutions.

Preclinical years	Semester Hours
Biology core courses.....	22
Biology electives (may include other sciences)	6
Support sciences (CHM, PHY, MTH)	25
College requirements (ENG, SPE, PHL/REL).....	21 (22)
Humanities and/or social-behavioral science electives	15
General electives	8
Total	97 (98)
Clinical year: MET courses at affiliated hospitals	38

Biology core courses required of all majors: The general biology sequence (BIO 151, 152, 152L, 201L), Parasitology (BIO 425, 425L), General Microbiology (BIO 411, 411L), Pathogenic Bacteriology and Immunology (BIO 466, 466L), and Medical Technology Seminar (BIO 380).

Biology electives (2) should be chosen from Physiology (BIO 403), Genetics (BIO 412), Cell Biology (BIO 440), Histology (BIO 310), Comparative Anatomy (BIO 309), Biochemistry (CHM 420), Biostatistics (MTH 215).

Supporting science courses: One mathematics course in calculus (MTH 112). If math background is not suitable for placement in calculus, then statistics (MTH 207) can be substituted. Five chemistry courses (CHM 123, 124, 201, 313, 314, all with labs). If chemistry background is insufficient, then CHM 115 must precede the CHM 123-124 sequence. One physics course (PHY 204).

College requirements: Two English courses (ENG 111, 112). Students with first-term placement in ENG 112, 114, or 198 must take an English elective. All Arts and Science majors are required to take speech (preferably during the freshman year) and 12 semester hours of philosophy and/or religious studies.

Humanities and social-behavioral science electives: These electives are meant to strengthen appreciation of the aesthetic and spiritual life and to increase awareness of modern social problems. Fifteen semester hours (9 social-behavioral sciences, 6 humanities) selected from anthropology, American studies, communication arts, criminal justice, economics, English, history, languages, literature, music, performing and visual arts, philosophy, psychology, religious studies, social work, sociology, etc. A full year of a modern foreign language is recommended. The College requirements of English, speech, and philosophy and/or religious studies do not fulfill this requirement.

General electives are courses from any Arts and Science area taken for their general educational value. With permission of the chairperson and the Office of the Dean of the College, some courses can be taken in other schools within the University. An elective course in business management (MGT 305) or education (EDT 452) is recommended.

The curriculum is planned to meet the requirements of the University, the hospitals, and the NAACLS. The 97(98) preclinical semester hours must be completed before entering a clinical program at one of the affiliated hospitals.

CLINICAL YEAR

Acceptance into a clinical program is competitive. Students make formal applications to one or more of the affiliated schools of medical technology in the fall term of the junior year. Acceptance is based on preclinical grades, recommendation letters, motivation, and interview performance.

The course of clinical instruction covers a period of fifty-two to fifty-six consecutive weeks. The curriculum involves formal lectures, seminars, teaching laboratories, and preceptorship rotations through the various departments of the clinical laboratory. Upon completion of the clinical year, students are granted the Bachelor of Science with a major in Medical Technology at the University's Summer Commencement exercises.

Tuition and fees for the clinical years are established by each hospital. The University will charge the Basic University Fee for Terms I and II. Students will pay their hospital tuition and fees through the University. Information on clinical year tuition and fees, class size, grading policies, dress codes, etc., is presented in the respective hospital program brochures.

PROGRAM—S9: BACHELOR OF SCIENCE WITH A MAJOR IN MEDICAL TECHNOLOGY (MET)

Dept.	No.	Course	1st Term ¹	2nd Term
Freshman Year				
BIO	100	Seminar	1-0-0	
BIO	151-152	Concepts of Biology	3-0-3	3-3-4
CHM	123-124	General Chemistry ²	3-3-4	3-3-4
MTH	112	Calculus ³	3-0-3	
ENG	111-112	College Composition I and II ⁴	4-0-4	3-0-3
—	—	College requirement ⁵	3-0-3	3-0-3
—	—	Humanities/social-behavioral science		3-0-3
			17	17

Sophomore Year

BIO	201L	Biology Laboratory Investigations	0-3-1	
BIO	425	Parasitology		3-3-4
PHY	204	Introduction to Electronic Instrumentation		1-2-2
CHM	201	Quantitative Analysis	2-2-4	
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
—	—	College requirement ⁴	3-0-3	3-0-3
—	—	Humanities/social-behavioral science	3-0-3	3-0-3
			15	16

Junior Year

BIO	411	General Microbiology	3-4-5	
BIO	380	Seminar		1-0-1
BIO	466	Pathogenic Bacteriology and Immunology		3-3-4
—	—	Biology electives ⁶	3-0-3	3-0-3
—	—	College requirement ⁴	3-0-3	
—	—	Humanities/social-behavioral science	3-0-3	3-0-3
—	—	General electives	3-0-3	5-0-5
			17	16

¹For example, 3-0-3 means 3 hrs. class, 0 hrs. lab., 3 sem. hrs. of credit.

²Begin in CHM 115, 115L if background is insufficient for CHM 123, 123L.

³Calculus is recommended. If background is not suitable for calculus, then statistics (MTH 207) should be substituted.

⁴Two English courses (ENG 111, 112) are required. Students with initial placement in Eng 112, 114, or 198 must take an English elective.

⁵SPE 101 and 12 sem. hrs. of religious studies and/or philosophy are required of all Arts and Science majors.

⁶Recommend choice from BIO 403, 412, 440, 309, 310, CHM 420, MTH 215.

Senior Year

Semester Hours

MET 431	Introduction to Medical Laboratory Science	2
MET 431L	Introduction to Medical Laboratory Science Laboratory	2
MET 432	Clinical Chemistry	4
MET 432L	Clinical Chemistry Laboratory	4
MET 433	Microbiology	4
MET 433L	Microbiology Laboratory	3
MET 434	Hematology	2
MET 434L	Hematology Laboratory	4
MET 435	Immunology	1
MET 435L	Immunology Laboratory	2
MET 436	Renal Function	2
MET 436L	Renal Function Laboratory	2
MET 437	Immunohematology	1
MET 437L	Immunohematology Laboratory	2
MET 438	Clinical Pathology	2
MET 439	Clinical Pathology Seminar	1

FACULTY

Charles J. Chantell, *University Program Director*

Clinical Professors: Abramson, Bylsma, Funkhouser, Van der Hoeven

Clinical Assistant Professors: Carroll, Fiene, Gilleland, Martin

COURSES OF INSTRUCTION

The courses taken during the first three years at the University of Dayton, listed under Program S-9, are described under the individual departments. The senior year is conducted at St. Elizabeth Medical Center, Good Samaritan Hospital, Miami Valley Hospital, or Kettering Medical Center, all in the Dayton area.

MET 431. INTRODUCTION TO MEDICAL LABORATORY SCIENCE: Study of basic hospital and laboratory routine, terminology, ethics, instrumentation, laboratory mathematics and quality control. *2 sem. hrs.*

MET 431L. INTRODUCTION LABORATORY: Laboratory manipulations to accompany MET 431. *2 sem. hrs.*

MET 432. CLINICAL CHEMISTRY: Study of human physiological chemistry with application of analytical techniques to the examination of body fluids and tissues. *4 sem. hrs.*

MET 432L. CLINICAL CHEMISTRY LABORATORY: Laboratory manipulations to accompany MET 432. *4 sem. hrs.*

MET 433. MICROBIOLOGY: Study of microorganisms found in human infection, their isolation/identification and prophylaxis. Included are bacteria, fungi, parasites, and viruses. *4 sem. hrs.*

MET 433L. MICROBIOLOGY LABORATORY: Laboratory manipulations to accompany MET 433. *3 sem. hrs.*

MET 434. HEMATOLOGY: Instruction in the morphology of the blood and blood-forming tissues. *2 sem. hrs.*

MET 434L. HEMATOLOGY LABORATORY: Laboratory manipulations to accompany MET 434. *4 sem. hrs.*

MET 435. IMMUNOLOGY: Study of the immune system, in particular antigen-antibody reaction in vitro. *1 sem. hr.*

MET 435L. IMMUNOLOGY LABORATORY: Laboratory manipulations to accompany MET 435. *2 sem. hrs.*

MET 436. RENAL FUNCTION: Various methods of performing urine and other kidney function tests with correlation based on anatomical and physiological functions of the organs. *2 sem. hrs.*

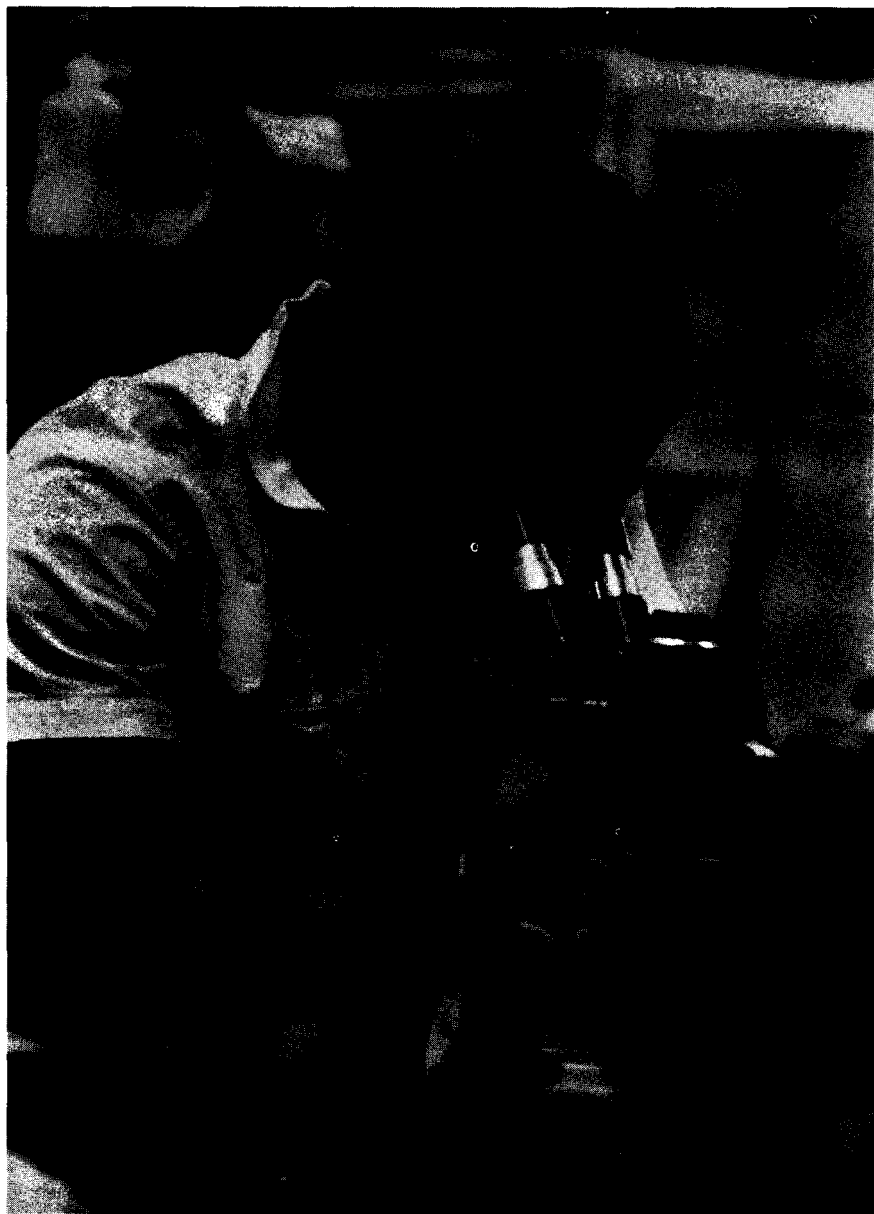
MET 436L. RENAL FUNCTION LABORATORY: Laboratory manipulations to accompany MET 436. *2 sem. hrs.*

MET 437. IMMUNOHEMATOLOGY: Study of the principles of blood banking, transplantation immunity, and autoimmunity. *1 sem. hr.*

MET 437L. IMMUNOHEMATOLOGY LABORATORY: Laboratory manipulations to accompany MET 437. *2 sem. hrs.*

MET 438. CLINICAL PATHOLOGY: Lecture stressing the correlation of physiological changes in diseased states and laboratory procedures. *2 sem. hrs.*

MET 439. CLINICAL PATHOLOGY SEMINAR: Current developments and special topics. *1 sem. hr.*



MEDICAL TECHNOLOGY 2 + 2 (KMT)

The University of Dayton and the Kettering Medical Center School of Medical Technology (KMC SMT) have jointly established a 2+2 ladder curriculum in medical technology. This program permits someone with an associate degree from an accredited college and certification as a Medical Laboratory Technician (MLT) to earn a baccalaureate degree in Medical Technology (MT) without duplication of previous work. For this program, students spend their junior year at the University of Dayton taking general education and science requirements. They spend their senior year at Kettering Medical Center School of Medical Technology taking advanced topics in clinical laboratory science. The overall structure of the 2+2 (MLT-MT) program is as follows.

MLT COMPONENT

Students spend their first two years enrolled in an MLT program at an accredited college. During this time, they follow the curriculum prescribed for the associate degree, and following graduation they are eligible to take national certifying examinations, such as those given by the Board of Registry of the American Society of Clinical Pathologists (ASCP) and the National Certifying Agency for Clinical Laboratory Sciences (NCA).

Kettering College of Medical Arts is directly affiliated with the University of Dayton for the 2+2 program. Specific admissions criteria, application material, and curricular information for the MLT program at Kettering College can be obtained from the Registrar, Kettering College of Medical Arts, 3737 Southern Boulevard, Kettering, Ohio 45429.

MT COMPONENT

The student who has both an associate degree and certification as a laboratory technician—MLT (ASCP), CLT (NCA), or equivalent—should apply for this program from January to April by first completing the application process at Kettering Medical Center. This includes (1) a written application with recommendations and a statement of interest, (2) a personal interview, and (3) equivalency examinations designed to test knowledge of clinical theory and laboratory techniques at the technician level. Acceptance into the program is contingent on the following:

1. Positive recommendation and interview
2. Satisfactory grade-point average
3. Successful completion of the equivalency examinations
4. Space available in the class (A maximum of 10 seniors can be accommodated.)

After the student receives notification of acceptance into the clinical (fourth) year of the program from Kettering Medical Center, the student must apply to the University of Dayton for permission to enter with upper division status. Written verification of acceptance into the clinical year is a prerequisite for acceptance by UD.

For completion of the baccalaureate degree within two years following admission, the University requires the transfer of at least 65 semester-hour credits from the first two years, distributed as follows:

	<i>Semester Hours</i>
Biology (introductory and electives)	18
Microbiology (general and advanced)	6
Chemistry (general, organic, quantitative, and biochemistry, or equivalents)	20
English	6
Philosophy and/or religious studies	6
Humanities and social-behavioral sciences	6
General electives	3
Total	65

Deficiencies in these prerequisites must be made up prior to matriculation in the senior year. During the junior year at the University of Dayton, the student must complete all of the required courses (34 semester hours) in Program S9A and achieve a GPA that is acceptable to both the University and the KMC SMT in order to enter the senior year.

In the junior year students will choose between two science course sequences depending on their post-baccalaureate plans:

The A-Track Science sequence is physiology (BIO 403), general physics (PHY 201), and two elective science courses. One of these will be endocrinology (BIO 417), cell biology (BIO 440), pathophysiology (BIO 464), or FORTRAN (CPS 144). The other will be a BIO, CHM, or CPS course chosen with the advisor's approval. This track is recommended for those students who wish to strengthen their science background in medical technology.

The B-Track Science sequence, organic chemistry (CHM 313-314) and general physics (PHY 201-202), is designed for those students who plan to enter graduate programs in life science areas directly after graduation.

Tuition and fees charged in the junior year are those of the University. Tuition and fees in the senior year are established by the KMC SMT and paid through the University. The University will charge the Basic University Fee for Terms I and II plus graduation fees during the senior year.

**PROGRAM—S9A: BACHELOR OF SCIENCE WITH A MAJOR IN
MEDICAL TECHNOLOGY 2 + 2 (KMT)**

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term¹</i>	<i>2nd Term</i>
Junior Year				
MGT	305	Principles of Management	3-0-3	
—	—	General elective ²	2-0-2	
—	—	Track science courses ³	6-0-6	6-0-6
—	—	Philosophy and/or religious studies ⁴	3-0-3	3-0-3
—	—	Humanities and/or social-behavioral science ⁵	3-0-3	3-0-3
MTH	207	Statistical Methods		3-0-3
PHY	204	Medical Electronic Instrumentation		1-2-2
			17	17

¹For example, 3-0-3 means 3 class hrs., 0 lab hrs., 3 sem. hrs. of credit.

²Can be laboratories to accompany BIO 403, PHY 201, or CHM 313.

³See information under KMT curriculum description.

⁴Total of 12 sem. hrs. of PHL and/or REL required, including transfer credit.

⁵Electives from AMS, ANT, CRJ, ENG, HST, LNG, MUS, PHL, POL, PSY, REL, SOC.

Senior Year¹

		<i>Semester Hours</i>
KMT 411	Hematology II	5
KMT 412	Coagulation II	2
KMT 413	Immunohematology II	2
KMT 414	Immunology II	2
KMT 415	Microbiology II	3
KMT 416	Parasitology II	2
KMT 417	Chemistry II	6
KMT 418	Mycology	2
KMT 419	Instrument Check Systems	2
KMT 420	Research Design and Methodology	4
KMT 421	Education	2
KMT 422	Education Practicum	1
KMT 423	Laboratory Administration	1
KMT 424	Administration Practicum	1
KMT 425	Applied Clinical Procedures	4

¹All courses conducted at the Kettering School of Medical Technology.

FACULTY

Charles J. Chantell, *University Program Director*

Clinical Professor: Bylsma

Clinical Assistant Professor: Fiene

COURSES OF INSTRUCTION

The courses taken during the third year at the University of Dayton, listed under Program-S9A, are described under the individual departments. The fourth year is performed at the Kettering School of Medical Technology.

KMT 411. HEMATOLOGY II: Study of disease correlation and nonroutine hematological examinations including bone marrows and identification of abnormal cellular elements. *5 sem. hrs.*

KMT 412. COAGULATION II: Study of the clinical correlation and less frequently performed special laboratory tests of hemostasis. *2 sem. hrs.*

KMT 413. IMMUNOHEMATOLOGY II: Study of special problem-solving techniques in immunohematology associated with the identification of atypical or unusual antibodies. *2 sem. hrs.*

KMT 414. IMMUNOLOGY II: Study of the theory of humoral and cellular immune response including less commonly used immunological laboratory tests and clinical correlation for those tests. *2 sem. hrs.*

KMT 415. MICROBIOLOGY II: Study of the nonroutine procedures in microbiology including mycobacteria, viruses, and identification of unusual microorganisms. *3 sem. hrs.*

KMT 416. PARASITOLOGY II: The life cycles, modes of transmission, and laboratory identification of pathogenic parasites. *2 sem. hrs.*

KMT 417. CHEMISTRY II: Theory and principles of a wide variety of quantitative techniques with evaluation of procedures and results. Includes basic metabolic processes and common disease conditions that correlate with the analytical chemical tests studied. *6 sem. hrs.*

KMT 418. MYCOLOGY: Culture and identification of fungi, including saprophytes and those causing superficial and deep mycoses. *2 sem. hrs.*

KMT 419. INSTRUMENT CHECK SYSTEMS: Performance check systems for instrumentation and equipment in the laboratory, including maintenance procedures and trouble-shooting. *2 sem. hrs.*

KMT 420. RESEARCH DESIGN AND METHODOLOGY: Discussion and practice of the principles and techniques of medical laboratory research; consideration of experimental design, literature review, quality control, statistical analysis of data, and evaluative techniques in method comparison. A paper suitable for publication in a professional journal is required. *4 sem. hrs.*

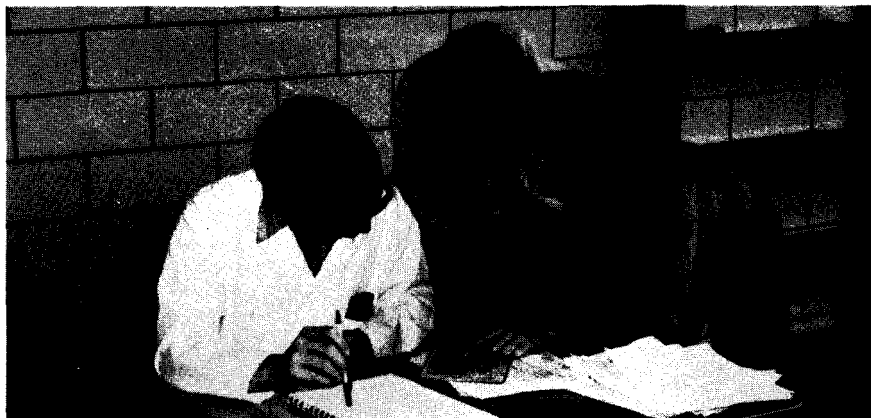
KMT 421. EDUCATION: Theory and practice of task-oriented instruction including planning, presenting, and evaluating learning experiences. *2 sem. hrs.*

KMT 422. EDUCATION PRACTICUM: Supervised teaching experience in a medical technology educational program. Personalized work-study opportunity to relate educational theory to practice. *1 sem. hr.*

KMT 423. LABORATORY ADMINISTRATION: Basic considerations of laboratory management, personnel management, and supervision. *1 sem. hr.*

KMT 424. ADMINISTRATION PRACTICUM: Supervised administrative experience in a hospital laboratory. Personalized work-study concentrating on work flow, recording and reporting systems, personnel work, time assignments, and other relationships with hospital staff. *1 sem. hr.*

KMT 425. APPLIED CLINICAL PROCEDURES: Supervised work experience in a hospital clinical laboratory with rotation through all sections. *4 sem. hrs.*



MILITARY SCIENCE (MIL) ARMY ROTC

The Department of Military Science offers the Reserve Officers Training Corps (ROTC) program on the campus, providing instruction in general military subjects applicable to all branches of the Army. The purpose of the Reserve Officers Training Corps is to develop selected college-educated men and women for positions of responsibility as officers in the active Army and the Reserve components.

The Military Science Program is designed to develop a high degree of personal honor, self-reliance, and leadership and to provide the means of becoming better informed on matters of national defense. The program provides men and women who are working toward the baccalaureate degree the opportunity to become officers in the United States Army.

The four-year program is divided into a basic course (normally freshman and sophomore years) and an advanced course (normally junior and senior years), and it is offered to all students for academic credit.

The basic course emphasizes practical leadership techniques and management concepts that apply equally in both military organizations and private industry. While in this phase of the program, students have no military obligation and are simply taking ROTC courses, like any other college courses, for credit. Students who receive credit for the basic course and demonstrate a potential for becoming effective officers may continue to pursue a commission by enrolling in the advanced course.

The advanced course is designed to prepare students to be Army lieutenants by including practical work in tactics, training, management, leadership techniques, and the exercise of command. Advanced course students are paid \$100 per month during the school year. During the summer between the junior and senior years, cadets attend a six-week ROTC Advanced Camp, which allows them to apply the leadership and technical training learned in the classroom. While at camp, students are paid half a second lieutenant's salary or about \$600.

The ROTC program is also available to students with three or two years remaining on campus, including graduate students. Special programs, such as Basic Camp or On-Campus Summer Compression, have been established to allow second-semester sophomores and juniors or seniors who will be going on to graduate school to participate in the military science program.

There is also a special program whereby veterans and JROTC students can receive advanced placement credit in Army ROTC.

Army ROTC scholarships are available to students who participate in Army ROTC. These scholarships cover three- and two-year periods and provide for tuition, books, fees, special equipment, and \$100 a month for up to ten months of each school year. Scholarships are highly competitive and are awarded only to those who demonstrate outstanding academic and leadership ability.

All ROTC courses may be audited without credit, with approval of the chairperson.

FACULTY

Lt. Col. Kent D. Menser, U.S. Army, *Chairperson*

Professor: Menser

Assistant Professors: Gibson, Kosolapoff, Tucker

Instructors: Chappell, Ingram

COURSES OF INSTRUCTION

A maximum of 12 semester hours of MIL courses may be included among the minimum 120 semester hours required for the bachelor's degree in the College of Arts and Sciences. (SCC refers to course offerings at Sinclair Community College.)

MIL 099 (UD). LEADERSHIP SKILL COURSES: Rappelling, Marksmanship (pistol and rifle), and Physical Training. Subjects determined by student interest and instructor availability. Emphasis on practical experience in each skill. *No credit*

MIL 100 (UD). LEADERSHIP LABORATORY: Practical training in military courtesy, drill and ceremony, military skills, map reading, marksmanship, and tactics. Required for all contract students. *1 sem. hr.*

MIL 101 (UD). LEADERSHIP I: Fundamentals and principles of leadership, characteristics of a group, traits of a leader; ROTC programs and opportunities; branches and specialties in the military. Optional field trips. *1 sem. hr.*

MIL 102 (UD). LEADERSHIP II: Planning, organizing, controlling, rewards and punishments, and effective communication. Case studies. *1 sem. hr.*

MIL 105 (UD). U.S. MILITARY TODAY: Roles, missions, organizational structure, tactical employment, equipment, and future trends of the armed services. Incorporates the background experience of resident instructors and presentations by visiting service representatives. *1 sem. hr.*

MIL 106 (UD). U.S. MILITARY IN CURRENT WORLD AFFAIRS: Seminar on the contemporary role of the military, the role of military power, the relationship of natural resources to national power. *1 sem. hr.*

MIL 121 (SCC). Same as MIL 101 (UD). *0.7 sem. hr.*

MIL 122-123 (SCC). Combination of these two courses completes all requirements of MIL 102 (UD). *0.7 sem. hr. each*

MIL 201 (UD). LEADERSHIP AND TACTICS: Study of leadership in the military, basic military tactics, tactical management, and medical treatment of casualties. Optional field trips. *2 sem. hrs.*

MIL 202 (UD). LEADERSHIP AND MAP READING: Leadership considerations for unit physical fitness and health. Introduction to map reading, including identifying terrain features, grid systems, intersection, and resection. Optional field trips. *2 sem. hrs.*

MIL 221 (SCC). Same as MIL 201 (UD). *1.4 sem. hrs.*

MIL 222-223 (SCC). Combination of these two courses completes all requirements of MIL 202 (UD). *1.4 sem. hrs. each*

MIL 301 (UD). MILITARY INSTRUCTION AND LEADERSHIP: Study of military weapons systems, land navigation, and tactical communications equipment and language. Weekend training exercises and monthly physical fitness tests. 2 sem. hrs.

MIL 302 (UD). ADVANCED TACTICS: The leader's role in directing and coordinating tactical missions. Employment of weapons systems, intelligence-gathering, troop leading, and roles of various branches of the Army. Field trips. 2 sem. hrs.

MIL 303 (UD). LEADERSHIP INTERNSHIP I: Application of the leadership principles and techniques taught in MIL 301 and 302. Prerequisites: MIL 301, 302, or approval of department chairperson. 4 sem. hrs.

MIL 304 (UD). LEADERSHIP INTERNSHIP II: Application of the leadership principles and techniques taught in MIL 301 and 302. Prerequisites: MIL 301, 302, 303, or approval of department chairperson. 2 sem. hrs.

MIL 321 (SCC). Analysis of geography as it pertains to military functions, study of military weapons systems and tactical communications equipment. Weekend training exercise and monthly physical fitness tests. 1.4 sem. hrs.

MIL 322 (SCC). Same as MIL 302 (UD). 1.4 sem. hrs.

MIL 323 (SCC). Leadership responsibilities during special tactical situations and basic analysis of Soviet Armed forces. Completes MS III requirement. 1.4 sem. hrs.

MIL 401 (UD). LEADERSHIP AND MILITARY HISTORY: Study of military staff functions, military correspondence; U.S. military history from 1898 to the present, including effective and ineffective leadership, uses of the principles of war, attitudes toward the military. 2 sem. hrs.

MIL 402 (UD). APPLIED LEADERSHIP AND MANAGEMENT: Leadership and management studies in professionalism, ethics, and military justice. Obligations and responsibilities of an officer, including chain of command and officer-enlisted relationships. 2 sem. hrs.

MIL 421 (SCC). Same as MIL 401 (UD). 1.4 sem. hrs.

MIL 422 (SCC). Study of military correspondence and its techniques. 1.4 sem. hrs.

MIL 423 (SCC). Essentially the same as MIL 402 (UD). Completes MS IV requirements at SCC. 1.4 sem. hrs.



MUSIC (MUS)

The Music Division, part of the University's Performing and Visual Arts Department, is a member of the National Association of Schools of Music. The curricula and degrees of the Music Division are approved and accredited by the National Association of Schools of Music and the State of Ohio with the exception of the music therapy program, which is approved by the National Association for Music Therapy. At the University of Dayton, music students have the opportunity to enrich their cultural backgrounds through exposure to the other divisions of the Performing and Visual Arts Department (Fine Arts, Theatre, Photography), or to develop their own interdisciplinary programs.

The Music Division has numerous performing ensembles open to all students by audition: The University Choir, chamber vocal ensembles, Chamber Orchestra, Wind Ensemble, Concert Band, Marching Band and Pep Band, Jazz Lab Bands, and chamber instrumental ensembles.

The Music Division offers five degree programs:

A12: Bachelor of Arts with a Major in Music (MUS)

A13: Bachelor of Music with a Major in Music Theory (MTY)
or Composition (MUC)

A13A: Bachelor of Music with a Major in Performance (MUP)

A13B: Bachelor of Music with a Major in Music Therapy (MUT)

A13C: Bachelor of Music with a Major in Music Education (MUE)

In addition, the Music Division cooperates with the School of Education to prepare students for the degree of Bachelor of Science in Music Education. See Program-E5, School of Education, Chapter VIII.

All prospective music students must be admitted to the University of Dayton by the Office of Admissions. In addition, all prospective students must (1) furnish the Music Division with letters of recommendation from their high school music teachers and/or performance teachers, and (2) successfully complete the performance audition, either in person or via tape recording. Specific information regarding audition requirements and dates is available from the Music Division office.

The Music Division offers the degree programs outlined below. Detailed descriptions of the contents of all of these programs are available from the Music Division office.

The Music Division offers a minor in music; specific information is available from the Music Division office. Many courses, including performance courses and music appreciation and fundamentals courses, are open to all University students, and can be used as humanities electives in various degree programs.

PROGRAM—A12: BACHELOR OF ARTS WITH A MAJOR IN MUSIC (MUS)¹

Dept.	No.	Course	Semester Hours	
Freshman Year ²			1st Term	2nd Term
MUS	111-112	Theory of Music I	3	3
MUS	113-114	Aural Skills I	1	1
MUS	296-297	Class Piano ³	1	1
MUS	390	Ensemble	1	1
MUS	399	Performance	2	2
ENG	111-112	College Composition I and II ⁴	4	3
SPE	101	Fundamentals of Effective Speaking	3	
—	—	Philosophy or religious studies		3
			15	14
Sophomore Year ²				
MUS	211-212	Theory of Music II	3	3
MUS	213-215	Aural Skills II	1	1
MUS	301-302	History of Music	3	3
MUS	390	Ensemble	1	1
MUS	399	Performance	2	2
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement	3	3
			16	16
Junior Year ²				
MUS	—	Music history or theory elective	2	
—	—	Philosophy or religious studies		3
—	—	Breadth requirement	13	13
			15	16
Senior Year ²				
MUS	—	Music electives	2	2
—	—	Breadth requirement	2	3
—	—	General electives	10	9
			14	14
Music requirements:			Semester Hours	
Theory of music			16	
History and literature of music			6	
Electives in music history or theory			2	
Performance studies (including class piano, if needed) ..			10	
Ensemble			4	
Music electives			4	42
University/College requirements				22
Breadth requirements				
Natural science and mathematics			7	
Social and behavioral science.....			12	
Humanities			18	37
General electives				19
Total for the degree				120

¹See also Distribution Table for Bachelor of Arts programs.²Music majors must register for MUS 400 Recital Attendance (no credit) each semester.³Class piano (MUS 296ff) may be suggested for students with no piano background.⁴ENG 111 may be waived for students with sufficient background and ability.

PROGRAM—A13: BACHELOR OF MUSIC WITH A MAJOR IN MUSIC
THEORY (MTY) OR COMPOSITION (MUC)

Dept.	No.	Course	Semester Hours	
Freshman Year ¹			1st Term	2nd Term
MUS	111-112	Theory of Music I	3	3
MUS	113-114	Aural Skills I	1	1
MUS	390	Ensemble	1	1
MUS	399	Performance ²	2	2
ENG	111-112	College Composition I and II ³	4	3
SPE	101	Fundamentals of Effective Speaking	3	
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement ⁴		4
			17	17
Sophomore Year ¹				
MUS	211-212	Theory of Music II	3	3
MUS	213-215	Aural Skills II	1	1
MUS	301-302	History of Music	3	3
MUS	390	Ensemble	1	1
MUS	399	Performance ²	2	2
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement ⁴	4	4
			17	17
Junior Year ¹				
MUS	320	Basic Conducting	2	
MUS	330 or 351	Advanced Conducting		2
MUS	390	Ensemble	1	1
MUS	399	Performance ²	2	2
MUS	—	Music theory or composition electives	4	4
MUS	—	Music electives	2	2
—	—	Breadth requirement ⁴	6	6
			17	17
Senior Year ¹				
MUS	390	Ensemble	1	1
MUS	—	Music theory or composition electives	4	4
MUS	—	Music history elective	3	
MUS	—	Music electives	9	9
—	—	Breadth requirement ⁴		3
			17	17
			Semester Hours	
University/College requirements			22	
Breadth requirements			27	
Music requirements:				
Theory of music and/or composition			32	
History and literature			9	
Conducting			4	
Performance			12	
Ensemble			8	
Music electives			22	87
Total for the degree			136	

Each music theory major will submit a research paper in the senior year. The subject of this paper will be chosen by the student with the advice of a faculty committee; the paper is subject to the approval of the faculty committee.

Each composition major will present a half-recital of original compositions in the junior year and a full recital of original compositions in the senior year.

¹Music majors must register for MUS 400 Recital Attendance (no credit) each semester.

²Class piano (MUS 296ff) may be suggested for students with no piano background. Each candidate must attain junior-level proficiency.

³ENG 111 may be waived for students with sufficient background and ability.

⁴Breadth requirement: Two units of 6-9 semester hours each, selected from the departments of Languages, English, History, Performing and Visual Arts (other than music), Philosophy, and Religious Studies; and two units of 6-9 semester hours each, selected from the departments of Psychology, Sociology, Anthropology, Economics, Political Science, Marketing, Management, Education, Mathematics, and the sciences. The total breadth requirement is 27 semester hours.

**PROGRAM—A13A: BACHELOR OF MUSIC WITH A MAJOR
IN PERFORMANCE (MUP)**

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
Freshman Year ¹			1st Term	2nd Term
MUS	111-112	Theory of Music I	3	3
MUS	113-114	Aural Skills I	1	1
MUS	390	Ensemble	1	1
MUS	399 or 499	Performance ²	4	4
ENG	111-112	College Composition I and II ³	4	3
SPE	101	Fundamentals of Effective Speaking	3	
—	—	Philosophy or religious studies		3
—	—	Breadth requirement ⁴		2
			16	17
Sophomore Year ¹				
MUS	211-212	Theory of Music II	3	3
MUS	213-215	Aural Skills II	1	1
MUS	301-302	History of Music	3	3
MUS	390	Ensemble	1	1
MUS	399 or 499	Performance ²	4	4
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement ⁴	2	2
			17	17
Junior Year ¹				
MUS	320	Basic Conducting	2	
MUS	390	Ensemble	1	1
MUS	399 or 499	Performance ²	4	4
MUS	—	Music elective		2
—	—	Philosophy or religious studies	3	
—	—	Breadth requirement ⁴	7	10
			17	17
Senior Year ¹				
MUS	390	Ensemble	1	1
MUS	399 or 499	Performance ²	6	6
MUS	—	Music electives	3	11
—	—	Breadth requirement ⁴	4	
			17	18

	<i>Semester Hours</i>
University/College requirements	22
Breadth requirements	27
Music requirements:	
Theory of music	16
History and literature	9
Conducting	2
Performance studies in major instrument or voice	24-32
Performance studies in minor instrument	4-12
Ensemble	8
Music electives	16
Total for the degree	87
	136

In order to enter the program leading to the Bachelor of Music with a Major in Performance, the student must be an acceptable performer in repertoire equivalent to that in the Ohio Music Education Association contest lists.

For a piano major, the student's entrance audition should demonstrate the ability to play major and minor scales in parallel motion and major and minor triads in arpeggiated form. The student should have studied (1) 2-part and 3-part Inventions, or Preludes and Fugues, by J.S. Bach; (2) sonatas by Haydn, Mozart, and Beethoven; (3) short compositions and at least one major work of composers from the Romantic period.

Each student will demonstrate proficiency as a performer by the presentation of a junior half-recital and a senior recital.

¹Music majors must register for MUS 400 Recital.

²If piano is not the major instrument, it will be the minor instrument. The organ major may choose a non-keyboard minor with the consent of the advisor.

³ENG 111 may be waived for students with sufficient background and ability.

⁴Breadth requirement: Two units of 6-9 semester hours each, selected from the departments of Languages, English, History, Performing and Visual Arts (other than music), Philosophy, and Religious Studies; and two units of 6-9 semester hours each, selected from the departments of Psychology, Sociology, Anthropology, Economics, Political Science, Marketing, Management, Education, Mathematics, and the sciences. The total breadth requirement is 27 semester hours.

PROGRAM—A13B: BACHELOR OF MUSIC WITH A MAJOR IN MUSIC THERAPY (MUT)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
Freshman Year ¹			1st Term	2nd Term
MUS	111-112	Theory of Music I	3	3
MUS	113-114	Aural Skills I	1	1
MUS	296-297	Class Piano	1	1
MUS	324	Beginning Guitar		1
MUS	399	Performance	2	2
ENG	111-112	College Composition I and II ²	4	3
SPE	101	Fundamentals of Effective Speaking		3
PSY	101	Introductory Psychology	3	
PSY	363	Abnormal Psychology		3
—	—	Philosophy or religious studies	3	
			17	17
Sophomore Year ¹				
MUS	211-212	Theory of Music II	3	3
MUS	213-215	Aural Skills II	1	1
MUS	285-286	Introduction to Music Therapy	2	2
MUS	287	Practicum in Music Therapy		1

MUS	298-299	Class Piano	1	1
MUS	301-302	History of Music	3	3
MUS	354	Advanced Guitar Class		1
MUS	399	Performance	2	2
MUS	487	Recreational Music	2	
—	—	Philosophy and/or religious studies	3	3
			<u>17</u>	<u>17</u>

Junior Year¹

MUS	235	Voice Class	1	
MUS	280	Music and Movement for the Handicapped	1	
MUS	288	Practicum in Music Therapy		1
MUS	326	Woodwind Instruments	1	
MUS	328	Percussion Class		1
MUS	390	Ensemble	1	1
MUS	399	Performance	2	
MUS	485-486	Psychological Foundations of Music	2	2
MUS	—	Music elective		1
EDP	245	Modern Dance	2	
PSY	355	Psychology of the Exceptional Child		3
—	—	Sociology or anthropology	3	3
—	—	Philosophy or religious studies		3
—	—	Breadth requirement in humanities	3	
			<u>16</u>	<u>15</u>

Senior Year¹

MUS	320	Basic Conducting	2	
MUS	325 or 317	String or Organ Class		1
MUS	327	Brass Instruments	1	
MUS	334	Fundamentals of Orchestration		2
MUS	385	Music Therapy Principles	3	
MUS	386	Music Therapy Methods and Materials		3
MUS	387-388	Practicum in Music Therapy	1	1
MUS	390	Ensemble	1	1
MUS	—	Music electives	2	
EDD	305	Human Anatomy		3
PSY	—	Psychology elective	3	
—	—	Breadth requirement in humanities	3	6
			<u>16</u>	<u>17</u>

After Senior Year

MUS	489	Music Therapy Internship ³	2	
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Music requirements:

Semester Hours

The requirements for:		Semester/ Year
Theory of music and aural skills	16	
History and literature of music	6	
Conducting and orchestration	4	
Performance studies (including study on the student's principal instrument or voice, as well as in specified instrumental methods and on accompanying instruments of piano and guitar)	21	
Music therapy	19	
Recreational music	2	
Music and dance electives	5	
Ensemble	6	
Music therapy internship ³	2	81
Other music therapy requirements:		
Psychology 101	3	
Human anatomy or physiology	3	6

University/College requirements:

Communication skills	0-10	
Philosophy and/or religious studies electives	12	22

Breadth requirements:

Two units of 6-9 semester hours each, selected from departments of Sociology and Psychology (to include Abnormal Psychology and Psychology of the Exceptional Child) 15

Two units of 6 semester hours each in humanities, selected from departments of Languages, English, History, Performing and Visual Arts, Philosophy, and Religious Studies. These exclude courses taken to fulfill University requirements 12..... 27

Total for the degree 136

The music therapy candidate will present not less than one-half recital by the senior year.

¹Music majors must register for MUS 400, Recital Attendance (no credit) each semester. Note also that a minimum of 6 semester hours in ensemble is required for graduation, with credit given for satisfactory ensemble participation even if the student is not registered for it.

²ENG 111 may be waived for students with sufficient background and ability.

³This internship of six months is taken after student completes all other course requirements. In order to be recommended for an internship, the student must have an overall grade point average of at least 2.00 and a grade point average of at least 2.50 in music, music therapy, and psychology coursework. Upon successful completion of the internship requirement, the student will receive the Bachelor of Music with a major in Music Therapy, which leads to certification by the National Association for Music Therapy.

PROGRAM—A13C: BACHELOR OF MUSIC WITH A MAJOR IN
MUSIC EDUCATION¹ VOCAL EMPHASIS (MUE)

Dept.	No.	Course	Semester Hours	
Freshman Year ²			1st Term	2nd Term
MUS	111-112	Theory of Music 1	3	3
MUS	113-114	Aural Skills I	1	1
MUS	390	Ensemble	1	1
MUS	399	Performance ³	2	2
ENG	111-112	College Composition I and II ⁴	4	3
SPE	101	Fundamentals of Effective Speaking	3	
MTH	—	Mathematics elective	3	
—	—	Science elective		4
—	—	Philosophy or religious studies		3
			17	17
Sophomore Year ²				
MUS	211-212	Theory of Music II	3	3
MUS	213-215	Aural Skills II	1	1
MUS	301-302	History of Music	3	3
MUS	324	Beginning Guitar ⁵	1	
MUS	354	Advanced Guitar Class		1
MUS	390	Ensemble	1	1
MUS	399	Performance ³	2	2
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning		3
—	—	Philosophy and/or religious studies	3	3
			17	17

Junior Year²

MUS	320	Basic Conducting	2	
MUS	325	String Class		1
MUS	331	Vocal Music in High School	2	
MUS	333	Organization of School Music Program		2
MUS	334	Fundamentals of Orchestration	2	
MUS	351	Choral Conducting		2
MUS	390	Ensemble	1	1
MUS	399	Performance	2	2
MUS	—	Instrument class ⁶		1
EDT	318	Human Relations in Education	2	
EDT	351	Secondary School, Self, and Society		2
HST	—	History electives	3	3
—	—	Humanities electives (not music)	3	2
			17	16

Senior Year²

MUS	329	String Class II	1	
MUS	335	Music in the Elementary Grades	3	
MUS	390	Ensemble	1	
MUS	399	Performance	2	
MUS	—	Instrument class ⁶	1	
MUS	—	Music elective	3	
EDT	419	Philosophy of Education ⁷		3
EDT	422	Student Teaching		12
EDT	469	Reading in the Content Areas	2	
			13	15

Semester Hours

University/College requirements	22
Education courses	24
Other breadth requirements	19
Music requirements:	
Theory of music	16
History and literature	6
Conducting	4
Performance	18
Ensemble	7
Music education	15
Music electives	3
Total for the degree	134

Each music education student will demonstrate proficiency as a performer in a half-recital in the senior year. Each candidate must complete 300 hours of observation and/or practicum experience to receive certification by the State of Ohio.

¹The State of Ohio grants certification, upon completion of this degree, to teach vocal or instrumental music from kindergarten through senior high school. The present curriculum is outlined for students with a vocal emphasis; the curriculum for students with an instrumental emphasis varies only slightly.

²Music majors must register for MUS 400 Recital Attendance (no credit) each semester.

³Voice majors will take a minimum of 14 semester hours in vocal performance, and demonstrate piano proficiency equal to four terms of class piano (MUS 296-299). Piano and organ majors will take a minimum of 14 semester hours in piano or organ; and either one term of MUS 235 Voice Class plus one term of MUS 399 Voice, or two terms of MUS 399 Voice. Organ majors must additionally demonstrate piano proficiency equal to four terms of class piano. All students must demonstrate satisfactory accompanying skills prior to student teaching.

⁴ENG 111 may be waived for students with sufficient background and ability.

⁵Qualified students may be able to waive MUS 324 and immediately take MUS 354.

⁶Music Education students with a vocal emphasis are required to take two courses chosen from MUS 326, MUS 327, and MUS 328.

⁷EDT 419 applies to the University requirement of 12 semester hours in philosophy and/or religious studies, and at the same time to education requirements.

Course requirements and performing proficiencies will vary somewhat, depending on the chosen emphasis; details are available in the Music Division.

FACULTY

Patrick S. Gilvary, *Chairperson, Department of Performing and Visual Arts*

Richard Benedum, *Head of Music Division*

Professor: Tagg

Associate Professors: Benedum, Sandness, Zech

Assistant Professors: Baxter, Kim, Magnuson, Minton, Wrobel

Instructor: Ciepluch

Part-time Instructors: Chenoweth, Gilley, Hotopp, Howard, Katz, Magg, Mangán, McCutcheon, Pepitone, Vandevander, Varella, Winteregg, Zimmerman

COURSES OF INSTRUCTION

MUS 101. FUNDAMENTALS OF MUSIC: For the student with no previous experience with theory of music. Notation of music, key and time signatures, fundamental harmonic progression, and introduction to the piano keyboard. Elementary ear training and dictation. Open to all University students. 2 sem. hrs.

MUS 103. MUSIC APPRECIATION: Study of the masterpieces of music with special reference to the listener. Open to all University students. 2 sem. hrs.

MUS 104. LITERATURE FOR THE ELEMENTARY CLASSROOM: Study of music literature and its direct application to elementary classroom use. 2 sem. hrs.

MUS 111-112. THEORY OF MUSIC I: Basic grammar of music: formation of scales and intervals, progression of triads and seventh chords, secondary dominant chords, and simple modulation. Prerequisite: Placement examination. 3 sem. hrs. each

MUS 113-114. AURAL SKILLS I: Basic technique of dictation, sight singing, and rhythmic reading. Prerequisite: Placement examination. 1 sem. hr. each

MUS 211-212. THEORY OF MUSIC II: Analysis and writing of advanced seventh chords, continued study of modulation and secondary harmonic relationships, non-harmonic tones, and altered chords. Study of the structural designs used in composition and analysis: binary, ternary, rondo, sonata, concerto, fugue, and serial forms and techniques. Prerequisite: MUS 112. 3 sem. hrs. each

MUS 213-215. AURAL SKILLS II: Advanced dictation, sight singing, and rhythmic reading. Prerequisite: MUS 114. 1 sem. hr. each

MUS 235. VOICE CLASS: Principles of good singing; development of the voice; vocal literature. Minimum of 4 students required. Music majors only, with permission of instructor. *1 sem. hr.*

MUS 236. VOICE CLASS: Principles of good singing; development of the voice; vocal literature. Minimum of 4 students required. Open to all students. *2 sem. hrs.*

MUS 280. MUSIC AND MOVEMENT FOR THE HANDICAPPED: Training in the use of music and movement for handicapped children under the supervision of AIM (Adventures in Movement) for the Handicapped, Inc. Includes observations in the field. Prerequisite: Sophomore standing in music or related fields. *1 sem. hr.*

MUS 285. INTRODUCTION TO MUSIC THERAPY I: History and development of music therapy; survey of theoretical bases and current trends for the use of music in therapy; disability areas using music therapy. Prerequisites: PSY 101 and PSY 363. *2 sem. hrs.*

MUS 286. INTRODUCTION TO MUSIC THERAPY II: Continuation of MUS 285; orientation to the profession of music therapy through lectures, readings, audiovisual materials, and field trips; emphasis on specific disability areas using music therapy. Prerequisite: MUS 285. *2 sem. hrs.*

MUS 287. PRACTICUM IN MUSIC THERAPY I: Pre-internship field experiences in music therapy with adult mentally ill clients. Corequisite: MUS 286. *1 sem. hr.*

MUS 288. PRACTICUM IN MUSIC THERAPY II: Pre-internship field experiences in music therapy with handicapped children and/or adults. Prerequisite: MUS 280. *1 sem. hr.*

MUS 296. CLASS PIANO I: Open to all University students. Fee. *1 sem. hr.*

MUS 297. CLASS PIANO II: Fee. *1 sem. hr.*

MUS 298. CLASS PIANO III: Fee. *1 sem. hr.*

MUS 299. CLASS PIANO IV: May be repeated up to 4 semester hours. Fee. *1 sem. hr.*

MUS 301-302. MUSIC HISTORY AND LITERATURE I AND II: A survey of Western music history and literature from the Middle Ages through the 20th century. Important composers, masterworks of music literature, and compositional styles. *3 sem. hrs. each*

MUS 304. HISTORY OF AMERICAN MUSIC: Development of music in America, from its early psalmody of the 17th century through 19th-century forms and styles. Open to all University students. *3 sem. hrs.*

MUS 305. CONTEMPORARY TRENDS IN AMERICAN MUSIC: Survey of contemporary American composers and their styles. The relationship of American music to the other arts. Open to all University students. *3 sem. hrs.*

MUS 306. HISTORY OF AMERICAN JAZZ: Survey of the literature and performance practices from 1890 to the present. Includes blues, Dixieland, ragtime, boogie-woogie, swing, bop, cool, funky, and current techniques. Open to all University students. *3 sem. hrs.*

MUS 310. ADVANCED AURAL SKILLS: Advanced training in dictation, solfege, and aural analysis. Prerequisite: MUS 215 or permission of instructor. *2 sem. hrs.*

MUS 311. EIGHTEENTH-CENTURY COUNTERPOINT: Study of the contrapuntal technique of the 18th century, particularly in the instrumental works of J.S. Bach. Original compositions in forms of the invention and the fugue. Prerequisite: MUS 211. *2 sem. hrs.*

MUS 315. THE OPERA: Survey of the development of the opera from its 17th-century beginnings to the present. *2 sem. hrs.*

MUS 317. ORGAN CLASS: Introduction to the organ, including basic performance techniques, registration, beginning literature, and hymn playing. Prerequisite: Permission of instructor, demonstrable keyboard technique. Fee. *1 sem. hr.*

MUS 319. INTRODUCTION TO HARPSICHORD: Beginning class lessons in harpsichord performance, including basic technique, stylistic considerations, and simple maintenance and tuning of the instrument. Prerequisite: Permission of instructor. Fee. *1 sem. hr.*

MUS 320. BASIC CONDUCTING: Fundamentals of baton technique; laboratory experience in conducting choral and instrumental work of the 19th and 20th centuries; cueing, score reading, terminology. Discussion of rehearsal procedures, materials, and special problems. Thorough study of instrumentation. *2 sem. hrs.*

MUS 324. BEGINNING GUITAR: Introduction to playing the guitar, with emphasis on chord playing and accompaniment, including application of the guitar to classroom music teaching if appropriate. Prerequisite: MUS 101 or equivalent. Fee. *1 sem. hr.*

MUS 325. STRINGED INSTRUMENTS I: Class instruction in violin, viola, cello, bass. Teaching stringed instruments in the schools. Open to any qualified University students. Prerequisites: Ability to read music, permission of the instructor. Fee. *1 sem. hr.*

MUS 326-336. WOODWIND INSTRUMENTS LABORATORY I-II: Introduction to the fundamentals and teaching of woodwinds with emphasis on performance. Demonstrations of class teaching techniques and introduction to method books. Prerequisite: Junior standing in music education. Required of music education and music therapy students. Music majors only. Fee. *1 sem. hr. each*

MUS 327-337. BRASS INSTRUMENTS LABORATORY I-II: Introduction to the fundamentals and teaching of brass instruments with emphasis on performance. Demonstrations of class teaching techniques and introduction to method books. Prerequisite: Junior standing in music education. Required of music education and music therapy students. Music majors only. Fee. *1 sem. hr. each*

MUS 328. PERCUSSION INSTRUMENTS LABORATORY: Introduction to the fundamentals and teaching of percussion instruments. Demonstrations of class teaching techniques and introduction to method books. Prerequisite: Junior standing in music education. Required of music education and music therapy students. Music majors only. Fee. *1 sem. hr.*

MUS 329. STRINGED INSTRUMENTS II: Continuation of MUS 325 to further skills in teaching and performance. Concentration on cello/bass. Prerequisites: MUS 325 or equivalent, permission of the instructor. Fee. *1 sem. hr.*

MUS 330. ADVANCED INSTRUMENTAL CONDUCTING: Advanced work in the preparation of scores for the wind ensemble. Discussion of wind rehearsal techniques and the development of programming procedures. Rehearsal techniques; attendance at wind ensemble rehearsals and actual rehearsing of the ensemble. Prerequisites: MUS 320, permission. Required for instrumental music education majors. 2 sem. hrs.

MUS 331. VOCAL MUSIC IN THE HIGH SCHOOL: Methods and materials for large and small ensembles. Prerequisite: Junior standing in music education. 2 sem. hrs.

MUS 333. ORGANIZATION OF THE SCHOOL INSTRUMENTAL MUSIC PROGRAM: Organization and teaching of instrumental music in the schools; materials; survey of equipment and necessary materials. Prerequisite: Junior standing in music. 2 sem. hrs.

MUS 334. FUNDAMENTALS OF ORCHESTRATION: A course in scoring for the symphony band and orchestra with emphasis on the wind ensemble and the orchestral wind section; scoring for individual choirs; strings, woodwinds, brass, and percussion. Prerequisites: MUS 212, permission. Required for music majors. 2 sem. hrs.

MUS 335. MUSIC IN THE ELEMENTARY GRADES: The music education program in the elementary grades; materials and their presentation; problems and responsibilities of the music teacher. Prerequisite: Sophomore standing in music education. 2 sem. hrs.

MUS 341. BAROQUE MUSIC: Literature and performing practices from 1600 to 1750; the relationship of music to social and cultural movements. Open to all University students. 2 sem. hrs.

MUS 342. CLASSIC AND ROMANTIC MUSIC: Literature and performing practices from 1750 to 1900; the relationship of music to social and cultural movements. Open to all University students. 3 sem. hrs.

MUS 343. MEDIEVAL AND RENAISSANCE MUSIC: The development of music from circa 400 to 1600, including plainchant, early polyphony, Ars Nova, and Renaissance music; the relationship of music to other arts and to its historical context. Open to all University students. 2 sem. hrs.

MUS 344. TWENTIETH-CENTURY MUSIC: A study of 20th-century music, its styles, and its cultural contexts, including post-romantic, impressionistic, neo-classic, and avant-garde. Open to all University students. 2 sem. hrs.

MUS 351. CHORAL CONDUCTING: Development of choral conducting skills. Practical experience with choral ensembles; attendance at University Choir required. Required for music education vocal emphasis majors. Prerequisites: MUS 320, junior standing in music. 2 sem. hrs.

MUS 354. ADVANCED GUITAR CLASS: Note reading in first position; advanced chord work and introduction to chord solo playing. Prerequisite: MUS 324 or equivalent. Fee. 1 sem. hr.

MUS 360. SPECIAL TOPICS IN MUSIC: Studies in specialized areas of music. May be repeated as topics change, up to six semester hours. Prerequisite: Permission of instructor. 1-3 sem. hrs.

MUS 361. PIANO PEDAGOGY I: Systematic preparation for the development of piano technique and tone; survey and study of graded teaching material of grades I and II. Prerequisite: Four terms of piano study or the equivalent. 2 sem. hrs.

MUS 362. PIANO PEDAGOGY II: Continuation of MUS 361 through the material of grades III and IV. Prerequisite: MUS 361 or five terms of piano study or equivalent. 2 sem. hrs.

MUS 365. SCORE READING: Training in reading music at the piano from open score. Drill in transposition and reading of various clefs, leading to the realization of full vocal and orchestral scores. Prerequisite: Permission. 2 sem. hrs.

MUS 371. PIANO LITERATURE I: Comprehensive survey of literature for the piano from the early keyboard music to the romantic period. Required of piano majors. Prerequisite: Permission of instructor. 2 sem. hrs.

MUS 372. PIANO LITERATURE II: Continuation of comprehensive survey of literature of keyboard music from the romantic period to the present day. Required of piano majors. Prerequisite: Permission of instructor. 2 sem. hrs.

MUS 385. MUSIC THERAPY PRINCIPLES: Principles and processes underlying the applications of music in therapy, including writing goals and objectives and treatment plans. Applications of the teaching-learning process, group dynamics, and evaluation and assessment in music therapy. 3 sem. hrs.

MUS 386. MUSIC THERAPY METHODS AND MATERIALS: Applications of various methods and approaches in psychotherapy, child development, and related fields to the practice of music therapy. Review of the clinical and research literature pertaining to techniques and materials of music therapy. 3 sem. hrs.

MUS 387. PRACTICUM IN MUSIC THERAPY III: Pre-internship field experiences in music therapy with handicapped children and/or adults. Corequisite: MUS 385. 1 sem. hr.

MUS 388. PRACTICUM IN MUSIC THERAPY IV: Pre-internship field experiences in music therapy with handicapped children and/or adults. Corequisite: MUS 386. 1 sem. hr.

MUS 390. MUSIC ENSEMBLES: Open to all University students by audition. Required participation by music majors as specified in various degree programs.

MUS 390. UNIVERSITY CHOIR: Mixed chorus literature and music for men's chorus and women's chorus. Presents campus and community concerts. 1 sem. hr.

MUS 390. VOCAL ENSEMBLE: 1/2 sem. hr.

MUS 390. STRING ENSEMBLE: 1/2 sem. hr.

MUS 390. PIANO ENSEMBLE: 1/2 sem. hr.

MUS 390. MARCHING BAND: Plays at all home and some away football games. Its sound finds roots in jazz and rock. All freshman students may participate in any band unit including block, majorettes, and Flyerettes. 1 sem. hr.

MUS 390. PEP BAND: 1/2 sem. hr.

MUS 390. CONCERT BAND: Offers varied opportunities in musical performances. Presents regular concerts during fall and winter terms. 1 sem. hr.

MUS 390. WIND ENSEMBLE: Select band that performs finest in wind literature. Presents regular concerts during fall and winter terms. 1 sem. hr.

MUS 390. UNIVERSITY STRINGS: 1 sem. hr.

MUS 390. BRASS CHOIR: Select ensemble of 24 brass and percussion players. Music from Renaissance to present. 1/2 sem. hr.

MUS 390. JAZZ LAB BAND: Jazz and rock fields. Open by audition to any student registered in band program. 1/2 sem. hr.

MUS 390. SMALL BRASS ENSEMBLE: 1/2 sem. hr.

MUS 390. PERCUSSION ENSEMBLE: 1/2 sem. hr.

MUS 390. WOODWIND ENSEMBLE: 1/2 sem. hr.

MUS 390. CLARINET CHOIR: 1/2 sem. hr.

MUS 390. GUITAR ENSEMBLE: 1/2 sem. hr.

MUS 390. CELLO ENSEMBLE: 1/2 sem. hr.

MUS 399. PERFORMANCE STUDIES: Private instruction (one half-hour lesson per week) in piano, voice, organ, violin, viola, cello, bass, flute, oboe, clarinet, bassoon, saxophone, trumpet-cornet, French horn, trombone, baritone, tuba, percussion, harp, classical and pick-style guitar, jazz piano improvisation. Prerequisite: Permission of instructor. Fee. 2 sem. hrs.

MUS 400. RECITAL: All music majors are required to attend professional and student concerts and recitals, to develop critical listening experience and knowledge of repertoire. No credit

MUS 411-412. COMPOSITION: Beginning explorations of original composition which utilize equally the concepts of pitch, temporal elements, timbres, and dynamics. Prerequisites: MUS 212 and 215 or permission of instructor. 3 sem. hrs. each

MUS 413. STYLE AND DESIGN—ANALYSIS: Exploration of appropriate analytical techniques as applied to Western music from the Renaissance to the present. Prerequisites: MUS 212 and 215 or permission of instructor. 2 sem. hrs.

MUS 414. STYLE AND DESIGN—SYNTHESIS: Exploration and application of various musical styles as demonstrated by original compositions patterned after selected historic models. Prerequisite: MUS 413 or permission of instructor. 2 sem. hrs.

MUS 417. SIXTEENTH-CENTURY COUNTERPOINT: Study of the medieval modes and the vocal polyphony of the motet and the Mass, up to and including five-part writing; original student compositions. Prerequisite: Permission of the instructor. 2 sem. hrs.

MUS 420. ADVANCED ORCHESTRATION: Continuation of MUS 334. Scoring for symphony band and orchestra, studio recording ensembles, and marching band. Original compositions and arrangements, recorded readings of scores. Prerequisites: MUS 334, permission. 2 sem. hrs.

MUS 429. MARCHING BAND TECHNIQUES: Materials and methods of organization and instruction for the marching band. Prerequisite: Participation in the marching band. 2 sem. hrs.

MUS 433-434. RESEARCH IN MUSIC THEORY: Practical experience in analysis for music theory or composition majors. Music theory majors enroll in this course while preparing their senior research papers. Prerequisites: Senior standing in music, permission of instructor. *2 sem. hrs. each*

MUS 441-442. LABORATORY IN COMPOSITION: Advanced work in musical composition; writing multi-movement forms of both vocal and instrumental music. Prerequisites: MUS 411, 412, permission of the instructor. *2 sem. hrs. each*

MUS 451. CHAMBER MUSIC AND SYMPHONY: Formal and harmonic analysis of chamber music. Formal analysis of symphonies of classic, romantic, and contemporary composers. Prerequisites: MUS 211-212. *2 sem. hrs.*

MUS 460. SPECIAL STUDIES IN MUSIC. Studies in specialized areas of music, including music therapy and music education. May be repeated as topics change, up to nine semester hours. Prerequisite: Senior standing in music or permission of instructor. *1-6 sem. hrs.*

MUS 485. PSYCHOLOGICAL FOUNDATIONS OF MUSIC I: Study of the psycho-socio-physiological processes involved in responses to music and sound. Acoustical properties of music and physiology of sound perception. Nature of music ability and its measurement. Prerequisites: PSY 101, junior standing in music. *2 sem. hrs.*

MUS 486. PSYCHOLOGICAL FOUNDATIONS OF MUSIC II: Introduction to research methods; review of literature on experimental studies. Research project. Prerequisite: MUS 485. *2 sem. hrs.*

MUS 487. RECREATIONAL MUSIC: Functional use of nonsymphonic instruments, rhythm band instruments, musical games, and community singing, for both children and adults. *2 sem. hrs.*

MUS 489. MUSIC THERAPY INTERNSHIP: Minimum of 6 months' supervised clinical training through resident internship in an NAMT-approved program. This precedes the granting of the degree. Prerequisites: Senior standing in music therapy; permission. *2 sem. hrs.*

MUS 499. PERFORMANCE STUDIES: Private instruction (one-hour lesson per week) in the same subjects as MUS 399. Prerequisite: Permission of instructor. *4 sem. hrs.*

MUS 590. SPECIAL STUDIES IN MUSIC. Studies in specialized areas of music. Prerequisite: Permission of instructor. *1-4 sem. hrs.*

MUSIC FEES: The following fees include practice privileges. This fee schedule is subject to change by the Music Division.

	<i>Fee per term</i>
Small group instruction in various instruments (MUS 296-299, 317, 319, 325-327, 329, 336-337)	\$ 20.00
MUS 399 Performance Studies: One 30-minute lesson weekly	\$ 60.00
MUS 499 Performance Studies: One 60-minute lesson weekly	\$115.00

NUCLEAR MEDICINE TECHNOLOGY (NMT)

The program leading to a Bachelor of Science with a major in Nuclear Medicine Technology consists of three years of preclinical instruction at the University of Dayton and a twelve-month clinical year in the School of Nuclear Medicine Technology at Miami Valley Hospital. The school at Miami Valley Hospital is accredited by the Committee on Allied Health Education and Accreditation (CAHEA). Graduates of the clinical program are eligible to take a national certification examination from the American Registry of Radiologic Technologists (ARRT), the Board of Registry of the American Society of Clinical Pathologists (ASCP), or the Nuclear Medicine Technology Certification Board (NMTCB).

Preclinical years

	<i>Semester Hours</i>
Biology core courses	18
Biology elective	3
Support sciences (CHM, PHY, MTH)	34 (35)
College requirements (ENG, SPE, PHL/REL)	21 (22)
Social-behavioral science electives	9
Humanities electives	6
General electives	6
Total	97 (99)

Clinical year: NMT courses at Miami Valley Hospital 38

Biology core courses: The general biology sequence (BIO 151, 152, 152L, 201L), comparative anatomy (BIO 309, 309L), physiology (BIO 403, 403L), and seminar (BIO 380) required of all majors. One *biology elective*.

Supporting science courses: Two mathematics courses, statistics (MTH 207) and calculus (MTH 112) or precalculus (MTH 101), depending on background. Five chemistry courses (CHM 123, 124, 313, 314, 201, all with laboratories). If chemistry background is insufficient, then CHM 115, 115L must precede the CHM 123-124 sequence. Two physics courses (PHY 201, 202 with laboratories).

College requirements: Two English courses (ENG 111, 112). Students with first-term placement in ENG 112 or its equivalent must take an English elective. All Arts and Science majors are required to take speech (SPE 101) and 12 semester hours of philosophy and/or religious studies.

Humanities and social-behavioral science electives: Fifteen semester hours of electives, to strengthen appreciation of the aesthetic and spiritual life and to increase awareness of modern social problems. Six semester hours should be selected from humanities (American studies, communication arts, English, history, languages, performing and visual arts, philosophy, religious studies, etc.). A foreign language is recommended. Nine semester hours should be selected from social-behavioral science (anthropology, criminal justice, economics, political science, psychology, sociology, social work, etc.). The College requirements of English, speech, and philosophy and/or religious studies do not fulfill this requirement.

General electives are courses from any arts and sciences areas taken for their general educational value. With permission of the chairperson and the Office of the Dean of the College, some courses can be taken in other schools within the University.

The curriculum is planned to meet the requirements of the University, the hospital, and the professional accrediting agencies. The student must complete the 97 (99) preclinical semester hours before entering the clinical program at the affiliate hospital.

CLINICAL YEAR

Students formally apply for the clinical program at the hospital affiliate during their third year. Acceptances are competitive and are based on formal application materials, academic grades, faculty recommendations, and interview performance. The clinical program lasts 12 months, beginning in September and ending the following August. The clinical year curriculum involves formal lectures, seminars, laboratories, and preceptorship experiences. Upon successful completion of the clinical year, students are granted the Bachelor of Science with a major in Nuclear Medicine Technology at the University's December commencement exercises.

Tuition and fees for the clinical year are established by the hospital. The University will charge the Basic University Fee for Terms I and II. Students will pay their hospital tuition and fees through the University. Information regarding clinical year tuition and fees, class size, grading policies, dress codes, etc., is presented in the hospital program brochure.

PROGRAM—S9C: BACHELOR OF SCIENCE WITH A MAJOR IN NUCLEAR MEDICINE TECHNOLOGY (NMT)

Dept.	No.	Course	1st Term ¹	2nd Term
Freshman Year				
BIO	100	Freshman Seminar	1-0-0	
BIO	151-152	Concepts of Biology	3-0-3	3-3-4
CHM	123-124	General Chemistry ²	3-3-4	3-3-4
MTH	—	Statistics and calculus ³	3-0-3	3-0-3
ENG	111-112	College Composition I and II ⁴	4-0-4	3-0-3
SPE	101	Fundamentals of Effective Speaking	3-0-3	
—	—	Philosophy or religious studies ⁵		3-0-3
			17	17
Sophomore Year				
CHM	201	Quantitative Analysis	2-4-4	
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
BIO	201L	Biology Laboratory Investigations	0-3-1	
BIO	309	Comparative Vertebrate Anatomy		3-6-5
—	—	Social-behavioral science electives ⁶	3-0-3	3-0-3
—	—	Philosophy or religious studies	3-0-3	
—	—	Humanities elective ⁷		3-0-3
			15	15

Junior Year				
PHY	201-202	General Physics	3-2-4	3-2-4
BIO	403	Physiology	3-3-4	
BIO	380	Seminar		1-0-1
BIO	—	Biology elective		3-0-3
—	—	Philosophy and/or religious studies	3-0-3	3-0-3
—	—	Humanities elective ⁷	3-0-3	
—	—	Social-behavioral science electives ⁶		3-0-3
—	—	General elective	3-0-3	3-0-3
			17	17

¹For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

²Begin in CHM 115, 115L if background is insufficient for CHM 123, 123L.

³Depending on background, can be one of the following combinations: MTH 207-112, MTH 207-101, MTH 112-215, or MTH 112-207.

⁴Students placed in ENG 112 or higher will choose an English elective during the second term.

⁵SPE 101 and 12 sem. hrs. of PHL and/or REL are required.

⁶Choose from ANT, CRJ, ECO, POL, PSY, SOC, SWK.

⁷Choose from AMS, ART, COM, ENG, HST, JRN, LNG, MUS, PHL, PHO, REL, SPE, THR.

Senior Year			Semester Hours
NMT	430	Introduction to Nuclear Medicine Technology Science	1
NMT	431	Nuclear Scintigraphy	3
NMT	431L	Clinical Nuclear Scintigraphy Laboratory	6
NMT	432	Radiation Physics	5
NMT	433	Nuclear Medical Instrumentation	5
NMT	434	Radiation Biology and Radiation Protection	2
NMT	435	Radioisotopes in Radioassay	2
NMT	435L	Radioassay Laboratory	5
NMT	436	Radiopharmaceuticals	2
NMT	436L	Radiopharmaceutical Laboratory	1
NMT	437	Clinical Nuclear Medicine	6

FACULTY

Charles J. Chantell, *University Program Director*

Clinical Professor: Quinones

Clinical Assistant Professor: Kreitzer

COURSES OF INSTRUCTION

The courses taken during the first three years at the University of Dayton, listed under Program 59C, are described under the individual departments. The senior year is conducted at Miami Valley Hospital.

NMT 430. INTRODUCTION TO NUCLEAR MEDICINE TECHNOLOGY SCIENCE: Description of department sections and their functions; basic understanding of proper handling of isotopes; methods for keeping radiation exposure to a minimum.

1 sem. hr.

NMT 431. NUCLEAR SCINTIGRAPHY: Study of technological concerns involved with organ imaging, including anatomy and physiology, medical terminology, film processing, imaging techniques, patient transportation and handling, computer analysis of static and dynamic studies. *3 sem. hrs.*

NMT 431L. CLINICAL NUCLEAR SCINTIGRAPHY LABORATORY: Practical applications related to NMT 431. *6 sem. hrs.*

NMT 432. RADIATION PHYSICS: Atomic and nuclear structure, radioactive growth and decay, energetics of basic spontaneous decay process and of nuclear reactions, interaction of nuclear radiation with matter, fission phenomenon, nuclear data tables and charts. *5 sem. hrs.*

NMT 433. NUCLEAR MEDICAL INSTRUMENTATION: Basic radiation detectors and laboratory counting systems; instrumentation specific to imaging. *5 sem. hrs.*

NMT 434. RADIATION BIOLOGY AND RADIATION PROTECTION: Biological effects of ionizing radiation considered at the cellular and macroscopic levels. Basic units of radiation dose correlated with units of activity. Radiation protection, emergency procedures, and waste disposal problems. *2 sem. hrs.*

NMT 435. RADIOISOTOPES IN RADIOASSAY: Principles of radioassay with emphasis on technical aspects, trouble shooting, and clinical applications. Data reduction and quality control guidelines. Proper handling and disposal of toxic chemicals, biohazardous wastes, and radionuclides. *2 sem. hrs.*

NMT 435L. RADIOASSAY LABORATORY: Practical applications related to NMT 435. *5 sem. hrs.*

NMT 436. RADIOPHARMACEUTICALS: Properties of radioactive tracers and methodology including the chemical and biological basis for choice as radiopharmaceuticals. Production and preparation of radiopharmaceuticals. Dose calculations using the MIRD method. *2 sem. hrs.*

NMT 436L. RADIOPHARMACEUTICAL LABORATORY: Practical applications related to NMT 436. *1 sem. hr.*

NMT 437. CLINICAL NUCLEAR MEDICINE: Normal organ physiology, anatomy, pathology, physiologic fate of the administered radiopharmaceutical, current radiopharmaceuticals of choice, accepted patient dosage levels, procedure methodology, necessity for and choice of test, preparation medications, normal and abnormal test values, and contraindications for radiopharmaceutical administration and route of administration. *6 sem. hrs.*

PERFORMING AND VISUAL ARTS (PVA)

At the University of Dayton, “performing and visual arts” is an umbrella term for music, theatre, fine arts, and photography. The Department of Performing and Visual Arts has four corresponding divisions, operating autonomously and offering major programs in fine arts, commercial design, interior design, art education, music performance, music theory or composition, music therapy, music education, photography, and theatre. The department also offers a variety of possibilities to students interested in intra-departmental studies.

The Performing and Visual Arts Department holds with a policy of performance and production in all its divisions. Requirements in portfolios, gallery showings, auditions, recitals, large and small ensembles, concerts, and major and experimental productions assure the student of professional as well as academic challenge.

See, elsewhere in this chapter, Fine Arts (ART), Music (MUS), Photography (PHO), and Theatre (THR).



PHILOSOPHY (PHL)

The objective of the philosophy major program is to provide students with the opportunity to understand contemporary philosophy in view of the history of philosophy.

Students major in philosophy for a variety of reasons. Some enroll in philosophy as a pre-professional program leading to careers in law, education, social service, health care, commerce, public service, and the religious life. Some major in philosophy in preparation for advanced graduate study leading to teaching, research, or service. Still others major in philosophy to assure a broad liberal education in view of their personal interest in philosophical studies.

Philosophy majors are encouraged to develop a second major or several concentration areas in view of their educational and career objectives. Early counseling and the flexibility of the B.A. degree permit structural options in a variety of areas for philosophy majors.

Students majoring in other disciplines are encouraged to double-major in philosophy or develop concentrations in philosophy germane to their academic programs.

Major Requirements: Beyond PHL 103, the philosophy major consists of 30 semester hours of 300-400 coursework. Of these, the following are required: PHL 431 (Plato and Aristotle), PHL 432 (Descartes and Hume), and one philosophical seminar from PHL 461 (Contemporary Epistemology), PHL 462 (Contemporary Ethics), or PHL 463 (Contemporary Metaphysics).

Minor Requirements: Beyond PHL 103, the philosophy minor consists of 15 semester hours of 300-400 coursework. Of these, at least one course must be at the 400 level in addition to any 490 (directed readings) course that might be taken.

Philosophy course offerings are classified as follows:

Basic Course

PHL 103 Introduction to Philosophy

Human Nature, Values, and Ethics

PHL 304 Philosophy of Human Nature

PHL 310 Social Philosophy

PHL 311 Philosophy of Religion

PHL 312 Ethics

PHL 313 Business Ethics

PHL 314 Philosophy of Law

PHL 315 Medical Ethics

PHL 316 Engineering Ethics

PHL 317 Ethics and Nuclear War

PHL 318 Family Ethics

PHL 320 Philosophy of Art

PHL 323 Philosophy of Literature

PHL 331 Science, Objectivity, and Values

Logic, Scientific Method, and Knowledge

PHL 301 Practical Logic

PHL 302 Symbolic Logic

- PHL 305 Inductive Logic
- PHL 306 Philosophy of Knowledge
- PHL 308 Metaphysics
- PHL 330 Philosophy of Science
- PHL 481 Mathematical Logic

Great Ideas in Western Philosophy

- PHL 350 Classic Greek Philosophy
- PHL 351 Classic Islamic, Christian, Jewish Philosophy
- PHL 352 Modern Philosophy
- PHL 353 Contemporary Philosophy

Current Philosophic World-Views

- PHL 355 Eastern Philosophy
- PHL 356 Christian Philosophy
- PHL 357 Process Philosophy
- PHL 358 Marxist Philosophy
- PHL 359 Phenomenology
- PHL 360 Existentialism
- PHL 361 American Philosophy
- PHL 362 Philosophy of Language

Special Philosophy Courses

- PHL 340 Special Problems in Philosophy
- PHL 390 Summer Nonresidence Course

Advanced Philosophy Courses

- PHL 431 Plato and Aristotle
- PHL 432 Descartes and Hume
- PHL 440 Advanced Problems in Philosophy
- PHL 451 Seminar in Individual Philosophers
- PHL 461 Philosophical Seminar—Contemporary Epistemology
- PHL 462 Philosophical Seminar—Contemporary Ethics
- PHL 463 Philosophical Seminar—Contemporary Metaphysics
- PHL 490 Directed Readings

PROGRAM—A14: BACHELOR OF ARTS WITH A MAJOR IN PHILOSOPHY (PHL)¹

	<i>Semester Hours</i>
Philosophy	33
Natural science	8
Mathematics	3
Social and behavioral science	12
Humanities	18
Religious studies	9
Communication skills	0-10
Electives	27-37

A minimum of 120 semester hours is needed for the degree, but additional hours are encouraged in accord with student objectives.

¹See also Distribution Table for Bachelor of Arts programs.

FACULTY

Jane S. Zembaty, *Chairperson*

Professors: Herbenick, Monasterio, Nersoyan, Tibbetts, Ulrich

Associate Professors: Kunkel, Payne, Richards, Zembaty

Assistant Professors: Johnson, Quinn, Thompson, Vallicella, Young

COURSES OF INSTRUCTION

PHL 103. INTRODUCTION TO PHILOSOPHY: Central concerns that philosophers have addressed and continue to address: nature of philosophy, the place of persons in the world, moral responsibility, problems of human knowledge, existence, and God. Prerequisite to upper-level courses. 3 sem. hrs.

PHL 301. PRACTICAL LOGIC: Introduction to sound patterns of ordinary reasoning; study of valid rules of mediate and immediate deductive inference and corresponding fallacies; categorical syllogism, hypothetical syllogism, chain arguments. 3 sem. hrs.

PHL 302. SYMBOLIC LOGIC: Concentrated study of the valid forms of deductive argument and proof in the propositional logic and in predicate logic; study of formal systems and of logic and language. 3 sem. hrs.

PHL 304. PHILOSOPHY OF HUMAN NATURE: The nature of human beings; the functions of consciousness, the possibility of freedom, the sources of values, and the goals of human life. 3 sem. hrs.

PHL 305. INDUCTIVE LOGIC: Patterns of inference found in most natural and social sciences; methods and rules of determining probability of arguments; justification of induction; Goodman's paradox; alternative interpretations of the probability calculus. 3 sem. hrs.

PHL 306. PHILOSOPHY OF KNOWLEDGE: Various criteria, origins, and definitions of knowledge proposed by common sense, science, philosophy, and mysticism; questions of evidence, consistency, and validity pertaining to the problem of truth and belief. 3 sem. hrs.

PHL 308. METAPHYSICS: Issues and problems under such topics as appearance and reality; universals; relations of mind and matter; the nature of persons and personal identity; causality; freedom and determination. 3 sem. hrs.

PHL 310. SOCIAL PHILOSOPHY: The concepts of liberty, justice, and equality as they relate to social problems such as punishment and rehabilitation, insanity and responsibility, privacy, population regulation, economic injustice, environmental degradation, discrimination, and reverse discrimination. 3 sem. hrs.

PHL 311. PHILOSOPHY OF RELIGION: The main issues involved in religious belief and practice, such as the relationship between reason and revelation; critical presentation of views of main writers in the field. 3 sem. hrs.

PHL 312. ETHICS: Various types of moral and ethical theory in the Western tradition and major problems such as the extent of human responsibility and the conditions for making ethical judgments. 3 sem. hrs.

PHL 313. BUSINESS ETHICS: Review of general ethical theory; ethical assessments of incidents that often occur in commerce affecting employees, employers, consumers, competitors, or the local community. 3 sem. hrs.

PHL 314. PHILOSOPHY OF LAW: Major concepts of law to include the nature of law, legal reasoning, liberty, justice, responsibility, punishment. 3 sem. hrs.

PHL 315. MEDICAL ETHICS: Introduction to morality in general and inquiry into the major moral problems of medical practice: human life and the preservation of its integrity. 3 sem. hrs.

PHL 316. ENGINEERING ETHICS: Introduction to ethical issues in engineering by developing theories of moral justification and codes of ethics for engineers, and by applying these theories and codes to moral issues in engineering. 3 sem. hrs.

PHL 317. ETHICS AND NUCLEAR WAR: Study in applied ethics focusing on three aspects of the arms race: declassified data on the reality of the nuclear arms buildup; normative analysis of such themes as war, pacifism, just cause, deterrence, and nuclear proliferation; and moral assessment of alternatives for the future. 3 sem. hrs.

PHL 318. FAMILY ETHICS: Introduction to the development of the concept of a family in the tradition of Western philosophy and the philosophic analysis of contemporary ethical problems in marriage and in parenthood. 3 sem. hrs.

PHL 320. PHILOSOPHY OF ART: Theories and applications of art expressed by philosophers, artists, and critics; the role of appreciation of various art forms in the context of human values. 3 sem. hrs.

PHL 323. PHILOSOPHY OF LITERATURE: Examination of philosophical concepts in clarifying literary works by such authors as Dostoevsky, Hesse, Camus, Tolstoy. 3 sem. hrs.

PHL 330. PHILOSOPHY OF SCIENCE: Study of the presuppositions and implications of scientific inquiry from a humanistic viewpoint; explanation in science, the relation between facts and theories, and problems of verification. 3 sem. hrs.

PHL 331. SCIENCE, OBJECTIVITY, AND VALUES: Study of three interrelated issues: the limits of scientific methodology; science as a social institution; and science and human values. 3 sem. hrs.

PHL 340. SPECIAL PROBLEMS IN PHILOSOPHY: Examination of perennial and contemporary problems of philosophy. May be repeated when topic varies. 3 sem. hrs.

PHL 350. CLASSIC GREEK PHILOSOPHY: The Greek origins of Western scientific, philosophical, and political thought; relationships to current thought; ideas of the pre-Socratics, Plato, and Aristotle in their cultural contexts. 3 sem. hrs.

PHL 351. CLASSIC ISLAMIC, CHRISTIAN, JEWISH PHILOSOPHY: Major philosophical problems from the 4th through the 16th centuries and their importance in shaping current beliefs and traditions in the Augustinian, Jewish, Islamic, Persian, Thomist, and Oxford cultural settings; human action, conscience, freedom, and law. 3 sem. hrs.

PHL 352. MODERN PHILOSOPHY: Development of philosophy in the 17th, 18th and 19th centuries, with emphasis on problems in the theory of knowledge, the philosophy of mind, and the relation between knowledge and human action for their impact on later philosophy. 3 sem. hrs.

PHL 353. CONTEMPORARY PHILOSOPHY: Some of the major philosophical movements in the 20th century such as existentialism, pragmatism, positivism, and linguistic analysis. *3 sem. hrs.*

PHL 355. EASTERN PHILOSOPHY: Introduction to the ways of Asian wisdom, considering Oriental philosophy as a specialized learning directed to the attainment of enlightenment and equanimity. *3 sem. hrs.*

PHL 356. CHRISTIAN PHILOSOPHY: Major issues such as the relation of faith to reason, the relation of science to faith, and the problem of natural law; works by contemporary philosophers such as Kierkegaard, Marcel, Maritain, Noonan, and Plantinga. *3 sem. hrs.*

PHL 357. PROCESS PHILOSOPHY: Metaphysical positions that resulted from the impact of evolutionary thought and contemporary physics upon Western philosophy. Special emphasis on Bergson and Whitehead. *3 sem. hrs.*

PHL 358. MARXIST PHILOSOPHY: Introduction to the thought of Karl Marx through a study of the historical setting of the man and his writings, along with recent interpretations of his thought. *3 sem. hrs.*

PHL 359. PHENOMENOLOGY: The historical origin of phenomenology, its nature, goals, and scope; impact on the social sciences, psychology, and psychiatry with emphasis on the thought of Husserl and his students. *3 sem. hrs.*

PHL 360. EXISTENTIALISM: Major themes in representatives of the existentialist movement, such as human freedom, the absurdity of human existence, the primacy of action, and the roles of speculation and the emotions. *3 sem. hrs.*

PHL 361. AMERICAN PHILOSOPHY: Introduction to selected writings of such classical American thinkers as Thoreau, James, Mead, Dewey, Santayana, and Whitehead. Topics include knowledge, freedom, and human values. *3 sem. hrs.*

PHL 362. PHILOSOPHY OF LANGUAGE: Theories of meaning and reference and their philosophical significance. *3 sem. hrs.*

PHL 390. SUMMER NONRESIDENCE COURSE: A course designed for those students regularly enrolled at the University of Dayton who cannot attend classes in the third term and are in good academic standing. Topics are determined by the professor. Prerequisite: Three sem. hrs. of philosophy. *3 sem. hrs.*

PHL 431. PLATO AND ARISTOTLE: Study of some philosophical problems raised by Plato and Aristotle and discussed in contemporary philosophy, such as justice and responsibility; certainty and necessity; the cause-reason distinction in explanations; or predication and being. Required of philosophy majors. *3 sem. hrs.*

PHL 432. DESCARTES AND HUME: Study of some philosophical problems raised by Descartes and Hume and discussed in contemporary philosophy, such as origin of ideas, existence of primary and secondary qualities, relationship of mind and body, scientific method, certainty, personal identity, causality. Required of philosophy majors. *3 sem. hrs.*

PHL 440. ADVANCED PROBLEMS IN PHILOSOPHY: Detailed examination of some of the more technical problems of philosophy as well as those problems that arise in interdisciplinary settings upon which philosophers have brought their technical skills to bear. May be repeated when topic varies. *3 sem. hrs.*

PHL 451. SEMINAR IN INDIVIDUAL PHILOSOPHERS: Detailed examination of the thought of an individual philosopher (e.g., Aquinas, Kant, Rawls, Quine) who is of sufficient importance to warrant special study. May be repeated when topic varies.

3 sem. hrs.

PHL 461. PHILOSOPHICAL SEMINAR — CONTEMPORARY EPISTEMOLOGY: Study of recent philosophical work in the theory of knowledge inclusive of scepticism, knowledge and belief, evidence and justification, theories of perception and knowledge, human interests and valuation. Required of a philosophy major unless PHL 462 or 463 is taken.

3 sem. hrs.

PHL 462. PHILOSOPHICAL SEMINAR—CONTEMPORARY ETHICS: Study of recent philosophical work in ethics inclusive of an analysis of ethical concepts, theories of normative ethics, theories of human action, and moral justification. Required of a philosophy major unless PHL 461 or 463 is taken.

3 sem. hrs.

PHL 463. PHILOSOPHICAL SEMINAR — CONTEMPORARY METAPHYSICS: Study of recent work in metaphysics inclusive of the nature of metaphysics, causality, free will and determinism, personal identity and the theory of mind and body. Required of a philosophy major unless PHL 461 or 462 is taken.

3 sem. hrs.

PHL 481. MATHEMATICAL LOGIC: Properties (consistency, completeness, decidability, independence, etc.) of first-order predicate calculi; the Lowenheim-Skolem theorem, Godel's incompleteness theorem, applications to the foundations of mathematics. Same as CPS 481 and MTH 481 formerly. Prerequisite: PHL 302 or equivalent competence.

3 sem. hrs.

PHL 490. DIRECTED READINGS: Guided independent study primarily for philosophy majors but open to students who have completed 12 sem. hrs. in philosophy. Normally, 3 sem. hrs., but in certain cases the chairperson may approve 1, 2, or 4 sem. hrs. May be repeated when topic varies. Prerequisite: Permission of the instructor and the chairperson.

3 sem. hrs.



PHOTOGRAPHY (PHO)

Any student interested in photography as a major or minor field should consult with the head of the Photography Division or the chairperson of the Department of Performing and Visual Arts.

Requirements for the major are outlined below in Programs A15 and A16. For a minor in photography, the student takes 18 semester hours: PHO 101, PHO 201, and 12 semester hours of upper-level courses.

Fees are noted in course descriptions if required. These are variable. Information on current fees is obtainable in the Photography Office.

PROGRAM—A15: BACHELOR OF ARTS WITH A MAJOR IN PHOTOGRAPHY (PHO)¹

Dept.	No.	Course	Semester Hours	
Freshman Year			1st Term	2nd Term
PHO	100	Freshman Seminar	0	
PHO	101	Basic Photography	3	
PHO	201	Intermediate Photography		3
PHO	315	History of Photography		3
ART	112	Principles of Design	3	
ART	253	Printmaking I		3
PHY	108-108L	Physical Science of Light and Color	4	
ENG	111-112	College Composition I and II	4	3
SPE	101	Fundamentals of Effective Speaking		3
			14	15
Sophomore Year				
PHO	302	Color Photography I	3	
PHO	330	Photographic Techniques		3
PHO	410	Advanced Photography		3
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement, humanities	3	3
—	—	Breadth requirement, social-behavioral science	3	
—	—	General electives	3	3
			15	15
Junior Year				
PHO	—	Major program electives	3	3
—	—	Philosophy or religious studies		3
—	—	Breadth requirement, humanities	3	3
—	—	Breadth requirement, social-behavioral science	3	3
—	—	Mathematics or natural science	3	
—	—	General electives	3	3
			15	15
Senior Year				
PHO	460-461	Senior Seminar	3	3
PHO	—	Major program electives	3	3
—	—	Philosophy or religious studies		3
—	—	Breadth requirement, humanities	3	3
—	—	Breadth requirement, social-behavioral science	3	
—	—	General electives	3	4
			15	16

Semester Hours

University/College requirements ²	22
Major Program—Required courses	30
Photography electives	12
Total in major program	42
Breadth requirements—Natural science-mathematics..	7
Social-behavioral science	12
Humanities	18
Total breadth requirement	37
General electives	19
Total for the degree	120

¹See Distribution Table for all Bachelor of Arts programs.

²University/College Requirements: SPE 101, ENG 111-112, 12 semester hours of philosophy and/or religious studies.

PROGRAM—A16: BACHELOR OF FINE ARTS WITH A MAJOR IN PHOTOGRAPHY (PTY)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
Freshman Year			<i>1st Term</i>	<i>2nd Term</i>
PHO	100	Freshman Seminar	0	
PHO	101	Basic Photography	3	
PHO	201	Intermediate Photography		3
PHO	315	History of Photography		3
ART	112	Principles of Design	3	
ART	253	Printmaking I		3
PHY	108	Physical Science of Light and Color	3	
ENG	111-112	College Composition I and II	4	3
SPE	101	Fundamentals of Effective Speaking		3
—	—	Philosophy or religious studies	3	
			16	15
Sophomore Year				
PHO	302	Color Photography I	3	
PHO	410	Advanced Photography	3	
PHO	321	Still-Life Photography		3
PHO	330	Photographic Techniques		3
PHO	415	Recent History of Photography		3
ART	103	Introductory Drawing	3	
—	—	Philosophy or religious studies	3	
—	—	Breadth requirement, humanities	4	4
—	—	Breadth requirement, social-behavioral science		3
			16	16
Junior Year				
PHO	402	Color Photography II	3	
PHO	310	Slide-Tape Production	3	
PHO	—	Major program electives	7	6
ART	472	Art in the twentieth century		3
—	—	Philosophy or religious studies		3
—	—	Breadth requirement, humanities		2
—	—	Breadth requirement, social-behavioral science		3
—	—	Mathematics or natural science	3	
			16	17

Senior Year			
PHO	460-461	Senior Seminar	3
PHO	—	Major program electives	8
—	—	Philosophy or religious studies	3
—	—	Breadth requirement, humanities	5
—	—	Breadth requirement, social-behavioral science	3
			<hr/> 17
			<hr/> 17
			<i>Semester Hours</i>
University/College requirements ¹			22
Major Program—Required courses			48
Photography electives			30
Total in major program			78
Breadth Requirements—Natural science-mathematics...			6
Social-behavioral science			9
Humanities			15
Total breadth requirement			30
Total for the degree			<hr/> 130

¹University/College Requirements: SPE 101, ENG 111-112, 12 semester hours of philosophy and/or religious studies.

FACULTY

Patrick S. Gilvary, *Chairperson, Department of Performing and Visual Arts*

Sean Wilkinson, *Head of Photography Division*

Associate Professor: Wilkinson

Assistant Professor: Teemer

Instructor: Wilbers

Part-time Instructors: Patterson, Peterson

COURSES OF INSTRUCTION

PHO 101. BASIC PHOTOGRAPHY: Fundamentals of black-and-white still photography: camera function, exposure, film processing, and printing. Emphasis on gaining sound technical and creative control of the medium. No previous experience required. Studio fee. 3 sem. hrs.

PHO 201. INTERMEDIATE PHOTOGRAPHY: Specific projects to increase technical competence and expand visual awareness. Exposure, film processing and printing variables, basic lighting, and view camera controls. Prerequisite: PHO 101 or equivalent. Studio fee. 3 sem. hrs.

PHO 250. CREATIVE PHOTOGRAPHY GALLERY: First-hand experience in operating a photography gallery of sound reputation. Selecting and hanging exhibits, correspondence with photographers represented, production of publicity material. 2 sem. hrs.

PHO 302. COLOR PHOTOGRAPHY I: Introduction to theory and techniques of color transparency, color negative, and color printing. Individual practice in lighting, color emulsions, filtration, and corrections. Prerequisite: PHO 201. Studio fee. 3 sem. hrs.

PHO 310. SLIDE-TAPE PRODUCTION: Shooting color transparencies, theory, copy techniques, masking, mounting, titling, storyboard techniques, and sound recording and editing techniques. Students produce a slide-tape show using projectors, dissolve units, and audio equipment. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 315. HISTORY OF PHOTOGRAPHY: The technical and aesthetic history of photography, from the camera obscura through the 1930's; changing perception of the medium and its development as an art form and as social document. Film rental fee. *3 sem. hrs.*

PHO 320. STUDIO LIGHTING: Extensive practical experience in both tungsten and electronic flash lighting techniques. Still-life and portrait photography. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 321. STILL-LIFE PHOTOGRAPHY: Tungsten and electronic flash lighting techniques in the studio. Large and medium format cameras; primarily black and white films. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 322. PORTRAIT PHOTOGRAPHY: Studio and outdoor portrait and fashion techniques with natural, tungsten, and electronic flash lighting; all camera formats; personal and formal approaches. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 330. PHOTOGRAPHIC TECHNIQUES: Experiments and discoveries in the control of photographic materials. Relationships and variables in photographic chemistry and print manipulation, uses of graphic arts, and nonsilver imagery. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 350. VIEW CAMERA AND ZONE SYSTEM: Extensive view camera use and advanced black and white photographic film exposure, processing, and printing controls. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 380. BIO-MEDICAL PHOTOGRAPHY INTERNSHIP I: The first half of a full year's commitment to thorough training in the work of the bio-medical photographer. Practical experience at a local hospital. See also PHO 480. Prerequisites: PHO 201, 302, 320, 410, 420. Studio fee. *3 sem. hrs.*

PHO 390. SPECIAL PROBLEMS IN PHOTOGRAPHY: Series of assignments to guide independent study in photography, formulated to meet individual needs of the student. Prerequisites: PHO 201 and permission. Studio fee. *1-5 sem. hrs.*

PHO 402. COLOR PHOTOGRAPHY II: Further study of the techniques and aesthetics peculiar to color photography. Straightforward and manipulated printing methods; masking, color analysis, chemical variations, and alternative processes such as dye transfer. Prerequisite: PHO 302. Studio fee. *3 sem. hrs.*

PHO 410. ADVANCED PHOTOGRAPHY: Students with a substantial commitment to photography and with demonstrated technical skills work on individual projects and participate in group critiques and discussion. Prerequisites: PHO 201, 302, 315. Studio fee. *3 sem. hrs.*

PHO 412. ADVANCED AUDIO-VISUAL PRODUCTION: Techniques and methods in the production of professional quality slide and tape presentations. Advanced skill development and theory. Prerequisite: PHO 310. Studio fee. *3 sem. hrs.*

PHO 415. RECENT HISTORY OF PHOTOGRAPHY: The many directions of creative, documentary, and illustrative photography from the end of World War II to the present. Prerequisite: PHO 315. *3 sem. hrs.*

PHO 420. PHOTOJOURNALISM: A variety of ways of using photography as documentation, narrative, and propaganda. Editing of work, layout, and image-text relationships. Personal photographic essay required. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 425. ADVANCED PHOTO JOURNALISM: Continued study of photography in the printed news media. Assignments based on actual working situations; emphasis on professional capabilities. Prerequisite: PHO 420. Studio fee. *3 sem. hrs.*

PHO 430. COMMERCIAL AND ILLUSTRATIVE PHOTOGRAPHY: Commercial, industrial, architectural, and illustrative photographic work both in the studio and on location. Individual practice in solving problems associated with professional photography. Prerequisites: PHO 320 and permission. Studio fee. *3 sem. hrs.*

PHO 435. ADVANCED COMMERCIAL PHOTOGRAPHY: Further development of skills and content introduced in PHO 430. More detailed and sophisticated aspects of photographic illustration and commercial photography. Prerequisite: PHO 430. Studio fee. *3 sem. hrs.*

PHO 460-461. SENIOR SEMINAR: Each senior photography major completes a thesis-like body of work. Detailed individual critiques. Requirements include participation in a group exhibition in a recognized gallery and completion of a professional-quality portfolio. Studio fee. *3 sem. hrs. each*

PHO 480. BIO-MEDICAL PHOTOGRAPHY INTERNSHIP II: The second half of a full year's commitment to thorough training in the work of the bio-medical photographer. Practical experience at a local hospital. See PHO 380. Prerequisites: PHO 201, 302, 320, 380, 410, 420. Studio fee. *3 sem. hrs.*

Photography studio fees—\$65-\$80

Film rental fees—\$15



PHYSICAL SCIENCE (PSC)

The Physical Science Program is administered by the Department of Physics. It provides a broad training in the physical sciences that is desirable for one who plans to pursue a goal built on a composite science background. The physical science major combines adequate physics, chemistry, geology, and mathematics to provide for the student a sound working knowledge of physical science. Since the program is less specialized than one in a single science, it has provision for adequate course selections and sufficient electives to provide the opportunity for concentrated study in a discipline chosen to meet the career objectives of the individual student. The academic advisors work closely with students in this program.

PROGRAM—S10: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICAL SCIENCE (PSC)¹

Semester Hours

Basic physics: PHY 206, 207, 208, 210L, 211L, 214	13
Basic chemistry: CHM 123, 123L, 124, 124L	8
Basic geology: GEO 115, 115L, 116, 116L	8
Basic mathematics: MTH 101, 118, 119, 218, 219	19
Upper-level physical sciences (at least 12 sem. hrs. in physics)	24
Philosophy and/or religious studies electives	12
Humanities and social science electives	12
Communication skills	0-13
College Composition (ENG 111, 112), Effective Speaking (SPE 101), and Computer Programming (CPS 144). Some of these requirements can be waived if the student has demonstrated proficiency.	
General academic electives for program to total at least	120

¹Consult General Requirements for all Bachelor of Science programs.

SAMPLE FRESHMAN PROGRAM

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term¹</i>	<i>2nd Term</i>
PHY	100	Freshman Seminar	1-0-0	
MTH	101	Pre-Calculus Mathematics	4-0-4	
MTH	118	Analytic Geometry and Calculus I		4-0-4
CHM	123-124	General Chemistry I and II	3-0-3	3-0-3
CHM	123L-124L	Chemistry Laboratory	0-3-1	0-3-1
PHY	206	General Physics I		3-1-3
PHY	210L	General Physics Laboratory I		0-3-1
—	—	Philosophy or religious studies	3-0-3	
ENG	111-112	College Composition I and II	4-0-4	3-0-3
			15	15

¹For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

PHYSICS (PHY)

The program leading to the Bachelor of Science with a major in Physics is designed to provide a strong, yet versatile, basis for a subsequent scientific career or advanced study. Minimum requirements for all majors are listed below, but students planning for graduate work in physics or an allied area are advised to select additional mathematics courses and additional physics courses similar to those shown in the sample program. A physics major must complete all 300-400-level courses with a 2.0 minimum grade-point average. The grade-point average for all physics courses must also be at least 2.0.

For the major in physics a formal minor is not necessary. If one is chosen, it can be in any academic area of the University with the provision that the student has the permission of the chairperson of the Department of Physics and the chairperson of the minor field. The physics program is flexible, even permitting a second major with the above provisions. Students planning graduate study in allied areas such as medicine, engineering, applied mathematics, computer science, law, and business should use the minor or second major and open electives to gain competence in the discipline of interest. Students in other disciplines who wish to minor in physics may take 12 semester hours of any upper-level physics courses.

An attractive feature of the physics program is the opportunity for upper-level students to gain experience by involvement with the faculty and staff in their research efforts through the Undergraduate Research Participation projects. Prospective majors are encouraged to write or visit the Department of Physics for more detailed information. New students are invited to confer with the chairperson to plan individual programs.

**PROGRAM—S11: BACHELOR OF SCIENCE WITH A MAJOR
IN PHYSICS (PHY)¹**

	<i>Semester Hours</i>
Physics	37
Basic courses: PHY 206, 207, 208, 210L, 211L, 214..	13
PHY 301, 303, 314, 390, 408, 430, 431, and	
300-400-level electives	24
Mathematics: MTH 118, 119, 218, 219, 302.....	18
Chemistry: CHM 123, 124, and associated laboratory	8
Philosophy and/or religious studies electives	12
Humanities and social sciences electives.....	12
Communication skills	0-13
College Composition (ENG 111, 112), Effective Speaking	
(SPE 101), and Computer Programming (CPS 144). Some	
of these requirements can be waived if the student has	
demonstrated proficiency.	
Minor (300-400-level courses) if chosen	12
General academic electives for program to total at least.....	120

¹Consult General Requirements for all Bachelor of Science programs.

SAMPLE PROGRAM¹

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term</i> ²	<i>2nd Term</i>
Freshman Year				
PHY	100	Freshman Seminar	1-0-0	
PHY	206-207	General Physics I and II	3-1-3 ²	3-1-3
PHY	210L-211L	General Physics Laboratory I and II	0-3-1 ²	0-3-1
MTH	118-119	Analytic Geometry and Calculus I and II	4-0-4	4-0-4
CHM	123-124	General Chemistry I and II	3-0-3	3-0-3
—	—	Philosophy or religious studies	3-0-3	
—	—	Humanities or social science		3-0-3
—	—	Communication skills ³	3-0-3	3-0-3
			<u>17</u>	<u>17</u>
Sophomore Year				
PHY	208	General Physics III	3-0-3	
PHY	214-314	Electronics I and II	1-3-2	1-3-2
PHY	321	Atomic and Nuclear Physics ⁴		3-0-3
MTH	218-219	Calculus III, Differential Equations	4-0-4	3-0-3
CHM	123L-124L	Chemistry Laboratory	0-3-1	0-3-1
—	—	Communication skills ³	3-0-3	3-0-3
—	—	Humanities or social science		3-0-3
—	—	Philosophy or religious studies	3-0-3	
			<u>16</u>	<u>15</u>
Junior Year				
PHY	301	Thermal Physics	3-0-3	
PHY	303	Intermediate Mechanics	3-0-3	
PHY	390	Quantum Mechanics		3-0-3
PHY	408	Intermediate Electricity and Magnetism I		3-0-3
PHY	430-431	Advanced Laboratory	0-4-2	0-4-2
MTH	302	Linear Algebra and Matrices	3-0-3	
—	—	Philosophy or religious studies		3-0-3
—	—	Humanities or social science	3-0-3	
—	—	Minor ⁵	3-0-3	3-0-3
—	—	Elective ^{6,7}		3-0-3
			<u>17</u>	<u>17</u>
Senior Year				
PHY	403	Mechanics ⁴	3-0-3	
PHY	404	Optics ⁴	3-0-3	
PHY	409	Intermediate Electricity and Magnetism II ⁴		3-0-3
PHY	421	Solid State ⁴		3-0-3
PHY	432-433	Advanced Laboratory ⁴	0-4-2	0-4-2
—	—	Philosophy or religious studies	3-0-3	
—	—	Humanities or social science		3-0-3
—	—	Electives ⁶	3-0-3	3-0-3
—	—	Minor ⁵	3-0-3	3-0-3
			<u>17</u>	<u>17</u>

¹Consult General Requirements for all Bachelor of Science programs.²For example, 3-1-3 signifies 3 hrs. lecture, 1 hr. recitation, 3 sem. hrs. credit; 0-3-1 signifies 0 hrs. lecture, 3 hrs. laboratory, 1 sem. hr. credit.

³Students should show proficiency in composition by the end of the freshman year, and facility in speech and computer programming by the end of the sophomore year.

⁴In this example, 35 upper-level sem. hrs. in the major are shown (24 required).

⁵Consult department chairperson concerning minor.

⁶Electives can be used for developing a second major or a second minor, for special problems courses (PHY 399, 499), or as "free" electives.

⁷In this example program, 132 total sem. hrs. are shown; the minimum required is 120 sem. hrs. With some summer work, advanced credit by examination, etc., a student can complete the program in 3½ or possibly even 3 academic years.

FACULTY

J. Michael O'Hare, *Chairperson*

Distinguished Professor: Bueche

Professor Emeritus: Mann

Professors: Graham, Kepes, Miner, O'Hare, Schneider, Yaney

Associate Professor: Crivello

Assistant Professors: Berney, Craver

Adjunct Professor: Grant

Laboratory Instructor: Streiff

COURSES OF INSTRUCTION

PHY 100. SEMINAR: Opportunity to become acquainted with the broad spectrum of modern science through periodic meetings with the entire department. Invited speakers, films, student presentations, book reviews, and informal discussions. For all physics and physical science majors. *No credit*

PHY 105. PHYSICAL SCIENCE: Broad introduction to physical science. Emphasis on concepts and scientific thought processes in dealing with principles in physics; some applications to chemistry, astronomy, and meteorology. Demonstrations and experiences. For nonscience students. Prerequisite: None. *4 sem. hrs.*

PHY 108. PHYSICAL SCIENCE OF LIGHT AND COLOR: A treatment of physical science with emphasis on light, color, and the interaction of light with materials. For nonscience students. Prerequisite: None. *3-4 sem. hrs.*

PHY 108L. LIGHT AND COLOR LABORATORY: Laboratory experiences to accompany PHY 108. *1 sem. hr.*

PHY 109. SCIENCE AND UNDERSTANDING: Directed readings, discussions, lectures, and the viewing of *Cosmos*, a film series using astronomy as a unifying theme, to gain insight into the nature of science as a human endeavor. For nonscience students. Prerequisite: None. *3 sem. hrs.*

PHY 151, 152. CONCEPTS IN PHYSICS: Basic background and appreciation of physics principles and concepts using a minimum of mathematical formalism; development of skills and knowledge to appreciate the place of science in contemporary society. For nonscience students. Prerequisite: None. *1-4 sem. hrs. each*

PHY 150L. PHYSICS LABORATORY: Laboratory experiences to accompany 100-level physics lecture courses. Corequisite: A physics course. *1 sem. hr.*

PHY 201. GENERAL PHYSICS: Topics from mechanics, thermal and mechanical properties of matter, wave motion and sound, and electricity without the formalism of calculus. First term each year. *3 sem. hrs.*

PHY 201L. GENERAL PHYSICS LABORATORY: Introductory laboratory appropriate for students of the health sciences. Experimental scientific techniques and the use of standard laboratory equipment. One two-hour period per week. First term each year. Corequisite: PHY 201 or 206. *1 sem. hr.*

PHY 202. GENERAL PHYSICS: Continuation of PHY 201 with a treatment of electricity and magnetism, wave motion and properties of light, atomic and nuclear physics. Prerequisite: PHY 201. Second term each year. *3 sem. hrs.*

PHY 202L. GENERAL PHYSICS LABORATORY: Experimental scientific techniques and the use of standard laboratory equipment. One two-hour period per week. Second term each year. Prerequisite: PHY 201L. *1 sem. hr.*

PHY 203. MODERN TECHNICAL PHYSICS: Introduction to selected topics in modern physics without the formalism of calculus. For engineering technology students. Prerequisites: Trigonometry, college algebra, and introductory statics and dynamics. *3 sem. hrs.*

PHY 203L. TECHNICAL PHYSICS LABORATORY: Laboratory experiences to accompany PHY 203. *1 sem. hr.*

PHY 204. INTRODUCTION TO MEDICAL ELECTRONIC INSTRUMENTATION: Lecture and laboratory course introducing basic physical principles and practices encountered in the operation of some electronic instrumentation used in medical technology. For medical technology students. Prerequisite: None. *2 sem. hrs.*

PHY 206. GENERAL PHYSICS I—MECHANICS: Introductory course in mechanics. Calculus concepts developed as needed. Three lectures, one recitation per week. Corequisite: MTH 118 or 112. *3 sem. hrs.*

PHY 206H. GENERAL PHYSICS I—MECHANICS (HONORS): Introductory course in mechanics for students with a strong background in physics. Three lectures, one recitation per week. By invitation only. *3 sem. hrs.*

PHY 207. GENERAL PHYSICS II—ELECTRICITY AND MAGNETISM. The basic principles of electricity and magnetism. Three lectures, one recitation per week. Prerequisites: PHY 206 or 201, MTH 118. *3 sem. hrs.*

PHY 207H. GENERAL PHYSICS II—ELECTRICITY AND MAGNETISM (HONORS): Basic principles of electricity and magnetism. Three lectures, one recitation per week. By invitation only. *3 sem. hrs.*

PHY 208. GENERAL PHYSICS III—MECHANICS OF WAVES: Introduction to wave phenomena (including sound, light, and matter waves) leading to basic concepts in modern physics. Prerequisites: PHY 207, MTH 119; or PHY 202, MTH 113. *3 sem. hrs.*

PHY 208H. GENERAL PHYSICS III—MECHANICS OF WAVES (HONORS): Introduction to modern physics through a study of wave phenomena including sound, light, and matter waves. By invitation only. *3 sem. hrs.*

PHY 210L. GENERAL PHYSICS LABORATORY I: Introduction to laboratory methods, handling of data, and analysis of results. Experiments appropriate to the background of students with an interest in mathematical and physical sciences. Two hours laboratory, one hour recitation per week. Corequisite: PHY 206. *1 sem. hr.*

PHY 211L. GENERAL PHYSICS LABORATORY II: Laboratory methods, data handling, and analysis of results. Experiments appropriate to the background of students with an interest in mathematical and physical sciences. Two hours laboratory, one hour recitation per week. Prerequisite: PHY 210L. *1 sem. hr.*

PHY 214. ELECTRONICS FOR SCIENTISTS I: Introduction to electronic circuits with a consideration of D.C. and A.C. circuit analysis, diodes, bipolar and field-effect transistors, and other semiconductor circuit devices. Demonstrations and bench-top experience. Prerequisite: PHY 211L or 202L, or equivalent. *2 sem. hrs.*

PHY 250. DESCRIPTIVE ASTRONOMY: Descriptive survey for students who have had little or no previous exposure to astronomy; material from ancient times to present, including pulsars and quasi-stellar objects. Prerequisite: None. *3-4 sem. hrs.*

PHY 299. SPECIAL PROBLEMS: Special topical courses, laboratory, tutorial, or library work in areas of current interest. Students should consult the composite. *1-4 sem. hrs.*

PHY 301. THERMAL PHYSICS: Thermodynamical descriptions of many particle systems obtained from microscopic statistical considerations; laws of thermodynamics, kinetic theory of dilute gases, and Fermi-Dirac and Bose-Einstein statistics. Corequisite: MTH 219. Prerequisite: PHY 208. *3 sem. hrs.*

PHY 303. INTERMEDIATE MECHANICS I: The fundamental concepts of mechanics: virtual work, kinematics, special theory of relativity. Lagrange's equation and central forces, particle dynamics. Corequisite: MTH 219. Prerequisite: PHY 208. *3 sem. hrs.*

PHY 314. ELECTRONICS FOR SCIENTISTS II: Continuation of PHY 214; thyristors such as SCR, linear IC, digital IC, and other discrete and integrated semiconductor circuit devices. Demonstrations and bench-top experience. Prerequisite: PHY 214. *2 sem. hrs.*

PHY 321. ATOMIC AND NUCLEAR PHYSICS: Concepts and models of the structure of matter; atoms, ions, electrons and nuclei, radioactivity, interactions of radiation with matter, particle detection, accelerators, nuclear models, nuclear reactions and processes, and fundamental particles. Prerequisite: PHY 208 or consent of instructor. *3 sem. hrs.*

PHY 390. INTRODUCTION TO QUANTUM MECHANICS: Basic postulates of quantum mechanics with applications made to atomic physics. Prerequisites: PHY 208, MTH 219, 302. *3 sem. hrs.*

PHY 395. RESEARCH PARTICIPATION I: Individual projects conducted as part of the physics Undergraduate Research Participation program to encourage involvement of students with faculty researchers. Projects must be arranged in advance with faculty research directors. *1-6 sem. hrs.*

PHY 399. SPECIAL PROBLEMS IN (NAMED AREA): Special topical courses, laboratory, tutorial, or library work in areas of current interest. Students should consult the composite. *1-4 sem. hrs.*

PHY 403. INTERMEDIATE MECHANICS II: Emphasis on solving physical problems; noninertial coordinate systems, rigid body motion, rotating systems, coupled systems, introductory fluid statics and dynamics, normal coordinates, and the descriptions of mechanics appropriate for the transition to wave mechanics. Prerequisite: PHY 303. *3 sem. hrs.*

PHY 404. PHYSICAL OPTICS: The electromagnetic wave theory of light, propagation of waves, reflection, refraction, dispersion, polarization, dichroism, birefringence, superposition of waves, interference, diffraction, Fourier optics. Prerequisites: PHY 208, MTH 219. *3 sem. hrs.*

PHY 408. INTERMEDIATE ELECTRICITY AND MAGNETISM I: Electrostatics, Coulomb's law, Gauss's law, potential, dielectric materials, electrostatic energy, solutions to Laplace's and Poisson's equations, Biot-Savart law, Faraday induction law, magnetization, and Maxwell's equations. Prerequisites: PHY 208, MTH 219. *3 sem. hrs.*

PHY 409. INTERMEDIATE ELECTRICITY AND MAGNETISM II. Further study of electric and magnetic fields with emphasis on solving problems; Maxwell's equations, propagation of electromagnetic waves, electromagnetic radiation. Prerequisite: PHY 408. *3 sem. hrs.*

PHY 420. INTRODUCTION TO SOLID STATE: Classification of solids, crystals and crystal structures, survey of lattice properties, free electron theory, band theory of solids, semi-conductors, and crystal imperfections. Prerequisites: PHY 208, MTH 219. *3 sem. hrs.*

PHY 430-431-432-433. ADVANCED LABORATORY: Experimental investigations based on principles from atomic and nuclear physics, electricity and magnetism, modern and classical optics, mechanics, solid state, cryogenics, x-ray diffraction, surface physics, or electronics. Not all experiments available every semester; consult chairperson for details. Prerequisite: PHY 214. Corequisite: An advanced course in physics. *2 sem. hrs. each*

PHY 440. QUANTUM MECHANICS II: Study of selected principles in quantum mechanics. Prerequisite: PHY 390. *3 sem. hrs.*

PHY 441. TOPICS IN MODERN PHYSICS: Elements of modern optics, solid state, and other selected subjects. Consult chairperson for details. Prerequisite: PHY 390 or equivalent. *3 sem. hrs.*

PHY 460. SEMINAR: Presentation of papers by undergraduate students, faculty, and guest lecturers on topics of concern to the modern physicist. Reviews of books and films appropriate to the group. *1 sem. hr.*

PHY 495. RESEARCH PARTICIPATION II: Individual projects conducted as part of the physics Undergraduate Research Participation program to encourage involvement of students with faculty researchers. Projects must be arranged in advance with faculty research directors. *1-6 sem. hrs.*

PHY 499. SPECIAL PROBLEMS IN (NAMED AREA) (HONORS): Laboratory, tutorial, or library work in one of such selected topics as solid state physics, polymers, atomic and nuclear physics, modern optics, theoretical physics, surface physics, or general physics. Prerequisite: Permission of department chairperson. *1-6 sem. hrs.*

POLITICAL SCIENCE (POL)

A major in political science includes POL 201, 202 or 214, 207, 317, and 421. An additional 21 semester hours in political science is required and must include 18 semester hours of work at the 300-400 level. The advanced courses must be chosen in consultation with the advisor and in accordance with academic or career objectives. Students electing an area concentration in pre-law, urban affairs, or public administration are encouraged to take POL 495, Internship. Students in the pre-law area of concentration may replace POL 207 with six semester hours in accounting (ACC 207-208 or 301 and 302 or 407).

A minor in political science includes POL 201 and four 300-400 level courses selected by the student to strengthen academic or career objectives.

PROGRAM—A17: BACHELOR OF ARTS WITH A MAJOR IN POLITICAL SCIENCE (POL)¹

	<i>Semester Hours</i>
<i>Political science</i>	36
Courses must include POL 201, 202 or 214, 207, 317, and 421. An additional 21 sem. hrs. of work in political science is required and must include 18 sem. hrs. of work at the 300-400 level. Students in the pre-law area of concentration may replace POL 207 with six sem. hrs. in accounting (ACC 207-208 or 301 and 302 or 407).	
<i>Natural science and mathematics</i>	7
<i>Social and behavioral sciences</i>	12
<i>Humanities</i>	18
<i>Philosophy and/or religious studies</i>	12
<i>Communication skills</i> (ENG 111, 112, SPE 101)	0-10
<i>General academic electives to total at least</i>	120

¹See also Distribution Table for Bachelor of Arts programs.

MINORS AND AREA CONCENTRATIONS

A student may elect a minor in education under the E-11 Program or in any related discipline within the College of Arts and Sciences. The student must consult with the department administering the discipline for the particular requirements of a minor. In addition, the student may elect any *one* of the four multi-disciplinary concentrations in urban affairs, pre-legal training, international affairs, or public administration developed by the Department of Political Science.

I. Urban Affairs

Students are required to take POL 360, Urban Politics; SOC 351, Cities; and any three of the following courses:

BIO 399	The Bio-Ecology of Man, or
GEO 208	Environmental Geology
HST 355	American Urban History
PSY 342	Community Problems and Psychology
SOC 328	Racial and Ethnic Minorities
CRJ 401	Political Violence
ECO 445	Public Finance, or
ECO 485	Urban and Regional Economics

II. Pre-Law

Students are required to take POL 301, American Judicial Process, or POL 411, Constitutional Law, and at least one composition course (ENG 272 or 316 or 474) and three of the following courses:

ECO 204	Principles of Macroeconomics
ENG —	Literature (ENG 203 or 204 or 205)
PHL 301	Practical Logic
PSY 341	Social Psychology
SOC 326	Law and Society
SOC 327	Criminology

Students electing this concentration are encouraged to take POL 495, Internship in Law, to acquire practical experience in the legal profession or judicial process.

III. International Affairs

Students are required to take POL 202, Introduction to Comparative Politics, and POL 214, Introduction to International Politics, and any four of the following:

PSY 341	Social Psychology
ECO 450	Comparative Economic Systems
ECO 460	Economic Development and Growth
ECO 461	International Economics
HST —	Upper-level electives

Choices of history electives should be based on the students' interests and career objectives. Students electing the concentration of international affairs are also encouraged to acquire competence in a foreign language and to participate in study-abroad programs.

IV. Public Administration

Students are required to take POL 305, Introduction to Public Administration; POL 306, Public Policy Analysis; POL 495, Internship in Government; and at least three of the following courses:

ACC 301	Financial Reporting and Administration
MGT 314	Personnel Management
MGT 318	Human Relations for Management
COM 301	Publicity and Public Relations
ENG 370	Report Writing, or
ENG 372	Applied Written Communication
PSY 334	Industrial Psychology
CRJ 447	Contemporary Issues in Justice Administration
SWK 337	Social Welfare Policy Services
ECO 445	Public Finance

V. Political Journalism

Students are required to take COM 120, Introduction to Mass Communication Media; JRN 206, Newswriting; and three of the following courses:

SPE 301	Speechwriting
SPE 314	Political Campaign Communication
JRN 301	Public Affairs Reporting
JRN 303	Interpretative and Feature Writing
JRN 304	Editorial Writing

TYPICAL FRESHMAN-SOPHOMORE PROGRAM

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
Freshman Year			1st Term	2nd Term
POL	100	Freshman Seminar	0	
POL	201	The American Political System	3	
ENG	111-112	College Composition I and II ¹	4	3
—	—	Humanities electives	3	3
—	—	Philosophy and/or religious studies	3	3
—	—	Natural science requirement	4	3
—	—	Social science requirement	3	3
			17	15
Sophomore Year				
POL	202	Introduction to Comparative Politics, or		
POL	214	Introduction to International Politics		3
POL	207	Political Analysis	3	
—	—	Humanities electives	6	3
—	—	Philosophy and/or religious studies	3	3
—	—	Social science requirement	3	3
SPE	101	Fundamentals of Effective Speaking ¹		3
			15	15

(For junior and senior years, see Program A17 above and consult with the chairperson.)

¹Students whose communication skills requirements are waived are encouraged to take humanities and political science courses.

FACULTY

Gerald E. Kerns, *Chairperson*

Professor: Lapitan

Associate Professors: Fogel, Kerns

Assistant Professors: Ahern, Blough, Inscho, Karns, Mancos, Nelson

Adjunct Assistant Professors: Caplinger, Darvich, Hillman, Kunde,
Woy-Hazleton

COURSES OF INSTRUCTION

POL 201. THE AMERICAN POLITICAL SYSTEM: Study of the American political system, its attitudinal and constitutional base, its structure and processes. 3 sem. hrs.

POL 202. INTRODUCTION TO COMPARATIVE POLITICS: Analysis of major concepts and approaches in the study of comparative government and politics. 3 sem. hrs.

POL 207. POLITICAL ANALYSIS: Introduction to the basic concepts and processes of research in political science. 3 sem. hrs.

POL 214. INTRODUCTION TO INTERNATIONAL POLITICS: Analysis of the dynamic forces of conflict and cooperation in world politics. 3 sem. hrs.

POL 300. POLITICAL ISSUES: Introductory examination of contemporary political

issues selected by the instructor; such topics as welfare, political morality, political campaigns, institutional reform, and political economy. *3 sem. hrs.*

POL 301. THE AMERICAN JUDICIAL PROCESS: Study of the American judicial system with emphasis on the courts and the bar; criminal and civil legal processes in detail. *3 sem. hrs.*

POL 303. STATE GOVERNMENT AND POLITICS: Comparative study of the political institutions, processes, and systems of the fifty states and their effect on the content and administration of selected public policies, programs, and services. *3 sem. hrs.*

POL 305. INTRODUCTION TO PUBLIC ADMINISTRATION: Basic principles of organization and management in executive departments of government at all levels; questions of planning, leadership, and control. *3 sem. hrs.*

POL 306. PUBLIC POLICY ANALYSIS: Introduction to public policy-making systems and the methodology of policy analysis; theories of policy formulation, the policy-making process, means for measuring policy effectiveness, analysis of proposals for policy change. *3 sem. hrs.*

POL 310. PARTIES AND INTEREST GROUPS: Descriptive analysis of the nature and interaction of parties and interest groups, and their role in the American political system. *3 sem. hrs.*

POL 311. PUBLIC OPINION AND POLITICAL BEHAVIOR: The formation, maintenance, change, and impact of public opinion in the American political system; the role of theory and analysis of data in understanding public and political behavior. *3 sem. hrs.*

POL 313. THE AMERICAN PRESIDENCY: Study of the American presidency, the development of presidential powers, and its leadership role in the political system. *3 sem. hrs.*

POL 317. DEVELOPMENT OF POLITICAL THEORY: Analysis of selected theorists and political doctrines forming the tradition of Western thought on politics and society. Theorists including Plato, Aristotle, the Stoics, St. Augustine, St. Thomas Aquinas, Machiavelli, Hobbes, Locke, Rousseau, Burke, Hegel, Marx, and Lenin presented in their historical and sociopolitical contexts. *3 sem. hrs.*

POL 320-326. COMPARATIVE POLITICS: Analysis of governmental institutions and political processes of selected countries in each of the following areas:

POL 320—Western Europe

POL 324—Southern Asia

POL 321—Soviet Union and Eastern Europe

POL 325—The Middle East

POL 322—The Far East

POL 326—Africa

POL 323—Latin America

3 sem. hrs. each

POL 360. URBAN POLITICS. Study of the nature of urban political systems in the U.S. with emphasis on explanation of differences in their policy responses. *3 sem. hrs.*

POL 406. INTERNATIONAL LAW AND ORGANIZATION: Study of rules governing the community of nations; their nature, sources, and development; the international agencies responsible for their development, interpretation, and administration. *3 sem. hrs.*

POL 408. AMERICAN FOREIGN POLICY: Critical study of the American foreign policy process and evaluation of the substances of American foreign policy. 3 sem. hrs.

POL 409. SOVIET FOREIGN POLICY: A broad introduction to the Soviet Union's relationship with the West: political, economic, and military cooperation and competition. 3 sem. hrs.

POL 410. COMPARATIVE FOREIGN POLICY: Comparative analysis of the foreign policies of major states with emphasis on the process of policy development and on the national and international determinants of policy behaviors. 3 sem. hrs.

POL 411. CONSTITUTIONAL LAW: Analysis of the role of the U.S. Supreme Court in its interpretation of the Constitution. Emphasis on the various methods of judicial interpretation as they affect such provisions as the commerce clause, the taxing and spending powers, due process, the dimensions of presidential and congressional authority, and the doctrine of judicial review. 3 sem. hrs.

POL 413. 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. 3 sem. hrs.

POL 414. LEGISLATIVE POLITICS: Study of the U.S. Congress, its organization and procedures, and its powers and influence in the political system. 3 sem. hrs.

POL 419. TWENTIETH-CENTURY POLITICAL THOUGHT: Principal contributors to political thinking and orientation in the 1900's; Lenin, the theorists of fascism, Durkheim, Dewey, Fromm, Niebuhr, Skinner; the political problems of authority, community, and citizenship. 3 sem. hrs.

POL 421. SEMINAR IN POLITICAL SCIENCE: Seminar on current problems and issues in political science. May be taken more than once when content changes. Prerequisite: Permission of professor. 3 sem. hrs.

POL 422. CONTEMPORARY LEGAL THOUGHT: Main currents in legal theory; contemporary jurists and their legal thoughts; criminal law and punishment; moral evaluation and criticism of law. 3 sem. hrs.

POL 431. INDEPENDENT STUDY AND RESEARCH: Individual reading and research on selected topics under faculty direction. Recommended for seniors only. Prerequisite: Permission of professor. 3 sem. hrs.

POL 437. PROBLEMS IN INTERNATIONAL POLITICS: Focus on selected problems in international politics such as the causes of war, negotiation, the Middle East, and the North-South conflict. May be repeated as the topic changes. Prerequisite: POL 214 or permission. 3 sem. hrs.

POL 450. CIVIL LIBERTIES: Analytical examination of civil liberties in the U.S. with emphasis on the Supreme Court as arbiter in the endless conflict between the demand for individual liberty and the needs of constitutional authority. 3 sem. hrs.

POL 452. POLITICAL VIOLENCE: Consideration of theoretical approaches to understanding violent change in political institutions; the continuum between violence and nonviolence of revolution, revolt, campus dissent, and political assassination. 3 sem. hrs.

POL 455. THE THEORY AND PRACTICE OF COMMUNISM: Consideration of the theory and practice of Communism, its relationship to Marxism, the special impact of

Lenin and Stalin, and the schisms within the Communist world since World War II, involving Tito, Mao, and Eurocommunism. *3 sem. hrs.*

POL 457. **POLITICAL CHANGE IN THE THIRD WORLD:** Analysis of the concepts of development and change within the context of Third World nations; emphasis on the impact of modernization on political processes and change. *3 sem. hrs.*

POL 475. **AMERICAN POLITICAL THOUGHT:** Ideas that have shaped the American political system: Puritanism, the American Revolution, Hamiltonianism, Jeffersonianism, racism, nativism, social Darwinism, the New Deal, and contemporary liberalism and conservatism. *3 sem. hrs.*

POL 479. **SELECTED TOPICS IN PUBLIC POLICY:** Intensive examination of policy process, outcomes, and impact in an area or areas of American public policy selected by the instructor; such topics as transportation, education, welfare, national defense, urban and community development, civil rights, and science and technology. May be repeated once when topic changes. *3 sem. hrs.*

POL 495. **INTERNSHIP:** Supervised experience in government agencies and programs. Pre-law students are assigned to law firms and judicial chambers. Prerequisite: Permission of supervising professor. *3 sem. hrs.*



PREMEDICINE (MED) AND PREDENTISTRY (DEN)

Students who intend to continue their education at the professional school level (medical, dental, osteopathic) should choose undergraduate majors that hold the greatest interest for them. The minimum academic requirements for admission to professional schools are met by a number of degree programs at the University of Dayton. Students with strong interests in biology or chemistry should enroll in Program S1 (B.S. in Biology) or Program A2 (B.A. in Chemistry) or S2 (B.S. in Chemistry). From an academic standpoint students in these and other science programs are as fully qualified for admission to professional schools as are those students who follow the formal premedicine-predentistry curriculum. These students may utilize all the premedical counseling and advisory facilities available at the University. However, in order to receive adequate counseling, they must declare their professional school intentions to a premedical-predental advisor as early as possible. (See list of advisors below.)

Program S12, the B.S. for premedical and predental students, is recommended for (1) students who have no strong interest in a conventional major and (2) students who wish to follow an abbreviated program prior to entrance to schools of occupational therapy, optometry, pharmacy, physical therapy, veterinary medicine, etc. The full four-year program meets the admission criteria (required and recommended courses) of all approved medical and dental schools. In addition to the basic sciences, it includes courses in the humanities and the social sciences. Students contemplating a career in medicine or dentistry should realize that preference is given to candidates who have the most complete education, as well as good scholastic standing. Program S12 offers a maximum choice of science and nonscience electives. Premedical-predental students can change to biology or (B.A.) chemistry majors during the junior year without any loss of semester hours.

The Premedical-Predental Faculty Committee is responsible for curriculum requirements, program changes, course advising, general counseling, and the preparation of recommendation letters that are required of all applicants to the health professional schools. The following professors are currently members of this committee: *Chairperson*—C. J. Chantell (Biology), T. P. Graham (Physics), C. I. Michaelis (Chemistry), J. M. Ramsey (Biology), K. C. Schraut (Mathematics), and S. S. Singer (Chemistry).

A chapter of the National Premedical Honor Society, Alpha Epsilon Delta, is established on campus. Both the Medical College Admissions Test and the Dental Aptitude Testing Program are usually administered on campus each spring and fall. All prospective medical, dental, and osteopathic school applicants must take these tests, usually in the spring of the junior year. Information about these tests may be obtained from the premedical-predental office.

The increasingly high admission standards for professional schools make it imperative that the premedical and predental student give full time to study. The undergraduate cumulative grade-point average is an important criterion in gaining admission to a professional school. The minimum acceptable cumulative average for most medical and dental schools is over 3.0. For this reason, the Premedical-Predental Faculty Committee conducts a sophomore evaluation of

all students enrolled in Program S12. Any student whose cumulative average after two years is below 2.8 will be advised to consider changing his or her major.

Premedicine-Predentistry Curriculum Summary

Science Courses

Specified

BIO 151, 152, 152L, 201L

CHM 123, 123L, 124, 124L, 201, 201L, 313, 313L, 314, 314L

PHY 201, 201L, 202, 202L (May substitute PHY 206, 207, 208, 201L, 202L)

MTH 112, 113 (May substitute depending on background)

Electives: Minimum of six lecture courses in biology, chemistry, computer science, mathematics (recommended choice from comparative anatomy, cell biology, embryology, genetics, microbiology, physiology, parasitology, physical chemistry, biochemistry, biostatistics). These science electives must be directly related to the major field of interest. Laboratory sections must accompany two of the science electives.

Nonscience Courses

College requirements: ENG 111 and 112. Students with initial placement in ENG 112, 114, or 198 must take an additional English elective. (ENG 272 or ENG 316 is recommended.) The SPE 101 requirement should be taken in the freshman year. Twelve semester hours of philosophy and/or religious studies. Consult General Requirements for all Bachelor of Science programs.

Humanities electives: Twelve semester hours in art, American studies, communication arts, English, history, languages, literature, music, performing and visual arts, philosophy, theater, religious studies, etc. A full year of a modern foreign language is strongly recommended. The College requirements of English, speech, philosophy, and religious studies do not fulfill the humanities elective requirement.

Social-behavioral science electives: Twelve semester hours in anthropology, economics, criminal justice, political science, psychology, social work, sociology.

General electives: Minimum of 19 semester hours of free electives in any Arts and Sciences area. With permission from the Office of the Dean of the College, some general electives can be taken in the professional schools of the University.

Courses in the premedicine-predentistry curriculum will total 126 or more semester hours.

PROGRAM—S12: BACHELOR OF SCIENCE WITH A MAJOR IN PREMEDICINE (MED) OR PREDENTISTRY (DEN)¹

Dept.	No.	Course	1st Term ²	2nd Term
Freshman Year				
BIO	100	Seminar	1-0-0	
BIO	151-152	Concepts of Biology	3-0-3	3-3-4
CHM	123-124	General Chemistry	3-3-4	3-3-4
MTH	112-113	Introductory Calculus ³	3-0-3	3-0-3
ENG	111-112	College Composition I and II ⁴	4-0-4	3-0-3
—	—	College requirements ⁵	3-0-3	3-0-3
			17	17

Sophomore Year

BIO	201L	Biology Laboratory Investigations	0-3-1	
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
PHY	201-202	Physics ⁶	3-2-4	3-2-4
—	—	Science elective ⁷		3-0-3
—	—	College requirement ⁵	3-0-3	
—	—	Humanities/social-behavioral sciences ⁸	3-0-3	6-0-6
			15	17

Junior Year

CHM	201	Quantitative Analysis		2-4-4
—	—	Science electives ⁷	3-3-4	3-0-3
—	—	College requirement ⁵	3-0-3	
—	—	Humanities/social-behavioral sciences ⁸	3-0-3	6-0-6
—	—	General electives	5-0-5	3-0-3
			15	16

Senior Year

—	—	Science electives	3-3-4	6-0-6
—	—	College requirement ⁵	3-0-3	
—	—	Humanities/social-behavioral sciences ⁸	3-0-3	3-0-3
—	—	General electives ⁹	5-0-5	6-0-6
			15	15

¹Consult General Requirements for all Bachelor of Science programs.

²For example: 3-0-3 means 3 class hrs., 0 lab hrs., 3 sem. hrs. of credit.

³Placement test may necessitate initial course in precalculus (MTH 101). Depending on background and interests, two calculus sequences are available. MTH 112-113, MTH 118-119. Well qualified students are strongly advised to elect MTH 118-119. (See Mathematics Courses of Instruction.)

⁴See information under Premedicine-Predentistry Curriculum Summary: *College requirements*. English elective if first-term placement was ENG 112, 114, or 198. Recommend ENG 272 or 316.

⁵See information under Premedicine-Predentistry Curriculum Summary: *College requirements*. SPE 101, 12 sem. hrs. of PHL and/or REL.

⁶Depending on mathematics background and interests, two physics sequences are available, PHY 201-202, PHY 206-207-208. Well qualified students are strongly advised to elect PHY 206, 207, 208, and to take the PHY 201-202 labs.

⁷See information under Premedicine-Predentistry Curriculum Summary: *Science electives*. Sophomore year recommendations: MTH 215, BIO 309, 425, 440, CPS. Junior and senior year recommendations: CHM 302, 420, 551, 552, BIO 403, 407, 411, 412, MTH, CPS.

⁸See information under Premedicine-Predentistry Curriculum Summary: *humanities and social-behavioral science electives*. Recommend a full year of a modern foreign language.

⁹Electives in any arts and sciences area. Permission from the office of the dean of the College for general electives in the Schools of Business Administration and Education.

PSYCHOLOGY (PSY)

Psychology is the scientific study of behavior, and as such is a diverse field that touches all aspects of human endeavor.

The objectives of the Department of Psychology are to provide students with learning experiences in and out of the classroom which will increase their critical thinking skills, facilitate their acquisition of the body of knowledge inherent in the study of human behavior, equip them with its research methodology, and prepare them for employment or graduate school. The department is large enough to have all of the academic and social benefits that a university department can provide and small enough to provide individual attention to every student.

The Department of Psychology offers both the Bachelor of Arts and the Bachelor of Science. Each student, in consultation with an advisor, selects a program leading to either a Bachelor of Arts or a Bachelor of Science with appropriate elective credits according to individual interests and goals. The availability of both degrees allows the student to plan a double major or a major in psychology with a strong concentration of study in a related or complementary discipline.

Each psychology major must complete PSY 101, 216, and 217 early in his or her academic career. The remaining requirements are stated in the two outlines below. Exceptions to these requirements must be approved by the chairperson.

For a minor in psychology a student must complete PSY 101 and 12 semester hours of upper-level (300-400) courses and their prerequisites.

All graduate psychology (500-level) courses are open for credit to undergraduate students with permission of the advisor and the instructor. See the Graduate issue of the University Bulletin for a listing of graduate courses. Courses usually offered as combined undergraduate and graduate courses are so designated in the course descriptions.

PROGRAM—A18: BACHELOR OF ARTS WITH A MAJOR IN PSYCHOLOGY (PSY)¹

	<i>Semester Hours</i>
Psychology requirements and electives ²	34
PSY 101, 216 ³ , 217	10
Select two courses from PSY 321, 322, 323, 422	6
Select two courses from PSY 341, 351, 361, 363	6
PSY electives	12-23
Natural sciences and mathematics ⁴	10
Social and behavioral sciences ⁵	12
Humanities ⁶	18
Philosophy and/or religious studies	12
Communication skills (SPE 101; ENG 111 and 112, or 114 or 198) ⁷	10
General academic electives to total at least ⁸	120

¹See Distribution Table for all Bachelor of Arts programs.

²A maximum of 45 sem. hrs. in the major may be applied to the 120 sem. hrs. required for graduation. At least 24 of the required 34 sem. hrs. must be from 300-400 level.

³May substitute MTH 207 or 215 for PSY 216. It is recommended that students who have had fewer than 3 years of high school mathematics and/or are deficient in mathematics skills take MTH 107 before taking PSY 216. Students who have had 3 years or more of high school mathematics cannot receive credit for MTH 107.

⁴Natural sciences and mathematics include BIO, CHM, GEO, PHY, MTH, and CPS. One natural science with an accompanying laboratory is required.

⁵Psychology majors exclude PSY. At least 3 sem. hrs. must be in ANT, ECO, POL, or SOC. Six sem. hrs. must be in a single discipline with at least 3 sem. hrs. at 300-400 level. With approval of the chairperson of psychology appropriate courses in ASI, CRJ, Education, HEC, MGT, MKT, MIL, and SWK may be included.

⁶Humanities include AMS, COM, ENG, HST, HMS, LNG, PVA, PHL, REL, and, with the approval of the psychology chairperson, courses in ASI. At least one unit of 9 sem. hrs. must be in a single discipline with at least 3 sem. hrs. at 300-400 level except languages and performing arts, in which a unit may be satisfied with 9 sem. hrs. at any level. The remaining 9 sem. hrs. of the humanities requirement must be taken in other humanities discipline(s). The basic philosophy, religious studies, and communication skills do not fulfill this requirement. Courses in PHL, REL, SPE, and ENG beyond the basic requirements may be counted as humanities.

⁷Each student in the College of Arts and Sciences must demonstrate competence in written and oral communication before completion of the freshman year. Proficiency may be demonstrated through completion of the above courses or by compliance with approved alternatives stated elsewhere in this publication.

⁸At least 54 of the 120 sem. hrs. required for the degree must be at the 300-400 level. No more than 2 sem. hrs. of physical education activities courses may apply to the 120 sem. hrs. required for the degree.

PROGRAM—S13: BACHELOR OF SCIENCE WITH A MAJOR IN PSYCHOLOGY (PSS)

	<i>Semester Hours</i>
Psychology requirements and electives ¹	34
PSY 101, 216 ² , 217	10
Select two courses from PSY 321, 322, 323, 422	6
Select two courses from PSY 341, 351, 361, 363	6
PSY electives	12-23
Natural sciences (BIO, CHM, CPS, GEO, PHY) ³	24
Mathematics 112 and 113 ⁴	6
Language ⁵	6
Philosophy and/or religious studies electives	12
Communication skills (SPE 101; ENG 111 and 112, or 114 or 198) ⁶	10
General academic electives to total at least ⁷	120

¹At least 24 of the required 34 sem. hrs. must be from the 300-400 level.

²May substitute MTH 207 or 215 for PSY 216. It is recommended that students who have had fewer than 3 years of high school mathematics and/or are deficient in mathematics skills take MTH 107 before taking PSY 216. Students who have had 3 years or more of high school mathematics cannot receive credit for MTH 107.

³MTH courses above the 113 level may be counted toward the science requirement.

⁴May substitute MTH 101 for MTH 112 and MTH 112 for MTH 113.

⁵French, German, or Russian preferred. Students may take general electives in lieu of a language. See advisor since graduate study often requires a language.

⁶Each student in the College of Arts and Sciences must demonstrate competence in written and oral communication before the completion of the freshman year. Proficiency may be demonstrated through completion of the above courses or by compliance with approved alternatives stated elsewhere in this publication.

⁷Consult General Requirements for all Bachelor of Science programs.

FACULTY

Kenneth J. Kuntz, *Chairperson*

Professors: Butter, DaPolito

Associate Professors: Berg, Biers, Bower, Jacobson, Katsuyama, Kimble, Korte, Kuntz, Polzella

Assistant Professors: Allik, Wrobel

Adjunct Faculty: Deschappelles, Ernst, Kennedy, Rueth, Szoke, Thornton

COURSES OF INSTRUCTION

PSY 101. INTRODUCTORY PSYCHOLOGY: Study of human behavior including development, motivation, emotion, personality, learning, perception; general application of psychological principles to personal, social, and industrial problems. Students must participate in departmental research. *3 sem. hrs.*

PSY 216. ELEMENTARY STATISTICS: Basic concepts of descriptive and inferential statistics: Measures of central tendency and variability, elementary probability, the normal distribution and standard scores, correlation, sampling error, estimation of parameters, hypothesis testing, and tests of significance between means, including analysis of variance. Prerequisites: PSY 101 and MTH 107 or equivalent. *3 sem. hrs.*

PSY 217. EXPERIMENTAL PSYCHOLOGY: Basic concepts of scientific methods as applied to psychological problems. Experiments to familiarize students with application of scientific methodology to study of human psychological processes. Required of all psychology majors. Prerequisites: PSY 101, 216. *4 sem. hrs.*

PSY 251. HUMAN GROWTH AND DEVELOPMENT: Various theoretical approaches to the stages of human development from infancy through the aging adult. Credit does not apply toward psychology major. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 321. COGNITIVE PROCESSES: Information-processing approach to attention, perception, memory imagery, and thought. Theoretical structures including neuron modeling of higher cognitive and experimental processes. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 322. LEARNING: Foundations of the learning process. Classical instrumental paradigms and variants of each considered prior to investigations of complex learning. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 323. PSYCHOLOGY OF PERCEPTION: Introduction to major theoretical and experimental work in perception, including visual, auditory, proprioceptive, and other sensory systems. Prerequisite: PSY 101. (Also PSY 529.) *3 sem. hrs.*

PSY 325. CONSCIOUSNESS AND PARAPSYCHOLOGY: Systematic exploration of human consciousness using both traditional and esoteric psychological literature; perception, rational and intuitive thought, psychophysiology of consciousness, meditation, biofeedback, and psychology of time. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 333. PSYCHOLOGICAL TESTS AND MEASUREMENTS: Survey of major tests of intelligence, aptitude, interest, and personality presently used in clinics, schools, personnel offices, and research settings. Emphasis on evaluation and comparison, rationale of construction, ethical considerations. Prerequisites: PSY 101, 216 or equivalent. *3 sem. hrs.*

PSY 334. INDUSTRIAL PSYCHOLOGY: Introduction to modern efforts to improve human performance in industrial organization and society; selection and placement of employees, morale, training, and incentives. Prerequisite: PSY 101. 3 sem. hrs.

PSY 341. SOCIAL PSYCHOLOGY: Survey of theoretical and experimental work on attitudes, conformity, emotions, group dynamics. Prerequisite: PSY 101. 3 sem. hrs.

PSY 343. ENVIRONMENTAL PSYCHOLOGY: Study of the effects of the physical and social environment on human behaviors, attitudes, and the affective reactions. Prerequisite: PSY 101. 3 sem. hrs.

PSY 344. INTERPERSONAL RELATIONS: Social psychological research in nonverbal behavior, social exchange, self-disclosure, and interpersonal attraction and how these are related to developing relationships. Prerequisite: PSY 101. 3 sem. hrs.

PSY 351. CHILD PSYCHOLOGY: Study of psychological processes from the developmental point of view; changes in perception, cognition, emotion, and social behavior from infancy to adolescence. Prerequisite: PSY 101. 3 sem. hrs.

PSY 352. FIELD EXPERIENCE IN CHILD PSYCHOLOGY: Practical experience with a community agency providing instructional, recreational, or therapeutic services. Volunteer 3-5 hours weekly. Prerequisites: PSY 101 and previous or concurrent registration in PSY 351. Grade option 2 only. 1 sem. hr.

PSY 355. PSYCHOLOGY OF THE EXCEPTIONAL CHILD: Survey of developmental theory and research related to childhood exceptionality, including major emotional disorders, giftedness, retardation, and the psychological implications of chronic physical illness and disorders of speech, vision, and hearing. Focus on etiology, identification, and intervention. Prerequisite: PSY 101. 3 sem. hrs.

PSY 361. PERSONALITY: Introduction to the study of personality through theoretical views and clinical and experimental findings. Prerequisite: PSY 101. 3 sem. hrs.

PSY 363. ABNORMAL PSYCHOLOGY: Patterns of disordered behavior; social, psychological, and physiological factors; theoretical explanations of abnormal behavior. Prerequisite: PSY 101. 3 sem. hrs.

PSY 364. PSYCHOTHERAPY: Survey of current types of psychotherapy. Emphasis on similarities and differences in underlying theories of behavioral change and associated techniques. Prerequisite: PSY 101. 3 sem. hrs.

PSY 367. BEHAVIOR MODIFICATION: Description of approaches to the modification of behavior integrating material from learning theory, abnormal behavior, and psychotherapy. Prerequisite: PSY 322 or equivalent. 3 sem. hrs.

PSY 421. PSYCHOLINGUISTICS: Several areas of investigation including relationship between language and perception and thought, acquisition of speech and language, and pathological language. Prerequisite: PSY 101. 3 sem. hrs.

PSY 422. PHYSIOLOGICAL PSYCHOLOGY: Neurophysiological analysis of attention, sensation, perception, emotion, motivation, and learning. Electrophysiological methods are discussed. Prerequisite: PSY 101. 3 sem. hrs.

PSY 423. COGNITIVE NEUROPSYCHOLOGY: Relationship between diseases of the central nervous system and cognitive disorders; aphasic disorders of language and speech; disorders of perception; disorders associated with brain damage. Prerequisites: PSY 101 and permission of instructor. 3 sem. hrs.

PSY 431. INTERVIEWING AND COUNSELING: Techniques and theories of interviewing and counseling. Practice through role playing and case study. Prerequisite: PSY 101 or permission of the instructor. 3 sem. hrs.

PSY 435. HUMAN FACTORS: Essential psychological concepts and methods to improve use of human efforts and equipment. Principles governing design of equipment for human use. Prerequisite: PSY 216. 3 sem. hrs.

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 the feminist movement. Open to all interested students, male and female. Prerequisite: PSY 101. 3 sem. hrs.

PSY 452. COGNITIVE DEVELOPMENT IN CHILDREN: Major approaches to the study of cognitive development; attentional and mediational development in children's learning, memory, and problem solving; language development and Piaget's theory. Prerequisite: PSY 351 or permission of instructor. (Also PSY 574.) 3 sem. hrs.

PSY 457. TELEVISION AND ITS EFFECTS ON CHILDREN: Readings in psychological research on the broad effects of television on children. Emphasis on analyzing and evaluating the research. Prerequisite: PSY 101. 3 sem. hrs.

PSY 461. CURRENT IMPLICATIONS OF DRUG DEPENDENCY: Survey of effects, symptoms, treatment, casualties, and myths associated with drug use and abuse. Emphasis on existing treatment methods and psychological implications of drug dependency. Prerequisite: PSY 101. 3 sem. hrs.

PSY 462 HUMAN SEXUAL BEHAVIOR: Psychological factors in human sexuality; psychosexual development, causes and treatments of sexual dysfunction, variations and deviations in sexual behavior. Prerequisite: PSY 101. 3 sem. hrs.

PSY 471. HISTORY OF PSYCHOLOGY: The evolution of psychology from its origins in philosophy, science, clinical, and applied settings. Emphasis on integrating these systems and schools of thought with modern psychology. Prerequisite: PSY 101 or permission of instructor. (Also PSY 526.) 3 sem. hrs.

PSY 493. INDEPENDENT STUDY: Problems of special interest investigated under faculty direction. Area and criteria for evaluation to be specified prior to registration. May be repeated for up to 6 sem. hrs. Prerequisite: Permission of instructor. 1-6 sem. hrs.

PSY 494. READINGS IN PSYCHOLOGY: Directed reading in a specific area of interest, under faculty supervision. Topic and criteria for evaluation to be specified prior to registration. May be repeated for up to 6 sem. hrs. Prerequisite: Permission of instructor. 1-6 sem. hrs.

Note: A total of no more than 6 sem. hrs. of PSY 493 and/or PSY 494 may be counted toward the required 34 sem. hrs. for a psychology major.

PSY 495. SPECIAL TOPICS IN PSYCHOLOGY: Topics of special interest to faculty and students; intensive critical evaluation of appropriate literature. Prerequisite: Permission of the instructor. 1-3 sem. hrs.

RELIGIOUS STUDIES (REL)

The Department of Religious Studies sees itself as a community of scholars serving the University community and the local community by teaching, research, criticism, and action. The main concern of the department is an understanding and elucidation of the Judaeo-Christian religious experience, as it is exemplified in the Roman Catholic tradition. This implies not only a deep investigation of the Roman Catholic position but also a dialogue with other Christian traditions and an exploration of the religious heritage of the human race.

The department realizes also that it cannot perform its function adequately if it isolates itself from other departments of the University. It, therefore, has engaged in and will seek to engage itself even more in interdisciplinary studies. The department, through its participation in the Sanders Judaic Studies Program, is able to offer special courses in this area.

For their first 3 semester hours in religious studies, students may take any 100- or 200-level course. Majors (36 semester hours, of which 24 are 300-400 level) and minors (18 semester hours, of which 12 are 300-400 level) should consult the chairperson.

Courses of instruction in religious studies are classified as follows:

I. History of Religions

- REL 201 Religions of the World I
- REL 202 Religions of the World II
- REL 301 The New Religions
- REL 305 Ancient Near Eastern Religions
- REL 307 Judaism
- REL 406 Jewish Thought
- REL 408 Issues in the History of Religions

II. Biblical Studies

- REL 211 The Old Testament in Modern Study
- REL 212 The New Testament in Modern Study
- REL 311 Religions of Israel
- REL 316 Synoptic Gospels
- REL 317 Studies in St. John
- REL 318 Studies in St. Paul
- REL 411 The Prophets
- REL 418 Biblical Issues

III. Historical Theology

- REL 322 History of Early Christianity
- REL 326 Protestant Christianity
- REL 327 American Religious Experience
- REL 428 Issues in Historical Theology

IV. Systematic Theology

- REL 140 Catholicism Today
- REL 146 Dynamics of Religion
- REL 341 Significance of Jesus

REL 349	Search for Immortality
REL 356	The Christian Tradition of Prayer
REL 438	Contemporary Theologies
REL 441	Theology of Mary
REL 442	Problem of God
REL 445	Issues of the Church Today
REL 447	Selected Catholic Doctrines
REL 448	Issues in Theology
REL 450	Religion and Science

V. *Christian Ethics—Religion and Culture*

REL 265	Christian Ethics
REL 362	Christian Family Values and Television
REL 364	Current Moral Issues
REL 365	Christian Marriage
REL 367	Christian Ethics and the Health Care Professions
REL 368	Christian Ethics and the Business World
REL 372	Religion and Film
REL 373	Religion and Literature
REL 374	Religion and Art
REL 463	Peace and Justice
REL 466	Theology of Sexuality
REL 478	Religion and Culture

VI. *Religious Education*

REL 383	Philosophy of Religious Education
REL 484	Practicum
REL 487	Teaching in Religious Education
REL 488	Spirituality and Religious Education

PROGRAM—A19: BACHELOR OF ARTS WITH A MAJOR IN
RELIGIOUS STUDIES (REL)¹

	<i>Semester Hours</i>
Religious Studies	36
a. One course in each of these four areas:	
Biblical studies	
Historical theology	
Systematic theology	
Christian ethics—religion and culture	
b. Electives	
Breadth requirement	46-61
Natural science and mathematics	7-12
Social and behavioral sciences	12
Humanities	18
Philosophy	9
Communication skills	0-10
Program, free electives	23-38
Total	120

¹See also Distribution Table for Bachelor of Arts programs.

PROGRAM—A19A: BACHELOR OF ARTS WITH A MAJOR IN
RELIGIOUS STUDIES, CONCENTRATION IN
RELIGIOUS EDUCATION (REE)¹

	<i>Semester Hours</i>
Religious Studies	42
Religious education	12
History of religions, biblical studies, historical theology, systematic theology, Christian ethics	30
Philosophy	9
Natural science and mathematics	7-12
Communication skills	0-10
Business, education, sociology, psychology	12-24
Humanities	28-45
Total	120

¹See also Distribution Table for Bachelor of Arts programs.

FACULTY

Rev. James L. Heft, S.M., *Chairperson*

Professors: Boulet, Burns, Cole, Friedland, Frost, Kohmescher, L'Heureux,
T. Martin

Associate Professors: Anderson, Barnes, Branick, Hater, Roberts

Assistant Professors: Heft, J. Martin, Selvidge, Zukowski

COURSES OF INSTRUCTION

REL 140. CATHOLICISM TODAY: General introduction to current theological thinking on Catholic belief and practice. 3 sem. hrs.

REL 146. DYNAMICS OF RELIGION: Introductory description and analysis of the origins and functions of various forms of religion, including their effects on individuals and cultures. 3 sem. hrs.

REL 201. RELIGIONS OF THE WORLD I: Introduction to the study of the major non-Western religions, especially those of the Far East such as Hinduism, Jainism, Confucianism, Taoism, Shinto. 3 sem. hrs.

REL 202. RELIGIONS OF THE WORLD II: Study of Judaism and Christianity in diverse manifestations and of the other monotheistic religions originating in the Near East, such as Zoroastrianism and Islam. 3 sem. hrs.

REL 211. THE OLD TESTAMENT IN MODERN STUDY: Introduction to the historical and prophetic literature of the Old Testament, surveyed in the light of contemporary historical, literary, and form-critical methodologies. 3 sem. hrs.

REL 212. THE NEW TESTAMENT IN MODERN STUDY: Introduction to selected books of the New Testament, surveyed in the light of contemporary historical, literary, form-critical, and redaction-critical methodologies. 3 sem. hrs.

REL 265. CHRISTIAN ETHICS: Introduction to the reflection upon Christian morality; discussion of various approaches in Christian ethics, the elements of ethical judgments, and some specific ethical issues. *3 sem. hrs.*

REL 301. THE NEW RELIGIONS AND PERSONAL TRANSFORMATION: Experiential and holistic approach to contemporary movements that use ideas and techniques of Eastern religions to promote personal growth and transformation. *3 sem. hrs.*

REL 305. ANCIENT NEAR EASTERN RELIGIONS: Examination of the religions of the ancient Near East, with special attention to their relation to the Old Testament. *3 sem. hrs.*

REL 307. JUDAISM: Basic introduction to Judaism: its history, its faith, its worship. *3 sem. hrs.*

REL 311. RELIGION OF ISRAEL: Historical survey of the religious faith and practice of ancient Israel from the Age of the Patriarchs to the emergence of Judaism in the post-Exilic period; biblical traditions against the background of Ancient Near Eastern history and religion. *3 sem. hrs.*

REL 316. SYNOPTIC GOSPELS—EARLY LIVES OF JESUS: Each of the Synoptic Gospels offers a distinct view of the life and ministry of Jesus. Comparison of the Markan, Matthean, and Lukan interpretations of the person of Jesus, his function in the community, and his message to the people. *3 sem. hrs.*

REL 317. STUDIES IN ST. JOHN—REALIZATION OF HOPE: The Gospel of John proclaims the total fulfillment of God's promises and human expectations in Jesus Christ. Analysis of the theological argumentations of the fourth gospel and the significance of the Johannine position in view of the theology of hope. *3 sem. hrs.*

REL 318. STUDIES IN ST. PAUL—MODELS OF SALVATION: St. Paul's theology as the product of a man who was exposed to a diversity of religions, cultures, and ideologies. Discussion of topics, motifs, symbols, and structures in Pauline theology to disclose numerous possibilities for a Christian approach to life and death. *3 sem. hrs.*

REL 322. HISTORY OF EARLY CHRISTIANITY: Examination of the formative years of the early Christian Church (AD 30-130) in the context of political, social, and economic developments of the time. *3 sem. hrs.*

REL 326. PROTESTANT CHRISTIANITY: Survey of the development of Protestant thought from the Reformation. *3 sem. hrs.*

REL 327. AMERICAN RELIGIOUS EXPERIENCE: American Christianity, Protestant and Catholic, in American culture past and present: origins and expansion of American churches and the roles these churches have played in shaping American culture. *3 sem. hrs.*

REL 341. SIGNIFICANCE OF JESUS: Historical discussion of what has been thought about the person and significance of Jesus in the past, with emphasis on modern assessments of Jesus. *3 sem. hrs.*

REL 349. SEARCH FOR IMMORTALITY: An examination of how other disciplines regard the question of immortality and a theological evaluation of their insights.

3 sem. hrs.

REL 356. THE CHRISTIAN TRADITION OF PRAYER: Study of several types and forms of Christian prayer from various periods in Church history. The meaning of the act of faith expressed in prayer and its relationship to belief.

3 sem. hrs.

REL 362. CHRISTIAN FAMILY VALUES AND TELEVISION: Comparative study of the criteria and rationale for family life in various Christian pronouncements with present values and practices in society as reflected in and promoted by current television programming.

3 sem. hrs.

REL 364. CURRENT MORAL ISSUES: An examination of one or more issues (individual and/or social) in contemporary reflection on Christian moral life. May be repeated when topic changes.

3 sem. hrs.

REL 365. CHRISTIAN MARRIAGE: Analysis of the sanctifying dignity of Christian marriage as a sacrament and commitment to share in the divine creative plan.

3 sem. hrs.

REL 367. CHRISTIAN ETHICS AND THE HEALTH CARE PROFESSIONS: Study of, and reflection upon, the principles of Christian ethics as these relate to the health care professions.

3 sem. hrs.

REL 368. CHRISTIAN ETHICS AND THE BUSINESS WORLD: Study of, and reflection upon, the principles of Christian ethics as these relate to the business world.

3 sem. hrs.

REL 372. RELIGION AND FILM: Study of issues common to narrative films and religious thought; the power of various film techniques, dominant models in religious and film reflection, the similar roles imagination plays in film and religious thought.

3 sem. hrs.

REL 373. RELIGION AND LITERATURE: Joint study of literature and religion, seeking the sacred in the secular, discussing the doctrines of man and of God in major modern writings, especially those of current collegiate interest.

3 sem. hrs.

REL 374. RELIGION AND ART: Investigation into the relationship between religion and art, treating Renaissance and post-Renaissance painting and sculpture as vehicles and manifestations of Christian apocalyptic and humanist world-views at given times. Basic literary sources of Christian art and effects of secularization on Christian art.

3 sem. hrs.

REL 383. PHILOSOPHY OF RELIGIOUS EDUCATION: An attempt to construct a philosophy of religious education; various contemporary theoretical models, dimensions of teaching religion in a pluralistic society, the polarization generated.

3 sem. hrs.

REL 392. SPECIAL QUESTIONS: Examination of issues pertinent to religion in either one or a series of courses. May be repeated when topic changes.

1-3 sem. hrs.

REL. 399. READINGS IN RELIGIOUS STUDIES: Directed readings in a specific area of interest under the supervision of a staff member. May be taken more than once. By permission only. *1-3 sem. hrs.*

REL. 406. JEWISH THOUGHT: Historical development of Jewish thought from the close of the Old Testament canon down to modern times, with emphasis on selected movements and/or thinkers. *3 sem. hrs.*

REL 408. ISSUES IN THE HISTORY OF RELIGIONS: Examinations of current issues in the study of the history of religions. May be repeated when topic changes. *3 sem. hrs.*

REL 411. THE PROPHETS—RADICAL TRADITIONALISTS: The prophetic traditions of the Old Testament as an attempt to say that tradition can function in times of crisis. An attempt to understand the prophets and to question their contemporary validity. *3 sem. hrs.*

REL 418. BIBLICAL ISSUES: Examination of specific biblical themes, motifs, problems, and traditions. May be repeated when topic changes. *3 sem. hrs.*

REL 428. ISSUES IN HISTORICAL THEOLOGY: Examination of a specific issue in the development of Christian thought, such as Fathers of the Church, Reformation Theology, Modernism, and Vatican II. May be repeated when topic changes. *3 sem. hrs.*

REL 438. CONTEMPORARY THEOLOGIES: An examination of one or more of the major current schools of thought, such as process theology, theology of hope, neo-Thomism, Christian existentialism. May be repeated when topic changes. *3 sem. hrs.*

REL 441. THEOLOGY OF MARY: Study of the place of the Mother of God in the great truths of faith in the light of chapter eight of the Constitution on the Church. *3 sem. hrs.*

REL 442. PROBLEM OF GOD: Study of some recent contributions made by theology, philosophy, psychology, and the humanities to the current discussion of God's existence, nature, and relationship to humanity. *3 sem. hrs.*

REL 445. ISSUES OF THE CHURCH TODAY: Contemporary theological thought on an aspect of the mystery of the church today, e.g., nature of the church, sacraments, liturgy. May be repeated when topic changes. *3 sem. hrs.*

REL 447. SELECTED CATHOLIC DOCTRINES: Detailed study of several important current theological questions primarily from a Catholic systematic and historical perspective. *3 sem. hrs.*

REL 448. ISSUES IN THEOLOGY: Examination of an issue or theme of Christian faith in the light of modern knowledge and sensibilities, such as faith and doubt, or theology of death. May be repeated when topic changes. *3 sem. hrs.*

REL 450. RELIGION AND SCIENCE: Survey of the ways science has affected religion on specific doctrines, methods of knowing what is true, and general world views; study of religious response to these. *3 sem. hrs.*

REL 463. PEACE AND JUSTICE: Detailed investigation of various aspects of the relationship between peace and justice, including the dynamics of institutionalized injustice and analysis of it from the point of view of the Church's social teaching. Case studies. *3 sem. hrs.*

REL 466. THEOLOGY OF SEXUALITY: A study of sexuality as seen in the Judaeo-Christian tradition with emphasis on an understanding of recent theological approaches to sexuality and a theological critique of the findings presented by related disciplines. *3 sem. hrs.*

REL 478. RELIGION AND CULTURE: Examination of a specific issue in Western culture, especially American, in light of the Judaeo-Christian tradition, such as religion and music. May be repeated when topic changes. *3 sem. hrs.*

REL 484. PRACTICUM: Supervised in-service experience in an area of religious education chosen by the student. By permission only. *3 sem. hrs.*

REL 487. TEACHING IN RELIGIOUS EDUCATION: Study of religious education theory and practice for students who will be teaching religious education in the school and parish. Various models and methods of religious education. Emphasis on process and religious education as developmental. *3 sem. hrs.*

REL 488. SPIRITUALITY AND RELIGIOUS EDUCATION: Exploration of impact of liturgy and spirituality on contemporary models of religious education; study of inter-relationship between faith experience and religious content: basic principles for developing practical programs. *3 sem. hrs.*

REL. 490. SEMINAR: Research projects and discussions to help students integrate their university studies and relate them to their own future. Senior majors. Others by permission. *3 sem. hrs.*



SELF-DIRECTED LEARNING (SDL)

Self-Directed Learning provides an opportunity for students to design courses around their own needs and interests in consultation with members of the faculty. In line with the University's goals of individualizing and diversifying programs and making them more flexible, SDL offers students a wide range of options in both content and methods of learning. Students may earn from 6 to 17 semester hours per term in SDL, normally on the Satisfactory/No Credit grading option. Students may thus complement the usual college experience with an alternate approach to learning in which they place the responsibility for learning on their own shoulders and test their ability to direct themselves by designing and carrying out lines of study of their own choosing.

Regarding content: students may do work in areas not covered by regular course offerings. They may take a problem-centered rather than a discipline-centered approach.

Regarding method: SDL encourages students to use experiential and experimental approaches, to develop skills in learning how to learn, to strengthen intrinsic motivation and self-confidence, and to take initiative and responsibility for furthering their own learning. Students may utilize a variety of learning resources in addition to the classroom and library, namely field experiences, field trips, independent study, internships, individual and group projects, conferences, and work with community agencies and with community resource persons.

Each student works with a faculty advisor and a three-person evaluation committee which has the task of helping develop and evaluate the individual program and interpret the resultant learnings to the academic community.

SDL work, recorded as Arts and Sciences Interdisciplinary (ASI) credit, may earn general elective credit, be used to satisfy breadth requirements, or, with permission of appropriate chairpersons, be given departmental credit. See also ASI.

STAFF

Bruce M. Taylor, *Director*

Janet Kalven, *Associate Director*

COURSES OF INSTRUCTION

ASI-SDL. SELF-DIRECTED LEARNING: Upon acceptance into the program, the SDL student registers for a block of ASI-SDL credit. At the end of the term, this block of credit is subdivided into the principal areas of learning. Appropriate titles are then listed on the student's transcript with the number of semester hours of credit awarded in each area. Student rationales, which describe the work of the semester and justify the credits awarded, are kept on file.

6-17 sem. hrs., each term

SOCIAL WORK (SWK)

The objectives of the social work program at the University of Dayton are (1) to provide students with an educational framework that will allow opportunity for the acquisition of knowledge, skills, and values necessary for beginning generic practice in social work; (2) to offer an academic program of such quality that students will be well prepared for graduate study in social work; (3) to provide a good liberal arts education; (4) to provide opportunity for students to explore diverse life styles, achieve new knowledge and insights related to cultures, racial and ethnic groups, and value systems different from their own; (5) to prepare and motivate students to contribute to the identification and resolution of social problems.

The undergraduate social work program at the University of Dayton is fully accredited by the Commission on Accreditation of the Council on Social Work Education.

The program is designed to develop generalist practitioners who have the basic competencies for intervention in a variety of problem situations involving individuals, families, groups, organizations, and communities. The primary focus of the program is to educate and train generalist practitioners for urban settings.

The program is organized around a competency-based educational model. Specific learning objectives are stated for each course in the program and for the curriculum as a whole.

Students wishing to major or minor in social work are to consult with a social work faculty advisor. The core requirements, learning objectives, and competency expectations follow in sequential manner and allow for competency building. Students majoring in social work must complete a total of 42 semester hours in social work courses. Courses required include SWK 101, 201, 210, 320, 330, 337, 340, 350, 376, 377, 431, and 432. Extra-departmental requirements include PSY 101 and 251, ANT 150, POL 201, ECO 203, and SOC 101. Those wishing to minor in social work must complete SWK 101, 201, 210, 320, 330, 337, 340.

PROGRAM—S14: BACHELOR OF SCIENCE WITH A MAJOR IN SOCIAL WORK (SWK)¹

	<i>Semester Hours</i>
Social Work 101, 201, 210, 320, 330, 337, 340, 350, 376, 377, 431, 432.....	45
Sociology 101	3
Psychology 101, 251	6
Philosophy and/or religious studies	12
English 111, 112	7
Speech 101	3
Biology 101, 102 with laboratories	8
Economics 203	3
Political Science 201	3
Anthropology 150.....	3
Electives (social work, general or minor electives) to total at least.....	120

¹Consult the General Requirements for all Bachelor of Science Programs.

FACULTY

Regina W. Falcon, *Director, Social Work Program*

Associate Professors: Falcon, McDonald

Assistant Professors: Moore, Ruffolo

Part-Time Instructors: Axiotes, Caplan, Jenkins, Meadows, Smith

COURSES OF INSTRUCTION

SWK 101. SOCIAL WELFARE AND SOCIETY: Study of the emergence of social welfare in contemporary society. Concept, structure, and functions of social welfare with emphasis on interrelationships among social systems; overview of current social welfare programs and a model for analysis of social services. *3 sem. hrs.*

SWK 201. INTRODUCTION TO SOCIAL WORK PRACTICE: The knowledge, values, and skills utilized by the social worker. Introduction to a generalist framework of practice and the problem-solving process in preparation for intervention with client systems, especially with ethnic and racial minorities in urban settings. An agency observational experience is required. Prerequisite: SWK 101. *4 sem. hrs.*

SWK 210. BASIC HELPING SKILLS IN SOCIAL WORK PRACTICE: Knowledge and skills essential to the social work helping process. Basic social work competencies in report writing, recording, introductory interviewing techniques, and the establishment of the professional relationship. Major emphasis on self-awareness and the professional use of self. Prerequisites: SWK 101, 201. *3 sem. hrs.*

SWK 320. ADVANCED SOCIAL WORK PRACTICE I: A variety of social work processes with opportunity to develop skill in choosing appropriate intervention strategies. Practice in implementing various models for working with client systems (individuals, families, and groups) in an urban setting. Prerequisites: SWK 101, 201, 210. *3 sem. hrs.*

SWK 324. CHILD WELFARE SERVICES: Scope, problems, and trends in social welfare services to children. The role of the social worker in protective service, foster care, adoption, group and institutional settings. Children's rights, permanent planning for children, and child advocacy. Prerequisites: Majors—SWK 101, 201; nonmajors—permission of director. First term. Elective credit. *3 sem. hrs.*

SWK 330. SOCIAL WELFARE AND SOCIAL WORK IN A PLURALISTIC SOCIETY: Understanding of and appreciation for ethnic, racial and cultural diversity in a pluralistic society. The commonalities and differences in families and communities and the impact of racism on social work practice. Emphasis on the urban community. *3 sem. hrs.*

SWK 333. LEGAL ASPECTS OF SOCIAL WORK: Orientation to the legal system as it affects the provision of human services and the profession; social legislation and court decisions as they affect child welfare, public assistance, mental health, housing, and probation and parole services. *3 sem hrs.*

SWK 337. SOCIAL WELFARE POLICY AND SERVICES: Study of how social welfare policies are developed and translated into social services. A framework for analysis applied to specific social policies. The role of the social work practitioner in analyzing and planning for social welfare. Prerequisites: SWK 101, 201, 210. *3 sem. hrs.*

SWK 339. CHILD ABUSE: Comprehensive study of child abuse: its history, scope, causal factors, indicators for detection, treatment resources and modalities, and community responsibility. No prerequisite for nonmajors. *3 sem. hrs.*

SWK 340. ADVANCED SOCIAL WORK PRACTICE II: Social work intervention strategies with organizations and communities; emphasis on skills needed for practice in an urban community. Prerequisites: SWK 320, 337. *3 sem. hrs.*

SWK 350. HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT: Synthesis of theory and concepts from the biological, behavioral, and social sciences. Specific content from the cultural, social, and biopsychological systems integrated with the social work systems model and the implications for social work practice. Prerequisite: SWK 340. *3 sem. hrs.*

SWK 376. RESEARCH IN SOCIAL PROBLEMS: Empirical research methodology and statistics. Study of research design and statistical analysis; proposal writing and appropriate computer usage. Required of all social work majors. *3 sem. hrs.*

SWK 377. SOCIAL WORK RESEARCH: Evaluation of social work practice and social welfare programs: program evaluation methods, social welfare policy research, proposal writing, and planning and evaluation of social welfare delivery systems. Prerequisite: SWK 376. *3 sem. hrs.*

SWK 422. PARENTING: SOCIAL WELFARE ROLE: Comprehensive study of historical and contemporary perspectives on parenting, future of parenting (assessing trends and choices in family structure and function), cross-cultural comparisons, policy and legal aspects of parenting, societal influences on parenting. *3 sem. hrs.*

SWK 431. FIELD EXPERIENCE AND SEMINAR I: Practicum in which senior students demonstrate competencies learned in the classroom. Minimum of 15 hours of work per week in selected social agencies under professional supervision. Concurrent with 15 hours of seminar. Open only to majors. Prerequisites: SWK 320, 340. *7 sem. hrs.*

SWK 432. FIELD EXPERIENCE AND SEMINAR II: Practicum providing further opportunity to apply social work knowledge, values, and skills. Concurrent with 15 hours of seminar. The final stage in preparation for beginning social work practice. Open only to majors. Prerequisite: SWK 341. *7 sem. hrs.*

SWK 443. DEATH, DYING AND SUICIDE: Study of the phenomena of death and dying. The role and responsibility of the professional in working with the dying and their survivors. Study of suicide in this society. Open only to third- and fourth-year students. Second term each year. Elective credit. No prerequisite. *3 sem. hrs.*

SWK 455. SOCIAL SERVICES IN THE HEALTH FIELD: The role of social services in health care facilities and governmental health programs. U.S. health care policies and programs; methods of social work intervention in medical settings. Elective credit. *3 sem. hrs.*

SWK 465. INDEPENDENT STUDY: Individual research, study, and readings on specific topics and/or projects of importance to social work practitioners, supervisors, and administrators. Under individual faculty direction. Prerequisite: Permission of program director. *3 sem. hrs.*

SWK 499. SPECIAL TOPICS: Exploration of special topics related to the field of human services. Assessment of appropriate literature and research. May be repeated as topics change. Prerequisite: Permission of the instructor. *1 to 3 sem. hrs.*

SOCIOLOGY (SOC)

Sociology is the scientific study of social groups. Since groups come in all shapes and sizes, the subject matter of sociology ranges from the briefest of two-person interactions to the most enduring features of culture and society. The job of sociology is to look beyond the fragmented experience of individuals to the underlying structure and processes of society.

The objectives of the department are to develop analytical and critical skills, theoretical and factual information, and research methodology for future employment or graduate study.

Students majoring, minoring, or electing courses in the department do so for a variety of reasons. Some desire knowledge of social and cultural relationships as part of their general education. Others are planning careers in public service professions, human and community relations, or social research or planning. Others intend to pursue graduate work in sociology or anthropology.

Students intending to major or minor in sociology should consult with the departmental chairperson to plan their program of courses. Majors in sociology must complete 36 semester hours of course work in the department, 24 of which must be at the 300 or 400 level. We recommend that students begin the program of study with one of the following courses: SOC 101, SOC 204, or ANT 150. The requirements for majoring in sociology are stated in the outline below. A minor in sociology requires 15 semester hours of courses in the department, with at least 12 of those at the 300-400 level.

PROGRAM—A20: BACHELOR OF ARTS WITH A MAJOR IN SOCIOLOGY (SOC)¹

	<i>Semester Hours</i>
Sociology: Entry-level course ² ; SOC 208, 303, 308, 308L, 409; ANT 300.....	16
Sociology electives ³	20
Philosophy and/or religious studies	12
English 111, 112	7
Speech 101	3
Natural science and mathematics (at least 4 sem. hrs. in a natural science with an accompanying laboratory)	7-12
Social and behavioral science (at least 1 unit of 6 sem. hrs. with 3 sem. hrs. on 300-400 level)	12
Humanities ¹ (One unit of 9 sem. hrs. with at least 3 sem. hrs. from 300-400 level courses)	18
General electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs.

²All freshman students should take either SOC 101, SOC 204, or ANT 150. All sophomore-level students or above should consult with the chairperson for the appropriate first course.

³For the major, at least 24 sem. hrs. must be upper level (300-400) with no more than 9 of the 24 sem. hrs. in upper-level anthropology courses.

At least 54 sem. hrs. of upper-level (300-400 numbered) course work must be presented for the B.A. degree.

For students wishing to focus their studies, the department offers two areas of concentration, in human relations and community relations. Human relations analyzes topics and issues affecting interpersonal communication and small groups. Students concentrating in human relations normally plan careers in human service organizations and commerce, in areas that require an understanding of interpersonal influence, small group dynamics, individual and group relationships, and interpersonal communication processes. Human relations specialists assist people experiencing difficulties with personal problems, substance abuse, interpersonal relationships, and other problems where individual and small group counseling is useful.

Community relations deals with social issues and problems affecting groups and communities. Students concentrating in community relations usually plan careers in community organizations and social service agencies, in areas that require a grasp of the nature of group relations, public opinion, and social change. Community relations specialists organize groups concerned with social problems, facilitate constructive relations among community groups, make referrals to community resources, and cooperate with other organizations in long-range community planning.

I. Human Relations

Students are required to take

SOC 341, Self and Society; SOC 345, Small Group Dynamics; and any three of the following:

- SOC 325 Deviant Behavior
- SOC 331 Marriage and the Family
- SOC 340 Principles of Sociological Social Psychology
- SOC 342 Collective Behavior
- SOC 444 Interaction Processes
- ANT 310 Culture and Personality
- ANT 315 Language and Culture

In consultation with the student's advisor, other appropriate courses may be substituted for courses in the above list.

II. Community Relations

Students are required to take

SOC 336, Organizations in Modern Society; SOC 351, Cities; and any three of the following:

- SOC 322 Sex Roles and Society
- SOC 323 Juvenile Delinquency
- SOC 327 Criminology
- SOC 328 Racial and Ethnic Minorities
- SOC 333 Industry and Society
- SOC 335 Social Implications of Aging
- SOC 339 Social Inequality
- SOC 343 Mass Communication in Modern Society
- ANT 335 Urban Anthropology
- ANT 406 Cultural Change

In consultation with the student's advisor, other appropriate courses may be substituted for courses in the above list.

FACULTY

Stanley L. Saxton, *Chairperson, Department of Sociology and Anthropology*
Professor: Huth

Associate Professors: Bregenzer, Miller, Saxton

Assistant Professors: Donnelly, L. Majka, T. Majka, McNamee

COURSES OF INSTRUCTION

SOC 101. PRINCIPLES OF SOCIOLOGY: Study of social groups, social processes, and society; the individual's relationship to society, social structure, social inequality, ethnic minorities, cities and human populations, and social institutions such as the family, education, religion, and government. 3 sem. hrs.

SOC 204. MODERN SOCIAL PROBLEMS: Course to familiarize nonsociology majors with contemporary problems in society; historical development, current status, and analysis of problems, using modern social theories. Content may vary from section to section. 3 sem. hrs.

SOC 208. SOCIAL INQUIRY: THE EMPIRICAL APPROACH: Description and analysis of the nature, use, and interrelationship of theory, theoretical problems, research questions, methods of empirical observation, and elementary data analysis techniques. 3 sem. hrs.

SOC 303. MODERN SOCIAL THEORY: Consideration of the works of modern theorists and major trends in the history of social thought. 3 sem. hrs.

SOC 304. EVALUATION RESEARCH METHODS: Training for students of social intervention. Practice in the formation of evaluative questions and techniques for answering these questions with demographic, survey, experimental and observational methods. Prerequisite: SOC 208. 3 sem. hrs.

SOC 308. SOCIOLOGICAL RESEARCH METHODS: Advanced training in research problem formation, logic for research designs, measurement and sampling techniques, data gathering strategies, and data analysis and interpretation techniques. Prerequisite: SOC 208. Corequisite: SOC 308L. 3 sem. hrs.

SOC 308L. DATA ANALYSIS LABORATORY: Application of research design, measurement and sampling techniques, and data analysis and interpretation. Appropriate computer techniques taught as part of the course. Prerequisite: SOC 208. Corequisite: 308. 1 sem. hr.

SOC 321. THE SOCIOLOGY OF WORK AND OCCUPATIONS: Survey of the major features of work and occupations in industrial society. The meaning of work, occupational choice and recruitment, occupational socialization, career patterns, and occupational rewards. Unemployment, underemployment, sex-typing, automation and alienation. 3 sem. hrs.

SOC 322. SEX ROLES AND SOCIETY: Research findings and major analytical approaches to study social and cultural influences on the development of personal sexual identity and relationships between men and women. Major social issues concerning human sexuality. 3 sem. hrs.

SOC 323. JUVENILE DELINQUENCY: The environmental and internal factors that influence or determine delinquent behavior; roles of individual juvenile offenders, parents/guardians, school, church, police, business community, community agencies, and the juvenile justice and correctional system in preventing/treating delinquent behavior. 3 sem. hrs.

SOC 325. **DEVIANT BEHAVIOR:** Description of various types of deviant behavior; for example mental illness, alcoholism, drug addiction, the professional criminal. Study of explanations for the consequences and the role of deviant behavior in modern society. *3 sem. hrs.*

SOC 326. **LAW AND SOCIETY:** Study of the legal system and practices from a sociological point of view; the historical origin and role of the law in society, issues relating to the law as an instrument of social control and/or social change; analysis of the legal profession. *3 sem. hrs.*

SOC 327. **CRIMINOLOGY:** Social and cultural nature, origin, and development of law; criminal behavior; crime control. The influence of society in the creation and organization of legal and crime control systems. Biological, psychological, and sociological factors leading to criminal behavior. *3 sem. hrs.*

SOC 328. **RACIAL AND ETHNIC MINORITIES:** Study of the major immigrant and racial groups in the United States and other countries. Issues and problems related to their minority status in the dominant culture. *3 sem. hrs.*

SOC 331. **MARRIAGE AND THE FAMILY:** Historical, cross-cultural, and current study of social relationships during dating and courtship, interpersonal communication in marriage and family life, sexuality in marriage, adjustments in parenthood, divorce and remarriage, alternatives to traditional marriage, and the future of marriage and family life. *3 sem. hrs.*

SOC 332. **SOCIOLOGY OF WOMEN:** Cross-societal analysis of the position of women, with emphasis on industrialized and developing societies. The social positions of women and men in the family, work, politics, and the legal system. Consideration of theories of the biological, psychological, and sociological bases for the behavior and characteristics of women in the context of societal institutions. *3 sem. hrs.*

SOC 333. **INDUSTRY AND SOCIETY:** Social processes of industrialization; structure and characteristics of industrial society in the U.S.; past, present, and futuristic dimensions of industrial society; impact of industrialization on labor, management, government, family, community, and nation. *3 sem. hrs.*

SOC 334. **RELIGION AND SOCIETY:** Definitions of religion and its role in society. Traditional and nontraditional expressions of religious life from the viewpoint of society. Varieties of religious experience and the interrelations between religious phenomena and other social institutions and societal behavior. *3 sem. hrs.*

SOC 335. **SOCIAL IMPLICATIONS OF AGING:** Introduction to the study of the aged and the process of aging; mutual impact of society and the aged. *3 sem. hrs.*

SOC 336. **ORGANIZATIONS IN MODERN SOCIETY:** Analysis of the dynamics of organizations in modern industrial society. Topics include organizational social psychology, organizational structure and process, and organization-community relations. *3 sem. hrs.*

SOC 337. **POLITICAL SOCIOLOGY:** Analysis of politics and society; social origins of political economic systems; ideology and legitimation; political movements and social change. *3 sem. hrs.*

SOC 338. **EDUCATION AND SOCIETY:** Study of educational patterns in society; education as a socialization process, the role of schools in social change, and the relationship between the individual and the educational system. *3 sem. hrs.*

SOC 339. **SOCIAL INEQUALITY:** Study of social inequality in society. Emphasis on the processes that divide people into unequal groups based on wealth, status, and power. The effects of inequality on individual life chances and life styles. *3 sem. hrs.*

SOC 340. PRINCIPLES OF SOCIOLOGICAL SOCIAL PSYCHOLOGY: Survey of the basic principles, concepts, theories, and methods of social psychology from the sociological perspective. *3 sem. hrs.*

SOC 341. SELF AND SOCIETY: Theoretical and methodological study of micro-sociological processes; socialization, self conceptualization, deviant behavior, mental illness, power and social influence. *3 sem. hrs.*

SOC 342. COLLECTIVE BEHAVIOR: Study of social protest, crowds, social movements, revolution, fads, fashion, public opinion processes, propaganda, and political and social responses to these phenomena. *3 sem. hrs.*

SOC 343. MASS COMMUNICATION IN MODERN SOCIETY: Social-psychological analysis of the structure and processes of mass communication related to advertising, patterns of social behavior, social change, propaganda, censorship, media control, and social institutions. *3 sem. hrs.*

SOC 345. SMALL GROUP DYNAMICS: Study of small group structure and processes from a sociological point of view. Application of theoretical concepts and research findings to friendship groups, work groups, and family interaction. *3 sem. hrs.*

SOC 350. NATIONAL AND WORLD POPULATION TRENDS: Causes and consequences of national and world population trends; impact of population change on society; impact of social change on birth rates, death rates, migration, population composition and distribution. *3 sem. hrs.*

SOC 351. CITIES: URBAN COMMUNITIES, PROBLEMS, AND PLANNING: Concepts of community; the history of cities; the development and nature of urban-metropolitan society; metropolitan area structure, population characteristics, and life styles; approaches to major urban problems; models of urban planning in the U.S. and Europe. *3 sem. hrs.*

SOC 392. SELECTED TOPICS IN SOCIOLOGY: Examination of a current topic of general interest in sociology. Majors and nonmajors may enroll. Consult composite for topics. May be repeated once as topic changes. *3 sem. hrs.*

SOC 409. ADVANCED STUDY IN SOCIOLOGY: Intensive analysis of primary literature and recent developments in one of the following: Interpersonal Relations, Issues in Contemporary Society, Major Social Groupings, Urban Affairs and Population, Anthropology. Consult composite for term topic. May be repeated once as topic changes. Required for majors. Prerequisite: Permission of instructor. *3 sem. hrs.*

SOC 439. SOCIAL CLASSES IN MODERN SOCIETY: Study of social classes, social inequality, social mobility, prestige, power, and class conflict in modern industrial societies. *3 sem. hrs.*

SOC 444. INTERACTION PROCESSES: Advanced theoretical and methodological study of basic interaction processes that make up social life, including hypnosis, social influence (selling), negotiation, solidarity, competition, and conflict. *3 sem. hrs.*

SOC 492. SPECIAL TOPICS IN SOCIOLOGY: Intensive examination of current theoretical or methodological issues; faculty-advised research project or library work. Consult composite for topics. May be repeated once as topic changes. Prerequisite: Permission of instructor. *1 to 6 sem. hrs.*

SOC 498. INDEPENDENT STUDY: Research or special readings on problems of interest to the student under the guidance of sociology staff member. Prerequisite: Permission of the chairperson. *1 to 6 sem. hrs.*

SPEECH (SPE)

Speech courses are offered by the Department of Communication Arts. See requirements and other courses of instruction under COM.

COURSES OF INSTRUCTION

SPE 101. FUNDAMENTALS OF EFFECTIVE SPEAKING: Introductory course in the fundamental skills of speaking. Development of self-confidence through speaking opportunities, with special attention to poise, vocal variety, physical animation, and the communication of ideas. *3 sem. hrs.*

SPE 206. FUNDAMENTALS OF BROADCASTING: Lectures dealing with broadcasting as a business and as a cultural influence; broadcast regulation, programming, and organization of the typical radio and TV station. Prerequisite: SPE 101. *3 sem. hrs.*

SPE 300. VOICE AND DICTION: The four phases of speech production: proper breathing, phonation, resonance, and articulation. Emphasis on projection, quality, and clarity of speech. Analysis of student's voice through tape recordings. Prerequisite: SPE 101. *3 sem. hrs.*

SPE 301. SPEECH WRITING: Study of speech structure and composition. Critical analysis of model speeches, in conjunction with the preparation and presentation of original speeches on current public questions. Prerequisite: SPE 101. *3 sem. hrs.*

SPE 303. RHETORIC OF SOCIAL MOVEMENTS: Examination of the rhetoric of contemporary advocates through application of the basic elements of argumentation and persuasion. Prerequisite: SPE 101. *3 sem. hrs.*

SPE 310. ORAL INTERPRETATION: Oral interpretation of poetry and prose, combining study of vocal modulations, pitch, inflection, and tone color with intellectual and emotional analysis of selections. Prerequisite: SPE 101. *3 sem. hrs.*

SPE 311. ADVANCED SPEAKING TECHNIQUES: Oral communication in professional situations. Adaptation of principles of effective speaking to specific audiences and occasions. Student delivers informational, problem-solving, and special-occasion speeches. Prerequisite: SPE 101. *3 sem. hrs.*

SPE 312. PERSUASION: Analysis of the motivations that lead to belief and action of individuals and audiences. Study in the techniques of persuasion. Delivery of speeches in the application of the theory. Prerequisite: SPE 101. *3 sem. hrs.*

SPE 316. RADIO WORKSHOP: Laboratory in radio production techniques, including tape recording and editing, commercial structure, basic broadcast performance, and directing techniques. Prerequisites: SPE 101, 206. Studio fee. *3 sem. hrs.*

SPE 320. ADVANCED ORAL INTERPRETATION: A continuation of SPE 310. Additional study in the techniques of group performance—Readers' and Chamber Theatres. Prerequisites: SPE 101, 310. *3 sem. hrs.*

SPE 329. TELEVISION PRODUCTION: Intensive practice in preparation and production of TV programs. Camera technique, floor set-ups, and direction of crews and talent demonstrated through participation in TV shows. Prerequisites: SPE 101, 316. Studio fee. *3 sem. hrs.*

SPE 410. BROADCAST NEWS: Study of the process and practice of news gathering, analysis, rewriting, and editing for the broadcast media. Theoretical background and practical application, including historical, legal, and ethical concerns for broadcast news personnel. Prerequisites: SPE 101, JRN 206. Studio fee. *3 sem. hrs.*

SPE 412. BROADCAST COMMERCIAL COPYWRITING: Study and application of principles of the differences between the two media as they affect commercial copy requirements. Prerequisites: SPE 101, 206. *3 sem. hrs.*

SPE 416. BROADCAST PROGRAMMING: Study of the programming strategies and practices used by broadcast management for attracting television and radio audiences. Prerequisites: SPE 101, 206. *3 sem. hrs.*

SPE 418. WRITING FOR ELECTRONIC MEDIA: Study of concrete approaches to and practice with the kinds of writing being done professionally in all program types on television and radio. Prerequisites: SPE 101; 206. *3 sem. hrs.*

SPE 419. BROADCASTING PERFORMANCE: Participation in a selected series of broadcasting projects, including both radio and television performance. Prerequisites: SPE 101, 316, and either 310 or 329. Studio fee. *3 sem. hrs.*

SPE 420. BROADCAST SALES: Examination of the basic aspects of radio and television sales, including agencies, station and network sales, and related problems and careers. Prerequisites: SPE 101, COM 304. *3 sem. hrs.*

SPE 429. ADVANCED TELEVISION PRODUCTION/DIRECTING: Advanced principles and practice in television production and directing. Emphasis on the aesthetics involved in production of a visually appealing broadcast. Communication Arts majors and minors only. Prerequisites: SPE 101, 316, 329. Studio fee. *3 sem. hrs.*

SPE 450. RADIO AND TELEVISION STATION MANAGEMENT: Study of the organization and administration of the radio and television staff and station; the manager's role as applied to personnel, programming, sales, engineering, finances, and regulations. Prerequisites: SPE 101, MGT 305. *3 sem. hrs.*

TEACHER CERTIFICATION

COLLEGE BACCALAUREATE PROGRAM WITH
TEACHER CERTIFICATION (E11A)

Students enrolled in the College of Arts and Sciences may enroll in the teacher education program (E11A) of the School of Education without transferring to the School of Education. The E11A program is designed for those students in the College of Arts and Sciences who wish to pursue secondary-school teaching certification and a major program of studies concurrently. Students admitted to the program must satisfy all the requirements for the Bachelor of Arts or Bachelor of Science in the College as well as the requirements designated by the School of Education and the State of Ohio for secondary school certification.

Certification is available for these fields represented in the College of Arts and Sciences: Art, Biological Science, Chemistry, Communications (concentration in English or Speech), Earth Science, English, General Science, History, Home Economics, Language (Latin, French, German, Spanish, Italian), Mathematics, Physics, Political Science, Social Psychology, Sociology, Speech, Theology (Religious Studies).

The Education courses below constitute a minor concentration in the College degree program. They are listed in the order in which students usually take them. For course descriptions see EDT, Chapter VIII.

	<i>Semester Hours</i>
EDT 109 Personal and Professional Development I	2
EDT 207 Child and Adolescent in Education	3
EDT 110 Personal and Professional Development II	2
EDT 208 Teaching and Learning	3
EDT 318 Human Relations in Education	2
EDT 351 Secondary School, Self, and Society	3
— — Methods course (fall term only)	4
EDT 469 Reading in the Content Areas	2-3
EDT 420 Student Teaching: Secondary	12
EDT 419 Philosophy of Education	3

Application for admission to the program is made through the Office of the Dean of the College of Arts and Sciences after completion of the freshman year. Applicants should normally have a cumulative grade point average of at least 2.9 at the time of their application.

Counseling relative to the degree program is given by the student's major department; counseling relative to certification is given by the chairperson of the Department of Teacher Education or a designated advisor.

THEATRE (THR)

The Theatre Division of the Department of Performing and Visual Arts offers a solid academic foundation and an extensive program of theatre productions, including major productions in Boll Theatre and student experimental work in the Studio Theatre. The curriculum includes acting, directing, stagecraft, lighting, design, history, and theory. Its purpose is to provide opportunities and facilities for education and training in and understanding of theatre.

Theatre majors are required to audition for and participate in each major production, for which they receive credit in THR 100 or 300. All roles and stage positions are open to the entire University student body.

A minor in theatre requires a total of 21 semester hours: 3 in THR 105, Introduction to the Theatre; 3 in THR 100 or 300, Theatre Laboratory; 3 in theatre history or theory; and 12 additional at the 200 level and above.

PROGRAM—A21: BACHELOR OF ARTS WITH A MAJOR IN
THEATRE (THR)¹

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
Freshman Year ²			1st Term	2nd Term
THR	099	Freshman Seminar	0	
THR	105	Introduction to the Theatre	3	
THR	205	Theatre Stagecraft		3
SPE	101	Fundamentals of Effective Speaking	3	
ENG	111-112	College Composition I and II	4	3
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement, humanities	3	3
—	—	Breadth requirement, social science		3
			16	15
Sophomore Year ²				
THR	210	Acting I	3	
THR	211	Theatrical Movement I	2	
THR	330	Concepts of Scene Design	3	
THR	—	Major program elective		3
—	—	Philosophy and/or religious studies	3	3
—	—	Breadth requirement, natural science	4	3
—	—	Breadth requirement, humanities		3
—	—	Breadth requirement, social science		3
			15	15
Junior Year ²				
THR	100-300	Theatre Laboratory ³		3
THR	325-326	Theory and Criticism of the Stage I or II	3	
THR	340	The Director in the Theatre		3
THR	—	Major program elective	3	
—	—	Breadth requirement, humanities	3	3
—	—	Breadth requirement, social science	3	3
—	—	General electives	3	3
			15	15

Senior Year ²			
THR	415-425	History of the Theatre I or II	3
THR	485	Theatre Seminar or	3
THR	490	Special Problems in Theatre	(3)
THR	—	Major program elective	3
—	—	General electives	9
			15
			15
Semester Hours			
University/College requirements ⁴			22
Major Program—Required courses (including THR 100, 300)			29
Theatre electives			9
Total in THR			38
Breadth requirement—Natural science and mathematics			7
Social and behavioral science			12
Humanities			18
Total breadth requirement			37
General electives			23
Total for the degree			120

¹See also Distribution Table for Bachelor of Arts programs.

²Theatre Laboratory (THR 100 or 300) credit is granted each student who fulfills the 50-hour work requirement on a major production. This credit is granted retroactively.

³Theatre majors have 3 sem. hrs. of THR 100 or 300 applied toward their major requirement.

⁴University/College Requirements: SPE 101, ENG 111-112, 12 semester hours of philosophy and/or religious studies.

FACULTY

Patrick S. Gilvary, *Chairperson, Department of Performing and Visual Arts and Acting Head of Theatre Division*

Professor: Gilvary

Assistant Professors: Bouffier, Selka

Part-time Instructors: Anderson, Engel, Gutridge

COURSES OF INSTRUCTION

THR 100. THEATRE LABORATORY: Credit allowance for role playing and/or play production in major productions. Fifty hours of work minimum for one sem. hr. of credit. Repeatable up to 3 sem. hrs. in freshman-sophomore years. All registration retroactive. No advance registration. Three sem. hrs. from THR 100 or 300 required of all majors. 1-3 sem. hrs.

THR 103. THEATRE APPRECIATION: Introduction to the art and artists of the theatre to enhance the nonspecialist playgoer's enjoyment of various productions. Open to all University students except theatre majors. 2 sem. hrs.

THR 105. INTRODUCTION TO THE THEATRE: Analysis of the nature of theatre, its origin, and development from the standpoint of the play, the physical theatre, and its place in our culture. Required of all majors. Open to all University students. 3 sem. hrs.

THR 201. BASIC DANCE FOR THE PERFORMING ARTIST: Beginning course in movement introducing the basic principles of dance and performance technique. Open to all University students. *2 sem. hrs.*

THR 202. STAGE MAKEUP: The basic principles of the art and technique of makeup so that the student may use them in design and execution to develop and project the character. Open to all University students. First term. Studio fee. *2 sem. hrs.*

THR 205. THEATRE STAGECRAFT: Study and application of scene construction, rigging, backstage organization, production analysis, and technician-designer relationship. Required of all majors. Open to all University students. Studio fee. First term. *3 sem. hrs.*

THR 207. THEATRE LIGHTING: Study and application of lighting for the stage: instrument, controls, sources, elements of electricity, and lighting design for all types of theatres, as well as graph representation. Studio fee. *3 sem. hrs.*

THR 210. ACTING I: The study and practice of basic techniques in rehearsal and performance. Emphasis on self-analysis and self-awareness. Development of basic skills in vocal, emotional, and mental interpretation of character. Prerequisite: THR 105 or permission. Corequisite: THR 211. Required of all theatre majors. Open to all University students. *3 sem. hrs.*

THR 211. THEATRICAL MOVEMENT I: Special attention to the physical requirements of acting for the stage: balance, flexibility, coordination, control, and endurance. The study and practice of nonverbal skills in character portrayal. Corequisite: THR 210. Required of all theatre majors. Open to all University students. *2 sem. hrs.*

THR 251. HISTORY OF FILM I: The Silent Cinema—Analysis of the international development of film and performance styles in the silent era, including history and criticism of major directors and actors. Selected film screenings. Studio fee. *3 sem. hrs.*

THR 252. HISTORY OF FILM II: The Sound Cinema—Analysis of the effects of sound technology on cinema, including history and analysis of major films from the end of the silent era to the present. Selected film screenings. Studio fee. *3 sem. hrs.*

THR 261. BEGINNING JAZZ DANCE: Beginning course in the theory and practice of jazz dance. No prerequisite. *2 sem. hrs.*

THR 271. BEGINNING BALLET: Beginning course in the theory and practice of classical ballet technique. No prerequisite. *2 sem. hrs.*

THR 300. THEATRE LABORATORY: The third- and fourth-year level of credit allowance for role playing and/or play production. Requirements and registration same as for THR 100. *1-3 sem. hrs.*

THR 301. INTERMEDIATE DANCE FOR THE PERFORMING ARTIST: Intermediate-level course in movement for students interested in further developing dance and performance technique. Prerequisite: THR 201. *2 sem. hrs.*

THR 303. SCENE PAINTING: Basic principles of color paint theory and materials. Investigation of various scene-painting techniques. One three-hour class meeting weekly. Studio fee. Prerequisite: Permission. *3 sem. hrs.*

THR 323. ACTING II: Further study and practice of techniques introduced in Acting I. Emphasis on interaction, ensemble, group processes, and scene study. Corequisite: THR 324. Prerequisites: THR 105, 210, 211 or permission. *3 sem. hrs.*

THR 324. THEATRICAL MOVEMENT II: Continuation of THR 211. Emphasis on interpreting and employing body language. Corequisite: THR 323. Prerequisites: THR 105, 210, 211 or permission. *3 sem. hrs.*

THR 325. THEORY AND CRITICISM OF THE STAGE I: Survey of representative plays from classical to neo-classical periods as a basis for theatrical production and dramatic criticism. Prerequisite: THR 105. (THR 325 or 326 required of all majors.) First term each year. 3 sem. hrs.

THR 326. THEORY AND CRITICISM OF THE STAGE II: Continuation of THR 325 from romantic to modern periods. Prerequisite: THR 105. (THR 325 or 326 required of all majors.) Second term each year. 3 sem. hrs.

THR 330. CONCEPTS OF SCENE DESIGN: Studies in the principles of composition and aesthetic theory as applicable to scene design. Development of personal design approach to plays of various styles. Required of all theatre majors. 3 sem. hrs.

THR 340. THE DIRECTOR IN THE THEATRE: The basic functions of a director in the production of play: interpretation, composition, movement, characterization, rhythm, design concept, and actor training. Required of all theatre majors. Prerequisites: THR 105, 205, 210, 211, 330. 3 sem. hrs.

THR 350. THEATRE STYLES: Examination of the relationships among playwright, audience, actor, designer, and director in the development of major theatre styles of expression. First term each year and summer term alternate years. 3 sem. hrs.

THR 351. BASIC FILM PRODUCTION: Introduction to scripting, photography, editing, and unsynchronized sound. Participation in film projects using student actors; responsibility for an individual project from concept to screening. 3 sem. hrs.

THR 361. INTERMEDIATE JAZZ DANCE: An intermediate course in the theory and practice of jazz dance and technique. Prerequisite: THR 261 or equivalent. 2 sem. hrs.

THR 371. INTERMEDIATE BALLET: Intermediate course in the theory and practice of classical ballet technique. Prerequisite: THR 271 or equivalent. 2 sem. hrs.

THR 414. ADVANCED SCENE DESIGN: Individual development in scene design through intensive study in plays of various styles. Detailed representation of design ideas in rendering and models required. Prerequisites: THR 205, 207, 330. 3 sem. hrs.

THR 415. HISTORY OF THE THEATRE I: History of theatre from pre-Grecian through Elizabethan; the physical theatre as reflection of and influence on civilization. (THR 415 or 425 required of all majors.) Open to all University students. 3 sem. hrs.

THR 424. PLAY DIRECTING: Study of the evolution of the modern director and the direction of two one-act plays or one full-length play. Prerequisite: THR 340. Studio fee. 3 sem. hrs.

THR 425. HISTORY OF THE THEATRE II: Continuance of 415 from the Italian Renaissance to the modern theatre. (THR 415 or 425 required of all majors.) Open to all University students. 3 sem. hrs.

THR 440. PROBLEMS IN THEATRE PRODUCTION AND DESIGN: Individual research and project work of student's selection under the direct supervision of faculty. Repeatable up to 12 sem. hrs. Prerequisite: Permission. 3 sem. hrs.

THR 485. THEATRE SEMINAR: Concentration on one theatrical figure, genre, or period for research and analysis. (THR 485 or 490 required of all majors.) Second semester every other year. Repeatable up to 6 sem. hrs. 3-6 sem. hrs.

THR 490. SPECIAL PROBLEMS IN THEATRE: Individual research and report on topic of student's choice in the field of theatre under direct supervision of faculty/staff. (THR 485 or 490 required of all majors.) Repeatable up to 15 sem. hrs. 3-5 sem. hrs.

WOMEN'S STUDIES (WST)

The interdisciplinary minor in Women's Studies provides a timely academic concentration appropriate to many majors and useful in many fields. As an academic pursuit, women's studies attempts to compensate for the traditional omission from many curricula of the historical and contemporary contributions and problems of women. It also looks to the future, intending to enhance the dignity, worth, and usefulness of all women.

The minor in women's studies consists of 13 to 15 semester hours. It must include the interdisciplinary seminar ASI 228, Focus on Women, and 12 semester hours in upper-division courses (300-level or above). The following courses are among those offered.

ASI	228	Focus on Women
ART	377	Women Artists
COM	404	Women in Communication
EDP	540	Women in Sport (may be taken for undergraduate credit)
ENG	214	Fiction: Women Writers
ENG	319	Contemporary Fiction: Women Writers
ENG	324	The Novel: Contemporary Women Novelists
ENG	329	The Short Story: Women Writers
ENG	333	Images of Women in Literature
ENG	380	Studies in Literature: Modern Women Poets
HST	351	American Feminism
MGT	440	Women in Management
PHL	340	Philosophical Issues in Feminism
PSY	443	Psychology of Women
REL	418	Biblical Issues: Male-Female in the Biblical World
REL	448	Women and Religion
SOC	322	Sex Roles and Society
SOC	332	Sociology of Women
SWK	499	Women's Issues in Social Welfare
UDI	222	Black Women in America
UDI	225	Rape: Breaking the Silence
UDI	226	Women in Science

In addition, independent study courses and self-directed learning (SDL) courses may be applicable. Topics courses in various departments may be applicable if they are readily identifiable as pertinent to women's studies.

Any student who wishes to be recorded as minoring in women's studies should notify his or her dean and the director of women's studies.

WOMEN'S STUDIES COMMITTEE

Betty Ann Perkins (History), *Director of Women's Studies*
 Jacobson (Psychology), Johnson (Philosophy), Kalven (Self-Directed Learning), E. Murphy (College of Arts and Sciences), L. Murphy (English), Schwelitz (Biology), Stockum (English), Vines (History)

